Vertical Integration of Broiler Industries in Indonesia (Analysis of Case Decisions Number 02/KPPU-I/2016)

Animal Science and Technology Conference Series

ICAIT 2019

"Animal Farming for Sustainable Rural Development"

Book of Abstract

The Faculty of Animal Science
Jenderal Soedirman University
2019

1st ICAIT 2019

INTERNATIONAL CONFERENCE ON ANIMAL INDUSTRY IN THE TROPICS

The Faculty of Animal Science, Universitas Jenderal Soedirman, Purwokerto organized the First International Conference on Animal Insudtry in the Tropics (1st ICAIT 2019). The 1st ICAIT 2019 aims to exchange knowledge and research finding within academicians, researchers, profesionals, policy makers, and postgraduate students.

The countries in the tropics have a variety of local animals playing an important role and being extensive industry prospects. The 1st ICAIT 2019 seeks to raise the question how to develop animal industries for sustainable rural development facing the era of Industry 4.0. The right perspective on challenges and opportunities will be discussed under the themes: 1) General animal production and husbandries (ruminants and non-ruminants), 2) Post-harvest handling and processing of meat, milk, eggs, wools, and by-products, 3) Socio-economic aspects of animal farming, 4) Emerging and prospective animals, 5) Animal biotechnology, 6) Animal health, diseases, and welfare/ethics, 7) Edu-tourism and ecotourism involving animals, 8) Feeds, feeding, and animal nutrition, 9) Animal physiology, reproduction, and breeding/genetics, 10) Halal aspects of animal products, and 11) Environmental issues of animal farming.

Researcher around the world will share their great ideas during this conference on 6-8 August 2019 in Purwokerto, Central Java, Indonesia. We would like to Jenderal Soedirman University, ASEAN Agricultural University Network (AAUN), University of the Philippines Los Baños-Philippines, Universti Putra Malaysia, Gadjah Mada University, Universitas Islam Internasional Malaysia, Journal of Animal Production, Infovet Magazine, Poultry Indonesia magazine, PT Medion, and PT Charoen Pokphand Indonesia, that collectively have worked to contribute to the conference.

Prof. Dr. Ismoyowati, S.Pt., M.P.
Dean of the Faculty of Animal Science – Jenderal Soedirman University

Prof. Weerapon Thongma

Prof. Weerapon Thongma is currently Vice President for Student Development and Alumni Relations of Maejo University, Thailand and serves as Dean of the International College of Maejo University (MJUIC). Prof. Weerapon Thongma wrote several peer reviewed scientific papers and presented his works in many national and international conferences. Prof Weerapon Thongma has received recognition from experts all over the world for his contribution. His academic carrer is decorated with several famous awards and funding. His field of study are Agricultural Counseling, Development Management, Tourism Development, Community Based Tourism, Community Participation, Agro Management and Ecotourism.

Dr. Maria Cynthia Oliveros

Dr. Maria Cynthia R. Oliveros is an Associate Professor at the Institute of Animal Science, College of Agriculture and Food Science (CAFS), University of the Philippines Los Baños (UPLB). She is also currently the College Secretary or Registrar of CAFS. She obtained her BS, MS and PhD degrees from UPLB in the fields of dairy technology, animal nutrition, and meat science, respectively. Dr. Oliveros was a recipient of the Fulbright-Philippine Agriculture Scholarship Program in 2002-2003 at Michigan State University, USA and a Post-Doctoral Research Fellowship in 2008 –2009 at the School of Animal Science and Biotechnology, Chonbuk National University, South Korea. She is a Certified HACCP Manager from The Experior Assessments LLC (Food Safety Programs), St. Paul, Minnesota, USA and a Licensed Agriculturist of the Philippine Professional Regulations Commission.

She has received numerous best paper awards for her researches and was awarded the PSAS Outstanding Teacher in Animal Science Award in 2016. She has authored/co-authored several publications in indexed journals and refereed journals, presented papers in international conferences, and serves as reviewer of scientific papers for international publication. Dr. Oliveros also serves as academic adviser and member of guidance committees for undergraduate and graduate students specializing in dairy science, poultry production/nutrition, food science, and meat science.

Prof. Irwandi Jaswir

After completing his Doctoral degree, Dr. Irwandi Jaswir joined International Islamic University Malaysia (IIUM) as an academic staff in 2001. In 2011, he received his Professor and currently mandated as Director at International Institute for Halal Research and Training (INHART) IIUM. Prof. Irwandi also serves as Secretary, Professor Council IIUM. Currently, he is the lead researcher of 7 research projects, mostly in the fields related to Halal Science, Food Biotechnology and Natural Products, that funded by various funding institution.

Prof. Irwandi has made remarkable achievements in research such as: 75 scientific works published in leading international journals; contribution on 30 book chapters; presenting more than 150 research papers in international conferences – includes as keynotes and invited speaker; wrote more than 50 non-reference scientific articles as well as mass media. He received many award for his extraordinary effort on halal study and the latest is the International King Faisal Service Award for Islam in 2018.

Prof. Zainal Aznam Mohd Jelan

Prof. Dr. H. Zainal Aznam bin H. Mohd. Jelan is a researcher who is well known by academics in Indonesia. He is the President of ASEAN - Australian Scientist for Animal Production from Universiti Putra Malaysia. The research he has done in terms of animal nutrition and has been published in many scientific journals and conferences.

Prof. Budi Guntoro

Prof Budi Guntoro, S.Pt., M.Sc., Ph.D is a lecturer at Faculty of Animal Science, Universitas Gadjah Mada, Yogyakarta, Indonesia. Currently, he is the vice dean of academic and student affair at the faculty. From 2009 to date, he is also Visiting Profesors at Maejo University, Thailand and General Secretary of ATMA (Asian Tourism Management Assosiation). Prof Budi Guntoro has saveral research and public services on human development and tropical agriculture development management, not only in domestic but also collaboration with overseas university.

Prof. Ismoyowati

Prof. Dr. Ismoyowati, S.Pt., M.P. is a lecturer at Faculty of Animal Science, Jenderal Soedirman University, Purwokeerto, Indonesia. Her recent academic career is Dean of faculty of animal science, Jenderal Soedirman University, 2017-2021 periode. Her study taking concern in poultry science specially on biotechnology development. Many research and social services on poultry topics have done in recent years.

Dr. Robbi Rahim

Dr. Robbi Rahim is a lecturer at Sekoah Tinggi Ilmu Manajemen Sukma, Medan, Indonesia. He has many international publications that been cited by worldwide researchers. He has 21 H-indeks on scopus and 24 on Google. of His expertise are on information technology especially network scurity, cryptography, information privacy and data encryption.

Tuesday, 6 August 2019

PARALLEL **SESSION A**

Room Sapphire A

Moderator: Ir. Ibnu Hari Sulistyawan, M.Sc

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[ABS-2]
Validating Egg Component Proportions in Quail Receiving Methionine Supplementation

Adi Ratriyanto, Septian Nurcahyo, Sigit Prastowo, Nuzul Widyas*

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Abstract: Essential amino acid methionine is a methyl donor which involved in protein and fat metabolism; thus, it holds an important role in the synthesis of egg yolk and albumen precursors. This research aimed to observe the effect of methionine on the weight of egg and its components and to prove if egg weight could be used to predict the yolk and albumen weight. In total, 225 quails were allotted into three treatments and five replicates each with fifteen individuals. The treatments were basal diet (T0), basal diet with 0.06% (T1) and 0.12% methionine (T2). ANOVA was conducted to test the effect of treatments. Simple linear regressions were built to predict yolk and albumen weight based on egg weight. Cross validation procedure was applied to test the predictability of the models. Quails in T2 and T1 produced heavier eggs (9.29±0.52 and 9.04±0.76 g) compared to T0 (8.77±0.55 g). Albumen weight follow similar trends which were 5.37±0.38, 5.53±0.54, 5.75±0.44 g for T2, T1 and T0, respectively. Yolk weight slightly differ where T1 had higher weight (2.64±0.30 g) followed by T2 (2.62±0.27 g) and T0 (2.50±0.32 g). Pearson's correlation between egg and yolk weight were between 61-71% whereas for egg and albumen were between 69-87%. Simple linear regression predicting yolk and albumen weight from egg weight had accuracies between 92.7-94.3% and 94.3-96.2%, respectively. Methionine supplementation had significant effect on egg and egg components weights. Linear regression can be utilized to predict yolk and albumen weight based on egg weight with high accuracy.

Keywords: Quail; Egg; Yolk,Albumen; Model prediction

[ABS-3]
The contribution of social capital to the income and development of beef cattle farmers

Nur Solikin[1)], Budi Hartono[2)]., Zaenal Fanani.[3)] Muhammad Nur Ihsan.[4)]

1) Faculty of Animal Husbandry, Universitas Nusantara PGRI Kediri
2,3,4) Faculty of Animal Husbandry, Universitas Brawijaya Malang

Abstract: Developing the livestock sector in Kediri, East Java Province requires an investigation on the social capital of beef cattle farmers to observe the actual condition and the strategies. The research is aimed to describe the social capital that includes the kinship, behaviours, norms and interactions and to analyse the correlation between social capital and economic income of beef cattle farming in Kediri Regency. The study was conducted from January to June 2018, collecting data from a survey and questionnaire. A multistage sampling method was applied to collect 150 farmers in eight sub-districts in Kediri. Data were subject to descriptive analysis. The result showed that the social capital of beef cattle farmers in Kediri is at the medium level as observed from the farmers' ability to collaborate in achieving group objectives. The average annual income of beef cattle farmers in Kediri was IDR 2.700.000. The result showed a significant correlation (0,426) between the social capital and the income of beef cattle farmers in Kediri. It indicated that the higher the social capital, the higher the income. Some efforts to increase social capitals included a social gathering and farmers upskill through intensive training on technology mastery.

Keywords: Social Capital, Beef Cattle Farmer, Kediri Regency

[ABS-4]
The Internal Organs Size of 6-Weeks Old Native Chickens after Supplement Addition with L-threonine and L-tryptophan in the Feed

Charles V. Lisnahan, Oktovianus R. Nahak

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Jalan El Tari, Km. 9, Kefamenanu, Nusa Tenggara Timur, 85616

Abstract: The aim of this experiment was to know the internal organs size of 6-weeks old native chickens after supplement addition with l-threonine and l-tryptophan in the feed. A total of 112 native chickens a week-old were used in this experiment. The experiment was designed as a randomized complete block with four treatments and four replications. The dietary treatments were: T0 (control feed without supplementation of l-threonine and l-tryptophan); T1 (supplementation of 0.35% l-threonine and 0.10% l-tryptophan); T2 (supplementation of 0.68% l-threonine and 0.17% l-tryptophan); T3 (supplementation of 1.00% l-threonine and 0.25% l-tryptophan). The data collected were body weight, liver, pancreas, gizzard, and intestinal length of native chickens aged 6 weeks. The statistical analysis showed that supplementation of l-threonine and l-tryptophan gave significant effect (P<0.01) upon body weight, liver weight, pancreas weight, gizzard weight and intestinal length. It can be concluded that supplementation of 1.00% l-threonine and 0.25% l-tryptophan give the highest body weight and internal organs size of native chickens.

Keywords: Native chicken, l-threonine, l-tryptophan, internal organs

[ABS-6]
Effect of organic basic multrinutrient block supplementation on total mixed ratio of kacang goat in feedlot system

Retno Iswarin Pujaningsih, Widiyanto, Baginda Iskandar Moeda Tampoebolon

Faculty of Animal Agriculture, Diponegoro University of Semarang

Abstract: The research was managed to assess different level of organic basic multi-nutrient block supplementation on the performance of Kacang goat that fed by total mixed ratio in feedlot system. This research was carried out for 3 months, used 15 goats with the average body weight of 16.40 ± 3.97 kg. The study was arranged in a completely randomized design with 3 treatments and 5 replications. Goats were divided and fed with one of the treatments as follows: P0: only forage, according to the farmer's way; P1: total mixed ratio; P2: total mixed ratio + 15g multinutrient block/head/day. Variables of initial body weight, final body weight, body weight gain, and feed consumption were observed. The study indicated that goats of P1 and P2 had a significantly higher body weight gain by 31,45 and 42,38 g/head/day (P < 0.05) compared with P0 (14,8 g/head/day), respectively. Body weight gain of goat P2 was significantly higher (P < 0.05) than P1 Kacang goat. This study suggests that treatment P2 resulted in the highest body weight gain.

Keywords: multinutrient block, organic supplement, TMR, Kacang Goat

[ABS-9]
THE EFFECT OF ADDITION OF CHICKEN FEET AND NECK BONE FLOUR TOWARDS NUTRITIONAL VALUE OF COOKIES

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Abstract: This study aimed to determine the chemical content of cookies with the addition of chicken feet flour and chicken neck bones flour and test the panelists acceptance of these cookies. The experimental design used was a completely randomized design (CRD) with 3 treatments and 3 replications. The treatment given is T0 (wheat flour); T1 (wheat flour + feet flour); and T2 (flour + neck bone flour). Variables measured include water, ash, fat, protein, carbohydrate, calcium, and phosphos. The data obtained were analyzed using variance analysis followed by the Smallest Significant Difference Test (LSD). The results of the variance analysis showed that the addition of chicken feet flour and neck bones flour had a significant effect (P <0.05) on ash content; fat; protein; carbohydrate; calcium and phosphor.

Keywords: chicken feet, cookies, neck bones, nutrition, flour

[ABS-12]
POLYMORPHIS ALBUMIN BLOOD PROTEIN ITS ASSOCIATION WITH GROWTH AND ADULT BODY WEIGH OF PADJADJARAN SHEEP AS ELITE RUMS

Sri Bandiati Komar Prajoga (a), Johar Arifin (b), Wendry Setiyadi putranto (c), Yuliana Kolo (d)*

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Abstract: Padjadjaran sheep was a local sheep that has undergone purebreeding in the form of linebred, has a variation of mt-DNA in the form of 75 bp deletions at the posision of 1447-1522 bp. Male birth weight was 3.5 - 4 kg, while adult body weight (18 months) was 35-45 kg. On the molecular genetic side Albumin was the guardian of the osmotic balance of blood, Albumin will encourage fluid if the condition low in the blood and pushes out if the liquid high in blood . Albumin was formed in the liver and binds absorbed nutrients to spread throughout the body. In high body fluids in sheep causes swelling in the whole body and there was a tendency to less optimal growth. Growth was an increase in body weight in a certain period of time, which was divided into stages of acceleration and deceleration. In elite rum selection programs carried out based on individual data, the ranking based on their position in the population. The research method was descriptive for quantitative charakter and data analysis using correlation, as well as the SDS-page method for blood protein analysis. The object of the study was 46 rams as candidate for elite rums, which had body weight between 27 - 45 kg, with an average body weight of 35.3 kg. The results showed that the blood protein Albumin of Padjadjaran sheep was spread in several alleles from Alb. A, Alb.B, Alb.C, Alb.D, Alb.E and Alb.F. All of population have (100%) have Albumin A which had highest Correlation (0,21) with body weight gain aged 17 to 18 months, while the other Alb alleles showed a low correlation

Keywords: Key words: Padjadjaran sheep, Blood Protein Albumin , Accelaration , Deceleration

[ABS-18]
The Effects of Sperm Number and Insemination Interval on the Fertility and Hatchability of Sentul Hens

Dadang Mulyadi Saleh, Sigit Mugiyono, Mas Yedi Sumaryadi, Aras Prasetiyo Nugroho

Faculty of Animal Science, Jenderal Soedirman University

Abstract: Sexually mature Indonesian native hens (Sentul hens) were housed singly in laying cages and artificially inseminated with combination of three different levels of diluted pooled semen (50 million sperm/0.05 ml; 100 million sperm/0.1 ml; and 150 million sperm/0.15 ml) and at either of three different intervals (every 3, 6 and 9 days). The results show that the sperm number and Insemination inverval had no significant interaction (P>0.05) on % fertility and hatchability. The best fertility (P< 0.05) was obtained by inseminating interval 6 days with sperm number 100 million/ 0.1 ml of diluted semen.

Keywords: Sperm number, insemination interval, fertility, hatchability, sentul hens

[ABS-27]
Birth Weight and Morphometric Traits of Purebred and Crossbred Belgian Blue Calves

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*)Research Institute for Animal Production, Bogor
**)Livestock EMBRYO CENTRE, Bogor

Abstract: The Belgian Blue (BB) is a breed of cattle characterized by double muscling. Introduction of Belgian Blue cattle to Indonesian is to increase beef production. The aim of this study was to compare birth weight and morphometric traits of purebred BB calves to F1 BB x Friesian Holstein (FH) calves. A total of 10 purebred BB calves and 20 F-1 BB x FH calves were used in this study. Results showed that birth weight and chest girth were significantly affected by genetic and sex of calves (P<0,05). The purebreds had higher birth weight and chest girth (P<0,05). The birth weight were 54,82 kg and 42,86 kg for purebreds and crossbreds, respectively. The body height were 75,30 cm and 76,35 cm for purebreds and crossbreds, respectively. The body length were 66,96 cm and 66,33 cm for purebreds and crossbreds, respectively. The chest girth were 88,46 cm and 81,15 cm for purebreds and crossbreds, respectively. This study is a preliminary information used for developing BB cattle.

Keywords: Belgian Blue cattle, crossbreeding, birth weight, morphometric traits

[ABS-55]
DIGESTIBILITY AND RUMEN FERMENTATION PRODUCTS OF RICE BRAN FROM VARIOUS VARIETIES OF RICE

Titin Widiyastuti, Caribu Hadi Prayitno and Munasik

faculty of Animal Science, Jenderal Soedirman University

Abstract: Rice has many kind of varieties with varied organic ingredients. The purpose of this study is to assess influence of varied organic matter content on digestibility and fermentation products in rumen. The method of research is done by in vitro, using completely randomized design with 6 varieties of rice bran as treatments (Pandan Wangi, Ketan Putih, IR 64, Aek Sibundong, Ketan Hitam and Umbul). Each treatment is repeated 3 times, continued by Honestly Significant Difference

(HSD). The objective of the research was to evaluate VFA level, N-NH3, dry matter digestibility (DMD) and organic matter digestibility (OMD). Results of analysis of variance showed that the rice bran varieties have a Highly significant effect on the levels of VFA ($P < 0.01$), but its not significant effects on N-NH3 level, DMD and OMD. A highly significant difference is shown by rice bran of Pandan Wangi varieties with Ketan Putih and Ketan Hitam. Based on the results can be concluded that rice varieties affect the level of VFA but do not affect the level N-H3, DMD and OMD, Pandan Wangi varieties has the highest VFA produce in the rumen.

Keywords: Rice varieties, VFA, N-NH3, DMD, OMD, in vitro

Tuesday, 6 August 2019

PARALLEL SESSION B

Room Sapphire B

Moderator: Ir. Agus Susanto, M.Sc. Agr

Rahayu Widiyanti, Novie Andri Setianto, Nunung Noor Hidayat, Sri Mastuti, Krismiwati Muatip, Mochamad Sugiarto
Vertical Integration of Broiler Industries in Indonesia (Analysis of Case Decisions Number 02/KPPU-I/2016)

Tati Rohayati
The Evaluation of Physical Qualities of Pellet Containing Indigofera Zollingeriana and Banana Corm that Fermented by Trichoderma harzianum

Dicky Pamungkas, F.Firdaus, L. Affandhy, M. Luthfi
Mineral-Vitamin Combining Versus Herbal Supplementation to Enhance Performance Ongole Crossbred Bull

Triana Setyawardani, Juni Sumarmono, Agustinus Hantoro Djoko Rahardjo, Kusuma Widayaka, Singgih Sugeng Santoso
Texture Prolile and Sensory Kefir Characteristic with Colostrum Addition

N. Widyas, L. A. Pradista, S. Prastowo, A. Ratriyanto
Adopting Intraclass Correlation Principles to Estimate the Consistency of Egg Production of Quails Supplemented with Metabolic Enhancer

Ning Iriyanti, Sufiriyanto, Bambang Hartoyo
Impact of Liquid Fermeherbafit as Feed Additive to The Blood Hematological Profile and Lymphoid Organ of Broiler Chickens

Ismoyowati, Ibnu Hari Sulistyawan, Sigit Mugiyono, Rosidi
Carcass Production Charakteristic and Single Nucleotide Polymorphism Adipocyte Fatty Acid Binding Protein (A-FABP) Gene on Cairina moschata

Arika Rizki Rofikoh, Mas Yedi Sumaryadi, Agustinah Setyaningrum
The Potential Breeding Worth of Cattle at Different Age Based on Body Weight, Chest Circumference and Body Condition Score of Kebumen “Peranakan Ongole” (PO) Cattle in “Urut Sewu” Breeding Areas

Wisje Lusia Toar, Endang Pudjihastuti, Laurentius J.M. Rumokoy, Ivonne M. Untu
Effect of Supplementation of Combination of BSF Curcuma and Maggot Meal in Rations on Accumulative Weight of Native Chickens

J. R. Leke, E. Wantasen, F.N. Sompie, F.H. Elly, R. Siahaan
Egg Quality Characteristic of Laying Hens Fed Dried Garlic (Allium Sativum) in Diet

ABSTRACTS

[ABS-11]

VERTICAL INTEGRATION OF BROILER INDUSTRIES IN INDONESIA (Analysis of Case Decisions Number 02/KPPU-I/2016)

Rahayu Widiyanti, Novie Andri Setianto, Nunung Noor Hidayat, Sri Mastuti, Krismiwati Muatip, Mochamad Sugiarto

Fakultas Peternakan UNSOED

Abstract:This study aims to get a deeper explanation of vertical integration in the broiler industry in Indonesia. The data used is secondary data on case decisions number 02 / KPPU-I / 2016. Komisi Pengawas Persaingan Usaha (KPPU) Republik Indonesia has issued a decision about the alleged violation of article11 of Act Number 5 of 1999 related to the regulation of broiler production in Indonesia. The data obtained were analyzed by descriptive method. The results obtained are (1) there are 14 large companies that are directly related to the broiler trade industry, (2) broiler industry products are DOC, feed, vitamins and drugs, raw materials for poultry feed and carcasses, (3) the business category in the broiler trade industry is integrated business, semi-integration business and non-integrated businesses. Business integration consists of vertical integration and horizontal integration. Vertical integration is a business that has a series of production processes from upstream to downstream. semi-integration business is a business that only has more than one production line but does not control the business from upstream to downstream. non-integrated business is a business that only has one production process. Integration business has a dominant market share and can influence the price maker. It was suggested that the Government monitor more closely the large companies that carry out integration so as not to collude and form a monopoly market.

Keywords: business integration, vertical integration, broiler industry

[ABS-13]

The Evaluation of Physical Qualities of Pellet Containing Indigofera zollingeriana and Banana Corm that Fermented by Trichoderma harzianum

The Evaluation of Physical Qualities of Pellet Containing Indigofera zollingeriana and Banana Corm that Fermented by Trichoderma harzianum

Universitas Garut

Abstract: The quality of the pellets is determined by the ingredients of pellets. This study aims to determine the amount of Indigofera zollingeriana and banana corm that fermented by Trichoderma harzianum as a substitute for soybean meal and rice bran in ration on the physical qualities of pellets. The research method was experimental using a completely randomized design with a factorial pattern consisting of two factors and each five treatment and two replications. Experimental data were analyzed by analysis variance, then to find out the differences between treatments were analyzed by Duncans Multiple Range Test. The results showed that there was an interaction between the use of Indigofera zolingeriana and banana corm on durability and density of pellet. The highest pellet durability was obtained by using 26% Indigofera zollingeriana and 1.25% banana corm, while the highest pellet density was obtained using 0% Indigofera zollingeriana and 1.25% banana corm.

Keywords: Physic, Indigofera zollingeriana, Banana Corm, Pellets

[ABS-21]
Mineral-Vitamin Combining Versus Herbal Supplementation to Enhance Performance Ongole Crossbred Bull

Dicky Pamungkas, F.Firdaus, L. Affandhy, and M. Luthfi

Indonesian Beef Cattle Research Institute (IBCRI),
Indonesian Agency of Agriculture Research and Development (IAARD), Pasuruan. INDONESIA

Abstract: Excellent performance of bull as sperm producer was needed to maintain and increase the high pregnancy cows. The study aimed to determine the effect of mineral-vitamin combining (MVC) and herbs supplementing (HS) on feed intake, feed efficiency, average daily gain (ADG), linear body, semen quality and B/C ratio of Ongole Crossbred bull. Eight animals (aged 3 to 5 years) within initial weight 505.2 ± 70.5 kg were examined. They were grouped in two feed regimes, firstly, the basal diet was given with the inclusion of Vitamin A, E and Zinc-minerals (P1) and secondly, were basal diet plus herbs supplementation (P2). The basal diet consisted of elephant grass, gliricidia, and commercial concentrates. Feeding was assigned to dry matter (DM) of 3% of body weight (BW) to meet the balance nutrient intake. The experimental which conducted as long as three months, was designed in two treatments and four replicates. Data analysed by using the T-test. There was no significant different between P1 and P2 in the results on feed intake, efficiency, ADG, and linear body. However, the sperm concentration of P1 (1,366.7 ± 768.9 million/ml) was higher($P<0.05$) than those of P2 (873,3 ± 488.7 million/ml). Meanwhile, the sperm viability of P1 (90.4 ± 8.5%) was also higher than that of P2 (78.7 ± 16.2%). Both P1 and P2 were recommended for being used commercially (due to requirement of Indonesia National Standard/SNI 4869-1:2017), but the P1 was the efficient one in regards of the B/C ratios.

Keywords: supplementation, Ongole crossbred, bull

[ABS-23]
Texture Prolile and Sensory Kefir Characteristic with Colostrum Addition

Triana Setyawardani, Juni Sumarmono, Agustinus Hantoro Djoko Rahardjo, Kusuma Widayaka and Singgih Sugeng Santoso

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Abstract: Physical characteristics of kefir is one of the factors that influence the level of consumer sensory acceptance of the product. The aim of the study was to determine the effect of the use of a combination of raw materials (cattle and colostrum) on kefir making on texture profiles and sensory characteristics. The study used 6 treatment combinations namely P1 = 100% cows milk; P2 = 80% cows milk + 20% colostrum; P3 = 60% cows milk + 20% colostrum; P4 = 40% cows milk + 60% colostrum; P5 = 20% cow milk + 80% colostrum and P6 = 100% colostrum. The results show that hardness and effectiveness are not influenced by the combination of raw materials, but gummines are influenced by a combination of raw materials ($p <0.05$). The average value of kefir guminess is 1.76 ± 1.16 to 4.86 ± 0.77 G. The sensory characteristics of flavor, color, texture, and overall preference were significantly affected ($p <0.05$) by the combination of raw materials (cattle and colostrum) used. Flavor assessment results with a score of 2.47 - 3.10 (less fresh-sour); Aroma / odor 2.43 - 3.20 (sour but not fresh - rather sour). Color 1.3 - 4.93 (white - yellow), texture 1.80 - 4.73 (smooth - rather rough). Flavor score The scoring score by the panelists is 3.20 with the appraisal criteria like. The favorite rate is 3.20 (like) - 4.20 (rather like).

Keywords: kefir, colsotrum, texture profile, sensory, cow milk

[ABS-23]
Texture Prolile and Sensory Kefir Characteristic with Colostrum Addition

Triana Setyawardani, Juni Sumarmono, Agustinus Hantoro Djoko Rahardjo, Kusuma Widayaka and Singgih Sugeng Santoso

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Abstract: Physical characteristics of kefir is one of the factors that influence the level of consumer sensory acceptance of the product. The aim of the study was to determine the effect of the use of a combination of raw materials (cattle and colostrum) on kefir making on texture profiles and sensory characteristics. The study used 6 treatment combinations namely P1 = 100% cows milk; P2 = 80% cows milk + 20% colostrum; P3 = 60% cows milk + 20% colostrum; P4 = 40% cows milk + 60% colostrum; P5 = 20% cow milk + 80% colostrum and P6 = 100% colostrum. The results show that hardness and effectiveness are not influenced by the combination of raw materials, but gummines are influenced by a combination of raw materials ($p < 0.05$). The average value of kefir guminess is 1.76 ± 1.16 to 4.86 ± 0.77 G. The sensory characteristics of flavor, color, texture, and overall preference were significantly affected ($p < 0.05$) by the combination of raw materials (cattle and colostrum) used. Flavor assessment results with a score of 2.47 - 3.10 (less fresh-sour); Aroma / odor 2.43 - 3.20 (sour but not fresh - rather sour). Color 1.3 - 4.93 (white - yellow), texture 1.80 - 4.73 (smooth - rather rough). Flavor score The scoring score by the panelists is 3.20 with the appraisal criteria like. The favorite rate is 3.20 (like) - 4.20 (rather like).

Keywords: kefir, colsotrum, texture profile, sensory, cow milk

[ABS-26]
Adopting intraclass correlation principles to estimate the consistency of egg production of quails supplemented with metabolic enhancer

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Abstract: Betaine as metabolic enhancer is proven to improve eggs production in poultry. The consistency of the improvement, however, is not yet explored. This study aimed to explore the consistency of quails' egg production under the influence of betaine supplementation utilizing intraclass correlation approach. In total 225 quails were used and allotted into three treatment groups: T0 (control), T1 (control + 0.06% betaine) and T2 (control + 0.12% betaine). Each treatment was repeated five times with 15 quails each. Egg production data was collected for 2 clutches (2 × 28 days) started after egg production reached 50%. The data was split and averaged into eight consecutive weeks. Linear model resulted in significant difference of egg production among treatments which were 66.08±18.39%, 70.55±15.11% and 75.46±14.88% for T0, T1 and T2 respectively ($P<0.01$). Intraclass correlation within each treatment was used as the measure of egg production consistency. Every replicate was recorded in eight consecutive weeks during the experiment. Results showed that T2 has the highest intraclass correlation (0.88), followed by T1 (0.86) and T0 (0.79). Our findings confirmed that betaine supplementation improve quails' egg production in quails. We further discover that the improvement obtained during experimental period due to betaine supplementation was more consistent compared to the quails without supplementation.

Keywords: quail, egg production, betaine, intraclass correlation, consistency

[ABS-31]
IMPACT OF LIQUID FERMEHERBAFIT AS FEED ADDITIVE TO THE BLOOD HEMATOLOGICAL PROFILE AND LYMPHOID ORGAN OF BROILER CHICKENS

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Abstract: The purpose of research was to evaluates the administration time of liquid fermeherbafit usedin drinking water on blood hematological profiles and lymphoid organ of broiler chickens. 1000 heads of broiler chicks 1-14 days old with prelium treatment, and 14 - 34 day-old as research treatment. Fed by BR 1 and BR2 feed of CP production. Fermeherbafit material consists of: 100% Curcuma domestica (turmeric), 100% Curcuma Xanthorrhiza R (Temulawak), 25% Allium sativum L (garlic), 50% Morinda citrifolia (Noni), 10% Moringa oleifera (Moringa leaf),10% sugar, 8% (w/v) Probiotic BAL (Lactic acid bacteria). used complete random design (RAL), with 4 treatments with 50 chickens each of 5 replicates, the liquid Fermeherbafit as much as 4% (v/w) of the feed given to the four groups: R0 = as control, R1 = daily, R2 = every two days; R3 = every Monday and Thursday. The results of Blood hematological profiles and the lymphoid organ of broiler chickens showed no significance differences (P > 0.05). The average of blood haematological profileis leukocytes were 8.830±2.01 until 8.70±1.87 (.. X 103/µl); Monocytes of 4.60±1.82 to 7.00±2.45%; Lymphocytes of 53.00±11.92 to 57.20±9.73%; Hb of 6.36±0.37 to 7.38±0.40 G/dL; Fabricius of 0.81±0.06 to 1.00±0.12%; Lymph of 0.12±0.03 to 0.24±0.16%; Thymus of 0.17±0.05 to 0.20±0.05. it can be concluded that liquid fermeherbafit through drinking water at exact time daily, every two days and every Mondays-Thursdays are reviewed in the results of blood haematological profiles as well as Lymphoid organ of broiler chickens. Keywords: Hematological profile, Lymphoid organ, Fermeherbafit

Keywords: Hematological profile, Lymphoid organ, Fermeherbafit

[ABS-32]
CARCASS PRODUCTION CHARAKTERISTIC AND SINGLE NUCLEOTIDE POLYMORPHISM ADIPOCYTE FATTY ACID BINDING PROTEIN (A-FABP) GENE ON CAIRINA MOSCHATA

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Abstract: The aim of this study was to determine differences in growth, carcass production and identify polymorphisms of adipocyte fatty acid binding protein (A-FABP) gene in Muscovy ducks from the second generation selection (G2). The research material used 180-day-old Muscovy ducks consisting of male and female ducks with white feathers and male and female ducks with a combination of black and white feathers. Measurement of duck body weight was carried out every week, and ducks are slaughtered at 10 weeks to obtain carcass production data. The data obtained were analyzed by systat-13 program based on variance analysis and Duncan test. The primary design was based on a database of the genebank Cairina moschata adipocyte fatty acid binding protein (A-FABP) gene, exons 1, 2 and partial cds (FJ763338.1). The primary base sequence of the A-FABP gene was the primary forward: 5- TCTGGGGGTGTTATCTGGAG -3 and reverse primer: 5-ATTTGTCAGTGGCTGTGCTG -3. The sequencing results of PCR products were analyzed using bioedit version 7.7 to determine the presence of the A-FABP gene polymorphism. The results showed that at the same age male Muscovy ducks produced carcass weight, thickness of breast meat and carcass percentage higher than female ducks. Body weight, carcass weight and parts of the carcass (breast, thigh, back, and wings) of white feather male ducks higher than the male black-

and-white combination feathers. White feather and combination black-white feather female Muscovy ducks had body weight and carcass production relatively same. The percentage of the carcass was significantly different between male and female Muscovy ducks with different feather colors. The A_FABP gene PCR product was at 176 bp. The results of bioedit analysis showed that at 151 bp, base length there was a mutation from Guanin to Adinin in the observed Cairina moschata, both male and female Muscovy ducks with white feathers and black-and-white combinations. All ducks observed had homozygous AA genotypes. Base changes in SNP c. 151G> A indicate a transition mutation. The study concluded that the male Muscovy duck with white feathers produced the highest carcass and breast meat production than other ducks and the A-FABP gene on Muscovy duck was monomorphic.

Keywords: Carcass percentage, Monomorphic, Muscovy duck, thick meat breast

[ABS-59]
The Potential Breeding Worth of Cattle at Different Age Based on Body Weight, Chest Circumference and Body Condition Score Of Kebumen "Peranakan Ongole" (PO) cattle In "Urut Sewu" Breeding Areas

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Abstract: This research was aimed to determine the potential breeding worth of cows at different age based on body weight (BW), chest circumference (CC) and body condition score (BCS) of 440 cattle from 29 breeding groups in Urut Sewu which included Mirit subdistrict, Ambal, Buluspesantren, Klirong, Petanahan, and Puring subdistrict. The study applied a survey method allocating two age groups: U1= 18 – 24 months and U2 = >24 – 36 months. The observed variables were BW, CC and BCS. The collected data were subject to an Independent sample test (t-test). The result showed a highly significant difference (P<0.01) between U1 and U2. The average BW, CC, and BCS of Kebumen "Peranakan Ongole" (PO) cattle in U1 were 306,04 ± 67,86 kg, 153,99 ± 11,74 cm and 3,18 ± 0,41, respectively, and in U2 were 368,00 ± 97,79 kg, 163,10 ± 14,38 cm and 3,48 ± 0,58, respectively. The body condition score of Kebumen PO cattle was higher than in the Indonesian National Standard (SNI); therefore, PO cattle had an improved grade as potential germplasm of indigenous cattle in Indonesia

Keywords: Peranakan Ongole (PO), Age, body weight (BW), chest circumference (CC), body condition score (BCS)

[ABS-72]
Effect of Supplementation of Combination of BSF Curcuma and Maggot Meal in Rations on Accumulative Weight of Native Chickens

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Abstract: The purpose of this study was to determine the role of the combination of curcuma meal with maggot or BSF (Blue Soldier Flies) insect larvae of Hermetia illucens on accumulative weight gain in native chicken.Methods: This study used 60 starter chickens aged 3 weeks, which were divided into two groups of 30 chickens as control group (P1) and the other one (P2) that received

a supplement of combination of curcuma meals of 350gr / 100 kg ration and maggot BSF of 150gr / 100 kg ration which was maintained for five weeks. The ration was distributed ad libitum. Accumulative weight gain was measured at the end of the study at the sixth week. The data obtained were analyzed using t-test. The results of this study indicated that the average body weight of experimental chicken P2 was 0.450 gr significantly higher (P <0.01) than in group P1 was 0.390 gr.The maggot meal of H. illucens has an important nutrient content and has a positive effect when combining with curcuma meal which is able to increase consumption palatability which has a direct effect on local chicken weight gain.Conclusion: The combination between BSF maggot and curcuma meals supplementation could be applied to local chickens in supporting organic livestock production

Keywords: : Insect, BSF, native chickens

[ABS-91]
EGG QUALITY CHARACTERISTIC OF LAYING HENS FED DRIED GARLIC (ALLIUM SATIVUM) IN DIET

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Abstract:The research purpose was to determine the egg quality characteristic of laying hens fed hens dried garlic (allium sativum) in diet. The research method was used completely random design with five treatments and five replicates. The materials used for this research were 100 laying hens.The treatments used for research were dietary with R0 = 100 % based diet (BD); R1= 98% based diet (BD) + 2% garlic meal (GM); R2= 96 % based diet (BD) + 4 % GM, R3 = 94% based diet (BD) + 6% GM, R4 = 92% based diet (BD) + 8% GM. The study was conducted over a period of eight (8) weeks. Data were collected on eggs quality, egg weight, egg shell weight, egg shell thi egg shell weight, but egg weight , albumen weight and egg shell thickness significant. The data analysis of variance (ANOVA) and continued by Duncan's multiple range test. The results showed that using the yolk weight, egg shell weight has significant different (P 0.05) on egg weight, albumen weight and egg shell thickness significantly different (P 0.01). It can be concluded that garlic meal can be used as an alternative feedstuff in laying hen diets at inclusion level up to 8% without negative effects on egg quality characteristis.

Keywords: Dried garlic, Egg quality, Laying hens

Tuesday, 6 August 2019

PARALLEL **SESSION C**
Room Jade A

Moderator:Dr. Ir. Elly Tugiyanti, MP

ABSTRACTS

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[ABS-5]
ORGANIZATIONAL COMMITMENT MEMBERS GROUP OF DAIRY FARMER IN BANYUMAS REGENCY

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Abstract: The majority of dairy farmers in Banyumas Regency were in groups, this was because of the requirements applied by cooperatives. This causes not all members to have a commitment to the group. The research helped to analyze the correlation between lead time and motivation ability of the group leader toward members commitment to the group of dairy farmers in Banyumas Regency. The research used a survey method with regional sampling taken by purposive sampling, namely choosing 2 sub-districts that had quite a lot of dairy farmers in Banyumas Regency and are selected Pekuncen and Cilongok Subdistricts. Determination of group samples was determined by the census (11 groups). The respondents were taken randomly as much as 50% of the total group members. The number of group members in Pekuncen and Cilongok Subdistricts were 124 people. Respondents were selected as recipients were 62 people. Data were analyzed using descriptive analysis and Rank Spearman correlation. The results of the research show that the lead time of group leader in Banyumas Regency was long enough, motivation ability was good, and the organizational commitment of group members was in the high category. The result showed that the lead time and motivation ability of group leader had a correlation to toward members commitment to the group with a coefficient of 0.574 and 0.544 respectively.

Keywords: Lead time, motivation ability, group leader, organization commitment, dairy farmers

[ABS-14]
The Comparison of Financial Performance among the Broiler Duck Farming Based on Farm-scales at Banyuwangi Regency of Indonesia

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Abstract: Study was carried out at Banyuwangi Regency, East Java of Indonesia. The research objectives were to investigate financial performance of the broiler duck farming based on farm-scales. 10 respondents who joining in farmer group were obtained by multistage sampling method that categorized into three farm-scales namely, small-scale (having 200-1,266 birds, n = 6), medium-scale (controlling 1,266-2,533 birds, n= 2) and large-scale: rearing more than 2,533 birds, n = 2). Data were collected during one year with five production periods. Survey method using structured questionnaire was to obtain primary data. Whereas, secondary data were provided by the farmer group and the related institution. Analysis data involved capital, production cost, revenue, profit, break-even point (BEP), R/C ratio, and rentability. Results discovered that the third production period of broiler duck farming in large-scale was the most profitable of IDR 8,207 per bird. It was IDR 22,520 of capital which structured by 8.02% of fixed and 91.98% working capital; IDR 20,715 of production cost that composed by 60.53% of feed and 27.52% of DOD; IDR 28,923 of revenue with consisting of 99.01% from the selling of live broiler duck and 0.99% from others (feed bags, manure and cardboard). Similarly, this farm represented the efficient broiler duck farming on the basis of IDR 21,796 of price BEP; 1.40 of R/C ratio; and 36.45% of rentability.

Keywords: Production cost, profitable, BEP, R/C ratio, rentability

[ABS-16]
SALES AND MARKETING OF MILK PRODUCTS BY DAIRY FARMERS IN WEST JAVA

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Abstract: As a highly perishable product, sales and marketing are very important for milk produced by dairy farmers. This paper is aimed to analyze the sales and marketing of milk products done by smallholder dairy farmers in West Java. Data used in this paper is a part of the IndoDairy Smallholder Household Survey (ISHS) data which was collected during the months of August-September 2017, covering 600 smallholder dairy farm households in Bandung, Garut, Cianjur, and Bogor districts. The data is analyzed qualitatively. Almost all the dairy farmers sell fresh milk, except one in Bogor who sells milk in the form of processed milk. However, only less than 1 percent of the farmers sell processed milk in the form of pasteurized milk, flavored milk, and yoghurt. Almost all farmers (94%) sell their milk to only one buyer and 98 percent of them sell their milk to dairy cooperatives, showing dairy farmers' strong dependency on the dairy cooperatives. Milk price was significantly different across the districts, with farmers from Bogor district receiving the highest amount (Rp4,793.7/L), while farmers from Cianjur district received the lowest milk price across the four districts at Rp4,212/L. On the average, the price of fresh milk received by the farmers was Rp4,459/L. Due to the strong dependency on the dairy cooperatives, it is important to strengthen dairy cooperatives' management capacity to help dairy farmers' improve their milk quality, and hence prices, as well as dairy farmers' welfare.

Keywords: milk, marketing, price, smallholder dairy farmer, cooperative

[ABS-22]
Income analysis and market profile of live cattle and meat traders during Meugang festivity and normal market situation in North Aceh Regency

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Abstract: Meugang is a tradition for Aceh society referred to meat consumption prior to Islamic religious festivities. During that festivity, the demand for cattle and meat increased significantly and affects meat market profile in Aceh province. The objective of this study is to analyze the impact of meugang festivity celebrations on live cattle traders that in the local name is mugee and meat traders and also for the market profile. In total, 40 traders were involved in this study for collecting data through interview and direct field observation. Market profile was analyzed using descriptive analysis and different income was analyzed using factorial 2x2 test continued with DMRT analysis. The results indicated that profit received by mugee and meat traders at the meugang festivity was significantly higher ($P < 0.05$) than profit at the normal market situation. The average of profit gained by the mugee and meat traders during meugang festivity and the normal situation was 1,234,583 vs 925,833 IDR/day/head and 627,416 vs 330,556 IDR/day/head, respectively. The value of return cost ratio and benefit-cost ratio indicating that either live cattle or meat trading activities were significantly benefitted. The profit obtained by mugee is higher than meat traders at each market situation and meugang festivity has an impact on profit for live cattle and meat traders in North Aceh Regency.

Keywords: Aceh cattle, benefit-cost ratio, religious festivity, return cost ratio, supply chain

[ABS-36]
Positive Deviance Approach: Local Community-Based Solution (A Case Study of Etawah Grade Goat Livestock)

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Abstract: The study aimed to analyze the potentials of Positive Deviance approach in addressing the problems of Etawah Grade goat. By using a qualitative approach, this research was conducted in the Kaligesing Sub-district, Purworejo Regency, Central Java. Data were obtained through in-depth interviews, observation and focus group discussion. Key informants were determined purposively, which include elements of small holder farmers and the other stakeholders, i.e. extension worker and the staffs of Agency of Agriculture Livestock Marine and Fisheries of Purworejo Regency.The results showed that the Positive Deviance approach has a chance to be applied in driving behavioral change that leads to the livestock management as agribusiness practices. It is powered by a situation where the livestock problem was not solely in the form of technical barriers, the existence of a positive deviant and the support of local leaders such as village heads as well as the commitment of small farmers themselves.

Keywords: community, local, etawah grade, positive deviance

[ABS-45]
Assessing Preferences of the Primary and Opportunist Sheep Traders on Procurement and Selling a Livestock for Eid al-Adha Celebration in Yogyakarta, Indonesia

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Abstract: Eid al-Adha is one of the important religious festivals for Muslims in the world. Sheep traders can be divided into primary traders and opportunist traders based trade activity in this period. This study aims to investigate the preferences of sheep traders on procurement and sale of their livestock during Eid al-Adha period in Yogyakarta. This study was done by an in-depth and semi-structured interview to a total of 59 of the sheep traders. Data were analyzed using descriptive analysis (index and rank). The results are that most livestock animals purchased from the animal market, followed from farmers for primary traders and livestock traders for opportunist traders. Livestock most widely sold to individual consumers who come to their stalls, and then sold to animal market by primary traders and to organization/groups by opportunist traders. Most primary traders (64.10%) state to sell their sheep with different prices for different types of buyers, while the majority of opportunist traders (65.00%) thought no different. The average price different is IDR 286,364 according to primary traders and IDR 150,000 according to opportunist traders. Most of the primary traders (69.23%) and opportunist traders (90.00%) was pleased with the momentum of Eid al-Adha, as the selling price of their livestock could be higher, easy to sell, and any buyer. The conclusion is that both primary and opportunist traders in Yogyakarta have similar preferences in place to buy and sell their livestock during Eid al-Adha period. Eid al-Adha period provides pleasure and an additional benefit for sheep traders.

Keywords: Eid al-Adha, Livestock traders, Religious festivities, Sheep

[ABS-64]
THE POWER OF RESOURCES IN INDEPENDENT LIVESTOCK FARMING BUSINESS IN MALANG DISTRICT, INDONESIA

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Abstract: Background and Objectives: Independent farmers principally provide all production inputs from their own capital and can liberally convey their products on the market. From the problems found in the real life, thus the purposes of this study are: 1) to assess the resources that can be accessed by independent broiler breeders, 2) to find the strength of independent broiler breeders resources that support business development. Methodology: A total of 42 independent pattern broiler breeders are still running their livestock businesses in Malang Regency. Data were analyzed using SEM (Structural Equation Model) with SmartPLS 2.0 application. Results: The results showed that: 1) independent broiler breeders have access to financial resources, technological resources, physical resources, economic resources, environmental resources, and social resources; and 2) financial, technological, physical, economic, environmental and social resources affect farmer human resources by 82.7%, while financial, technological, physical, economic, environmental, social, and HR resources have an influence on the development of chicken farming broiler at 16.3%. Conclusion: economic resources have a direct and significant negative effect on the development of independent pattern broiler farming.

Keywords: SEM, resources, broiler, SmartPLS, and business development.

[ABS-67]
Mapping and Identification of Internal Resources on the Dairy Cattle Farming Business

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Abstract: The purpose of this research is to map and identify the internal resources of dairy cattle farming business and assess their effects on institutional performance and business risk aspects. The research was carried out in the Kawasan Sapi Perah Nasional, Malang District, East Java Province. Respondents were all dairy cattle farmers who were members of the KUB (Kelompok Usaha Bersama) Tirtasari Kresna Gemilang, namely 174 people. Data was analyzed by method of PLS (Partial Least Square). The results showed that internal resources had an effect on institutional performance by 41.7%, while business risk aspects were influenced by internal resources and institutional performance by 30.6%. The conclusion of the research is that the internal resources of dairy cattle farming business consist of financial resources, technological resources, and physical resources.

Keywords: internal resources, financial, technological, physical, and dairy cattle

[ABS-68]
DEVELOPMENT STRATEGY OF SUSTAINABLE BEEF CATTLE

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Abstract: The purpose of the development of beef cattle farming is to increase the population and productivity of cattle products followed by increasing the income of farmers, creating jobs and improving the genetic quality of beef cattle. The problem is that beef cattle farms in North Sulawesi are still carried out traditionally and have not been environmentally. Beef cattle are developed by most farmers by grazing on agricultural land. Based on these problems, a study was conducted to find out strategies that could be applied to support the development of beef cattle farms, which are environmentally. The purpose of this study was to analyze the role, opportunities and challenges of beef cattle farms in North Bolaang Mongondow Regency. This research was conducted in the North Bolaang Mongondow Regency using the survey method. The research location was determined by purposive sampling, namely Sangkub, Bintauna and East Bolangitan Districts which carried out the development of beef cattle. Analysis of the data used is the SWOT analysis. The results showed that the prospect of developing beef cattle farms was analyzed based on land potential which showed that the real population could be increased to 1.37 times. The development of beef cattle farming is carried out with an environmental and sustainable orientation, through development with the concept of LEISA (Low External Input Sustainability Agriculture). Conclusion, the development of beef cattle has a role in increasing the income of farmers and has market opportunities, and the challenges can be minimized by increasing the productivity and quality of beef cattle that are environmentally oriented. technology introduction is needed for the development of sustainable beef cattle farms.

Keywords: Beef cattle, development, strategy, environment

[ABS-70]
RAIN WATER HARVEST AND USE PATTERN AS AN EFFORTS TO IMPROVE THE ECONOMY OF FARMERS IN TIMOR DRIED AREA, NUSA TENGGARA TIMUR

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Abstract: Timor Island is a tropical climate with an average annual rainfall of 1,183 mm / year so that livestock-farming is carried out based on dryland agriculture. The limited water source is the main limitation for farmers in processing land for planting holtikuktura as a main effort in fulfilling their daily needs and forage for livestock as a side business. For this reason, technological innovations in water management are needed, especially rainwater with rainwater harvesting techniques. This study aims to find out how much rainwater is able to be accommodated during the rainy season period using the cage roof method and its utilization in horticulture and forage crops through drip irrigation systems. The results obtained are the amount of rain water that can be accommodated during one rainy season period which is equal to 32 m3 while its use with the drip irrigation system to meet the water requirements for horticulture plants in the form of chilli is 6 m3, cucumber is 7.2 m3 and forage is grass mulato is 12 m3 for one harvest period, with fresh grass mulato production of 2.4 tons/ha.

Keywords: rain water harvesting, utilization patterns, farms, dry land

Tuesday, 6 August 2019

PARALLEL **SESSION D**
Room Jade B

Moderator:Ir. H. Imam Suswoyo, M.Agr.Sc

ABSTRACTS

Mochamad Sugiarto, Syarifuddin Nur, Oentoeng Edy Djatmiko, Yusmi Nur Wakhidati, Alief Einstein
Strengthening the Farmers Intellectual Capital of Kebumen Ongole Cattle Related to Livestock Productions to Face the Industrial Revolution 4.0

Agustinah Setyaningrum, Najib Amrullah, Pambudi Yuwono
Physiological Conditions of Decomposition Process and Quality of Compost Based on Faeces Beef Cattle Enriched With Azolla Sp.

M. Socheh, D.M. Saleh, S.W. Purbojo, A. Setyaningrum
Concentration of Estrogen and Progesterone During Estrus and the 14th Day of Mating in The Javanese Thin-Tailed Ewes

Wardhana Suryapratama, F.M. Suhartati, Sri Rahayu
Decreasing of Methane Production in Sheep That Given of Moringa Oleifera Leaf Extract

Lucie Setiana, Mochamad Sugiarto, Oentoeng Edy Djatmiko
Improving Income of Local Poultry Farming Based on Socio Demographic Factors

N. Hidayah, W. Rita
Total VFA Production and Protozoa Population with Jengkol (Archidendron jiringa) Peel Powder Supplementation on In Vitro

Mochamad Socheh, Agus Priyono, Imbang Haryoko, Hermin Purwaningsih
Calpain Activity of Jawarandu Does Under Four Different Energy Level in the Ration

Edy Susanto, Nuril Badriyah, Djalal Rosyidi
Amino Acids Profile of The Indonesian Local Meats Antioxidant Peptides

Femi Hadidjah Elly, Agustinus Lomboan, Charles L. Kaunang, Meiske Rundengan, Zulkifli Poli, Syarifuddin
Development Potential of Integrated Farming System (Local Cattle - Food Crops)

[ABS-17]
STRENGTHENING THE FARMERS INTELLECTUAL CAPITAL OF KEBUMEN ONGOLE CATTLE RELATED TO LIVESTOCK PRODUCTIONS TO FACE THE INDUSTRIAL REVOLUTION 4.0

Mochamad Sugiarto, Syarifuddin Nur, Oentoeng Edy Djatmiko, Yusmi Nur Wakhidati, Alief Einstein

Faculty of Animal Science, Jenderal Soedirman University

Abstract: Intellectual capital is the farmers intangible asset related to human, relational and structural capital. Human capital in the form of knowledge and skills, relational capital is the ability to interact with markets, consumers, and others, meanwhile structural capital is the ability to develop innovations and to manage the household organizations. This research aims at identifying the farmers intellectual capital of Kebumen Ongole cattle related to the livestock productions and analyzing the factors strengthening the farmers intellectual capital. The survey was conducted on 147 farmers of Kebumen Ongole cattle through a multistage sampling method. The obtained data were then analyzed using descriptive statistical test and spearman ranking correlation test. The results showed that the farmers had already have adequate intellectual capital with the score of 116.92. The farmers ability related to education and information access is one important factor to strengthen the farmers intellectual capital (P <0.01). The farmers ability to access information is considered essential in order to strengthen the farmers intellectual capital.

Keywords: education, information access, intellectual capital

[ABS-24]
PHYSIOLOGICAL CONDITIONS OF DECOMPOSITION PROCESS AND QUALITY OF COMPOST BASED ON FAECES BEEF CATTLE ENRICHED WITH AZOLLA Sp.

Agustinah Setyaningrum(a), Najib Amrullah (a) and Pambudi Yuwono (a)*

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Abstract: The research entitled "Physiological Conditions of Decomposition Process and Quality of Compost Based on Beef Cattle Faeces Enriched with Azolla sp", was aimed to determine the effect of the addition of Azolla sp. on physiological conditions which include the kinetics of temperature and pH, and the quality of compost which includes carbon content, and compost organic matter. The method used was experimental with Completely Randomized Design (CRD). There were three treatments that were the addition of Azolla sp. 0% (P0), 10% (P1), and 20% (P2). Each treatment was repeated 6 times, so that the amount of material was 18 mounds of compost. Variables measured were temperature kinetics, pH kinetics, levels of organic carbon and compost organic matter. Observations of temperature and pH kinetics were carried out on days 0, 4, 8, 12, 16, 20, 24 and 28 at 01.30 – 02.30 pm. The carbon content and compost organic matter of the final compost product were analyzed in the laboratory. Data on the kinetics of temperature and pH were analyzed using Repeated Measure Analysis of variance (RMA), while those of the levels of organic carbon and organic matter compost were analyzed using Analysis of variance (ANOVA). The results of the variance analysis showed a significant interaction (P < 0.05) between the treatment and the time of observation on the kinetics of temperature and pH. The highest temperature kinetics observed for P2 and P1 were reached on day 4 (54.00˚C and 50.50˚C, respectively), while the highest temperature for P0 was reached on day 8 (50.33˚C). The temperature of P0, P1 and P2 ranged 27.17-50.33˚C; 28.17-50.50˚C and 30.00-54.00˚C, respectively. The lowest pH kinetics for P0 and P1 were reached on day 20 that were 3.10 and 3.38, respectively. While the lowest pH kinetics for P2 was achieved on day 12 that was 3.20. After that, All pH rised to near neutral pH. PH kinetics ranged 3.10 - 6.70 (P0), 3.57 -6.82 (P1) and 3.20 - 6.95 (P2). Least Significance Different (LSD) results have significant variations in temperature

kinetics and pH kinetics. Enrichment of compost with Azolla sp had no significant effect (P > 0.05) on the levels of organic carbon and compost organic matter.

Keywords: physiological conditions, decomposition, faeces, azolla sp, compost quality

[ABS-30]
Concentration of estrogen and progesterone during estrus and the 14th day of mating in the Javanese thin-tailed ewes

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Abstract: The aim of this study was to study the effect of giving different levels of energy feed on the concentrations of estrogen and progesterone during estrus and on the 14th day after mating on thin-tail ewes. The material used in this study was 15 head of thin-tail ewes aged between 2.50-3.00 years had a normal estrus cycle and had once lambing. All ewes were randomly placed into three types of treatment of energy feed with different levels, namely: non-flushing 1.01Mcal / kg ME (f0), flushing 2.13Mcal / kg ME (f1) and flushing 2,31Mcal / kg ME (f2). Each treatment was repeated 5 times. The general linear model of SPSS was used to analyze variables measured. The results showed that the average estrogen concentration in thin-tailed ewes during estrus in the flushing group (f1 and f2) was higher than non- flushing (f0). The average progesterone concentration in the thin-tailed ewes on the 14th day after mating in the flushing group (f1 and f2) was higher respectively than the non-flushing group (f0). The increase in feed energy given to thin-tailed ewes in flushing, during estrus increases estrogen concentration and on the 14th day after mating, increase progesterone concentration.

Keywords: Keywords: thin-tailed ewes, feed energy, estrus, 14 days after mating,

[ABS-34]
DECREASING OF METHANE PRODUCTION IN SHEEP THAT GIVEN OF Moringa oleifera LEAF EXTRACT

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Abstract: A study was carried out in order to investigate the influence of Moringa oleifera leaf extract on reducing of methane production in sheep. The experiment by in vitro methode was done from June 2018 until October 2018. The treatments were ration with addition of three level of Moringa oleifera leaf extract of 0%, 0.25%, and 0.50% from dry matter (DM) of diet, respectively. Moringa oleifera leaves are dried in an oven at 60ºC for 2 x 24 hours, then ground to make extracted using ethanol. A Completely Randomized Design with six replications was applied in this experiment. The Rumen fluid was obtained from three thin-tailed sheep and was used as a source of inoculum. The diet consists of concentrate and ammoniated rice straw ratio of 60:40 based on DM and the concentrate consists of two parts of rice bran and one part of coconut meal. The results of the variance analysis and the orthogonal polynomial test indicated that the level of 0.5% Moringa oleifera leaf extract lowest of the number of protozoa and methane production, and the highest number of bacteria and microbial protein synthesis.

Keywords: Moringa oleifera, protozoa, bacteria, methane, protein synthesis of rumen microbes

[ABS-39]
IMPROVING INCOME OF LOCAL POULTRY FARMING BASED ON SOCIO DEMOGRAPHIC FACTORS

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Faculty of Animal Science, Jenderal Soedirman University

Abstract: Sentul chicken is one of the indigenous poultries that is maintained by the community in Ciamis, West Java. The study aimed to determine the influence of socio demographic factors of Sentul chicken farmers to the income of Sentul chicken farming in Ciamis. The survey method was used to members of seven farmers' groups which institutionally assisted by Ciamis Government Unit. The descriptive statistical and multiple linear regression analysis were used to describe profile of respondents and analyzes the influence of socio demographic farmers to income of Sentul chicken farming. The results showed that farmers obtained 11.8 years length of education, experience in raising Sentul chicken was 5.8 years, and farm size was averagely 9 heads of chicken. The Sentul chicken farm which was maintained in 70 days semi intensive production system has generated income in a range of IDR756,000.00 -IDR 19,900,000.00. Farm size has significantly influenced the income of Sentul chicken farming ($P<0.05$). Enlarging farm size of Sentul chicken in semi intensive production system will be improving the income of Sentul farm production in Ciamis, West Java Province. Improving income of sentul chicken will be expected drive sustainability of indigenous poultry farming in Ciamis, West Java Province.

Keywords: sentul chicken, farm size, income

[ABS-41]
TOTAL VFA PRODUCTION AND PROTOZOA POPULATION WITH JENGKOL (Archidendron jiringa) PEEL POWDER SUPPLEMENTATION ON IN VITRO

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Abstract: Jengkol (Archidendron jiringa) peel is a by-product that has not been utilized optimally. Some research reported that jengkol peel had potency as a source of fiber and bioactive compound (saponins and tannins) for ruminant. This experiment was designed to evaluate the effects of jengkol peel powder supplementation on total volatile fatty acid (VFA) production and protozoa population on in vitro ruminal fermentation. The treatments were arranged in a randomized block design with three treatments (2%, 4%, 6%) and four replications. The variables observed included total VFA production and protozoa population. Data were tested using Analysis of Variance (ANOVA) and the differences among treatments means were examined by Duncan Multiple Range Test. The results showed that increasing supplementation of jengkol peel powder increased total VFA production ($P<0.01$) but did not affect protozoa population ($P>0.05$). It is concluded that supplementation of jengkol (A. jiringa) peel powder until 6% DM improved rumen fermentation.

Keywords: jengkol peel powder, protozoa, total VFA

[ABS-28]
Calpain Activity of Jawarandu Does Under Four Different Energy Level in the Ration

Mochamad Socheh, Agus Priyono, Imbang Haryoko and Hermin Purwaningsih

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Abstract: Abstract. The aim of the research is to investigate the effect of four different energy level in the ration into the calpain activity of Jawarandu does. The research was done during 5 months in the Experimental Farm of the Faculty of Animal Science, Universitas Jenderal Soedirman. The research material used was 16 heads of the Jawarandu doe with the aged 2.5–3 years. All the animals were randomly assigned to the ration treatment which forms four the different energy levels (82.26% TDN, 85, 87.93, dan 90.74% TDN). The replication of each treatment was four times. Variable measured was a calpain activity on the muscle of Longissimus dorsi. General linear model (GLM) of the SPSS was used to analysis variable measured. Energy content 1.63McalME/heads/day and 1.92McalME/heads/day as well as 1.73McalME/heads /day and 2.06McalME/heads/day were increased of the μ-calpain and m-calpain activities at the Longissimus dorsi muscle, respectively. However, there was decreased of the calpastatin activity at the Longissimus dorsi muscle. Different energy content of the ration increased the μ-calpain and m-calpain activities at the Longissimus dorsi muscle and of those decreased calpastatin activity.

Keywords: Calpain activity, Calpastatin activity, Energy level, Jawa Randu Does, Longissimus dorsi

[ABS-54]
Amino Acids Profile of The Indonesian Local Meats Antioxidant Peptides

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Abstract: This study conducted to characterization amino acids of the antioxidant bioactive peptides from Indonesian local meats among them P.O beef, Kacang goat meat, Mojosari duck meat and local chicken meat. The research was conducted in the Lamongan district of East Java. The method was laboratory exploration. The variables observed included antioxidant activity, amino acids profile with LC-MS/MS. The results of this study indicate variation in antioxidant activity of various local Meats in Indonesia. The amino acids profile also exhibit diversity with each other. Amino acids obtained are distributed evenly to the types of essential and non essential amino acids.

Keywords: Indonesian Local Meats, Antioxidant Activity, Amino Acids, LC-MS/MS

[ABS-66]
Development Potential of Integrated Farming System (Local Cattle - Food Crops)

Femi Hadidjah Elly1), Agustinus Lomboan1), Charles L. Kaunang1), Meiske Rundengan1), Zulkifli Poli1), and Syarifuddin2)

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2)PEMDA, North Bolaang Mongondow, Indonesia

Abstract: Local cattle farming as a source of income for farmers in rural areas, mostly developed traditionally. The local cattle farm continues, even though it is a side business, but is a mainstay in supporting national beef needs. Local cattle farmers utilize food crops as feed that is available continuously, so that the cost of feed can be reduced. On the other hand, local cattle waste can be used as organic fertilizer which functions to increase soil fertility. This condition shows that local cattle farms symbiosis in mutualism with food crops. The problem is whether local cattle farms integrated with food crops have the potential to be developed by farmers. The study was conducted aimed at analyzing the extent to which the potential for the development of integration of local cattle and food crops in rural areas. The research method used is the survey method. The research location was Sangkub District, which was determined by purposive sampling because it had farmers who developed local cattle farms integrated with food crops. The number of respondents is 60 farmers. Analysis of the data used is proximate analysis and feasibility analysis. Proximate analysis of waste corn shows Dry Material 86.48%, Crude Protein 7.36%, Fat 1.84%, Crude Fiber 28.95%, Ash Content 9.10% and Carbohydrate 68.18%. Government programs to support increased livestock farmers income through increasing local cattle population, consequently an increase in cattle waste. Food crop waste has not been utilized but burned by rural farmers who have an impact on the environment. The RC ratio analysis results show a greater value of one. Based on the results of the study it can be concluded that the integrated farming system, local cattle and corn plants are feasible and can minimize environmental pollution because the concept of LEISA (Low External Input Sustainability Agriculture) can be applied.

Keywords: integration, local cattle, food crops, LEISA

Wednesday, 7 August 2019

PARALLEL **SESSION E**
Room Sapphire A

Moderator:Ir. Ibnu Hari Sulistyawan, M.Sc

ABSTRACTS

Mohammad Miftakhus Sholikin, Mochamad Dzaky Alifian, Anuraga Jayanegara, Nahrowi
Artificial Neural Network Model to Predict Crude Protein and Crude Fiber From Physical Properties of Feedstuffs

Doso Sarwanto, Sari Eko Tuswati, Sulistyaningtyas
The Level of Dwarf Elephant Grass (Pennisetum purpureum cv. Mott) as the Subtitute of Indigenous Forages for Goat's Feed in Limestone Mountain Area

Ellin Harlia, K.N. Rahmah, Lisda, Jefry, W.Djuanda, Yuli Astuti, Eulis Tanti Marlina
Potential of Microbial Consortium from Laying Hens Feces as a Starter For Biogas Production

Sulastri, Kusuma Adhianto, Akhmad Dakhlan, Muhammad Dima Iqbal Hamdani, dan Siswanto
Population Performance of Saburai Goat at Saburai Goat Breeding Area, Tanggamus Regency, Lampung Province

Y.U.L. Sobang, Marthen R. Pellokila, Sukawaty Fattah, Marthen Yunus
The Effect of Local Feeds Supplementation and De-Worming on Calf Birth Weight and Body Weight Changes of Bali Cow Post Partum

[ABS-1]
Artificial Neural Network Model to Predict Crude Protein and Crude Fiber from Physical Properties of Feedstuffs

Mohammad Miftakhus Sholikin[1], Mochamad Dzaky Alifian[1], Fredy Marthin Purba[1], Anuraga Jayanegara[2], and Nahrowi[2]

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Abstract: The aim of this research was to build artificial neural networks model to predict crude protein and crude fiber content from physical properties of feedstuffs. The 91 data were obtained from *https://repository.ipb.ac.id* using keywords, e.g., *sifat fisik* and *pakan*. To reduce the dimensional of the data had been transformed. The independent variables consist of specific gravity (SG), bulk density (BD), compacted bulk density (CBD) and angle of repose (AoR). The dependent variable was crude protein (CP) and crude fiber (CF). Artificial neural networks (ANN) model built by R programing language 3.6.0 using library R-base and neuralnet. The correlation and accuracy used to compare predicted and actual. ANN model of crude fiber has an accuracy of 75.08% and Pearsons signification correlation (0.7529; P <0.01). ANN model of crude fiber has an accuracy of 75.08% and Pearsons signification correlation (0.7529; P <0.01). The artificial neural networks model generally can perform better to predict crude protein and crude fiber from physical properties of feedstuffs.

Keywords: Artificial neural networks model, Crude fiber, Crude protein, Physical properties, Feedstuffs

[ABS-10]
THE LEVEL OF DWARF ELEPHANT GRASS (Pennisetum purpureum cv. Mott) AS THE SUBTITUTE OF INDIGENOUS FORAGES FOR GOAT'S FEED IN LIMESTONE MOUNTAIN AREA

Doso Sarwanto, Sari Eko Tuswati and Sulistyaningtyas

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Abstract: The negative effect of limestone mining is the formation of open field which caused the reduction of diversity level and the productivity of indigenous forages. The open field that was used as a limestone mining can be revegetated through the introduction of Dwarf Elephant Grass (Pennisetum purpureum cv. Mott). We need a further study about the distribution level of the introduction result of dwarf elephant grass as the substitute of indigenous goat forages in limestone area.The research method used in this research is experimental in vivo using Completed Random Sampling. The materials used in this study are 16 local male goats from limestone area weighed about 25,8 kg ± 1,66. The treatment consists of 4 dwarf elephant grass's distribution levels as the substitute of indigenous forages, i.e. 0, 25%, 50% and 75% with 4 repetitions. The parameter consists of feed intake and body weight gain. This research is located in Gombong's limestone mountain area in Central Java, Indonesia.The result of this research shows that the distribution dwarf elephant grass as the substitute of indigenous goat forages until 75% has non significant (P>0,05) of feed intake and body weight gain. Meanwhile, if we reviewed from the tendency of body weight gain, the distribution of dwarf elephant grass as the substitute of indigenous goat forages should only reach 25%.

Keywords: dwarf elephant grass, indigenous forages, goat, limestone mountain

[ABS-15]
POTENTIAL OF MICROBIAL CONSORTIUM FROM LAYING HENS FECES AS A STARTER FOR BIOGAS PRODUCTION

Ellin Harlia, K.N. Rahmah, Lisda, Jefry, W.Djuanda, Yuli Astuti, Eulis Tanti Marlina

Faculty of Animal Husbandry, Universitas Padjadjaran

Abstract: The laying hens livestock industry is growing rapidly along with the increasing demand for eggs for human consumption, will produce large amounts of waste. Improper management of laying chicken farm waste can interfere with health and environmental pollution including greenhouse gases (CH4, CO2, N2O), odor disorders, disturbances from rodent animals, disturbances of endoparasites and ectoparasites, pollution of water and soil sources. Appropriate waste management can reduce the risk of pollution of the laying hens industry to the environment. Utilizing feces of laying hens as a microbial consortium sources that serves as a biogas starter in anaerobic digester as an alternative environmental friendly energy source is an option. The purpose of this study was to obtain a bacterial and methanogen consortium from laying hens feces as a starter of biogas with coal media in anaerobic digester. The study used an experimental method of completely randomized design (CRD) with 4 doses and 4 replicates with 5 observations, data than tested further using orthogonal polynomials. The stages of the study included three stages: first, pretreatmen using in vitro technique; second, the adaptation process; third, addition starter of microbial consortium from the laying feces of the chicken into liquid media and coal at a dose of 0%, 5%, 10% and 15% then incubated at 39oC for 28 day. Observations were conducted every 7 days from day 0, day 7, day 14, day 21 and day 28. The parameters measured were the volume of biogas, the number of anaerobic bacteria and the composition of biogas. This biogas composition was analyzed by Gas Chromatography, the number of anaerobic bacteria cultured in Hungate tubes and calculated using the Ogimoto method. The observations showed that the number of bacteria ranging from 1012 CFU/ml up to 1013 CFU / ml exceeded the starter requirements of 107 CFU/ml.

Keywords: Microbial, Feces, Laying Hens, Biogas, Starter

[ABS-19]
PERFORMANCE OF SABURAI GOAT POPULATION AT SABURAI GOAT BREEDING AREA, TANGGAMUS REGENCY, LAMPUNG PROVINCE

Sulastri, Kusuma Adhianto, dan Siswanto

Animal Production Department, Faculty of Agricultural, Lampung University

Abstract: Research by survey method was conducted to know population performance of Saburai goat at Saburai goat breeding area, Tanggamus regency, Lampung province based on natural increase (NI) and net replacement rate (NRR). Observation was done begin 2015 when Saburai was declared as local genetic resources in 2015 by Ministry of Agricultural. Population of Saburai goat in 2015, 2016, 2017, and 2018 were 1,469 heads, 2,369 heads, 2,860 heads, and 3,293 heads. Male and female Saburai goat were used as breeding stock for 4.44 ± 0.20 years and for 5.03 ± 0.21 years, respectively. Replacement stock needed in 2018 were highest (25.39 % for male and 27.91 % for female). Percentage of Saburai goat birth were 9.72 ± 6.57 % for male goat and 19.72 ± 5.18 % for female. Value of NI for male and female goat were 9.25 % and 19.13 %, respectively. Value of NRR in 2018 were highest (male 114.69 % and female 458.94 %). It could be concluded that population performance of Saburai goat from 2015 up to 2018 were increasing.

Keywords: Saburai goat, Breeding stock, Natural increase, Net replacement rate, Local genetic resources

[ABS-73]

The Effect of Local Feeds Supplementation and de-Worming On Calf Birth Weight and Body Weight Changes of Bali Cow Post Partum

Sobang, Y. U. L1, Marthen R. Pellokila2, Sukawaty Fattah1, Marthen Yunus1

Faculty Animal Husbandry, Nusa cendana University, Kupang

Abstract: A study has been conducted to determine 1) the effect of local feeds supplementation and de-worming on calf birth weight. 2) the influence of local feeds supplementation and de-worming on changes of post partum body weight, and 3) the effect of local feeds supplementation and de-worming on the feacal eggs count. The method in this study is the experimental method used Completely Randomized Design (CRD) with 3 treatments and 5 replications. The results showed that the average of birth weight was obtained is highest child receiving treatment (P2) local feeds supplementation and de-worming is 14.1±0.822kg, followed by treatment (P1) obtain local feeds supplementation without de-worming is 13.1±0.652kg, and the lowest at (P0) treatment without local feed supplementation and de-worming is 11.5±0.791kg. The average of body weight gain after 2 months partus is highest in the (P2) treatment obtain local feed supplementation and de-worming is 16.82±0.602kg, followed by treatment (P1) obtain local feeds supplementation without de-worming is 16.38±0.415kg, and the lowest at treatment (P0) without local feeds supplementation and de-worming is 10.72±0.563kg. The average feacal eggs count is highest on (P0) treatment is 68.4±2.702worm/gfeces, followed by treatment (P1) is 64.2±2.490worm/gfeces, and lowest in the treatment of P2 by 25±2.236worm/gfeces. Statistical test results showed that the local feeds supplementation and de-worming on Bali cow very significant effect (P <0.05) on calf birth weight, body weight changes after partus of Bali cattle cow, and the feacal eggs count.

Keywords: supplementation, de-worming, cow, calf, local feeds.

Wednesday, 7 August 2019

PARALLEL
Room SESSION F
Sapphire B

Moderator:Chomsiatun Nurul Hidayah, S.Pt., M.Si.

ABSTRACTS

Sigit Prastowo Sigit Prastowo, Nuzul Widyas, Adi Ratriyanto, Myristica Sucedona Trisna Kusuma, Pipin Dharmawan, Indra Adie Setiawan, Aris Bachtiar
Individual Variance Component of Fresh Semen Quality in Bali Cattle (Bos javanicus) Bull

Joko Riyanto J. Riyanto, S. D. Widyawati, W.P.S. Suprayogi, A. K. Wati
The Use of Saponification of Animal And Vegetable Oils in the Ration on The Physical Quality of Sheep Meat on Biceps Femoris Muscles

Joko Riyanto J. Riyanto, Sudibya, S. J. Anhardhika
Influence of Soybean Groat Protected Used in The Consumption and Digestibility of Dry Matter, Organic Matter and Crude Protein on the Bligon Goats

Zuratih Zuratih Zuratih, Yeni Widiawati
Estimation of Greenhouse Gas (GHG) Emissions from Livestock Sector by Using Alu Tool: West Java Case

Afduha Nurus Syamsi, Lastriana Waldi, Hermawan Setyo Widodo, dan Harwanto
Branch Chain Volatile Fatty Acids Profile of Rumen Fluids Suplemented by Different Meal Protein Sources and Protein-Energy Synchronization Index

[ABS-29]
Individual variance component of fresh semen quality in Bali cattle (Bos javanicus) bull

Sigit Prastowo(1,), Nuzul Widyas(1), Adi Ratriyanto(1), Myristica Sucedona Trisna Kusuma(1), Pipin Dharmawan(1), Indra Adie Setiawan(2), Aris Bachtiar(2)*

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Abstract: Semen quality is an important factor influencing the success of a cattle breeding program. Efforts to continuously evaluate the semen quality parameter is needed. Indonesia has Bali cattle; it is indigenous, tropically adapted, robust, and has high fertility. Bali cattle need to be developed into meat producer by selecting the best bulls and disseminate their sperm through artificial insemination program. To obtain the desired improvement, one of the key is to ensure the semen quality. This study aimed to determine the factors affecting fresh semen quality of Bali bull. In total, 864 ejaculates were collected from nine bulls from January to October 2016. Semen was collected twice a week, followed with semen quality evaluation as semen volume (ml), sperm concentration (x106/ml), sperm motility (%), and pH. A linear model was built to obtain the significant fixed factor of season and/or age affecting sperm quality followed by mixed model procedure including individual bulls as random effect to estimate the variance components. The result showed that season didn't give any effect ($p>0.05$) in all fresh semen quality observed, while there was a significant effect of age ($p<0.05$) on volume, sperm concentration and pH. There is no interaction ($p>0.05$) between season and age in this study. The variance component of individual bulls contributed 71.15, 67.92, 48.22, and 11.76% of the total variance of semen volume, sperm concentration, sperm motility, and pH respectively. This study shows that there is a wide variation of semen quality resulted due to the variation between individual of the Bali cattle bull, which mirroring the diverse of Bali cattle genetic. In bulls selection as semen source, careful selection and the application of genetic standard need to be concerned.

Keywords: semen quality, Bali cattle bull, individual variance component

[ABS-44]
The Use of Saponification of Animal and Vegetable Oils in the Ration on The Physical Quality of Sheep Meat on Biceps femoris Muscles

Riyanto , J (a)., S. D. Widyawati (a), W.P.S. Suprayogi (a), and A. K. Wati (a)*

Universitas Sebelas Maret

Abstract: Acceptance and level of preference for sheep meat are influenced by the physical quality of the meat. This study aimed to know the effect of the use of animal oil saponification (lemuru fish oil: LFO) and vegetable oil (palm oil: PO) which was added to the ration on the physical quality of sheep meat. Twelve male local sheep were randomly divided into 3 ration treatments; P0: control ration (40% king grass : 60% concentrate), P1: 40% king grass + 57% concentrated + 3% saponified LFO and P2: 40% grass king + 57% concentrate + 3% saponified PO. Each treatment consisted of 3 replications. The observed variables were a physical quality of meat (pH, cooking losses, tenderness, collagen). The data obtained were analyzed by variance analysis and real difference test between treatments. The results showed that the use of LFO and PO was not a significant effect on the physical quality of meat (pH, cooking losses, tenderness, collagen). It can

be concluded that the use of animal and vegetable oil saponification cannot improve the physical quality of sheep meat.

Keywords: Saponification of Animal, Vegetable Oils , Ration , Physical quality, Sheep meat, Biceps femoris

[ABS-46]
Influence of Soybean Groat Protected Used in The Consumption and Digestibility of Dry Matter, Organic Matter and Crude Protein on The Bligon Goats

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Abstract: This study aims to determine the effect of formaldehyde-protected soybean groatl on the consumption and digestibility of dry matter, organic matter and crude protein in Bligon Goat. The study used 15 head male Bligon Goats with an average body weight of 20 kg with 3 treatments and 5 groups arranged in a randomized block design (RBD). The diet consists of elephant grass (EG), basal concentrate (BC), soybean groat (SG) and soybean groat protected (SGP). Treatments include P0 = 30% EG + 70% BC, P1 = 30% EG+ 60% BC+ 10% SG and P2 = 30% EG + 60% BC + 10% SGP. The results showed that the consumption of dry matter and organic matter not significant, but highly significant on crude protein consumption. Consumption of crude protein in the treatment without addition of soybean groat showed lower results than consumption of crude protein in feed containing soybean groat. Digestion of dry matter, organic matter and crude protein were not influenced by differences in feed treatment in Bligon Goats. Concluded that supplementation of soybean groats protected or not in the diet can increase the consumption of crude protein and produce the same consumption on parameters of dry matter and organic materials intake. Dry matter, organic matter and crude protein has the same digestibility of feed Goat Bligon.

Keywords: Soybeans groat, Protection, Consumption, Digestibility, Dry Matter, Organic Matter and Crude Protein on The Bligon Goats

[ABS-51]
Estimation of Greenhouse Gas (GHG) Emissions from Livestock Sector by using ALU tool: West Java case

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Abstract: Livestock sector contributes to the increase of global warming through gas released from enteric fermentation and manure management. National estimation still used manual calculation. The aim of this study was to estimate the contribution of greenhouse gas (GHG) emissions from livestock sector by using ALU tool version 6.0.1, in West Java Province for year 2016 as the case study. The emissions were calculated by using Tier-1 and Tier-2 methodologies. Data used were livestock population and emission factors (EF) of CH4 and N2O of any livestock. The results showed that emission from enteric fermentation was 94.754 Gg CH4/year or 2,368.850 Gg CO2e/year with the highest emission from sheep (50.194 Gg CH4/year or 1,254.850 Gg CO2/year). While emission of CH4 from manure was 6,767 Gg CH4/year or 169,175 Gg CO2e/year with the highest emission

from dairy cattle (2,870 Gg CH4/year or 71,750 Gg CO2e/year) and direct N2O emissions from manure was 0.366 Gg N2O/year or 109.138 Gg CO2e/year with the highest emission from sheep (0.189 Gg N2O/year or 56.212 Gg CO2e/year). As a conclusion, total emissions from the livestock sector in West Java Province are 2,647.163 Gg CO2e/year with the largest emissions from enteric fermentation (2,368.850 Gg CO2e/year). In conclusion that ALU tool is applicable to estimate GHG emission for Livestock in Indonesia, with has limited data available.

Keywords: Greenhouse Gas emission, Livestock, West Java Province, ALU Tools

[ABS-94]

BRANCH CHAIN VOLATILE FATTY ACIDS PROFILE OF RUMEN FLUIDS SUPLEMENTED BY DIFFERENT MEAL PROTEIN SOURCES AND PROTEIN-ENERGY SYNCHRONIZATION INDEX

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Abstract: The aim of this study is to examine the interaction between the meal protein source with the protein-energy synchronization index (PES) in the dairy ration on the profile of branch chain volatile fatty acids (BCVFA). The study was carried out in vitro, using factorial completely randomized design (CRD-Factorial). The first factor was 2 types of meal protein source (soybean meal and coconut meal) and the second factor was 3 levels of PES index (0.5, 0.6, and 0.7), there were 6 treatment combinations, each treatment was repeated 4 times. The results of the study showed that the interaction between the meal protein source and the PES index was not significantly affected (P> 0.05) on the levels of iso butyrate, iso valerate and valerate. The study concluded that the low PES index ration (0.5) produced a decent BCVFA profile using coconut or soybean meal.

Keywords: branch chain volatile fatty acids; meal protein source; synchronization protein-energy index

Wednesday, 7 August 2019

PARALLEL
Room SESSION G
Jade A

Moderator: Dr. sc.agr. Ir. H. Yusuf Subagyo, M.P

ABSTRACTS

Mochamad Socheh, Agus Priyono, Imbang Haryoko, Hermin Purwaningsih
Calpain Activity of Jawarandu Does Under Four Different Energy Level in the Ration

Anis Sri Andini, Ismoyowati, Datta Purwantini
Identification of Qualitative and Quantitative Characteristics and Relationship Between Acta-1 Genes with Body Weight on Local Chicken

Sukawaty Fattah, Gusty A. Y. Lestari, Bastari Sabtu, Yohanis Umbu L. Sobang, Marthen R. Pelokilla, Fredeicus Dedy Samba
Technical and Economic Value of The Use Ration for Male Fattening Bali Cattle Farmers Patterns with Supplementation Complete Feed Containing Silage Banana Stems

Emmy Susanti, Elly Tugiyanti
Improving the Quality of Reproduction and Production of Quail (Coturnix coturnix Japonica) with Liquid Probiotics

Laurentius J.M. Rumokoy, Ivonne M. Untu, Santi Turangan, Wisje Lusia Toar, G.J.V. Assa
Larva Serum Antigen-G of Musca Domestica as Immunoglobulin Production Promotor in Goats

Yusuf Subagyo,, Mohammad Alvin Nur Wahid, Triana Yuni Astuti, Novie Andri Setianto
Adaptability And Productivity f Local Holstein – Frisien Cows in Banyumas Disrict

[ABS-35]
Calpain Activity of Jawarandu Does Under Four Different Energy Level in the Ration

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Abstract : The aim of the research is to investigate the effect of four different energy level in the ration into the calpain activity of Jawarandu does. The research was done during 5 months in the Experimental Farm of the Faculty of Animal Science, Universitas Jenderal Soedirman. The research material used was 16 heads of the Jawarandu doe with the aged 2.5–3 years. All the animals were randomly assigned to the ration treatment which forms four the different energy levels (82.26% TDN, 85, 87.93, dan 90.74% TDN). The replication of each treatment was four times. Variable measured was a calpain activity on the muscle of Longissimus dorsi. General linear model (GLM) of the SPSS was used to analysis variable measured. Energy content 1.63McalME/heads/day and 1.92McalME/heads/day as well as 1.73McalME/heads /day and 2.06McalME/heads/day were increased of the μ-calpain and m-calpain activities at the Longissimus dorsi muscle, respectively. However, there was decreased of the calpastatin activity at the Longissimus dorsi muscle. Different energy content of the ration increased the μ-calpain and m-calpain activities at the Longissimus dorsi muscle and of those decreased calpastatin activity.

Keywords: Calpain activity, Calpastatin activity, Energy level, Jawarandu Does, Longissimus dorsi

[ABS-42]
IDENTIFICATION OF QUALITATIVE AND QUANTITATIVE CHARACTERISTICS AND RELATIONSHIP BETWEEN ACTA-1 GENES WITH BODY WEIGHT ON LOCAL CHICKEN

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Abstract: This study aim to identify qualitative and quantitative characteristics of local chickens, and examine the presence of polymorphisms based on the nucleotide sequences of ACTA-1 genes (Alpha 1, Actin, Skeletal Muscle). The material used was local chicken consisting of 25 Pelung and 25 Native chickens. The qualitative datas obtained were analyzed descriptively (feather pattern, feather color, feather pattern, shank color and comb shape), while the quantitative data uses t test (femur length, tibia length, tarsometatarsus length, tarsometatarsus circumference, 3rd finger length, wing length, comb height, sternum length and body weight). Identification ACTA-1 gene polymorphism was carried out by PCR method and Sequencing of PCR product. The results showed that the qualitative traits of Pelung chickens were, among other things, feather color patterns = 61.54% was black, 61.54% was plain, 84.62% shank colors black / gray and 100% single comb . Whereas in Kampung chickens, the feather color pattern is 50% black, with 66.67% plain pattern, 91.67% black / gray shank and 66.67% single comb. The quantitative characters, of male Pelung and Native chickens significantly different, involued the length of tarsometatarsus, tarsometatarsus circumference, comb height and body weight. Meanwhile, female Pelung and Native chickens showed significant differences in femur length, tibia length, tarsometatarsus length, tarsometatarsus circumference, 3rd finger length, wing length, comb height and body weight. Sequencing results showed third there were SNP (Single Nucleotide Polimorphism) identified in this study, namely c.584 T> G, c.585 T> A, and c.586 G> C. The frequency of genotypes

in Pelung and Native chickens in bases c.584 T> G, namely GG = 0.25, GT = 0.75 with heterozygosity obtained 0.375. Whereas in base c.585 T> A has AA genotypic frequency = 0.75, AT = 0.25, with heterozygosity value of 0.375. Furthermore, in the base c.586 G> C the genotypic frequency obtained was CC = 0.05 and CG = 0.95 with a heterozygosity value of 0.095. Based on the research, Pelung and Native chicken have relatively the same qualitative characteristics, while the Pelung chickens have greater morphometric characteristics compared to Native chickens. Pelung and Native chickens have a close genetic distance with heterozigosity value = 0,282.

Keywords: Chicken, qualitative traits, quantitative traits, ACTA-1 gene, frequency genotypic, heterozygosity

[ABS-56]
TECHNICAL AND ECONOMIC VALUE OF THE USE RATION FOR MALE FATTENING BALI CATTLE FARMERS PATTERNS WITH SUPPLEMENTATION COMPLETE FEED CONTAINING SILAGE BANANA STEMS

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Abstract: The aim of this research was to study the effect of giving complete feed containing silage of banana stems with different levels of feed conversion, efficiency of ration usage, production costs and profits from fattening Bali cattle farmers pattern. Experimental animals employed in this research were 12 heads of growing male Bali cattle of 1 to 1.5 years old with the body weight ranging from 140,5 to 166 kg with an average of 155 kg and coefficient variation (CV) 8.72%, were employed. The experimental design used was completely randomized design (CRD) with 4 treatments and 3 replications : T0: local feeds (commonly used by farmers) + 1 kg complete feed without banana stem silage, T1: (commonly used by farmers) + 1 kg complete feed containing 10% silage of banana stems, T2: (commonly used by farmers) + 1 kg complete feed containing 20% banana stem silage, T3: (commonly used by farmers) + 1 kg of complete feed containing 30% silage of banana stems. Data collected was subjected to Analysis of Variance (ANOVA). The results showed that the effect of treatments was not significantly (P>0.05) on feed conversion, efficiency of ration usage, production costs and profits from fattening Bali cattle farmers pattern. The conclusion of this study is the provision of complete feed containing silage of banana stems with different levels giving the same effect between treatments on feed conversion, efficiency of ration usage, production costs and profits from fattening Bali cattle farmers pattern.

Keywords: banana stem silage, complete feed, technical and economic value, fattening Bali cattle farmers patterns.

[ABS-58]
Improving the quality of reproduction and production of quail (Coturnix coturnix japonica) with liquid probiotics

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Abstract: This study aims to determine the effect of the use of various liquid probiotics in quail drinking water on the quality of the reproductive tract and quail production. The study used a completely randomized design pattern with four treatments, namely: quail got drinking water without liquid probiotics (P0), quail got drinking water with commercial probiotics A (P1), quail got drinking water with commercial probiotics B (P2), and quail got drinking water with commercial probiotics C (P3), replicates 5 times and 5 quails in each research unit. Drinking water is given in ad libitum with a liquid probiotic concentration of 2ml / liter. Quail feed contains PK 22.2% and energy of 3032.5 kcal. Treatment affects the reproductive tract + egg weight, egg weight and reproductive tract length, weight before slaughter, weight after slaughter, weight after hair removal, heart weight, gastrointestinal weight, (P <0.01) but no effect on carcass weight, weight, follicular weight, gizard weight, length of the digestive tract and length of caeca. The treatment of liquid probiotics in drinking water improves the quality of reproduction and quail production.
Keywords: probiotics, quail, reproduction, production

[ABS-65]
Larva Serum Antigen-G of Musca domestica as Immunoglobulin Production Promotor in Goats

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Abstract: This experiment aimed to study the effect of serum G-antigen on M. domestica insect larvae (LAS) as promoter antigen on serum immunoglobulin production in organically managed goat livestock. This study used 12 local goat animals which were divided into two groups, a control group and a group receiving treatment. Insect rearing was used to obtain larvae, the antigen-G was then extracted from the larvae to be used as promoter antigen to enhance the serum antibody production which was subcutaneously immunized in experimental goats and incubated for a period of 14 days. Blood collection of 2.5 ml was taken through the jugular vein and then quantification of the total antibody is carried out. The data of the LSA extract proportion level were statistically analyzed with t-test, and the quality classification level of serum immunoglobulin of animals groups were statistically analysed. The results showed that the serum of animal treated with LSA of M. domestica resulted in a higher level of immunoglobulin (P <0.01) compared to the control. We conclude that the antigen-g substance (LSA) could support the efforts to improve the production of organic goats livestock by increasing the total level of antibodies circulating in the blood.

Keywords: Insect, Musca domestica, antigen, antibody, goats

[ABS-93]

ADAPTABILITY AND PRODUCTIVITY OF LOCAL HOLSTEIN – FRISIEN COWS IN BANYUMAS DISRICT

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Abstract: The purpose of this study was to measure the adaptability and productivity of local dairy cows in Banyumas district. About 30 lactation dairy cows from two groups of dairy farmers in the Baturraden and Sumbang sub-districts of Banyumas district were used in this study. To find out the adaptability is done by measuring the rectal temperature and the frequency of respiration at 06.00 am, 10.00 am and 14.00 am. Milk productivity was measured by measuring milk every day. Measurement of all parameters was carried out for one month. The results showed that there were no significant differences (P> 0.5) between the two sub- districts for all variables, namely: rectal temperature, respiratory frequency, HTC Benezra and Rhoad, and daily milk production. It can be concluded that the adaptability of local Holstein – Frisien dairy cows in Banyumas district is good, while milk production ismoderate.

Keywords: Rectal temperature; Respiratory frequency; HTC; Milk production

Wednesday, 7 August 2019

PARALLEL
Room SESSION H
Jade B

Moderator:Ir. H. Imam Suswoyo, M.Agr.Sc

ABSTRACTS

Dattadewi Purwantini, R. Singgih Sugeng Santosa, Setya Agus Santosa, Ismoyowati, Ayu Rahayu
Heterosis Value Estimation of Morphometrics Characteristics of Crossing Magelang and Tegal Ducks

Rohmad Setiaji, Sigit Prastowo, Dwi Prasetiyo, Nuzul Widyas
Phenotypic and Genetic Correlations of Growth Traits in Bali Cattle Breeding Population

Munasik, Suparwi, Imam Prayudi, Rikza Zainul Umam
The Concentrate to Forage Rasio of Complete Feed Silage on Nutrinet Consumption of the Local Male Sheep

Muhammad Daud, M. Aman Yaman, Zulfan
The Effects of Functional Feed Additive Probiotic and Phytogenic in Rations on The Performance of Local Ducks

Modawy Abdelgader, Hassan Ishag Hassan Haren, Ismoyowati, Ning Iriyanti
Effect of Beet Molasses as a Source of Energy on Performance of Broiler Chickens

[ABS-57]
Heterosis Value Estimation of Magelang and Tegal Crossed Ducks Morphometrics Characteristics

Dattadewi Purwantini1), R. Singgih Sugeng Santosa1), Setya Agus Santosa1), Ismoyowati 1) and Ayu Rahayu2)

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2) Faculty of Agriculture, University of Tidar, Magelang

Abstract: The aim of this research is to estimate the heterosis value of Magelang and Tegal crossed ducks morphometrics characteristics. The cross between the Magelang duck male and the Tegal female is called Maggal (F1). The research material are 319 ducks consisted of Magelang and Tegal ducks with 10 males and 70 females each, also the cross result of 239 Maggal ducks. Research method is experiment. The variable measured was the morphometric characteristics (body weight, body length, chest circumference, abdominal circumference, shank length, pubis length, and neck lenght) of the duck aged at 6 months. The heterosis value is obtained by comparing the ability of the cross with the parent. This research has shown heterosis in body weight, body length, chest circumference, abdominal circumference, shank length, pubis length, and neck lenght of 6 month old Gallang and Maggal duck were 0,03; 0,01; 0,06; 0,02; -0,05; 0,01; dan 0,03. Based on the results of this study, it can be concluded that the heterosis value of Magelang and Tegal crossed ducks morphometrics characteristics were relatively high. The positive heterosis value in body weight, body length, chest circumference, abdominal circumference, pubis length, and neck lenght, while shank length negative.

Keywords: heterosis, morphometrics, crossed duck, Tegal ducks, Magelang ducks

[ABS-60]
Phenotypic and genetic correlations of growth traits in Bali cattle breeding population

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[2]Bali Cattle Breeding Center (BPTU-HPT Denpasar)

Abstract: This study aimed to estimate the phenotypic and genetic correlations of growth traits as selection criteria in Bali Cattle test center populations at Pulukan Breeding Center, Livestock and Forage Feeding Center (BPTU-HPT) Denpasar, Bali. In total 160 records were obtained from calves born between 2013 until 2016. Data collected were birth weight (BW), weaning weight (WW), yearling weight (YW), mature weight (MW) and pedigree. Data were then standardized to be weaning weight at 205 days (WW205), yearling weight at 365 days (YW365) and mature weight at 730 days (MW730). The data obtained were analyzed using univariate and bivariate animal models with REML method. Heritability values (h2) were 0.43 ± 0.12, 0.22 ± 0.12, 0.39 ± 0.15, 0.63 ± 0.18 for BW, WW205, YW365 and MW730 respectively. Phenotypic correlations among variables were vary from low to high; which were 0.16 for BW - WW205, 0.11 for BW - YW365, 0.34 for BW - MW730, 0.61 for WW205 - YW365, 0.25 for WW205 - MW730 and 0.31 for YW365 x MW730. However, the genetic correlation among growth traits were considerably high: BW - WW205 0.53, BW - YW365 0.76, BW - MW730 0.47, WW205 - YW365 0.70, WW205 - MW730 0.48, YW365 - MW730 0.64. Heritability of Bali Cattles' growth traits are categorized as moderate to high, thus selection on these traits are potential to obtain genetic improvement in the population. Phenotypic correlations among traits were considerably low, whereas the genetic correlations

spanned between medium to high. These findings implied that other than genetic, improving the farm environment and management could also affect the growth performance of Bali cattle.

Keywords: Bali Cattle, growth traits, heritability, phenotypic correlation, genetic correlation

[ABS-80]
THE CONCENTRATE TO FORAGE RASIO OF COMPLETE FEED SILAGE ON NUTRINET CONSUMPTION OF THE LOCAL MALE SHEEP

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Abstract: The aimed of this research to examine the effect of the concentrate to forage ratio of complete feed silage on crude protein consumption, crude fiber consumption, energy consumption and fat consumption of the local male sheep that was conducted at the Experimental Farm, Faculty of Animal Husbandry, University Jenderal Soedirman, Purwokerto. Five types of the ensilage of complet feed treatments consisted of P1 (Napier grass 70% + concentrate 26% + 1.5% + mineral salts urea 0.5% + 0.5% + molasses 1.5%), P2 (Napier grass 60% concentrate 36% + mineral salts 1.5% + 0.5% + 0.5% urea molasses + 1.5%), P3 (Napier grass 50% + concentrate 46% + 1.5% + mineral salts + 0.5% urea 0 , 5% molasses + 1.5%), P4 (Napier grass 40% + concentrate 56% + 1.5% + mineral salts 0.5% + 0.5% urea molasses 1.5%), P5 (Napier grass 30% + concentrate 66% + 1.5% + mineral salts 0.5% + 0.5% urea molasses + 1.5%). Twenty of local male sheep with a body weight 12.5 – 22.5 kg divided into 4 blocks were used in this experiment. The parameters measured were the consumptions of crude protein, crude fiber, energy and fat. Data were analyzed using variance analysis and followed by honestly significant difference test (HSD). The conclusion of this study is that the P3 treatment was the best concentrate to forage ratio of complete feed silage for fattening with consumption of crude protein as much as 131.01 ± 4.05 grams/day/head, crude fiber consumption 103.06 ± 3.33 grams/day/head, energy consumption 655.80 ± 18.74 grams/day/head and fat consumption 55.84 ± 1.83 grams/day/head.

Keywords: Complete feed silage, consumption, crude protein, crude fiber, energy, fat, concentrate, Napier grass

[ABS-85]
The Effects of Functional Feed Additive Probiotic and Phytogenic in Rations on The Performance of Local Ducks

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Abstract: The research aims to study the use of functional feed additive probiotic and phytogenic in rations on the performance of local duck grower phase. The study used 80 heads local duck 8-16 weeks old grower phase. The study was conducted by experimental method, using a completely randomized design (CRD) with 4 treatments of rations and 4 replications (5 ducks/pen). The experiment used completely randomized design with 4 treatment rations: R1 (basal diet /control), R2 (basal diet + phytogenic 0.4%); R3 (basal diet + probiotic 108 CFU); R4 (basal diet + phytogenic 0.4% + probiotic 108 CFU). The observed variables were: feed consumption, body weight gain, final body weight, feed conversion, and mortality of local duck. Data was analyzed by using one-way analysis of variance then continued with Duncan test. The results showed that the use of functional feed additive probiotic and phytogenic gave a positive response to the performance of local duck grower phase. The use of functional feed additive probiotic and phytogenic in ration

significantly affect (P<0,05) feed consumption, body weight gain, and final body weight, but no significant affect on ration conversion and mortality local duck grower phase. It was concluded that the use of functional feed additive probiotic and phytogenic could serve as a source of feed additive in local duck ration and able to increase performance of local duck grower phase.

Keywords: phytogenic, probiotic, feed additive, performan, local ducks

[ABS-87]
EFFECT OF BEET MOLASSES AS A SOURCE OF ENERGY ON PERFORMANCE OF BROILER CHICKENS

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Abstract: Molasses can be a source of quick energy and an excellent source of minerals for farm animals and even chickens. Molasses can also be a key ingredient for cost effective management of feeds. The purpose of this research was to study the impact of adding different levels of sugar beet molasses to feed on performance of broilers chickens. Used 112 of commercial broiler (Ross 308) l-day-old chicks were weighed in gram live weight ranged between 50-57g and subsequently placed in the treatment groups in such a way that the mean weights differed as little as possible, chicks divided into four groups replicates of 7 chicks each and reared on deep litter in open housing system. Four replicates were designed to each dietary treatment. at 15-days-old chicks, the unsexed broiler chickens were randomly allotted to four groups of 7 birds each. The four diets consisted of Group (A) as a control diet containing no Molasses, Group (B) was 5 %, Group (C) 7.5 % and Group (D)10%. Feed and water were provided adlibtum. There were no significant differences at all level (P<0.05) of adding beet molasses as source of energy among four experimental groups for the parameter studied: body weight, body weight gain, feed intake and feed conversion, also there is no mortality however, Use of beet molasses in broiler diets reduced feed cost and feeding of 7.5 % beet molasses decreased cost of feed per kg versus control and increase profitability.

Keywords: beet molasses, broiler chickens, performance

Wednesday, 7 August 2019

PARALLEL
Room SESSION I
Sapphire A

Moderator:Chomsiatun Nurul Hidayah, S.Pt., M.Si.

ABSTRACTS

Widodo Suwito, Widagdo Sri Nugroho, Andriani
Etiology and Antimicrobial Susceptibility of Udder Pathogens From Cases of Subclinical Mastitis in Dairy Ettawa Crosbread Goat (Pe) in Kulonprogo Yogyakarta

Nyak Ilham, Mohamad Maulana
Efficiency of Layer's Supply Chains in Indonesia

Mohamad Maulana, Herlina Tarigan
Farmers' Response to Economic Benefits of System of Rice Intensification, Biogas and Worm Cultivation

Franky M.S. Telupere, Welmintje M. Nalley
Phenotype and Genetic Analysis of Growth Characteristics of Sabu and Semau Chickens Which are Conserved Ex-Situ

Maureen Chrisye Hadiatry, Komarudin, S.J. Oosting
Economic Contribution of Duck Production Systems in Banten Province, Indonesia

[ABS-40]
Etiology and antimicrobial susceptibility of udder pathogens from cases of subclinical mastitis in dairy Ettawa Crosbread Goat (PE) in Kulonprogo Yogyakarta

Widodo Suwito 1) , Widagdo Sri Nugroho 2) , Andriani 3)*

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Abstract: Subclinical mastitis in Ettawa crossbreeds (PE) is an inflammatory disease that no clinical symptoms, but there is an increase the number of somatic cells and causes decrease milk production which economically detrimental. The aim of this study was to isolation of bacteria that causing subclinical mastitis in PE goats and their sensitivity with antimicrobial. A total of 37 PE goats from 5 farms in Kulonprogo were tested by California Mastitis Test (CMT). PE goats were said subclinical mastitis if the CMT test positive (++) or (++). Bacterial examination was carried out by enrichment in the peptone water buffer medium (BPW), and cultured in mannitol salt agar (MSA), eosin methylene blue agar (EMBA), and blood agar plate (PAD). Bacterial identification based on Gram staining, and biochemical tests such as confectionery. Subclinical mastitis in PE goats in Kulonprogo was caused by S. intermedius positive coagulase 4/4 (100%), S. aureus negative coagulase 4/10 (40%), S. aureus positive coagulase 3/10 (30%), and E. coli 1/10 (10%). S. intermedius positive coagulase was resistant to ampicillin, tetracycline, and sulfamethoxazole 2/4 (50%) respectively. S. aureus positive coagulase was resistant to ampicillin 2/7 (28.6%), penicillin 1/7 (14.3%), and sulfamethoxazole 1/7 (14.3%). S. aureus negative coagulase was resistant to ampicillin 3/7 (42.9%), penicillin 3/7 (42.9%), sulfametoxazole 2/7 (28.6%), and tetracycline group 1/7 (14.3%). This study showed that subclinical mastitis PE goats in Kulonprogo were caused by S. intermedius positive coagulase and S. aureus negative coagulase which are resistant to penicillin and sulfamethoxazole.

Keywords: Isolation, subclinical mastitis, PE goat, antimicrobial

[ABS-47]
EFFICIENCY OF LAYER'S SUPPLY CHAINS IN INDONESIA

NYAK ILHAM AND MOHAMAD MAULANA

Indonesian Centre for Agricultural Socio Economic and Policy Studies (ICASEPS)

Abstract: Research on the efficiency of egg's supply chain focused on various markets is expected to provide input to maintain the existence of small scale layers' farming. This study aim is to analyze the supply chain efficiency of small-scale layers' farming. This research is conducted in April-October 2017 in Blitar Regency, in East Java; Sidrap Regency, in South Sulawesi; and Kabupaten 50 Kota, in Payakumbuh City and Pariaman Regency, in West Sumatra. The number of respondents used are 139 people consisting of officers in related institutions, poultry shop entrepreneurs, traders, breeders association farmers, supermarket managers, hotels, restaurants and caterings. The data collected is analyzed using the Data Envelopment Analysis (DEA). The results concludes that traders naturally seek efficient supply chains so that their business can be endured. Factors that influence supply chain efficiency are share farmer, profit and marketing cost ratio, and number of actors involved. The higher the farmer share, and the profit-to-cost ratio, and the fewer marketing channel in a supply chain, the more efficient the supply chain system. Large capital farmers are advised to be able to shorten the supply chain by marketing directly to consumers such as hotels, supermarkets, restaurants, hospitals and caterings. The egg supply

chain can also utilize the Indonesian Farmer Shop (TTI) developed by the Ministry of Agriculture so that it can increase farmer's income and stabilize prices.

Keywords: supply chain, efficiency, egg, DEA

[ABS-63]
FARMERS' RESPONSE TO ECONOMIC BENEFITS OF SYSTEM OF RICE INTENSIFICATION, BIOGAS AND WORM CULTIVATION

MOHAMAD MAULANA AND HERLINA TARIGAN

INDONESIAN CENTRE FOR AGRICULTURAL SOCIO ECONOMICS AND POLICY STUDIES (ICASEPS)

Abstract: The availability of abundant cattle waste in a village is an important factor for implementing organic paddy farming practice. The utilization of cattle waste in SRI practice, biogas and worm cultivation increase farmers' income but this issue is not informed well to farmes because traditionally agricultural extention agent focused on delivering cropping techniques than economic advantages. The objective of this study is to assess farmers' response to the possibility of inserting the information about the economic benefits of integrating SRI, biogas, and worm cultivation in the SRI extension program, The respondents were conventional farmers in Boyolali District and using value added and farmers' response concept. There are three activities in this research namely obtaining value added throughout biogas value chain, presenting the value added to farmers, and receiving farmers' response. The results shows in three parts of biogas value chain increase farmers' economic benefits from 974.000 IDR/year to 5.18 million IDR/year. Conventional farmers give high positive response to the integration of implementing SRI and following biogas project and receiving value-added from installing biogas digester. However, farmers give low response to cultivate worm due to unstable demand and its price volatilization.

Keywords: paddy, organic, cattle waste, biogas, worm, farmers' response, extension

[ABS-69]
PHENOTYPE AND GENETIC ANALYSIS OF GROWTH CHARACTERISTICS OF SABU AND SEMAU CHICKENS WHICH ARE CONSERVED EX-SITU

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Faculty of Animal Husbandry, Nusa Cendana University of Kupang

Abstract: Sabu and Semau chickens originated from the island of Sabu and Semau, East Nusa Tenggara. The aim of this study was to analyze the phenotypic and genetic of growth characteristics of sabu and semau chickens which were conserved ex-situ. Four mating groups, 2 interse matings and 2 crosses, each using 4 males and 24 females, produced 144 chicks as research material. Artificial insemination of marriage. Feed and drinking water are given in ad libitum. Observations include data on body weight from the age of 0-12 weeks. Data were analyzed by ANOVA with nested design to obtain the various components used to estimate the heritability of growth properties. Heritability was estimated based on male, female, and total variance. The results of the phenotypic analysis showed that the body weight resulting from the interse mating (Sabu><Sabu) was better than other crosses. The estimation of heritability based on male variance (h2S), semau males showed positive values, while sabu males are more negative. Likewise based on females. Based on the total variance (h2S+D), more positive values are found in Sabu><Sabu compared to other matings. It can be concluded that sabu and semau chickens can be conserved ex-situ.

Keywords: Sabu and Semau Chickens, Phenotype, Genetic, Growth, Heritability

[ABS-74]
ECONOMIC CONTRIBUTION OF DUCK PRODUCTION SYSTEMS IN BANTEN PROVINCE, INDONESIA

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Abstract: A study on duck production systems was conducted in Banten Province, Indonesia. The objective of the study was to assess the economic contribution of duck production systems for smallholders livelihood. Four duck production systems were distinguished in the research area; a fully yarded-small scale system (DPS 1), a fully yarded-large scale system (DPS 2), a combination of yarded and scavenging system (DPS 3) and a combination of herded, scavenging and yarded system (DPS 4). Primary data was gathered from 43 respondents using a questionnaire. The economic parameter such as costs, benefits, gross margin and income contribution from each duck production system were calculated. Data were analyzed using the Kruskall-Wallis test. From the result, the highest family labor time was in DPS 4 (7.0±0.48 hours/hh/day) and the lowest was in DPS 2 (2.0±1.00 hours/hh/day). Compared to other systems, DPS 2 had the highest labor cost (14,400¬± 4,800 (thousand IDR/year)) and gross margin (131,875.65±28,152.85 (thousand IDR/year)). In Banten Province, duck production systems contributed to smallholders' livelihoods. In some cases, it only gave a small contribution (DPS 3) or even negative contribution (DPS 1) to the households income. In other cases, it resulted in good output (DPS 2 and DPS 4).

Keywords: duck production systems; economic contribution

Wednesday, 7 August 2019

PARALLEL
Room SESSION J
Sapphire B

Moderator:Dr. sc.agr. Ir. H. Yusuf Subagyo, M.P

ABSTRACTS

Harmini, R. Rusdiana
Development of Agrinak Compass Sheep in the Application of Seedlings from Superior Science and Technology

Suyadi, Tri Eko Susilorini
Conception Rate of 11 Months Old Dairy Heifer Following Artificial Insemination with Natural Estrus and Pgf2α Treatment

Tri Eko Susilorini, P. Punamaning Wulan, Suyadi
Dairy Breeding Management: The Effect of Body Weight on Conception Rate of Yearling Heifer With Pgf2α Induced Estrus Following Artificial Insemination

Mohammed Salah, Edjeng Supriatna, Luthfi Djauhari M, Vitus Dwi Y.
The Effect of Ambient Temperature and Dietary Nucleotide Supplementation on Tonic Immobility Reaction on Broiler Chicken

Asep Rahmat Khaerudina, F.M. Suhartati, Yusmi Nur Wakhidati
The Relatitionship between Pattern of Feeding and Health Problems in the Transitional Period of Dairy Cows and Their Potensial Losses in Kpbs Pangalengan Area

[ABS-75]
Development of Agrinak Compass Sheep in the Application of Seedlings from Superior Science and Technology

1)Harmini; 2) R. Rusdiana

Balitnak

Abstract: The appearance of sheep Compass Agrinak (CA) with pastoral care management such as the habits of farmers in Indramayu district shows that CA sheep can adapt well. One of the markers can be seen from the birth weight of lambs from cross-breeding between local mother sheep and CA males. Birth weight of lambs from crosses is relatively higher than local lambs, which is 3.08: 2.5 kg for females and 3.50: 3.04 for males. Some problems that require more careful observation where CA sheep die because of "swallowed/consumed" plastic that may still have left in them as food leftovers consumed by humans wrapped in plastic bags, so that when eating the leaves "eaten" also the plastic wrap that blocks the system digestion and breathing which eventually die. Technology guidance on the preparation of sheep feed from rice (straw) by-products has been carried out at the Bogor experimental station as well as making good and true block minerals and sheep cultivation. Preparations for developing BC sheep to be "averted" at the UPTD are being prepared by the pregnancy test through USG

Keywords: Compass Agrinak Sheep

[ABS-76]
Dairy Breeding Management: The effect of body weight on conception rate of yearling heifer with PGF2a induced estrus following artificial insemination

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Abstract: This study was to evaluate the conception rate of yearling dairy heifer at PT. Ultra Peternakan Bandung Selatan following artificial insemination with PGF2α-induced estrus. A total of 100 heifer records selected randomly from 700 heifers based on body weight (>300 kg) and has normal reproduction were used for this study. Non estrus animal during one day observation was then injected with PGF2α for estrus induction. The animal showing estrus within 11 days observation post PGF2α injection, was inseminated, nevertheless was reinjected for second PGF2α, and the estrus animal was inseminated according to the standard procedure. The results showed that following first PGF2α injection, 50 heifers showed estrus, while 50 non-estrus others were re-injected PGF2α. All 50 animals showed estrus following second PGF2α injection within 11 days thereafter. Body weight was divided into 3 groups, Low (<341 kg), Medium (341-355 kg), and High (>355 kg). There was no significant difference (P>0.05) for Service per Conception, S/C (1.94±0.86, 1.60±0.74 and 1.78±0.87), and Conception Rate, CR (39%, 54% and 50%), respectively for Low, Medium and High body weight of yearling heifer. It was concluded that yearling dairy heifers were possible to breed and result pregnancy when reached body weight more than 300 kg. It was possible to induce the estrus by single PGF2α injection, although double injection at the interval of 11 days was more insured to get higher conception rate.

Keywords: dairy industry, yearling heifer, estrus induction, conception rate.

[ABS-77]
Conception rate of 11 months old dairy heifer following artificial insemination with natural estrus and PGF2α treatment

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Faculty of Animal Science, Universitas Brawijaya, Malang

Abstract: In dairy industry, earlier mating of heifer is considered can reduce pre-breeding cost management and improve the benefit income of industry. This study was conducted to evaluate the conception rate of 11-months old dairy heifer following artificial insemination with natural estrus or treated with PGF2α at PT. Ultra Peternakan Bandung Selatan. From selected 300 samples out of 700 heifers resulted 25 heifers were natural estrus (Control), 50 estrus after single PGF2α injection (PG), 95 following single PGF2α and left to normal estrus after 21 days (PG-N), 50 after double PGF2α (2PG), and the rest of 80 heifers showed estrus following double PGF2α – Natural estrus (2PG-N) with the conception rate (CR) of 17/25(68%), 44/50(88%), 42/50(84%). None of heifers in PG-N and 2PG-N groups became pregnant after first insemination. The body weight (BW) was classified into Low (336-347kg), Medium (348-359kg) and High (360-372kg). The total conception rate was 34%. The CR for Low, Medium and High BW were 41%, 32% and 31%, respectively. The conclusion, the 11-months old heifer was possible normal pregnant following insemination without and with PGF2α injection when reached body weight over 300 kg. To ensure the higher number animal exhibiting estrus, double PGF2α injections should be applied.

Keywords: 11-months old heifers, natural estrus, PGF2α induced estrus, conception rate.

[ABS-89]
The Effect of Ambient Temperature and Dietary Nucleotide Supplementation on Tonic Immobility Reaction on Broiler Chicken

Mohammed Salah[1], Edjeng Supriatna[2], Luthfi Djauhari M[2], Vitus Dwi Y BI[2]*

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Abstract: The purposes of this experiment were to study the effect of three different environmental conditions (hot, cool, and natural) in the chicken behavior as indicated by duration of tonic immobility, and the role of dietary nucleotide supplementation on the elevate the stress. A total of 165 unsexed commercial chickens at fourteen-day of age were divided into three different environmental conditions; hot environment (H) with ambient temperature 31±1°C, comfortable environment (C) with ambient temperature 23 ±1°C, and natural environment (N). The chicken in Every environment condition received a basal diet supplemented with three levels of nucleotide (0 mg/kg) as a control group (T0), T1; 1000 mg/kg, and T2; 500 mg/kg. Birds were fed ad libitum until slaughter at 35 day. The duration of tonic immobility was evaluated two times on age 25 day and 34 day. The result of this study revealed that chicken reared under high temperature (hot and natural environment) increase the duration of tonic immobility compare with chickens rear under comfortable condition. The supplementation of dietary nucleotide has no effect on reducing the stress behavior.

Keywords: Environment, Nucleotide, Stress, Tonic immobility

[ABS-90]
The relatitionship between pattern of feeding and health problems in the transitional period of dairy cows and their potensial losses in KPBS Pangalengan area

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Abstract: Feed management is prepared to support the nutritional needs of early lactation, where the initial period of lactation is a critical period for the productivity of dairy cows, this period is a period of transition or period surrounding the birth (periparturient), which characterized by the high incidence and severity of metabolic diseases. Survey conducted research using cohort restrospective design by taking data on birth and health disorders around birth (hypocalcemia, Retensio placenta, diplasia abomasum, Ketosis, Mastitis, Metritis and lameness) from January 2017 until December 2018, in the working area of KPBS Pangalengan-Bandung Regency, in this period there are 2065 heads parturition cow from 3 groups of feeding patterns, pattern I (RC concentrate, wild grass, Penissetum purpureun, tofu/cassava by product), Pattern II (Concentrate RC, Penissetum purpureum , straw, cassava by product and pattern III (RC concentrate, wild grass). Analysis results between the pattern of feeding as a risk factor with the frequency of incidence of disease using). Relative Risk (RR) and Odds Ratio (OR), to determine the significance of the association between the feeding pattern with incidence of diseases using chi square. The result of analysis incidence of disease and feeding pattern in transition period carried out by farmers in the pattern I group had a tendency and greater risk of hypocalcemia and diisplasia abomasum than pattern II (OR 1,477, 95% CI =1,550-1,899, P 0,002) (RR 1,362 , 95% CI 1,118-1,659, P 0,0001) and pattern III (OR 2,217, 95% CI 1,578-3,114, P 0,0001) (RR 1,923 95% CI 1,438-2,571), pattern II group had a tendency and greater risk of i retensio placenta(OR 1,33, 95%CI 1,008-1,71 ,p 0,043)(RR 1,257 65%CI 1,008-1,567, p 0,0001), metritis (OR 1,527 65% CI 1,185-1,967 p 0,001) (RR 1,415 95%CI 1,150-1,741 p0,002) and mastitis(OR 5,650 95% CI 4,528-7,050 p 0,0001)(RR 2,076 95%CI 1,899-2,271)than pattern group . Pattern I and II had a tendency and greater risk of experiencing hipocalsemia, retensio secunndinae, displasia abomasum, ketosis ,mastitis, metritis and lameness than pattern III. The conclusion of analysis is that there is a significant ($p < 0,05$) relationship or influnce betweenthe pattern of feeding in transitiom period and pattern III group is the best in reducing incidence of periparturient diseases. Diseases that arise implicates the economic loss due to health problems in the transition period is calculated from the cost of veterinarians and the treatment of (veterinary and care), Labor (producer Labor), loss of milk (milk loss), Milk wasted (discarded milk), cost of rejects (culling cost), death of (death), extended days open

Keywords: Relative Risk (RR), feeding pattern, periparturient diseases

Wednesday, 7 August 2019

PARALLEL
Room **SESSION K**
Jade A

Moderator: Hermawan Setyo W., S.Pt., MP.;
Lis Safitri, S.Th.I., M.Pd.

ABSTRACTS

Agustinah Setyaningrum, Najib Amrullah, Pambudi Yuwono
Physiological Conditions of Decomposition Process and Quality of Compost Based on Faeces Beef Cattle Enriched With Azolla Sp.

Eko Hendarto, Bahrun, Nur Hidayat
The Effect of The Levels of Liquid Organic Fertilizer from Traditional-Market Waste on the Production and Nutrient Contents of Setaria Grass

Iwan Fajar Pahlawan, Widari, Gresy Griyanitasari
The Effect of Flame Retardant Addition on the Physical and Mechanical Properties of Cattle-hides Leather for Working Gloves

Veronica Sri Lestari, Sitti Nurani Sirajuddin, Ikrar Mohammad Saleh, Kusumandari Indah Prahesti
Level of Biosecurity Adoption Practices in Beef Cattle Farmers in South Sulawesi, Indonesia

Sitti Nurani Sirajuddin, Ikrar Mohammad Saleh, Jamilah Mustabi,Syamsinar
Perception of Beef Cattle Farmers on the Utilization of Banana Stems as Animal Feed in Soppeng Regency, South Sulawesi Province

[ABS-25]
PHYSIOLOGICAL CONDITIONS OF DECOMPOSITION PROCESS AND QUALITY OF COMPOST BASED ON FAECES BEEF CATTLE ENRICHED WITH AZOLLA Sp.

Agustinah Setyaningrum(a), Najib Amrullah (a) and Pambudi Yuwono (a)*

Faculty of Animal Science, Jenderal Soedirman University

Abstract: The research entitled "Physiological Conditions of Decomposition Process and Quality of Compost Based on Beef Cattle Faeces Enriched with Azolla sp", was aimed to determine the effect of the addition of Azolla sp. on physiological conditions which include the kinetics of temperature and pH, and the quality of compost which includes carbon content, and compost organic matter. The method used was experimental with Completely Randomized Design (CRD). There were three treatments that were the addition of Azolla sp. 0% (P0), 10% (P1), and 20% (P2). Each treatment was repeated 6 times, so that the amount of material was 18 mounds of compost. Variables measured were temperature kinetics, pH kinetics, levels of organic carbon and compost organic matter. Observations of temperature and pH kinetics were carried out on days 0, 4, 8, 12, 16, 20, 24 and 28 at 01.30 – 02.30 pm. The carbon content and compost organic matter of the final compost product were analyzed in the laboratory. Data on the kinetics of temperature and pH were analyzed using Repeated Measure Analysis of variance (RMA), while those of the levels of organic carbon and organic matter compost were analyzed using Analysis of variance (ANOVA). The results of the variance analysis showed a significant interaction ($P < 0.05$) between the treatment and the time of observation on the kinetics of temperature and pH. The highest temperature kinetics observed for P2 and P1 were reached on day 4 (54.00˚C and 50.50˚C, respectively), while the highest temperature for P0 was reached on day 8 (50.33˚C). The temperature of P0, P1 and P2 ranged 27.17-50.33˚C; 28.17-50.50˚C and 30.00-54.00˚C, respectively. The lowest pH kinetics for P0 and P1 were reached on day 20 that were 3.10 and 3.38, respectively. While the lowest pH kinetics for P2 was achieved on day 12 that was 3.20. After that, All pH rised to near neutral pH. PH kinetics ranged 3.10 - 6.70 (P0), 3.57 -6.82 (P1) and 3.20 - 6.95 (P2). Least Significance Different (LSD) results have significant variations in temperature kinetics and pH kinetics. Enrichment of compost with Azolla sp had no significant effect ($P > 0.05$) on the levels of organic carbon and compost organic matter.

Keywords: physiological conditions, decomposition, faeces, azolla sp, compost quality

[ABS-79]
THE EFFECT OF THE LEVELS OF LIQUID ORGANIC FERTILIZER FROM TRADITIONAL-MARKET WASTE ON THE PRODUCTION AND NUTRIENT CONTENTS OF SETARIA GRASS

Eko Hendarto, Bahrun and Nur Hidayat

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Abstract: The efforts to improve the agronomy management techniques to increase the production and nutrient contents of forages are continually studied to increase the efficiencies in all aspects of life, one of which is fertilization. Tradidional-market waste liquid organic fertilizers can beused to fertilize setaria grass. This research was conducted to get information concerning the best dosage of liquid organic fertilizer utilization. An experimental method using Completely Randomized Design was applied in this study. The treatments were: 6 (six) doses of mixtures of the liquid organic fertilizer : water, of the ratios of 0:0, 1:1, 1:2, 1:3, 1:4, and 1:5, volume by volume, each of which was repeated 4 times. The land area used was 2 m x 1.5 m per plot (experimental unit). The variables measured were the dry matter (DM) concentration, DM production, crude protein (CP), crude fat (CFt), and crude fiber (CFb) contents. The data used were the results of the

harvest at second defoliation. The results of the study showed that the doses of water in the fertilizer did not indicate any significant differences (P > 0.05) on all varibles being studied. On the basis of the results, it is suggested that the addition of water into the fertilizer can be applied up to 5 folds the volume of the organic liquid fertilizer in the agronomy management of Setaria grass (Setaria splendida).

Keywords: liquid fertilizer, traditional market organic wastes, Setaria grass (Setaria splendida), production.

[ABS-84]
The Effect of Flame Retardant Addition on the Physical and Mechanical Properties of Cattle-hides Leather for Working Gloves

Iwan Fajar Pahlawan, Widari, Gresy Griyanitasari

Center for Leather, Rubber and Plastics, Ministry of Industry

Abstract: The study aimed to investigate the influence of flame retardant addition in fatliquoring and finishing process on the quality of the finished leather. The research used materials, i.e. pickled cattle hides, chromium basic sulphate, synthetic tanning agents, commercial flame retardant, fatliquors, dyestuff, and other chemicals for beam house operation and finishing process. The trial included the addition of flame retardant in fatliquoring (2%, 4%, and 6% w/w) and finishing process (100 parts, 200 parts, 300 parts). As a control, pickled cattle hides were processed without the addition of the flame retardant. The evaluation of the samples was emphasized on the physical and mechanical properties of those after the treatment. Physical properties were represented by the shrinkage percentage, thickness, and rub fastness. While, mechanical properties comprised the tensile strength and elongation at break. The results showed that the resultant leather's shrinkage percentage varied from 7.65% to 13.03%, the thickness covered a range between 0.71 mm to 1.01 mm, and the rub fastness was 5 (dry basis) and 4/5 (wet basis). This study concluded that several treatments could meet the standard related to leather working gloves and heat resistance leather.

Keywords: Fatliquoring, finishing process, flame retardant, heat resistance leather, leather working gloves

[ABS-86]
Level of Biosecurity Adoption Practices in Beef Cattle Farmers in South Sulawesi, Indonesia

Veronica Sri Lestari, Sitti Nurani Sirajuddin, Ikrar Mohammad Saleh, Kusumandari Indah Prahesti

Faculty of Animal Husbandry, Hasanuddin University

Abstract: The aim of this study was to determine the level of adoption of a range of standard biosecurity practices in beef cattle farmers in Soppeng Regency, South Sulawesi. Data were collected from 45 beef cattle farmers through observation and in-depth interview by using questionnaire. There was 26 questions which consisted of biosecurity practices: sanitation, isolation and traffic control. Data were analyzed descriptively using mean and percentage. The results showed that a level of partial adoption of biosecurity had been achieved by the beef cattle farmers. The implication is that beef cattle farmers could be motivated to enhance their level of biosecurity practices.

Keywords: Adoption, biosecurity practices; beef cattle farmers

[ABS-88]

Perception of Beef Cattle Farmers on the Utilization of Banana Stems as Animal Feed in Soppeng Regency, South Sulawesi Province

Sitti Nurani Sirajuddin[1], Ikrar Mohammad Saleh[1], Jamilah Mustabi[1],Syamsinar[2]

Faculty of Animal Husbandry - Hasanuddin University

Abstract: This study aimed to determine the perceptions of beef cattle farmers on the use of banana stems as animal feed. The study was conducted in May-June 2019 in Marioriawa District, Soppeng Regency, South Sulawesi. The type of research used is descriptive quantitative. This research uses survey method. The type of data used in this study is qualitative data and quantitative data. Data sources are primary data and secondary data. The population in this research is the whole breeder of beef cattle in Patampanua Village, Marioriawa Subdistrict, Soppeng Regency. The number of population in this research is 78 breeders of beef cattle and all population taken as sample of research. The results showed that farmers perceptions of making animal feed from banana stems were on a high scale because this activity had never been done before so that beef cattle breeders were very enthusiastic in making animal feed from banana stems.

Keywords: perception, banana stems, animal feed, cattle farmers

Wednesday, 7 August 2019

PARALLEL
Room SESSION L
Jade B

Moderator: Mochamad Sugiarto, S.Pt., M.M., Ph.D.

ABSTRACTS

Novie Andri Setianto, Nunung Noor Hidayat, Pambudi Yuwono, Mochamad Sugiarto, Krismiwati Muatip, Rahayu Widiyanti
Unintended Effect of Government Program on Beef Development in Indonesia; A System Approach

Elly Tugiyanti, Emmy Susanti
Effect of Liquid Probiotic Supplementation in Drink Water on Blood Cholesterol and Immune Response in Japanese Quails (Coturnix coturnix Japonica)

Diana Indrasanti, Mohandas Indradji, Endro Yuwono, Muhamad Samsi, Putri Vani Sundari, Mochamad Nur Ichwan, Eka Sriti Anengseh, Muhammad Natra Hatmadifia, Taufik Nur Hidayat,
Treatment of Rabbit Coccidiosis with Combination of Herbal Extract Ii Toward Oocyst Excretion and Hematology Parameters

Agus Susanto, Luqman Hakim, Suyadi, Veronica Margareta Ani Nurgiartiningsih
Effect of Year and Season of Birth on First-Lactation Milk Yield of Dairy Cows

Setya Agus Santosa, Agus Susanto, Dattadewi Purwantini, Novita Hindratiningrum
The Effect of Non-Genetic Factors on Production Dairy Cattle in Bbptu Hpt Baturraden, Banyumas, Central Java

Yusmi Nur Wakhidati, Mochammad Sugiarto, Hudri Aunurrohman, Sri Mastuti
Factor Affecting Behavior Farmers towards Risk Production of Broiler Production in Banyumas

Titin Widiyastuti, Caribu Hadi Prayitno, Munasik
Digestibility and Rumen Fermentation Products of Rice Bran From Various Varieties of Rice

[ABS-8]
Unintended Effect of Government Program on Beef Development in Indonesia; a System Approach

Novie Andri Setianto, Nunung Noor Hidayat, Pambudi Yuwono, Mochamad Sugiarto, Krismiwati Muatip, Rahayu Widiyanti

Faculty of Animal Science, Jenderal Soedirman University

Abstract: A study has been undertaking for three years to develop a step by step protocol on systems analysis of smallholder beef farming systems in rural Java. One of the objective of the study is to identify and analyse the effect of government program on beef development. The participants of the research were 50 farmers of beef farming in two farmers group in Kabupaten Banjarnegara, Central Java. A series of direct observation combined with semi-structured interviews and workshops have been carried out to capture the everyday activity of the beef farming and to highlight the potential driven factors affecting the performance of the farming. Descriptive statistics was used to analyse: (i) the activities which commonly performed by farmers before and after receiving government grant (ii) the resources affected and affecting the grant, and (iii) pressures which drove farmers to get the government grant. Then, all the relationship among identified variables were drawn using Vensim® software to develop a qualitative model of the systems. Lastly, a stock and flow dynamic modelling was performed using iThink® software. The model showed several common systems loops as the findings. One of the highlighted was the double effect of government grant to the systems performance. Initial design of the government program was to increase the sufficiency of national beef stock by importing cattle. However, model showed that it also had unintended concequences to increase farmers' expectation to get easy instant cash.

Keywords: causal loop diagram; dynamic modeling; beef farming; stock and flow

[ABS-20]
Effect of liquid probiotic supplementation in drink water on blood cholesterol and immune response in Japanese quails (Coturnix coturnix japonica)

Elly Tugiyanti, Emmy Susanti

Faculty of Animal Science, University of Jenderal Soedirman, Purwokerto

Abstract: The aim of this research was to understand the effect of liquid probiotic supplementation in drink water on blood cholesterol (HDL, LDL,Triglyceride) level, hemaglobin level (Hb), plasma hematocrit level and total of plasma protein (TPP) of quails. Prohibition of antibiotics in poultry, resulting in increased probiotic offers on the market. Each probiotic has an advantage in increasing productivity and immunity of quails. The research was conducted as an experimental research and used completely randomized design. Four treatments were done in this research, which was control (drink water without probiotic), drink water added by probiotics A (containing Lactobacillus sp., Rhodopseudomonas sp., Streptococcus sp., Saccarhomyches sp.), probiotic B (containing Bacillus careus, Azotobacter paspalii, Bacillus laterosporu, Bacillus lentus, Bacillus licheniformes, Bacillus pumilus Corynebacterium, Pseudomonas fluorescens Sarcina lutea Staphylococcus epidermis Staphylococcus thermophyllus Lactobacillus sp. Saccharomyces cerevisceae and Phicia anomola) and probiotic C (containing Lactobacillus casei, Saccharomyces cerevisceae, Rhodopseudomonas palustris, Molases, water). The obtained all data were then analyzed by analysis of variance and if the result showed a significant effect, further analysis will be done by

honestly significant difference test. The analysis of variance showed that variety of fluid probiotic supplementation in drink water showed had no significant effect (P>0.05) on the on blood cholesterol, HDL level, LDL level, triglyceride, but had significant effect (P<0.05) on Hb, plasma hematocrit and TPP level. The research concluded that liquid probiotics supplementation in drink water will increase immune response but not able to reduce blood cholesterol of quails.

Keywords: Antibiotics, Probiotics, Drink water, Cholesterol, Quails

[ABS-48]
TREATMENT OF RABBIT COCCIDIOSIS WITH COMBINATION OF HERBAL EXTRACT II TOWARD OOCYST EXCRETION AND HEMATOLOGY PARAMETERS

Diana Indrasanti, Mohandas Indradji, Endro Yuwono, Muhamad Samsi, Putri Vani Sundari, Mochamad Nur Ichwan, Eka Sriti Anengseh, Muhammad Natra Hatmadifia, Taufik Nur Hidayat,

Faculty of Animal Science, Universitas Jenderal Soedirman, Purwokerto, Indonesia

Abstract: This study aims to determine oocyst excretion and hematological profile in coccidiosis rabbits given a combination of herbal extract II. Hematological profiles observed were red blood cells, white blood cells, hemoglobin, hematocrit, platelets, granulocytes, eosinophils, monocytes, lymphocytes, MCV (Mean Corpuscular Volume), MCH (Mean Corpuscular Hemoglobin) and MCHC (Mean Corpuscular Hemoglobin Concentration) and body temperature. This study used 60 coccidiosis rabbits with ± 3 months age of ± 650 g weight, a combination of herbal extracts consisting of banana stem extract (BSE), papaya seeds (PSE) and garlic (GE), a set of tools and materials for rabbit maintenance and a set of hematological examination tools. The research method was carried out experimentally using a Completely Randomized Design (CRD). The analysis used was variance analysis followed by Honest Real Difference (BNJ). The combination of herbal extract II consists of BSE: 40 mg; PSE: 20 mg; GE: 40 mg. Rabbits were divided into 8 treatments with 5 replications, namely giving a combination of herbal extracts consisting of 0 mg (D0), 10 mg (D1), 20 mg (D2), 40 mg (D3), 80 (D4) mg, 100 mg (D5) and the comparison used are I herbal extract (consisting of BSE: 33 mg; PSE: 2 mg; GE: 65 mg) as much as 100 mg (D6) and Aquaprime (D7). Blood collection was conducted through the heart on the 14th day after the treatment. The combination of herbal extract II had a very significant effect on oocyst excretion and body temperature, but did not have a significant effect on all blood parameters. Hence, a combination of herbal extracts can be used as an alternative to reduce the number of oocysts in coccidiosis rabbits.

Keywords: Rabbit coccidiosis; Oocyst; Herbal extract

[ABS-50]
Effect Of Year and Season Of Birth On First-Lactation Milk Yield Of Dairy Cows

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Abstract: Nutritional status (protein and energy) during early life has important effect on milk yield of dairy cows. Feed quantity and quality is often influenced by season representing the fluctuation of water supply which is essential for plants including forage. The aim of the present study was to analyse the effect of year and season of birth on first-lactation milk yield of Holstein Friesian cows. The data included 1005 records of first-lactation daily recorded milk yield available in National Breeding Centre for Dairy Cows and Forages of Baturraden (the so-called BBPTUHPT Baturraden)

database. The milk yield was recorded within the years of 2004 to 2014. Milk yield data were adjusted to 305 standard days of milking using multiplicative-local correction factor. Animals' date of birth was grouped divided into years and months of birth. Months of birth were assigned into: (1) traditional-two season categorization (wet and dry), (2) extended-categorization of three seasons (wet, wet-dry and dry), (3) extended-categorization of four seasons (wet, wet-dry, dry and dry-wet). The effect of date of birth factor on first-lactation milk yield was tested using likelihood ratio test of full and reduced model. The result showed that both years and months of birth have significant effect on first-lactation milk yield, regardless of the season categorization. It is therefore concluded that season plays important role to consider in dairy cattle management and has to be included in genetic analysis to remove non-genetic effect which regards to first-lactation milk yield.

Keywords: birth, cows, non-genetic, Holstein, Indonesia

[ABS-78]
THE EFFECT OF NON-GENETIC FACTORS ON PRODUCTION DAIRY CATTLE IN BBPTU HPT BATURRADEN, BANYUMAS, CENTRAL JAVA

Setya Agus Santosa, Agus Susanto, Dattadewi Purwantini, and Novita Hindratiningrum

Animal Science Faculty, Jenderal Soedirman University

Abstract: The purpose of the study was to identify non-genetic factors that influence the milk production of the dairy cattle at Baturraden BPTU-HPT. The data examined were 607 production records from 233 dairy cattles that had completed lactation between first and sixth. The non-genetic factors studied were the lactation period, days of milking and age at giving birth. The influence of non-genetic factors were analysed by multiple regression of the Stepwise method. The number of lactation days had a very significant effect and the age at giving birth had a significant effect on milk production.

Keywords: non genetic factors, milk production, dairy cattle

[ABS-81]
Factor affecting behavior farmers towards risk production of broiler production in Banyumas

Yusmi Nur Wakhidati, Mochammad Sugiarto, Hudri Aunurrohman dan Sri Mastuti

Fakultas Peternakan Unsoed

Abstract: Broiler farming and production is problably more risky than others. Most broiler farmers express their risk aversion by pursue contract farming system. This study investigates production risk and behavior toward production risk of broiler farming in Banyumas. The aims of this research were to know risk production and the socio economics factor that affect the behavior of farmers towards the risk production of broiler farming. The survey was conducted on 40 broiler farmers in Banyumas through a simple random sampling method. Coefficient of variation and multiple linear regression analisis has been selected to analyse the risk production and factors affecting farmers behavior. The result showed that feed and labour are important determinant of broiler production in Banyumas (P<0,1). The regression result showed that behavior of farmers towards risk was affected by number of birds, level of education, and farming experience

Keywords: broiler farming, farmer behavior, socio-economic, risk production

[ABS-55]

DIGESTIBILITY AND RUMEN FERMENTATION PRODUCTS OF RICE BRAN FROM VARIOUS VARIETIES OF RICE

Titin Widiyastuti, Caribu Hadi Prayitno and Munasik

Faculty of Animal Science, Jenderal Soedirman University

Abstract: Rice has many kind of varieties with varied organic ingredients. The purpose of this study is to assess influence of varied organic matter content on digestibility and fermentation products in rumen. The method of research is done by in vitro, using completely randomized design with 6 varieties of rice bran as treatments (Pandan Wangi, Ketan Putih, IR 64, Aek Sibundong, Ketan Hitam and Umbul). Each treatment is repeated 3 times, continued by Honestly Significant Difference (HSD). The objective of the research was to evaluate VFA level, N-NH3, dry matter digestibility (DMD) and organic matter digestibility (OMD). Results of analysis of variance showed that the rice bran varieties have a Highly significant effect on the levels of VFA ($P < 0.01$), but its not significant effects on N-NH3 level, DMD and OMD. A highly significant difference is shown by rice bran of Pandan Wangi varieties with Ketan Putih and Ketan Hitam. Based on the results can be concluded that rice varieties affect the level of VFA but do not affect the level N-H3, DMD and OMD, Pandan Wangi varieties has the highest VFA produce in the rumen.

Keywords: Rice varieties, VFA, N-NH3, DMD, OMD, in vitro

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Animal Science and Technology Conference Series

ICAIT 2019

"Animal Farming for Sustainable Rural Development"

Book of Abstract

The Faculty of Animal Science
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2019

1st ICAIT 2019

INTERNATIONAL CONFERENCE ON ANIMAL INDUSTRY IN THE TROPICS

The Faculty of Animal Science, Universitas Jenderal Soedirman, Purwokerto organized the First International Conference on Animal Insudtry in the Tropics (1st ICAIT 2019). The 1st ICAIT 2019 aims to exchange knowledge and research finding within academicians, researchers, profesionals, policy makers, and postgraduate students.

The countries in the tropics have a variety of local animals playing an important role and being extensive industry prospects. The 1st ICAIT 2019 seeks to raise the question how to develop animal industries for sustainable rural development facing the era of Industry 4.0. The right perspective on challenges and opportunities will be discussed under the themes: 1) General animal production and husbandries (ruminants and non-ruminants), 2) Post-harvest handling and processing of meat, milk, eggs, wools, and by-products, 3) Socio-economic aspects of animal farming, 4) Emerging and prospective animals, 5) Animal biotechnology, 6) Animal health, diseases, and welfare/ethics, 7) Edu-tourism and ecotourism involving animals, 8) Feeds, feeding, and animal nutrition, 9) Animal physiology, reproduction, and breeding/genetics, 10) Halal aspects of animal products, and 11) Environmental issues of animal farming.

Researcher around the world will share their great ideas during this conference on 6-8 August 2019 in Purwokerto, Central Java, Indonesia. We would like to Jenderal Soedirman University, ASEAN Agricultural University Network (AAUN), University of the Philippines Los Baños-Philippines, Universti Putra Malaysia, Gadjah Mada University, Universitas Islam Internasional Malaysia, Journal of Animal Production, Infovet Magazine, Poultry Indonesia magazine, PT Medion, and PT Charoen Pokphand Indonesia, that collectively have worked to contribute to the conference.

Prof. Dr. Ismoyowati, S.Pt., M.P.
Dean of the Faculty of Animal Science – Jenderal Soedirman University

Prof. Weerapon Thongma

Prof. Weerapon Thongma is currently Vice President for Student Development and Alumni Relations of Maejo University, Thailand and serves as Dean of the International College of Maejo University (MJUIC). Prof. Weerapon Thongma wrote several peer reviewed scientific papers and presented his works in many national and international conferences. Prof Weerapon Thongma has received recognition from experts all over the world for his contribution. His academic carrer is decorated with several famous awards and funding. His field of study are Agricultural Counseling, Development Management, Tourism Development, Community Based Tourism, Community Participation, Agro Management and Ecotourism.

Dr. Maria Cynthia Oliveros

Dr. Maria Cynthia R. Oliveros is an Associate Professor at the Institute of Animal Science, College of Agriculture and Food Science (CAFS), University of the Philippines Los Baños (UPLB). She is also currently the College Secretary or Registrar of CAFS. She obtained her BS, MS and PhD degrees from UPLB in the fields of dairy technology, animal nutrition, and meat science, respectively. Dr. Oliveros was a recipient of the Fulbright-Philippine Agriculture Scholarship Program in 2002-2003 at Michigan State University, USA and a Post-Doctoral Research Fellowship in 2008 –2009 at the School of Animal Science and Biotechnology, Chonbuk National University, South Korea. She is a Certified HACCP Manager from The Experior Assessments LLC (Food Safety Programs), St. Paul, Minnesota, USA and a Licensed Agriculturist of the Philippine Professional Regulations Commission.

She has received numerous best paper awards for her researches and was awarded the PSAS Outstanding Teacher in Animal Science Award in 2016. She has authored/co-authored several publications in indexed journals and refereed journals, presented papers in international conferences, and serves as reviewer of scientific papers for international publication. Dr. Oliveros also serves as academic adviser and member of guidance committees for undergraduate and graduate students specializing in dairy science, poultry production/nutrition, food science, and meat science.

Prof. Irwandi Jaswir

After completing his Doctoral degree, Dr. Irwandi Jaswir joined International Islamic University Malaysia (IIUM) as an academic staff in 2001. In 2011, he received his Professor and currently mandated as Director at International Institute for Halal Research and Training (INHART) IIUM. Prof. Irwandi also serves as Secretary, Professor Council IIUM. Currently, he is the lead researcher of 7 research projects, mostly in the fields related to Halal Science, Food Biotechnology and Natural Products, that funded by various funding institution.

Prof. Irwandi has made remarkable achievements in research such as: 75 scientific works published in leading international journals; contribution on 30 book chapters; presenting more than 150 research papers in international conferences – includes as keynotes and invited speaker; wrote more than 50 non-reference scientific articles as well as mass media. He received many award for his extraordinary effort on halal study and the latest is the International King Faisal Service Award for Islam in 2018.

Prof. Zainal Aznam Mohd Jelan

Prof. Dr. H. Zainal Aznam bin H. Mohd. Jelan is a researcher who is well known by academics in Indonesia. He is the President of ASEAN - Australian Scientist for Animal Production from Universiti Putra Malaysia. The research he has done in terms of animal nutrition and has been published in many scientific journals and conferences.

Prof. Budi Guntoro

Prof Budi Guntoro, S.Pt., M.Sc., Ph.D is a lecturer at Faculty of Animal Science, Universitas Gadjah Mada, Yogyakarta, Indonesia. Currently, he is the vice dean of academic and student affair at the faculty. From 2009 to date, he is also Visiting Profesors at Maejo University, Thailand and General Secretary of ATMA (Asian Tourism Management Assosiation). Prof Budi Guntoro has saveral research and public services on human development and tropical agriculture development management, not only in domestic but also collaboration with overseas university.

Prof. Ismoyowati

Prof. Dr. Ismoyowati, S.Pt., M.P. is a lecturer at Faculty of Animal Science, Jenderal Soedirman University, Purwokeerto, Indonesia. Her recent academic career is Dean of faculty of animal science, Jenderal Soedirman University, 2017-2021 periode. Her study taking concern in poultry science specially on biotechnology development. Many research and social services on poultry topics have done in recent years.

Dr. Robbi Rahim

Dr. Robbi Rahim is a lecturer at Sekoah Tinggi Ilmu Manajemen Sukma, Medan, Indonesia. He has many international publications that been cited by worldwide researchers. He has 21 H-indeks on scopus and 24 on Google. of His expertise are on information technology especially network scurity, cryptography, information privacy and data encryption.

Tuesday, 6 August 2019

PARALLEL **SESSION A**

Room Sapphire A

Moderator: Ir. Ibnu Hari Sulistyawan, M.Sc

ABSTRACTS

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"The Contribution of Social Capital to the Income and Development of Beef Cattle Farmers"

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Dadang Mulyadi Saleh, Sigit Mugiyono, Mas Yedi Sumaryadi, Aras Prasetiyo Nugroho
"The Effects of Sperm Number and Insemination Interval on The Fertility and Hatchability of Sentul Hens**"**

Lisa Praharani, Ria Sari Gail Sianturi, Harmini, Sri Wahyuni Siswanti
"Birth Weight and Morphometric Traits of Purebred and Crossbred Belgian Blue Calves"

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"Digestibility and Rumen Fermentation Products of Rice Bran From Various Varieties of Rice"

[ABS-2]
Validating Egg Component Proportions in Quail Receiving Methionine Supplementation

Adi Ratriyanto, Septian Nurcahyo, Sigit Prastowo, Nuzul Widyas*

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Abstract: Essential amino acid methionine is a methyl donor which involved in protein and fat metabolism; thus, it holds an important role in the synthesis of egg yolk and albumen precursors. This research aimed to observe the effect of methionine on the weight of egg and its components and to prove if egg weight could be used to predict the yolk and albumen weight. In total, 225 quails were allotted into three treatments and five replicates each with fifteen individuals. The treatments were basal diet (T0), basal diet with 0.06% (T1) and 0.12% methionine (T2). ANOVA was conducted to test the effect of treatments. Simple linear regressions were built to predict yolk and albumen weight based on egg weight. Cross validation procedure was applied to test the predictability of the models. Quails in T2 and T1 produced heavier eggs (9.29±0.52 and 9.04±0.76 g) compared to T0 (8.77±0.55 g). Albumen weight follow similar trends which were 5.37±0.38, 5.53±0.54, 5.75±0.44 g for T2, T1 and T0, respectively. Yolk weight slightly differ where T1 had higher weight (2.64±0.30 g) followed by T2 (2.62±0.27 g) and T0 (2.50±0.32 g). Pearson's correlation between egg and yolk weight were between 61-71% whereas for egg and albumen were between 69-87%. Simple linear regression predicting yolk and albumen weight from egg weight had accuracies between 92.7-94.3% and 94.3-96.2%, respectively. Methionine supplementation had significant effect on egg and egg components weights. Linear regression can be utilized to predict yolk and albumen weight based on egg weight with high accuracy.

Keywords: Quail; Egg; Yolk,Albumen; Model prediction

[ABS-3]
The contribution of social capital to the income and development of beef cattle farmers

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2,3,4) Faculty of Animal Husbandry, Universitas Brawijaya Malang

Abstract: Developing the livestock sector in Kediri, East Java Province requires an investigation on the social capital of beef cattle farmers to observe the actual condition and the strategies. The research is aimed to describe the social capital that includes the kinship, behaviours, norms and interactions and to analyse the correlation between social capital and economic income of beef cattle farming in Kediri Regency. The study was conducted from January to June 2018, collecting data from a survey and questionnaire. A multistage sampling method was applied to collect 150 farmers in eight sub-districts in Kediri. Data were subject to descriptive analysis. The result showed that the social capital of beef cattle farmers in Kediri is at the medium level as observed from the farmers' ability to collaborate in achieving group objectives. The average annual income of beef cattle farmers in Kediri was IDR 2.700.000. The result showed a significant correlation (0,426) between the social capital and the income of beef cattle farmers in Kediri. It indicated that the higher the social capital, the higher the income. Some efforts to increase social capitals included a social gathering and farmers upskill through intensive training on technology mastery.

Keywords: Social Capital, Beef Cattle Farmer, Kediri Regency

[ABS-4]
The Internal Organs Size of 6-Weeks Old Native Chickens after Supplement Addition with L-threonine and L-tryptophan in the Feed

Charles V. Lisnahan, Oktovianus R. Nahak

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Jalan El Tari, Km. 9, Kefamenanu, Nusa Tenggara Timur, 85616

Abstract: The aim of this experiment was to know the internal organs size of 6-weeks old native chickens after supplement addition with l-threonine and l-tryptophan in the feed. A total of 112 native chickens a week-old were used in this experiment. The experiment was designed as a randomized complete block with four treatments and four replications. The dietary treatments were: T0 (control feed without supplementation of l-threonine and l-tryptophan); T1 (supplementation of 0.35% l-threonine and 0.10% l-tryptophan); T2 (supplementation of 0.68% l-threonine and 0.17% l-tryptophan); T3 (supplementation of 1.00% l-threonine and 0.25% l-tryptophan). The data collected were body weight, liver, pancreas, gizzard, and intestinal length of native chickens aged 6 weeks. The statistical analysis showed that supplementation of l-threonine and l-tryptophan gave significant effect (P<0.01) upon body weight, liver weight, pancreas weight, gizzard weight and intestinal length. It can be concluded that supplementation of 1.00% l-threonine and 0.25% l-tryptophan give the highest body weight and internal organs size of native chickens.

Keywords: Native chicken, l-threonine, l-tryptophan, internal organs

[ABS-6]
Effect of organic basic multrinutrient block supplementation on total mixed ratio of kacang goat in feedlot system

Retno Iswarin Pujaningsih, Widiyanto, Baginda Iskandar Moeda Tampoebolon

Faculty of Animal Agriculture, Diponegoro University of Semarang

Abstract: The research was managed to assess different level of organic basic multi-nutrient block supplementation on the performance of Kacang goat that fed by total mixed ratio in feedlot system. This research was carried out for 3 months, used 15 goats with the average body weight of 16.40 ± 3.97 kg. The study was arranged in a completely randomized design with 3 treatments and 5 replications. Goats were divided and fed with one of the treatments as follows: P0: only forage, according to the farmer's way; P1: total mixed ratio; P2: total mixed ratio + 15g multinutrient block/head/day. Variables of initial body weight, final body weight, body weight gain, and feed consumption were observed. The study indicated that goats of P1 and P2 had a significantly higher body weight gain by 31,45 and 42,38 g/head/day (P < 0.05) compared with P0 (14,8 g/head/day), respectively. Body weight gain of goat P2 was significantly higher (P < 0.05) than P1 Kacang goat. This study suggests that treatment P2 resulted in the highest body weight gain.

Keywords: multinutrient block, organic supplement, TMR, Kacang Goat

[ABS-9]
THE EFFECT OF ADDITION OF CHICKEN FEET AND NECK BONE FLOUR TOWARDS NUTRITIONAL VALUE OF COOKIES

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Abstract: This study aimed to determine the chemical content of cookies with the addition of chicken feet flour and chicken neck bones flour and test the panelists acceptance of these cookies. The experimental design used was a completely randomized design (CRD) with 3 treatments and 3 replications. The treatment given is T0 (wheat flour); T1 (wheat flour + feet flour); and T2 (flour + neck bone flour). Variables measured include water, ash, fat, protein, carbohydrate, calcium, and phosphos. The data obtained were analyzed using variance analysis followed by the Smallest Significant Difference Test (LSD). The results of the variance analysis showed that the addition of chicken feet flour and neck bones flour had a significant effect (P <0.05) on ash content; fat; protein; carbohydrate; calcium and phosphor.

Keywords: chicken feet, cookies, neck bones, nutrition, flour

[ABS-12]
POLYMORPHIS ALBUMIN BLOOD PROTEIN ITS ASSOCIATION WITH GROWTH AND ADULT BODY WEIGH OF PADJADJARAN SHEEP AS ELITE RUMS

Sri Bandiati Komar Prajoga (a), Johar Arifin (b), Wendry Setiyadi putranto (c), Yuliana Kolo (d)*

Department of Animal Production, Faculty of Animal Husbandry, Padjadjaran University, Sumedang

Abstract: Padjadjaran sheep was a local sheep that has undergone purebreeding in the form of linebred, has a variation of mt-DNA in the form of 75 bp deletions at the posision of 1447-1522 bp. Male birth weight was 3.5 - 4 kg, while adult body weight (18 months) was 35-45 kg. On the molecular genetic side Albumin was the guardian of the osmotic balance of blood, Albumin will encourage fluid if the condition low in the blood and pushes out if the liquid high in blood . Albumin was formed in the liver and binds absorbed nutrients to spread throughout the body. In high body fluids in sheep causes swelling in the whole body and there was a tendency to less optimal growth. Growth was an increase in body weight in a certain period of time, which was divided into stages of acceleration and deceleration. In elite rum selection programs carried out based on individual data, the ranking based on their position in the population. The research method was descriptive for quantitative charakter and data analysis using correlation, as well as the SDS-page method for blood protein analysis. The object of the study was 46 rams as candidate for elite rums, which had body weight between 27 - 45 kg, with an average body weight of 35.3 kg. The results showed that the blood protein Albumin of Padjadjaran sheep was spread in several alleles from Alb. A, Alb.B, Alb.C, Alb.D, Alb.E and Alb.F. All of population have (100%) have Albumin A which had highest Correlation (0,21) with body weight gain aged 17 to 18 months, while the other Alb alleles showed a low correlation

Keywords: Key words: Padjadjaran sheep, Blood Protein Albumin , Accelaration , Deceleration

[ABS-18]
The Effects of Sperm Number and Insemination Interval on the Fertility and Hatchability of Sentul Hens

Dadang Mulyadi Saleh, Sigit Mugiyono, Mas Yedi Sumaryadi, Aras Prasetiyo Nugroho

Faculty of Animal Science, Jenderal Soedirman University

Abstract: Sexually mature Indonesian native hens (Sentul hens) were housed singly in laying cages and artificially inseminated with combination of three different levels of diluted pooled semen (50 million sperm/0.05 ml; 100 million sperm/0.1 ml; and 150 million sperm/0.15 ml) and at either of three different intervals (every 3, 6 and 9 days). The results show that the sperm number and Insemination inverval had no significant interaction (P>0.05) on % fertility and hatchability. The best fertility (P< 0.05) was obtained by inseminating interval 6 days with sperm number 100 million/ 0.1 ml of diluted semen.

Keywords: Sperm number, insemination interval, fertility, hatchability, sentul hens

[ABS-27]
Birth Weight and Morphometric Traits of Purebred and Crossbred Belgian Blue Calves

Lisa Praharani), Ria Sari Gail Sianturi *) and Sri Wahyuni Siswanti **)*

*)Research Institute for Animal Production, Bogor
**)Livestock EMBRYO CENTRE, Bogor

Abstract: The Belgian Blue (BB) is a breed of cattle characterized by double muscling. Introduction of Belgian Blue cattle to Indonesian is to increase beef production. The aim of this study was to compare birth weight and morphometric traits of purebred BB calves to F1 BB x Friesian Holstein (FH) calves. A total of 10 purebred BB calves and 20 F-1 BB x FH calves were used in this study. Results showed that birth weight and chest girth were significantly affected by genetic and sex of calves (P<0,05). The purebreds had higher birth weight and chest girth (P<0,05). The birth weight were 54,82 kg and 42,86 kg for purebreds and crossbreds, respectively. The body height were 75,30 cm and 76,35 cm for purebreds and crossbreds, respectively. The body length were 66,96 cm and 66,33 cm for purebreds and crossbreds, respectively. The chest girth were 88,46 cm and 81,15 cm for purebreds and crossbreds, respectively. This study is a preliminary information used for developing BB cattle.

Keywords: Belgian Blue cattle, crossbreeding, birth weight, morphometric traits

[ABS-55]
DIGESTIBILITY AND RUMEN FERMENTATION PRODUCTS OF RICE BRAN FROM VARIOUS VARIETIES OF RICE

Titin Widiyastuti, Caribu Hadi Prayitno and Munasik

faculty of Animal Science, Jenderal Soedirman University

Abstract: Rice has many kind of varieties with varied organic ingredients. The purpose of this study is to assess influence of varied organic matter content on digestibility and fermentation products in rumen. The method of research is done by in vitro, using completely randomized design with 6 varieties of rice bran as treatments (Pandan Wangi, Ketan Putih, IR 64, Aek Sibundong, Ketan Hitam and Umbul). Each treatment is repeated 3 times, continued by Honestly Significant Difference

(HSD). The objective of the research was to evaluate VFA level, N-NH3, dry matter digestibility (DMD) and organic matter digestibility (OMD). Results of analysis of variance showed that the rice bran varieties have a Highly significant effect on the levels of VFA ($P < 0.01$), but its not significant effects on N-NH3 level, DMD and OMD. A highly significant difference is shown by rice bran of Pandan Wangi varieties with Ketan Putih and Ketan Hitam. Based on the results can be concluded that rice varieties affect the level of VFA but do not affect the level N-H3, DMD and OMD, Pandan Wangi varieties has the highest VFA produce in the rumen.

Keywords: Rice varieties, VFA, N-NH3, DMD, OMD, in vitro

Tuesday, 6 August 2019

PARALLEL SESSION B

Room Sapphire B

Moderator: Ir. Agus Susanto, M.Sc. Agr

Rahayu Widiyanti, Novie Andri Setianto, Nunung Noor Hidayat, Sri Mastuti, Krismiwati Muatip, Mochamad Sugiarto
Vertical Integration of Broiler Industries in Indonesia (Analysis of Case Decisions Number 02/KPPU-I/2016)

Tati Rohayati
The Evaluation of Physical Qualities of Pellet Containing Indigofera Zollingeriana and Banana Corm that Fermented by Trichoderma harzianum

Dicky Pamungkas, F.Firdaus, L. Affandhy, M. Luthfi
Mineral-Vitamin Combining Versus Herbal Supplementation to Enhance Performance Ongole Crossbred Bull

Triana Setyawardani, Juni Sumarmono, Agustinus Hantoro Djoko Rahardjo, Kusuma Widayaka, Singgih Sugeng Santoso
Texture Prolile and Sensory Kefir Characteristic with Colostrum Addition

N. Widyas, L. A. Pradista, S. Prastowo, A. Ratriyanto
Adopting Intraclass Correlation Principles to Estimate the Consistency of Egg Production of Quails Supplemented with Metabolic Enhancer

Ning Iriyanti, Sufiriyanto, Bambang Hartoyo
Impact of Liquid Fermeherbafit as Feed Additive to The Blood Hematological Profile and Lymphoid Organ of Broiler Chickens

Ismoyowati, Ibnu Hari Sulistyawan, Sigit Mugiyono, Rosidi
Carcass Production Charakteristic and Single Nucleotide Polymorphism Adipocyte Fatty Acid Binding Protein (A-FABP) Gene on Cairina moschata

Arika Rizki Rofikoh, Mas Yedi Sumaryadi, Agustinah Setyaningrum
The Potential Breeding Worth of Cattle at Different Age Based on Body Weight, Chest Circumference and Body Condition Score of Kebumen "Peranakan Ongole" (PO) Cattle in "Urut Sewu" Breeding Areas

Wisje Lusia Toar, Endang Pudjihastuti, Laurentius J.M. Rumokoy, Ivonne M. Untu
Effect of Supplementation of Combination of BSF Curcuma and Maggot Meal in Rations on Accumulative Weight of Native Chickens

J. R. Leke, E. Wantasen, F.N. Sompie, F.H. Elly, R. Siahaan
Egg Quality Characteristic of Laying Hens Fed Dried Garlic (Allium Sativum) in Diet

ABSTRACTS

[ABS-11]

VERTICAL INTEGRATION OF BROILER INDUSTRIES IN INDONESIA (Analysis of Case Decisions Number 02/KPPU-I/2016)

Rahayu Widiyanti, Novie Andri Setianto, Nunung Noor Hidayat, Sri Mastuti, Krismiwati Muatip, Mochamad Sugiarto

Fakultas Peternakan UNSOED

Abstract:This study aims to get a deeper explanation of vertical integration in the broiler industry in Indonesia. The data used is secondary data on case decisions number 02 / KPPU-I / 2016. Komisi Pengawas Persaingan Usaha (KPPU) Republik Indonesia has issued a decision about the alleged violation of article11 of Act Number 5 of 1999 related to the regulation of broiler production in Indonesia. The data obtained were analyzed by descriptive method. The results obtained are (1) there are 14 large companies that are directly related to the broiler trade industry, (2) broiler industry products are DOC, feed, vitamins and drugs, raw materials for poultry feed and carcasses, (3) the business category in the broiler trade industry is integrated business, semi-integration business and non-integrated businesses. Business integration consists of vertical integration and horizontal integration. Vertical integration is a business that has a series of production processes from upstream to downstream. semi-integration business is a business that only has more than one production line but does not control the business from upstream to downstream. non-integrated business is a business that only has one production process. Integration business has a dominant market share and can influence the price maker. It was suggested that the Government monitor more closely the large companies that carry out integration so as not to collude and form a monopoly market.

Keywords: business integration, vertical integration, broiler industry

[ABS-13]

The Evaluation of Physical Qualities of Pellet Containing Indigofera zollingeriana and Banana Corm that Fermented by Trichoderma harzianum

The Evaluation of Physical Qualities of Pellet Containing Indigofera zollingeriana and Banana Corm that Fermented by Trichoderma harzianum

Universitas Garut

Abstract: The quality of the pellets is determined by the ingredients of pellets. This study aims to determine the amount of Indigofera zollingeriana and banana corm that fermented by Trichoderma harzianum as a substitute for soybean meal and rice bran in ration on the physical qualities of pellets. The research method was experimental using a completely randomized design with a factorial pattern consisting of two factors and each five treatment and two replications. Experimental data were analyzed by analysis variance, then to find out the differences between treatments were analyzed by Duncans Multiple Range Test. The results showed that there was an interaction between the use of Indigofera zolingeriana and banana corm on durability and density of pellet. The highest pellet durability was obtained by using 26% Indigofera zollingeriana and 1.25% banana corm, while the highest pellet density was obtained using 0% Indigofera zollingeriana and 1.25% banana corm.

Keywords: Physic, Indigofera zollingeriana, Banana Corm, Pellets

[ABS-21]
Mineral-Vitamin Combining Versus Herbal Supplementation to Enhance Performance Ongole Crossbred Bull

Dicky Pamungkas, F.Firdaus, L. Affandhy, and M. Luthfi

Indonesian Beef Cattle Research Institute (IBCRI),
Indonesian Agency of Agriculture Research and Development (IAARD), Pasuruan. INDONESIA

Abstract: Excellent performance of bull as sperm producer was needed to maintain and increase the high pregnancy cows. The study aimed to determine the effect of mineral-vitamin combining (MVC) and herbs supplementing (HS) on feed intake, feed efficiency, average daily gain (ADG), linear body, semen quality and B/C ratio of Ongole Crossbred bull. Eight animals (aged 3 to 5 years) within initial weight 505.2 ± 70.5 kg were examined. They were grouped in two feed regimes, firstly, the basal diet was given with the inclusion of Vitamin A, E and Zinc-minerals (P1) and secondly, were basal diet plus herbs supplementation (P2). The basal diet consisted of elephant grass, gliricidia, and commercial concentrates. Feeding was assigned to dry matter (DM) of 3% of body weight (BW) to meet the balance nutrient intake. The experimental which conducted as long as three months, was designed in two treatments and four replicates. Data analysed by using the T-test. There was no significant different between P1 and P2 in the results on feed intake, efficiency, ADG, and linear body. However, the sperm concentration of P1 (1,366.7 ± 768.9 million/ml) was higher($P<0.05$) than those of P2 (873,3 ± 488.7 million/ml). Meanwhile, the sperm viability of P1 (90.4 ± 8.5%) was also higher than that of P2 (78.7 ± 16.2%). Both P1 and P2 were recommended for being used commercially (due to requirement of Indonesia National Standard/SNI 4869-1:2017), but the P1 was the efficient one in regards of the B/C ratios.

Keywords: supplementation, Ongole crossbred, bull

[ABS-23]
Texture Prolile and Sensory Kefir Characteristic with Colostrum Addition

Triana Setyawardani, Juni Sumarmono, Agustinus Hantoro Djoko Rahardjo, Kusuma Widayaka and Singgih Sugeng Santoso

Animal Science Faculty, Jenderal Soedirman University

Abstract: Physical characteristics of kefir is one of the factors that influence the level of consumer sensory acceptance of the product. The aim of the study was to determine the effect of the use of a combination of raw materials (cattle and colostrum) on kefir making on texture profiles and sensory characteristics. The study used 6 treatment combinations namely P1 = 100% cows milk; P2 = 80% cows milk + 20% colostrum; P3 = 60% cows milk + 20% colostrum; P4 = 40% cows milk + 60% colostrum; P5 = 20% cow milk + 80% colostrum and P6 = 100% colostrum. The results show that hardness and effectiveness are not influenced by the combination of raw materials, but gummines are influenced by a combination of raw materials ($p <0.05$). The average value of kefir guminess is 1.76 ± 1.16 to 4.86 ± 0.77 G. The sensory characteristics of flavor, color, texture, and overall preference were significantly affected ($p <0.05$) by the combination of raw materials (cattle and colostrum) used. Flavor assessment results with a score of 2.47 - 3.10 (less fresh-sour); Aroma / odor 2.43 - 3.20 (sour but not fresh - rather sour). Color 1.3 - 4.93 (white - yellow), texture 1.80 - 4.73 (smooth - rather rough). Flavor score The scoring score by the panelists is 3.20 with the appraisal criteria like. The favorite rate is 3.20 (like) - 4.20 (rather like).

Keywords: kefir, colsotrum, texture profile, sensory, cow milk

[ABS-23]
Texture Prolile and Sensory Kefir Characteristic with Colostrum Addition

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Keywords: kefir, colsotrum, texture profile, sensory, cow milk

[ABS-26]
Adopting intraclass correlation principles to estimate the consistency of egg production of quails supplemented with metabolic enhancer

N. Widyas, L. A. Pradista, S. Prastowo and A. Ratriyanto*

Department of Animal Science, Faculty of Agriculture, Sebelas Maret University, Surakarta, Indonesia

Abstract: Betaine as metabolic enhancer is proven to improve eggs production in poultry. The consistency of the improvement, however, is not yet explored. This study aimed to explore the consistency of quails' egg production under the influence of betaine supplementation utilizing intraclass correlation approach. In total 225 quails were used and allotted into three treatment groups: T0 (control), T1 (control + 0.06% betaine) and T2 (control + 0.12% betaine). Each treatment was repeated five times with 15 quails each. Egg production data was collected for 2 clutches (2 × 28 days) started after egg production reached 50%. The data was split and averaged into eight consecutive weeks. Linear model resulted in significant difference of egg production among treatments which were 66.08±18.39%, 70.55±15.11% and 75.46±14.88% for T0, T1 and T2 respectively ($P<0.01$). Intraclass correlation within each treatment was used as the measure of egg production consistency. Every replicate was recorded in eight consecutive weeks during the experiment. Results showed that T2 has the highest intraclass correlation (0.88), followed by T1 (0.86) and T0 (0.79). Our findings confirmed that betaine supplementation improve quails' egg production in quails. We further discover that the improvement obtained during experimental period due to betaine supplementation was more consistent compared to the quails without supplementation.

Keywords: quail, egg production, betaine, intraclass correlation, consistency

[ABS-31]
IMPACT OF LIQUID FERMEHERBAFIT AS FEED ADDITIVE TO THE BLOOD HEMATOLOGICAL PROFILE AND LYMPHOID ORGAN OF BROILER CHICKENS

Ning Iriyanti, Sufiriyanto and Bambang Hartoyo

Animal Science Faculty, Jenderal Soedirman University

Email. ningiriyanti@gmail.com

Abstract: The purpose of research was to evaluates the administration time of liquid fermeherbafit usedin drinking water on blood hematological profiles and lymphoid organ of broiler chickens. 1000 heads of broiler chicks 1-14 days old with prelium treatment, and 14 - 34 day-old as research treatment. Fed by BR 1 and BR2 feed of CP production. Fermeherbafit material consists of: 100% Curcuma domestica (turmeric), 100% Curcuma Xanthorrhiza R (Temulawak), 25% Allium sativum L (garlic), 50% Morinda citrifolia (Noni), 10% Moringa oleifera (Moringa leaf),10% sugar, 8% (w/v) Probiotic BAL (Lactic acid bacteria). used complete random design (RAL), with 4 treatments with 50 chickens each of 5 replicates, the liquid Fermeherbafit as much as 4% (v/w) of the feed given to the four groups: R0 = as control, R1 = daily, R2 = every two days; R3 = every Monday and Thursday. The results of Blood hematological profiles and the lymphoid organ of broiler chickens showed no significance differences (P > 0.05). The average of blood haematological profileis leukocytes were 8.830±2.01 until 8.70±1.87 (.. X 103/µl); Monocytes of 4.60±1.82 to 7.00±2.45%; Lymphocytes of 53.00±11.92 to 57.20±9.73%; Hb of 6.36±0.37 to 7.38±0.40 G/dL; Fabricius of 0.81±0.06 to 1.00±0.12%; Lymph of 0.12±0.03 to 0.24±0.16%; Thymus of 0.17±0.05 to 0.20±0.05. it can be concluded that liquid fermeherbafit through drinking water at exact time daily, every two days and every Mondays-Thursdays are reviewed in the results of blood haematological profiles as well as Lymphoid organ of broiler chickens. Keywords: Hematological profile, Lymphoid organ, Fermeherbafit

Keywords: Hematological profile, Lymphoid organ, Fermeherbafit

[ABS-32]
CARCASS PRODUCTION CHARAKTERISTIC AND SINGLE NUCLEOTIDE POLYMORPHISM ADIPOCYTE FATTY ACID BINDING PROTEIN (A-FABP) GENE ON CAIRINA MOSCHATA

Ismoyowati, Ibnu Hari Sulistyawan, Sigit Mugiyono and Rosidi

Faculty of Animal Science, Universitas Jenderal Soedirman, Purwokerto, Indonesia

Abstract: The aim of this study was to determine differences in growth, carcass production and identify polymorphisms of adipocyte fatty acid binding protein (A-FABP) gene in Muscovy ducks from the second generation selection (G2). The research material used 180-day-old Muscovy ducks consisting of male and female ducks with white feathers and male and female ducks with a combination of black and white feathers. Measurement of duck body weight was carried out every week, and ducks are slaughtered at 10 weeks to obtain carcass production data. The data obtained were analyzed by systat-13 program based on variance analysis and Duncan test. The primary design was based on a database of the genebank Cairina moschata adipocyte fatty acid binding protein (A-FABP) gene, exons 1, 2 and partial cds (FJ763338.1). The primary base sequence of the A-FABP gene was the primary forward: 5- TCTGGGGGTGTTATCTGGAG -3 and reverse primer: 5-ATTTGTCAGTGGCTGTGCTG -3. The sequencing results of PCR products were analyzed using bioedit version 7.7 to determine the presence of the A-FABP gene polymorphism. The results showed that at the same age male Muscovy ducks produced carcass weight, thickness of breast meat and carcass percentage higher than female ducks. Body weight, carcass weight and parts of the carcass (breast, thigh, back, and wings) of white feather male ducks higher than the male black-

and-white combination feathers. White feather and combination black-white feather female Muscovy ducks had body weight and carcass production relatively same. The percentage of the carcass was significantly different between male and female Muscovy ducks with different feather colors. The A_FABP gene PCR product was at 176 bp. The results of bioedit analysis showed that at 151 bp, base length there was a mutation from Guanin to Adinin in the observed Cairina moschata, both male and female Muscovy ducks with white feathers and black-and-white combinations. All ducks observed had homozygous AA genotypes. Base changes in SNP c. 151G> A indicate a transition mutation. The study concluded that the male Muscovy duck with white feathers produced the highest carcass and breast meat production than other ducks and the A-FABP gene on Muscovy duck was monomorphic.

Keywords: Carcass percentage, Monomorphic, Muscovy duck, thick meat breast

[ABS-59]
The Potential Breeding Worth of Cattle at Different Age Based on Body Weight, Chest Circumference and Body Condition Score Of Kebumen "Peranakan Ongole" (PO) cattle In "Urut Sewu" Breeding Areas

Arika Rizki Rofikoh(a), Mas Yedi Sumaryadi(b) and Agustinah Setyaningrum(b)

(a) Postgraduate Master Program of Animal Science, Jenderal Soedirman University
(b) Faculty of Animal Science, Jenderal Soedirman University

Abstract: This research was aimed to determine the potential breeding worth of cows at different age based on body weight (BW), chest circumference (CC) and body condition score (BCS) of 440 cattle from 29 breeding groups in Urut Sewu which included Mirit subdistrict, Ambal, Buluspesantren, Klirong, Petanahan, and Puring subdistrict. The study applied a survey method allocating two age groups: U1= 18 – 24 months and U2 = >24 – 36 months. The observed variables were BW, CC and BCS. The collected data were subject to an Independent sample test (t-test). The result showed a highly significant difference (P<0.01) between U1 and U2. The average BW, CC, and BCS of Kebumen "Peranakan Ongole" (PO) cattle in U1 were 306,04 ± 67,86 kg, 153,99 ± 11,74 cm and 3,18 ± 0,41, respectively, and in U2 were 368,00 ± 97,79 kg, 163,10 ± 14,38 cm and 3,48 ± 0,58, respectively. The body condition score of Kebumen PO cattle was higher than in the Indonesian National Standard (SNI); therefore, PO cattle had an improved grade as potential germplasm of indigenous cattle in Indonesia

Keywords: Peranakan Ongole (PO), Age, body weight (BW), chest circumference (CC), body condition score (BCS)

[ABS-72]
Effect of Supplementation of Combination of BSF Curcuma and Maggot Meal in Rations on Accumulative Weight of Native Chickens

Wisje Lusia Toar (a). Endang Pudjihastuti (a). Laurentius J.M. Rumokoy (a,b). Ivonne M. Untu (a)*

a) Animal Science Program, Faculty of Animal Husbandry, Sam Ratulangi University, Manado
b) Entomology Program, Postgraduate School, Sam Ratulangi University, Manado Indonesia

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Abstract: The purpose of this study was to determine the role of the combination of curcuma meal with maggot or BSF (Blue Soldier Flies) insect larvae of Hermetia illucens on accumulative weight gain in native chicken.Methods: This study used 60 starter chickens aged 3 weeks, which were divided into two groups of 30 chickens as control group (P1) and the other one (P2) that received

a supplement of combination of curcuma meals of 350gr / 100 kg ration and maggot BSF of 150gr / 100 kg ration which was maintained for five weeks. The ration was distributed ad libitum. Accumulative weight gain was measured at the end of the study at the sixth week. The data obtained were analyzed using t-test. The results of this study indicated that the average body weight of experimental chicken P2 was 0.450 gr significantly higher (P <0.01) than in group P1 was 0.390 gr.The maggot meal of H. illucens has an important nutrient content and has a positive effect when combining with curcuma meal which is able to increase consumption palatability which has a direct effect on local chicken weight gain.Conclusion: The combination between BSF maggot and curcuma meals supplementation could be applied to local chickens in supporting organic livestock production

Keywords: : Insect, BSF, native chickens

[ABS-91]
EGG QUALITY CHARACTERISTIC OF LAYING HENS FED DRIED GARLIC (ALLIUM SATIVUM) IN DIET

J. R. Leke1, E. Wantasen1, F. N. Sompie1,F.H. Elly1 and R. Siahaan2*

1Animal Husbandry Faculty, Sam Ratulangi University
2Biology Department, Faculty of Mathematics and Natural Sciences, Sam Ratulangi University

Abstract:The research purpose was to determine the egg quality characteristic of laying hens fed hens dried garlic (allium sativum) in diet. The research method was used completely random design with five treatments and five replicates. The materials used for this research were 100 laying hens.The treatments used for research were dietary with R0 = 100 % based diet (BD); R1= 98% based diet (BD) + 2% garlic meal (GM); R2= 96 % based diet (BD) + 4 % GM, R3 = 94% based diet (BD) + 6% GM, R4 = 92% based diet (BD) + 8% GM. The study was conducted over a period of eight (8) weeks. Data were collected on eggs quality, egg weight, egg shell weight, egg shell thi egg shell weight, but egg weight , albumen weight and egg shell thickness significant. The data analysis of variance (ANOVA) and continued by Duncan's multiple range test. The results showed that using the yolk weight, egg shell weight has significant different (P 0.05) on egg weight, albumen weight and egg shell thickness significantly different (P 0.01). It can be concluded that garlic meal can be used as an alternative feedstuff in laying hen diets at inclusion level up to 8% without negative effects on egg quality characteristis.

Keywords: Dried garlic, Egg quality, Laying hens

Tuesday, 6 August 2019

PARALLEL **SESSION C**
Room Jade A

Moderator:Dr. Ir. Elly Tugiyanti, MP

ABSTRACTS

Krismiwati Muatip, Hermin Purwaningsih, Novie Andri Setianto, Witri Istiqomah, Lis Safitri
Organizational Commitment Members Group of Dairy Farmer in Banyumas Regency

Hari Dwi Utami , Egsanti Purwanita
The Comparison of Financial Performance Among the Broiler Duck Farming Based on Farm-Scales at Banyuwangi Regency of Indonesia

Ening Ariningsih, Handewi P. Saliem, Erwidodo
Sales and Marketing of Milk Products by Dairy Farmers in West Java

I Gede Suparta Budisatria, Alek Ibrahim, Hendra Koesmara, Endang Baliarti, Tri Satya Mastuti Widi, Bayu Andri Atmoko
Income Analysis and Market Profile of Live Cattle and Meat Traders During Meugang Festivity and Normal Market Situation in North Aceh Regency

Dwiningtyas Padmaningrum, Sunarru Samsi Hariadi, Subejo, F.Trisakti Hariyadi
Positive Deviance Approach: Local Community-Based Solution (A Case Study of Etawah Grade Goat Livestock)

Alek Ibrahim, Wayan Tunas Artama, Rini Widayanti, Muhammad Danang Eko Yulianto, Dzul Faqar, I Gede Suparta Budisatria
Assessing Preferences of The Primary and Opportunist Sheep Traders on Procurement and Selling a Livestock for Eid Al-Adha Celebration in Yogyakarta, Indonesia

Amam, Zaenal Fanani, Budi Hartono, Bambang Ali Nugroho
The Power of Resources in Independent Livestock Farming Business in Malang District, Indonesia

Amam, M. Wildan Jadmiko, Pradiptya Ayu Harsita, Roni Yulianto
Mapping and Identification of Internal Resources on the Dairy Cattle Farming Business

Artise H.S. Salendu, Ingriet D.R. Lumenta, Femi H. Elly, Jein Rinny Leke, Syarifuddin, Derek Polakitan
Development Strategy of Sustainable Beef Cattle

Grace Maranatha, Marthen R. Pelokilla, Arnold E. Manu, Yohanis U. L. Sobang, Marthen Yunus, Fredeicus Dedy Samba
Rain Water Harvest And Use Pattern as an Efforts to Improve the Economy of Farmers in Timor Dried Area, Nusa Tenggara Timur

[ABS-5]
ORGANIZATIONAL COMMITMENT MEMBERS GROUP OF DAIRY FARMER IN BANYUMAS REGENCY

Krismiwati Muatip, Hermin Purwaningsih, Novie Andri Setianto, Witri Istiqomah, Lis Safitri

Fakultas Peternakan Universitas Jenderal Soedirman

Abstract: The majority of dairy farmers in Banyumas Regency were in groups, this was because of the requirements applied by cooperatives. This causes not all members to have a commitment to the group. The research helped to analyze the correlation between lead time and motivation ability of the group leader toward members commitment to the group of dairy farmers in Banyumas Regency. The research used a survey method with regional sampling taken by purposive sampling, namely choosing 2 sub-districts that had quite a lot of dairy farmers in Banyumas Regency and are selected Pekuncen and Cilongok Subdistricts. Determination of group samples was determined by the census (11 groups). The respondents were taken randomly as much as 50% of the total group members. The number of group members in Pekuncen and Cilongok Subdistricts were 124 people. Respondents were selected as recipients were 62 people. Data were analyzed using descriptive analysis and Rank Spearman correlation. The results of the research show that the lead time of group leader in Banyumas Regency was long enough, motivation ability was good, and the organizational commitment of group members was in the high category. The result showed that the lead time and motivation ability of group leader had a correlation to toward members commitment to the group with a coefficient of 0.574 and 0.544 respectively.

Keywords: Lead time, motivation ability, group leader, organization commitment, dairy farmers

[ABS-14]
The Comparison of Financial Performance among the Broiler Duck Farming Based on Farm-scales at Banyuwangi Regency of Indonesia

Hari Dwi Utami and Egsanti Purwanita

Faculty of Animal Science, Brawijaya University

Abstract: Study was carried out at Banyuwangi Regency, East Java of Indonesia. The research objectives were to investigate financial performance of the broiler duck farming based on farm-scales. 10 respondents who joining in farmer group were obtained by multistage sampling method that categorized into three farm-scales namely, small-scale (having 200-1,266 birds, n = 6), medium-scale (controlling 1,266-2,533 birds, n= 2) and large-scale: rearing more than 2,533 birds, n = 2). Data were collected during one year with five production periods. Survey method using structured questionnaire was to obtain primary data. Whereas, secondary data were provided by the farmer group and the related institution. Analysis data involved capital, production cost, revenue, profit, break-even point (BEP), R/C ratio, and rentability. Results discovered that the third production period of broiler duck farming in large-scale was the most profitable of IDR 8,207 per bird. It was IDR 22,520 of capital which structured by 8.02% of fixed and 91.98% working capital; IDR 20,715 of production cost that composed by 60.53% of feed and 27.52% of DOD; IDR 28,923 of revenue with consisting of 99.01% from the selling of live broiler duck and 0.99% from others (feed bags, manure and cardboard). Similarly, this farm represented the efficient broiler duck farming on the basis of IDR 21,796 of price BEP; 1.40 of R/C ratio; and 36.45% of rentability.

Keywords: Production cost, profitable, BEP, R/C ratio, rentability

[ABS-16]
SALES AND MARKETING OF MILK PRODUCTS BY DAIRY FARMERS IN WEST JAVA

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Abstract: As a highly perishable product, sales and marketing are very important for milk produced by dairy farmers. This paper is aimed to analyze the sales and marketing of milk products done by smallholder dairy farmers in West Java. Data used in this paper is a part of the IndoDairy Smallholder Household Survey (ISHS) data which was collected during the months of August-September 2017, covering 600 smallholder dairy farm households in Bandung, Garut, Cianjur, and Bogor districts. The data is analyzed qualitatively. Almost all the dairy farmers sell fresh milk, except one in Bogor who sells milk in the form of processed milk. However, only less than 1 percent of the farmers sell processed milk in the form of pasteurized milk, flavored milk, and yoghurt. Almost all farmers (94%) sell their milk to only one buyer and 98 percent of them sell their milk to dairy cooperatives, showing dairy farmers' strong dependency on the dairy cooperatives. Milk price was significantly different across the districts, with farmers from Bogor district receiving the highest amount (Rp4,793.7/L), while farmers from Cianjur district received the lowest milk price across the four districts at Rp4,212/L. On the average, the price of fresh milk received by the farmers was Rp4,459/L. Due to the strong dependency on the dairy cooperatives, it is important to strengthen dairy cooperatives' management capacity to help dairy farmers' improve their milk quality, and hence prices, as well as dairy farmers' welfare.

Keywords: milk, marketing, price, smallholder dairy farmer, cooperative

[ABS-22]
Income analysis and market profile of live cattle and meat traders during Meugang festivity and normal market situation in North Aceh Regency

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Abstract: Meugang is a tradition for Aceh society referred to meat consumption prior to Islamic religious festivities. During that festivity, the demand for cattle and meat increased significantly and affects meat market profile in Aceh province. The objective of this study is to analyze the impact of meugang festivity celebrations on live cattle traders that in the local name is mugee and meat traders and also for the market profile. In total, 40 traders were involved in this study for collecting data through interview and direct field observation. Market profile was analyzed using descriptive analysis and different income was analyzed using factorial 2x2 test continued with DMRT analysis. The results indicated that profit received by mugee and meat traders at the meugang festivity was significantly higher ($P < 0.05$) than profit at the normal market situation. The average of profit gained by the mugee and meat traders during meugang festivity and the normal situation was 1,234,583 vs 925,833 IDR/day/head and 627,416 vs 330,556 IDR/day/head, respectively. The value of return cost ratio and benefit-cost ratio indicating that either live cattle or meat trading activities were significantly benefitted. The profit obtained by mugee is higher than meat traders at each market situation and meugang festivity has an impact on profit for live cattle and meat traders in North Aceh Regency.

Keywords: Aceh cattle, benefit-cost ratio, religious festivity, return cost ratio, supply chain

[ABS-36]
Positive Deviance Approach: Local Community-Based Solution (A Case Study of Etawah Grade Goat Livestock)

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Abstract: The study aimed to analyze the potentials of Positive Deviance approach in addressing the problems of Etawah Grade goat. By using a qualitative approach, this research was conducted in the Kaligesing Sub-district, Purworejo Regency, Central Java. Data were obtained through in-depth interviews, observation and focus group discussion. Key informants were determined purposively, which include elements of small holder farmers and the other stakeholders, i.e. extension worker and the staffs of Agency of Agriculture Livestock Marine and Fisheries of Purworejo Regency.The results showed that the Positive Deviance approach has a chance to be applied in driving behavioral change that leads to the livestock management as agribusiness practices. It is powered by a situation where the livestock problem was not solely in the form of technical barriers, the existence of a positive deviant and the support of local leaders such as village heads as well as the commitment of small farmers themselves.

Keywords: community, local, etawah grade, positive deviance

[ABS-45]
Assessing Preferences of the Primary and Opportunist Sheep Traders on Procurement and Selling a Livestock for Eid al-Adha Celebration in Yogyakarta, Indonesia

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Abstract: Eid al-Adha is one of the important religious festivals for Muslims in the world. Sheep traders can be divided into primary traders and opportunist traders based trade activity in this period. This study aims to investigate the preferences of sheep traders on procurement and sale of their livestock during Eid al-Adha period in Yogyakarta. This study was done by an in-depth and semi-structured interview to a total of 59 of the sheep traders. Data were analyzed using descriptive analysis (index and rank). The results are that most livestock animals purchased from the animal market, followed from farmers for primary traders and livestock traders for opportunist traders. Livestock most widely sold to individual consumers who come to their stalls, and then sold to animal market by primary traders and to organization/groups by opportunist traders. Most primary traders (64.10%) state to sell their sheep with different prices for different types of buyers, while the majority of opportunist traders (65.00%) thought no different. The average price different is IDR 286,364 according to primary traders and IDR 150,000 according to opportunist traders. Most of the primary traders (69.23%) and opportunist traders (90.00%) was pleased with the momentum of Eid al-Adha, as the selling price of their livestock could be higher, easy to sell, and any buyer. The conclusion is that both primary and opportunist traders in Yogyakarta have similar preferences in place to buy and sell their livestock during Eid al-Adha period. Eid al-Adha period provides pleasure and an additional benefit for sheep traders.

Keywords: Eid al-Adha, Livestock traders, Religious festivities, Sheep

[ABS-64]
THE POWER OF RESOURCES IN INDEPENDENT LIVESTOCK FARMING BUSINESS IN MALANG DISTRICT, INDONESIA

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Abstract: Background and Objectives: Independent farmers principally provide all production inputs from their own capital and can liberally convey their products on the market. From the problems found in the real life, thus the purposes of this study are: 1) to assess the resources that can be accessed by independent broiler breeders, 2) to find the strength of independent broiler breeders resources that support business development. Methodology: A total of 42 independent pattern broiler breeders are still running their livestock businesses in Malang Regency. Data were analyzed using SEM (Structural Equation Model) with SmartPLS 2.0 application. Results: The results showed that: 1) independent broiler breeders have access to financial resources, technological resources, physical resources, economic resources, environmental resources, and social resources; and 2) financial, technological, physical, economic, environmental and social resources affect farmer human resources by 82.7%, while financial, technological, physical, economic, environmental, social, and HR resources have an influence on the development of chicken farming broiler at 16.3%. Conclusion: economic resources have a direct and significant negative effect on the development of independent pattern broiler farming.

Keywords: SEM, resources, broiler, SmartPLS, and business development.

[ABS-67]
Mapping and Identification of Internal Resources on the Dairy Cattle Farming Business

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Abstract: The purpose of this research is to map and identify the internal resources of dairy cattle farming business and assess their effects on institutional performance and business risk aspects. The research was carried out in the Kawasan Sapi Perah Nasional, Malang District, East Java Province. Respondents were all dairy cattle farmers who were members of the KUB (Kelompok Usaha Bersama) Tirtasari Kresna Gemilang, namely 174 people. Data was analyzed by method of PLS (Partial Least Square). The results showed that internal resources had an effect on institutional performance by 41.7%, while business risk aspects were influenced by internal resources and institutional performance by 30.6%. The conclusion of the research is that the internal resources of dairy cattle farming business consist of financial resources, technological resources, and physical resources.

Keywords: internal resources, financial, technological, physical, and dairy cattle

[ABS-68]
DEVELOPMENT STRATEGY OF SUSTAINABLE BEEF CATTLE

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Abstract: The purpose of the development of beef cattle farming is to increase the population and productivity of cattle products followed by increasing the income of farmers, creating jobs and improving the genetic quality of beef cattle. The problem is that beef cattle farms in North Sulawesi are still carried out traditionally and have not been environmentally. Beef cattle are developed by most farmers by grazing on agricultural land. Based on these problems, a study was conducted to find out strategies that could be applied to support the development of beef cattle farms, which are environmentally. The purpose of this study was to analyze the role, opportunities and challenges of beef cattle farms in North Bolaang Mongondow Regency. This research was conducted in the North Bolaang Mongondow Regency using the survey method. The research location was determined by purposive sampling, namely Sangkub, Bintauna and East Bolangitan Districts which carried out the development of beef cattle. Analysis of the data used is the SWOT analysis. The results showed that the prospect of developing beef cattle farms was analyzed based on land potential which showed that the real population could be increased to 1.37 times. The development of beef cattle farming is carried out with an environmental and sustainable orientation, through development with the concept of LEISA (Low External Input Sustainability Agriculture). Conclusion, the development of beef cattle has a role in increasing the income of farmers and has market opportunities, and the challenges can be minimized by increasing the productivity and quality of beef cattle that are environmentally oriented. technology introduction is needed for the development of sustainable beef cattle farms.

Keywords: Beef cattle, development, strategy, environment

[ABS-70]
RAIN WATER HARVEST AND USE PATTERN AS AN EFFORTS TO IMPROVE THE ECONOMY OF FARMERS IN TIMOR DRIED AREA, NUSA TENGGARA TIMUR

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Abstract: Timor Island is a tropical climate with an average annual rainfall of 1,183 mm / year so that livestock-farming is carried out based on dryland agriculture. The limited water source is the main limitation for farmers in processing land for planting holtikuktura as a main effort in fulfilling their daily needs and forage for livestock as a side business. For this reason, technological innovations in water management are needed, especially rainwater with rainwater harvesting techniques. This study aims to find out how much rainwater is able to be accommodated during the rainy season period using the cage roof method and its utilization in horticulture and forage crops through drip irrigation systems. The results obtained are the amount of rain water that can be accommodated during one rainy season period which is equal to 32 m3 while its use with the drip irrigation system to meet the water requirements for horticulture plants in the form of chilli is 6 m3, cucumber is 7.2 m3 and forage is grass mulato is 12 m3 for one harvest period, with fresh grass mulato production of 2.4 tons/ha.

Keywords: rain water harvesting, utilization patterns, farms, dry land

Tuesday, 6 August 2019

PARALLEL **SESSION D**
Room Jade B

Moderator:Ir. H. Imam Suswoyo, M.Agr.Sc

ABSTRACTS

Mochamad Sugiarto, Syarifuddin Nur, Oentoeng Edy Djatmiko, Yusmi Nur Wakhidati, Alief Einstein
Strengthening the Farmers Intellectual Capital of Kebumen Ongole Cattle Related to Livestock Productions to Face the Industrial Revolution 4.0

Agustinah Setyaningrum, Najib Amrullah, Pambudi Yuwono
Physiological Conditions of Decomposition Process and Quality of Compost Based on Faeces Beef Cattle Enriched With Azolla Sp.

M. Socheh, D.M. Saleh, S.W. Purbojo, A. Setyaningrum
Concentration of Estrogen and Progesterone During Estrus and the 14th Day of Mating in The Javanese Thin-Tailed Ewes

Wardhana Suryapratama, F.M. Suhartati, Sri Rahayu
Decreasing of Methane Production in Sheep That Given of Moringa Oleifera Leaf Extract

Lucie Setiana, Mochamad Sugiarto, Oentoeng Edy Djatmiko
Improving Income of Local Poultry Farming Based on Socio Demographic Factors

N. Hidayah, W. Rita
Total VFA Production and Protozoa Population with Jengkol (Archidendron jiringa) Peel Powder Supplementation on In Vitro

Mochamad Socheh, Agus Priyono, Imbang Haryoko, Hermin Purwaningsih
Calpain Activity of Jawarandu Does Under Four Different Energy Level in the Ration

Edy Susanto, Nuril Badriyah, Djalal Rosyidi
Amino Acids Profile of The Indonesian Local Meats Antioxidant Peptides

Femi Hadidjah Elly, Agustinus Lomboan, Charles L. Kaunang, Meiske Rundengan, Zulkifli Poli, Syarifuddin
Development Potential of Integrated Farming System (Local Cattle - Food Crops)

[ABS-17]
STRENGTHENING THE FARMERS INTELLECTUAL CAPITAL OF KEBUMEN ONGOLE CATTLE RELATED TO LIVESTOCK PRODUCTIONS TO FACE THE INDUSTRIAL REVOLUTION 4.0

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Abstract: Intellectual capital is the farmers intangible asset related to human, relational and structural capital. Human capital in the form of knowledge and skills, relational capital is the ability to interact with markets, consumers, and others, meanwhile structural capital is the ability to develop innovations and to manage the household organizations. This research aims at identifying the farmers intellectual capital of Kebumen Ongole cattle related to the livestock productions and analyzing the factors strengthening the farmers intellectual capital. The survey was conducted on 147 farmers of Kebumen Ongole cattle through a multistage sampling method. The obtained data were then analyzed using descriptive statistical test and spearman ranking correlation test. The results showed that the farmers had already have adequate intellectual capital with the score of 116.92. The farmers ability related to education and information access is one important factor to strengthen the farmers intellectual capital (P <0.01). The farmers ability to access information is considered essential in order to strengthen the farmers intellectual capital.

Keywords: education, information access, intellectual capital

[ABS-24]
PHYSIOLOGICAL CONDITIONS OF DECOMPOSITION PROCESS AND QUALITY OF COMPOST BASED ON FAECES BEEF CATTLE ENRICHED WITH AZOLLA Sp.

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Abstract: The research entitled "Physiological Conditions of Decomposition Process and Quality of Compost Based on Beef Cattle Faeces Enriched with Azolla sp", was aimed to determine the effect of the addition of Azolla sp. on physiological conditions which include the kinetics of temperature and pH, and the quality of compost which includes carbon content, and compost organic matter. The method used was experimental with Completely Randomized Design (CRD). There were three treatments that were the addition of Azolla sp. 0% (P0), 10% (P1), and 20% (P2). Each treatment was repeated 6 times, so that the amount of material was 18 mounds of compost. Variables measured were temperature kinetics, pH kinetics, levels of organic carbon and compost organic matter. Observations of temperature and pH kinetics were carried out on days 0, 4, 8, 12, 16, 20, 24 and 28 at 01.30 – 02.30 pm. The carbon content and compost organic matter of the final compost product were analyzed in the laboratory. Data on the kinetics of temperature and pH were analyzed using Repeated Measure Analysis of variance (RMA), while those of the levels of organic carbon and organic matter compost were analyzed using Analysis of variance (ANOVA). The results of the variance analysis showed a significant interaction (P < 0.05) between the treatment and the time of observation on the kinetics of temperature and pH. The highest temperature kinetics observed for P2 and P1 were reached on day 4 (54.00˚C and 50.50˚C, respectively), while the highest temperature for P0 was reached on day 8 (50.33˚C). The temperature of P0, P1 and P2 ranged 27.17-50.33˚C; 28.17-50.50˚C and 30.00-54.00˚C, respectively. The lowest pH kinetics for P0 and P1 were reached on day 20 that were 3.10 and 3.38, respectively. While the lowest pH kinetics for P2 was achieved on day 12 that was 3.20. After that, All pH rised to near neutral pH. PH kinetics ranged 3.10 - 6.70 (P0), 3.57 -6.82 (P1) and 3.20 - 6.95 (P2). Least Significance Different (LSD) results have significant variations in temperature

kinetics and pH kinetics. Enrichment of compost with Azolla sp had no significant effect (P > 0.05) on the levels of organic carbon and compost organic matter.

Keywords: physiological conditions, decomposition, faeces, azolla sp, compost quality

[ABS-30]
Concentration of estrogen and progesterone during estrus and the 14th day of mating in the Javanese thin-tailed ewes

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Abstract: The aim of this study was to study the effect of giving different levels of energy feed on the concentrations of estrogen and progesterone during estrus and on the 14th day after mating on thin-tail ewes. The material used in this study was 15 head of thin-tail ewes aged between 2.50-3.00 years had a normal estrus cycle and had once lambing. All ewes were randomly placed into three types of treatment of energy feed with different levels, namely: non-flushing 1.01Mcal / kg ME (f0), flushing 2.13Mcal / kg ME (f1) and flushing 2,31Mcal / kg ME (f2). Each treatment was repeated 5 times. The general linear model of SPSS was used to analyze variables measured. The results showed that the average estrogen concentration in thin-tailed ewes during estrus in the flushing group (f1 and f2) was higher than non- flushing (f0). The average progesterone concentration in the thin-tailed ewes on the 14th day after mating in the flushing group (f1 and f2) was higher respectively than the non-flushing group (f0). The increase in feed energy given to thin-tailed ewes in flushing, during estrus increases estrogen concentration and on the 14th day after mating, increase progesterone concentration.

Keywords: Keywords: thin-tailed ewes, feed energy, estrus, 14 days after mating,

[ABS-34]
DECREASING OF METHANE PRODUCTION IN SHEEP THAT GIVEN OF Moringa oleifera LEAF EXTRACT

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Abstract: A study was carried out in order to investigate the influence of Moringa oleifera leaf extract on reducing of methane production in sheep. The experiment by in vitro methode was done from June 2018 until October 2018. The treatments were ration with addition of three level of Moringa oleifera leaf extract of 0%, 0.25%, and 0.50% from dry matter (DM) of diet, respectively. Moringa oleifera leaves are dried in an oven at 60ºC for 2 x 24 hours, then ground to make extracted using ethanol. A Completely Randomized Design with six replications was applied in this experiment. The Rumen fluid was obtained from three thin-tailed sheep and was used as a source of inoculum. The diet consists of concentrate and ammoniated rice straw ratio of 60:40 based on DM and the concentrate consists of two parts of rice bran and one part of coconut meal. The results of the variance analysis and the orthogonal polynomial test indicated that the level of 0.5% Moringa oleifera leaf extract lowest of the number of protozoa and methane production, and the highest number of bacteria and microbial protein synthesis.

Keywords: Moringa oleifera, protozoa, bacteria, methane, protein synthesis of rumen microbes

[ABS-39]
IMPROVING INCOME OF LOCAL POULTRY FARMING BASED ON SOCIO DEMOGRAPHIC FACTORS

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Faculty of Animal Science, Jenderal Soedirman University

Abstract: Sentul chicken is one of the indigenous poultries that is maintained by the community in Ciamis, West Java. The study aimed to determine the influence of socio demographic factors of Sentul chicken farmers to the income of Sentul chicken farming in Ciamis. The survey method was used to members of seven farmers' groups which institutionally assisted by Ciamis Government Unit. The descriptive statistical and multiple linear regression analysis were used to describe profile of respondents and analyzes the influence of socio demographic farmers to income of Sentul chicken farming. The results showed that farmers obtained 11.8 years length of education, experience in raising Sentul chicken was 5.8 years, and farm size was averagely 9 heads of chicken. The Sentul chicken farm which was maintained in 70 days semi intensive production system has generated income in a range of IDR756,000.00 -IDR 19,900,000.00. Farm size has significantly influenced the income of Sentul chicken farming ($P<0.05$). Enlarging farm size of Sentul chicken in semi intensive production system will be improving the income of Sentul farm production in Ciamis, West Java Province. Improving income of sentul chicken will be expected drive sustainability of indigenous poultry farming in Ciamis, West Java Province.

Keywords: sentul chicken, farm size, income

[ABS-41]
TOTAL VFA PRODUCTION AND PROTOZOA POPULATION WITH JENGKOL (Archidendron jiringa) PEEL POWDER SUPPLEMENTATION ON IN VITRO

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Abstract: Jengkol (Archidendron jiringa) peel is a by-product that has not been utilized optimally. Some research reported that jengkol peel had potency as a source of fiber and bioactive compound (saponins and tannins) for ruminant. This experiment was designed to evaluate the effects of jengkol peel powder supplementation on total volatile fatty acid (VFA) production and protozoa population on in vitro ruminal fermentation. The treatments were arranged in a randomized block design with three treatments (2%, 4%, 6%) and four replications. The variables observed included total VFA production and protozoa population. Data were tested using Analysis of Variance (ANOVA) and the differences among treatments means were examined by Duncan Multiple Range Test. The results showed that increasing supplementation of jengkol peel powder increased total VFA production ($P<0.01$) but did not affect protozoa population ($P>0.05$). It is concluded that supplementation of jengkol (A. jiringa) peel powder until 6% DM improved rumen fermentation.

Keywords: jengkol peel powder, protozoa, total VFA

[ABS-28]
Calpain Activity of Jawarandu Does Under Four Different Energy Level in the Ration

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Abstract: Abstract. The aim of the research is to investigate the effect of four different energy level in the ration into the calpain activity of Jawarandu does. The research was done during 5 months in the Experimental Farm of the Faculty of Animal Science, Universitas Jenderal Soedirman. The research material used was 16 heads of the Jawarandu doe with the aged 2.5–3 years. All the animals were randomly assigned to the ration treatment which forms four the different energy levels (82.26% TDN, 85, 87.93, dan 90.74% TDN). The replication of each treatment was four times. Variable measured was a calpain activity on the muscle of Longissimus dorsi. General linear model (GLM) of the SPSS was used to analysis variable measured. Energy content 1.63McalME/heads/day and 1.92McalME/heads/day as well as 1.73McalME/heads /day and 2.06McalME/heads/day were increased of the μ-calpain and m-calpain activities at the Longissimus dorsi muscle, respectively. However, there was decreased of the calpastatin activity at the Longissimus dorsi muscle. Different energy content of the ration increased the μ-calpain and m-calpain activities at the Longissimus dorsi muscle and of those decreased calpastatin activity.

Keywords: Calpain activity, Calpastatin activity, Energy level, Jawa Randu Does, Longissimus dorsi

[ABS-54]
Amino Acids Profile of The Indonesian Local Meats Antioxidant Peptides

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Abstract: This study conducted to characterization amino acids of the antioxidant bioactive peptides from Indonesian local meats among them P.O beef, Kacang goat meat, Mojosari duck meat and local chicken meat. The research was conducted in the Lamongan district of East Java. The method was laboratory exploration. The variables observed included antioxidant activity, amino acids profile with LC-MS/MS. The results of this study indicate variation in antioxidant activity of various local Meats in Indonesia. The amino acids profile also exhibit diversity with each other. Amino acids obtained are distributed evenly to the types of essential and non essential amino acids.

Keywords: Indonesian Local Meats, Antioxidant Activity, Amino Acids, LC-MS/MS

[ABS-66]
Development Potential of Integrated Farming System (Local Cattle - Food Crops)

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Abstract: Local cattle farming as a source of income for farmers in rural areas, mostly developed traditionally. The local cattle farm continues, even though it is a side business, but is a mainstay in supporting national beef needs. Local cattle farmers utilize food crops as feed that is available continuously, so that the cost of feed can be reduced. On the other hand, local cattle waste can be used as organic fertilizer which functions to increase soil fertility. This condition shows that local cattle farms symbiosis in mutualism with food crops. The problem is whether local cattle farms integrated with food crops have the potential to be developed by farmers. The study was conducted aimed at analyzing the extent to which the potential for the development of integration of local cattle and food crops in rural areas. The research method used is the survey method. The research location was Sangkub District, which was determined by purposive sampling because it had farmers who developed local cattle farms integrated with food crops. The number of respondents is 60 farmers. Analysis of the data used is proximate analysis and feasibility analysis. Proximate analysis of waste corn shows Dry Material 86.48%, Crude Protein 7.36%, Fat 1.84%, Crude Fiber 28.95%, Ash Content 9.10% and Carbohydrate 68.18%. Government programs to support increased livestock farmers income through increasing local cattle population, consequently an increase in cattle waste. Food crop waste has not been utilized but burned by rural farmers who have an impact on the environment. The RC ratio analysis results show a greater value of one. Based on the results of the study it can be concluded that the integrated farming system, local cattle and corn plants are feasible and can minimize environmental pollution because the concept of LEISA (Low External Input Sustainability Agriculture) can be applied.

Keywords: integration, local cattle, food crops, LEISA

Wednesday, 7 August 2019

PARALLEL **SESSION E**
Room Sapphire A

Moderator:Ir. Ibnu Hari Sulistyawan, M.Sc

ABSTRACTS

Mohammad Miftakhus Sholikin, Mochamad Dzaky Alifian, Anuraga Jayanegara, Nahrowi
Artificial Neural Network Model to Predict Crude Protein and Crude Fiber From Physical Properties of Feedstuffs

Doso Sarwanto, Sari Eko Tuswati, Sulistyaningtyas
The Level of Dwarf Elephant Grass (Pennisetum purpureum cv. Mott) as the Subtitute of Indigenous Forages for Goat's Feed in Limestone Mountain Area

Ellin Harlia, K.N. Rahmah, Lisda, Jefry, W.Djuanda, Yuli Astuti, Eulis Tanti Marlina
Potential of Microbial Consortium from Laying Hens Feces as a Starter For Biogas Production

Sulastri, Kusuma Adhianto, Akhmad Dakhlan, Muhammad Dima Iqbal Hamdani, dan Siswanto
Population Performance of Saburai Goat at Saburai Goat Breeding Area, Tanggamus Regency, Lampung Province

Y.U.L. Sobang, Marthen R. Pellokila, Sukawaty Fattah, Marthen Yunus
The Effect of Local Feeds Supplementation and De-Worming on Calf Birth Weight and Body Weight Changes of Bali Cow Post Partum

[ABS-1]
Artificial Neural Network Model to Predict Crude Protein and Crude Fiber from Physical Properties of Feedstuffs

Mohammad Miftakhus Sholikin[1], Mochamad Dzaky Alifian[1], Fredy Marthin Purba[1], Anuraga Jayanegara[2], and Nahrowi[2]

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Abstract: The aim of this research was to build artificial neural networks model to predict crude protein and crude fiber content from physical properties of feedstuffs. The 91 data were obtained from *https://repository.ipb.ac.id* using keywords, e.g., *sifat fisik* and *pakan*. To reduce the dimensional of the data had been transformed. The independent variables consist of specific gravity (SG), bulk density (BD), compacted bulk density (CBD) and angle of repose (AoR). The dependent variable was crude protein (CP) and crude fiber (CF). Artificial neural networks (ANN) model built by R programing language 3.6.0 using library R-base and neuralnet. The correlation and accuracy used to compare predicted and actual. ANN model of crude fiber has an accuracy of 75.08% and Pearsons signification correlation (0.7529; P <0.01). ANN model of crude fiber has an accuracy of 75.08% and Pearsons signification correlation (0.7529; P <0.01). The artificial neural networks model generally can perform better to predict crude protein and crude fiber from physical properties of feedstuffs.

Keywords: Artificial neural networks model, Crude fiber, Crude protein, Physical properties, Feedstuffs

[ABS-10]
THE LEVEL OF DWARF ELEPHANT GRASS (Pennisetum purpureum cv. Mott) AS THE SUBTITUTE OF INDIGENOUS FORAGES FOR GOAT'S FEED IN LIMESTONE MOUNTAIN AREA

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Abstract: The negative effect of limestone mining is the formation of open field which caused the reduction of diversity level and the productivity of indigenous forages. The open field that was used as a limestone mining can be revegetated through the introduction of Dwarf Elephant Grass (Pennisetum purpureum cv. Mott). We need a further study about the distribution level of the introduction result of dwarf elephant grass as the substitute of indigenous goat forages in limestone area.The research method used in this research is experimental in vivo using Completed Random Sampling. The materials used in this study are 16 local male goats from limestone area weighed about 25,8 kg ± 1,66. The treatment consists of 4 dwarf elephant grass's distribution levels as the substitute of indigenous forages, i.e. 0, 25%, 50% and 75% with 4 repetitions. The parameter consists of feed intake and body weight gain. This research is located in Gombong's limestone mountain area in Central Java, Indonesia.The result of this research shows that the distribution dwarf elephant grass as the substitute of indigenous goat forages until 75% has non significant (P>0,05) of feed intake and body weight gain. Meanwhile, if we reviewed from the tendency of body weight gain, the distribution of dwarf elephant grass as the substitute of indigenous goat forages should only reach 25%.

Keywords: dwarf elephant grass, indigenous forages, goat, limestone mountain

[ABS-15]
POTENTIAL OF MICROBIAL CONSORTIUM FROM LAYING HENS FECES AS A STARTER FOR BIOGAS PRODUCTION

Ellin Harlia, K.N. Rahmah, Lisda, Jefry, W.Djuanda, Yuli Astuti, Eulis Tanti Marlina

Faculty of Animal Husbandry, Universitas Padjadjaran

Abstract: The laying hens livestock industry is growing rapidly along with the increasing demand for eggs for human consumption, will produce large amounts of waste. Improper management of laying chicken farm waste can interfere with health and environmental pollution including greenhouse gases (CH4, CO2, N2O), odor disorders, disturbances from rodent animals, disturbances of endoparasites and ectoparasites, pollution of water and soil sources. Appropriate waste management can reduce the risk of pollution of the laying hens industry to the environment. Utilizing feces of laying hens as a microbial consortium sources that serves as a biogas starter in anaerobic digester as an alternative environmental friendly energy source is an option. The purpose of this study was to obtain a bacterial and methanogen consortium from laying hens feces as a starter of biogas with coal media in anaerobic digester. The study used an experimental method of completely randomized design (CRD) with 4 doses and 4 replicates with 5 observations, data than tested further using orthogonal polynomials. The stages of the study included three stages: first, pretreatmen using in vitro technique; second, the adaptation process; third, addition starter of microbial consortium from the laying feces of the chicken into liquid media and coal at a dose of 0%, 5%, 10% and 15% then incubated at 39oC for 28 day. Observations were conducted every 7 days from day 0, day 7, day 14, day 21 and day 28. The parameters measured were the volume of biogas, the number of anaerobic bacteria and the composition of biogas. This biogas composition was analyzed by Gas Chromatography, the number of anaerobic bacteria cultured in Hungate tubes and calculated using the Ogimoto method. The observations showed that the number of bacteria ranging from 1012 CFU/ml up to 1013 CFU / ml exceeded the starter requirements of 107 CFU/ml.

Keywords: Microbial, Feces, Laying Hens, Biogas, Starter

[ABS-19]
PERFORMANCE OF SABURAI GOAT POPULATION AT SABURAI GOAT BREEDING AREA, TANGGAMUS REGENCY, LAMPUNG PROVINCE

Sulastri, Kusuma Adhianto, dan Siswanto

Animal Production Department, Faculty of Agricultural, Lampung University

Abstract: Research by survey method was conducted to know population performance of Saburai goat at Saburai goat breeding area, Tanggamus regency, Lampung province based on natural increase (NI) and net replacement rate (NRR). Observation was done begin 2015 when Saburai was declared as local genetic resources in 2015 by Ministry of Agricultural. Population of Saburai goat in 2015, 2016, 2017, and 2018 were 1,469 heads, 2,369 heads, 2,860 heads, and 3,293 heads. Male and female Saburai goat were used as breeding stock for 4.44 ± 0.20 years and for 5.03 ± 0.21 years, respectively. Replacement stock needed in 2018 were highest (25.39 % for male and 27.91 % for female). Percentage of Saburai goat birth were 9.72 ± 6.57 % for male goat and 19.72 ± 5.18 % for female. Value of NI for male and female goat were 9.25 % and 19.13 %, respectively. Value of NRR in 2018 were highest (male 114.69 % and female 458.94 %). It could be concluded that population performance of Saburai goat from 2015 up to 2018 were increasing.

Keywords: Saburai goat, Breeding stock, Natural increase, Net replacement rate, Local genetic resources

[ABS-73]

The Effect of Local Feeds Supplementation and de-Worming On Calf Birth Weight and Body Weight Changes of Bali Cow Post Partum

Sobang, Y. U. L1, Marthen R. Pellokila2, Sukawaty Fattah1, Marthen Yunus1

Faculty Animal Husbandry, Nusa cendana University, Kupang

Abstract: A study has been conducted to determine 1) the effect of local feeds supplementation and de-worming on calf birth weight. 2) the influence of local feeds supplementation and de-worming on changes of post partum body weight, and 3) the effect of local feeds supplementation and de-worming on the feacal eggs count. The method in this study is the experimental method used Completely Randomized Design (CRD) with 3 treatments and 5 replications. The results showed that the average of birth weight was obtained is highest child receiving treatment (P2) local feeds supplementation and de-worming is 14.1±0.822kg, followed by treatment (P1) obtain local feeds supplementation without de-worming is 13.1±0.652kg, and the lowest at (P0) treatment without local feed supplementation and de-worming is 11.5±0.791kg. The average of body weight gain after 2 months partus is highest in the (P2) treatment obtain local feed supplementation and de-worming is 16.82±0.602kg, followed by treatment (P1) obtain local feeds supplementation without de-worming is 16.38±0.415kg, and the lowest at treatment (P0) without local feeds supplementation and de-worming is 10.72±0.563kg. The average feacal eggs count is highest on (P0) treatment is 68.4±2.702worm/gfeces, followed by treatment (P1) is 64.2±2.490worm/gfeces, and lowest in the treatment of P2 by 25±2.236worm/gfeces. Statistical test results showed that the local feeds supplementation and de-worming on Bali cow very significant effect (P <0.05) on calf birth weight, body weight changes after partus of Bali cattle cow, and the feacal eggs count.

Keywords: supplementation, de-worming, cow, calf, local feeds.

Wednesday, 7 August 2019

PARALLEL
Room SESSION F
Sapphire B

Moderator:Chomsiatun Nurul Hidayah, S.Pt., M.Si.

ABSTRACTS

Sigit Prastowo Sigit Prastowo, Nuzul Widyas, Adi Ratriyanto, Myristica Sucedona Trisna Kusuma, Pipin Dharmawan, Indra Adie Setiawan, Aris Bachtiar
Individual Variance Component of Fresh Semen Quality in Bali Cattle (Bos javanicus) Bull

Joko Riyanto J. Riyanto, S. D. Widyawati, W.P.S. Suprayogi, A. K. Wati
The Use of Saponification of Animal And Vegetable Oils in the Ration on The Physical Quality of Sheep Meat on Biceps Femoris Muscles

Joko Riyanto J. Riyanto, Sudibya, S. J. Anhardhika
Influence of Soybean Groat Protected Used in The Consumption and Digestibility of Dry Matter, Organic Matter and Crude Protein on the Bligon Goats

Zuratih Zuratih Zuratih, Yeni Widiawati
Estimation of Greenhouse Gas (GHG) Emissions from Livestock Sector by Using Alu Tool: West Java Case

Afduha Nurus Syamsi, Lastriana Waldi, Hermawan Setyo Widodo, dan Harwanto
Branch Chain Volatile Fatty Acids Profile of Rumen Fluids Suplemented by Different Meal Protein Sources and Protein-Energy Synchronization Index

[ABS-29]
Individual variance component of fresh semen quality in Bali cattle (Bos javanicus) bull

Sigit Prastowo(1,), Nuzul Widyas(1), Adi Ratriyanto(1), Myristica Sucedona Trisna Kusuma(1), Pipin Dharmawan(1), Indra Adie Setiawan(2), Aris Bachtiar(2)*

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Abstract: Semen quality is an important factor influencing the success of a cattle breeding program. Efforts to continuously evaluate the semen quality parameter is needed. Indonesia has Bali cattle; it is indigenous, tropically adapted, robust, and has high fertility. Bali cattle need to be developed into meat producer by selecting the best bulls and disseminate their sperm through artificial insemination program. To obtain the desired improvement, one of the key is to ensure the semen quality. This study aimed to determine the factors affecting fresh semen quality of Bali bull. In total, 864 ejaculates were collected from nine bulls from January to October 2016. Semen was collected twice a week, followed with semen quality evaluation as semen volume (ml), sperm concentration (x106/ml), sperm motility (%), and pH. A linear model was built to obtain the significant fixed factor of season and/or age affecting sperm quality followed by mixed model procedure including individual bulls as random effect to estimate the variance components. The result showed that season didn't give any effect ($p>0.05$) in all fresh semen quality observed, while there was a significant effect of age ($p<0.05$) on volume, sperm concentration and pH. There is no interaction ($p>0.05$) between season and age in this study. The variance component of individual bulls contributed 71.15, 67.92, 48.22, and 11.76% of the total variance of semen volume, sperm concentration, sperm motility, and pH respectively. This study shows that there is a wide variation of semen quality resulted due to the variation between individual of the Bali cattle bull, which mirroring the diverse of Bali cattle genetic. In bulls selection as semen source, careful selection and the application of genetic standard need to be concerned.

Keywords: semen quality, Bali cattle bull, individual variance component

[ABS-44]
The Use of Saponification of Animal and Vegetable Oils in the Ration on The Physical Quality of Sheep Meat on Biceps femoris Muscles

Riyanto , J (a)., S. D. Widyawati (a), W.P.S. Suprayogi (a), and A. K. Wati (a)*

Universitas Sebelas Maret

Abstract: Acceptance and level of preference for sheep meat are influenced by the physical quality of the meat. This study aimed to know the effect of the use of animal oil saponification (lemuru fish oil: LFO) and vegetable oil (palm oil: PO) which was added to the ration on the physical quality of sheep meat. Twelve male local sheep were randomly divided into 3 ration treatments; P0: control ration (40% king grass : 60% concentrate), P1: 40% king grass + 57% concentrated + 3% saponified LFO and P2: 40% grass king + 57% concentrate + 3% saponified PO. Each treatment consisted of 3 replications. The observed variables were a physical quality of meat (pH, cooking losses, tenderness, collagen). The data obtained were analyzed by variance analysis and real difference test between treatments. The results showed that the use of LFO and PO was not a significant effect on the physical quality of meat (pH, cooking losses, tenderness, collagen). It can

be concluded that the use of animal and vegetable oil saponification cannot improve the physical quality of sheep meat.

Keywords: Saponification of Animal, Vegetable Oils , Ration , Physical quality, Sheep meat, Biceps femoris

[ABS-46]
Influence of Soybean Groat Protected Used in The Consumption and Digestibility of Dry Matter, Organic Matter and Crude Protein on The Bligon Goats

Riyanto , J, Sudibya, and S. J. Anhardhika*

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Abstract: This study aims to determine the effect of formaldehyde-protected soybean groatl on the consumption and digestibility of dry matter, organic matter and crude protein in Bligon Goat. The study used 15 head male Bligon Goats with an average body weight of 20 kg with 3 treatments and 5 groups arranged in a randomized block design (RBD). The diet consists of elephant grass (EG), basal concentrate (BC), soybean groat (SG) and soybean groat protected (SGP). Treatments include P0 = 30% EG + 70% BC, P1 = 30% EG+ 60% BC+ 10% SG and P2 = 30% EG + 60% BC + 10% SGP. The results showed that the consumption of dry matter and organic matter not significant, but highly significant on crude protein consumption. Consumption of crude protein in the treatment without addition of soybean groat showed lower results than consumption of crude protein in feed containing soybean groat. Digestion of dry matter, organic matter and crude protein were not influenced by differences in feed treatment in Bligon Goats. Concluded that supplementation of soybean groats protected or not in the diet can increase the consumption of crude protein and produce the same consumption on parameters of dry matter and organic materials intake. Dry matter, organic matter and crude protein has the same digestibility of feed Goat Bligon.

Keywords: Soybeans groat, Protection, Consumption, Digestibility, Dry Matter, Organic Matter and Crude Protein on The Bligon Goats

[ABS-51]
Estimation of Greenhouse Gas (GHG) Emissions from Livestock Sector by using ALU tool: West Java case

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Abstract: Livestock sector contributes to the increase of global warming through gas released from enteric fermentation and manure management. National estimation still used manual calculation. The aim of this study was to estimate the contribution of greenhouse gas (GHG) emissions from livestock sector by using ALU tool version 6.0.1, in West Java Province for year 2016 as the case study. The emissions were calculated by using Tier-1 and Tier-2 methodologies. Data used were livestock population and emission factors (EF) of CH4 and N2O of any livestock. The results showed that emission from enteric fermentation was 94.754 Gg CH4/year or 2,368.850 Gg CO2e/year with the highest emission from sheep (50.194 Gg CH4/year or 1,254.850 Gg CO2/year). While emission of CH4 from manure was 6,767 Gg CH4/year or 169,175 Gg CO2e/year with the highest emission

from dairy cattle (2,870 Gg CH4/year or 71,750 Gg CO2e/year) and direct N2O emissions from manure was 0.366 Gg N2O/year or 109.138 Gg CO2e/year with the highest emission from sheep (0.189 Gg N2O/year or 56.212 Gg CO2e/year). As a conclusion, total emissions from the livestock sector in West Java Province are 2,647.163 Gg CO2e/year with the largest emissions from enteric fermentation (2,368.850 Gg CO2e/year). In conclusion that ALU tool is applicable to estimate GHG emission for Livestock in Indonesia, with has limited data available.

Keywords: Greenhouse Gas emission, Livestock, West Java Province, ALU Tools

[ABS-94]

BRANCH CHAIN VOLATILE FATTY ACIDS PROFILE OF RUMEN FLUIDS SUPLEMENTED BY DIFFERENT MEAL PROTEIN SOURCES AND PROTEIN-ENERGY SYNCHRONIZATION INDEX

Afduha Nurus Syamsi (a), Lastriana Waldi (b), Hermawan Setyo Widodo (a), dan Harwanto (a)*

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Abstract: The aim of this study is to examine the interaction between the meal protein source with the protein-energy synchronization index (PES) in the dairy ration on the profile of branch chain volatile fatty acids (BCVFA). The study was carried out in vitro, using factorial completely randomized design (CRD-Factorial). The first factor was 2 types of meal protein source (soybean meal and coconut meal) and the second factor was 3 levels of PES index (0.5, 0.6, and 0.7), there were 6 treatment combinations, each treatment was repeated 4 times. The results of the study showed that the interaction between the meal protein source and the PES index was not significantly affected (P> 0.05) on the levels of iso butyrate, iso valerate and valerate. The study concluded that the low PES index ration (0.5) produced a decent BCVFA profile using coconut or soybean meal.

Keywords: branch chain volatile fatty acids; meal protein source; synchronization protein-energy index

Wednesday, 7 August 2019

PARALLEL
Room SESSION G
Jade A

Moderator: Dr. sc.agr. Ir. H. Yusuf Subagyo, M.P

ABSTRACTS

Mochamad Socheh, Agus Priyono, Imbang Haryoko, Hermin Purwaningsih
Calpain Activity of Jawarandu Does Under Four Different Energy Level in the Ration

Anis Sri Andini, Ismoyowati, Datta Purwantini
Identification of Qualitative and Quantitative Characteristics and Relationship Between Acta-1 Genes with Body Weight on Local Chicken

Sukawaty Fattah, Gusty A. Y. Lestari, Bastari Sabtu, Yohanis Umbu L. Sobang, Marthen R. Pelokilla, Fredeicus Dedy Samba
Technical and Economic Value of The Use Ration for Male Fattening Bali Cattle Farmers Patterns with Supplementation Complete Feed Containing Silage Banana Stems

Emmy Susanti, Elly Tugiyanti
Improving the Quality of Reproduction and Production of Quail (Coturnix coturnix Japonica) with Liquid Probiotics

Laurentius J.M. Rumokoy, Ivonne M. Untu, Santi Turangan, Wisje Lusia Toar, G.J.V. Assa
Larva Serum Antigen-G of Musca Domestica as Immunoglobulin Production Promotor in Goats

Yusuf Subagyo,, Mohammad Alvin Nur Wahid, Triana Yuni Astuti, Novie Andri Setianto
Adaptability And Productivity f Local Holstein – Frisien Cows in Banyumas Disrict

[ABS-35]
Calpain Activity of Jawarandu Does Under Four Different Energy Level in the Ration

Mochamad Socheh, Agus Priyono, Imbang Haryoko, and Hermin Purwaningsih

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Abstract : The aim of the research is to investigate the effect of four different energy level in the ration into the calpain activity of Jawarandu does. The research was done during 5 months in the Experimental Farm of the Faculty of Animal Science, Universitas Jenderal Soedirman. The research material used was 16 heads of the Jawarandu doe with the aged 2.5–3 years. All the animals were randomly assigned to the ration treatment which forms four the different energy levels (82.26% TDN, 85, 87.93, dan 90.74% TDN). The replication of each treatment was four times. Variable measured was a calpain activity on the muscle of Longissimus dorsi. General linear model (GLM) of the SPSS was used to analysis variable measured. Energy content 1.63McalME/heads/day and 1.92McalME/heads/day as well as 1.73McalME/heads /day and 2.06McalME/heads/day were increased of the μ-calpain and m-calpain activities at the Longissimus dorsi muscle, respectively. However, there was decreased of the calpastatin activity at the Longissimus dorsi muscle. Different energy content of the ration increased the μ-calpain and m-calpain activities at the Longissimus dorsi muscle and of those decreased calpastatin activity.

Keywords: Calpain activity, Calpastatin activity, Energy level, Jawarandu Does, Longissimus dorsi

[ABS-42]
IDENTIFICATION OF QUALITATIVE AND QUANTITATIVE CHARACTERISTICS AND RELATIONSHIP BETWEEN ACTA-1 GENES WITH BODY WEIGHT ON LOCAL CHICKEN

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Abstract: This study aim to identify qualitative and quantitative characteristics of local chickens, and examine the presence of polymorphisms based on the nucleotide sequences of ACTA-1 genes (Alpha 1, Actin, Skeletal Muscle). The material used was local chicken consisting of 25 Pelung and 25 Native chickens. The qualitative datas obtained were analyzed descriptively (feather pattern, feather color, feather pattern, shank color and comb shape), while the quantitative data uses t test (femur length, tibia length, tarsometatarsus length, tarsometatarsus circumference, 3rd finger length, wing length, comb height, sternum length and body weight). Identification ACTA-1 gene polymorphism was carried out by PCR method and Sequencing of PCR product. The results showed that the qualitative traits of Pelung chickens were, among other things, feather color patterns = 61.54% was black, 61.54% was plain, 84.62% shank colors black / gray and 100% single comb . Whereas in Kampung chickens, the feather color pattern is 50% black, with 66.67% plain pattern, 91.67% black / gray shank and 66.67% single comb. The quantitative characters, of male Pelung and Native chickens significantly different, involued the length of tarsometatarsus, tarsometatarsus circumference, comb height and body weight. Meanwhile, female Pelung and Native chickens showed significant differences in femur length, tibia length, tarsometatarsus length, tarsometatarsus circumference, 3rd finger length, wing length, comb height and body weight. Sequencing results showed third there were SNP (Single Nucleotide Polimorphism) identified in this study, namely c.584 T> G, c.585 T> A, and c.586 G> C. The frequency of genotypes

in Pelung and Native chickens in bases c.584 T> G, namely GG = 0.25, GT = 0.75 with heterozygosity obtained 0.375. Whereas in base c.585 T> A has AA genotypic frequency = 0.75, AT = 0.25, with heterozygosity value of 0.375. Furthermore, in the base c.586 G> C the genotypic frequency obtained was CC = 0.05 and CG = 0.95 with a heterozygosity value of 0.095. Based on the research, Pelung and Native chicken have relatively the same qualitative characteristics, while the Pelung chickens have greater morphometric characteristics compared to Native chickens. Pelung and Native chickens have a close genetic distance with heterozigosity value = 0,282.

Keywords: Chicken, qualitative traits, quantitative traits, ACTA-1 gene, frequency genotypic, heterozygosity

[ABS-56]
TECHNICAL AND ECONOMIC VALUE OF THE USE RATION FOR MALE FATTENING BALI CATTLE FARMERS PATTERNS WITH SUPPLEMENTATION COMPLETE FEED CONTAINING SILAGE BANANA STEMS

Sukawaty Fattah1, Gusty A. Y. Lestari1, Bastari Sabtu1, Yohanis Umbu L. Sobang1, Marthen R. Pelokilla2, Fredeicus Dedy Samba1

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2Faculty of Agriculture, Universitas Nusa Cendana, Kupang, 85361 Indonesia

Abstract: The aim of this research was to study the effect of giving complete feed containing silage of banana stems with different levels of feed conversion, efficiency of ration usage, production costs and profits from fattening Bali cattle farmers pattern. Experimental animals employed in this research were 12 heads of growing male Bali cattle of 1 to 1.5 years old with the body weight ranging from 140,5 to 166 kg with an average of 155 kg and coefficient variation (CV) 8.72%, were employed. The experimental design used was completely randomized design (CRD) with 4 treatments and 3 replications : T0: local feeds (commonly used by farmers) + 1 kg complete feed without banana stem silage, T1: (commonly used by farmers) + 1 kg complete feed containing 10% silage of banana stems, T2: (commonly used by farmers) + 1 kg complete feed containing 20% banana stem silage, T3: (commonly used by farmers) + 1 kg of complete feed containing 30% silage of banana stems. Data collected was subjected to Analysis of Variance (ANOVA). The results showed that the effect of treatments was not significantly (P>0.05) on feed conversion, efficiency of ration usage, production costs and profits from fattening Bali cattle farmers pattern. The conclusion of this study is the provision of complete feed containing silage of banana stems with different levels giving the same effect between treatments on feed conversion, efficiency of ration usage, production costs and profits from fattening Bali cattle farmers pattern.

Keywords: banana stem silage, complete feed, technical and economic value, fattening Bali cattle farmers patterns.

[ABS-58]
Improving the quality of reproduction and production of quail (Coturnix coturnix japonica) with liquid probiotics

Emmy Susanti and Elly Tugiyanti

Faculty of Animal Science Jenderal Soedirman University

Abstract: This study aims to determine the effect of the use of various liquid probiotics in quail drinking water on the quality of the reproductive tract and quail production. The study used a completely randomized design pattern with four treatments, namely: quail got drinking water without liquid probiotics (P0), quail got drinking water with commercial probiotics A (P1), quail got drinking water with commercial probiotics B (P2), and quail got drinking water with commercial probiotics C (P3), replicates 5 times and 5 quails in each research unit. Drinking water is given in ad libitum with a liquid probiotic concentration of 2ml / liter. Quail feed contains PK 22.2% and energy of 3032.5 kcal. Treatment affects the reproductive tract + egg weight, egg weight and reproductive tract length, weight before slaughter, weight after slaughter, weight after hair removal, heart weight, gastrointestinal weight, (P <0.01) but no effect on carcass weight, weight, follicular weight, gizard weight, length of the digestive tract and length of caeca. The treatment of liquid probiotics in drinking water improves the quality of reproduction and quail production.
Keywords: probiotics, quail, reproduction, production

[ABS-65]
Larva Serum Antigen-G of Musca domestica as Immunoglobulin Production Promotor in Goats

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b) Animal Science Program, Faculty of Animal Husbandry, Sam Ratulangi University, Manado
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Abstract: This experiment aimed to study the effect of serum G-antigen on M. domestica insect larvae (LAS) as promoter antigen on serum immunoglobulin production in organically managed goat livestock. This study used 12 local goat animals which were divided into two groups, a control group and a group receiving treatment. Insect rearing was used to obtain larvae, the antigen-G was then extracted from the larvae to be used as promoter antigen to enhance the serum antibody production which was subcutaneously immunized in experimental goats and incubated for a period of 14 days. Blood collection of 2.5 ml was taken through the jugular vein and then quantification of the total antibody is carried out. The data of the LSA extract proportion level were statistically analyzed with t-test, and the quality classification level of serum immunoglobulin of animals groups were statistically analysed. The results showed that the serum of animal treated with LSA of M. domestica resulted in a higher level of immunoglobulin (P <0.01) compared to the control. We conclude that the antigen-g substance (LSA) could support the efforts to improve the production of organic goats livestock by increasing the total level of antibodies circulating in the blood.

Keywords: Insect, Musca domestica, antigen, antibody, goats

[ABS-93]

ADAPTABILITY AND PRODUCTIVITY OF LOCAL HOLSTEIN – FRISIEN COWS IN BANYUMAS DISRICT

Yusuf Subagyo (*), Mohammad Alvin Nur Wahid, Triana Yuni Astuti, Novie Andri Setianto

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Abstract: The purpose of this study was to measure the adaptability and productivity of local dairy cows in Banyumas district. About 30 lactation dairy cows from two groups of dairy farmers in the Baturraden and Sumbang sub-districts of Banyumas district were used in this study. To find out the adaptability is done by measuring the rectal temperature and the frequency of respiration at 06.00 am, 10.00 am and 14.00 am. Milk productivity was measured by measuring milk every day. Measurement of all parameters was carried out for one month. The results showed that there were no significant differences (P> 0.5) between the two sub- districts for all variables, namely: rectal temperature, respiratory frequency, HTC Benezra and Rhoad, and daily milk production. It can be concluded that the adaptability of local Holstein – Frisien dairy cows in Banyumas district is good, while milk production ismoderate.

Keywords: Rectal temperature; Respiratory frequency; HTC; Milk production

Wednesday, 7 August 2019

PARALLEL
Room SESSION H
Jade B

Moderator:Ir. H. Imam Suswoyo, M.Agr.Sc

ABSTRACTS

Dattadewi Purwantini, R. Singgih Sugeng Santosa, Setya Agus Santosa, Ismoyowati, Ayu Rahayu
Heterosis Value Estimation of Morphometrics Characteristics of Crossing Magelang and Tegal Ducks

Rohmad Setiaji, Sigit Prastowo, Dwi Prasetiyo, Nuzul Widyas
Phenotypic and Genetic Correlations of Growth Traits in Bali Cattle Breeding Population

Munasik, Suparwi, Imam Prayudi, Rikza Zainul Umam
The Concentrate to Forage Rasio of Complete Feed Silage on Nutrinet Consumption of the Local Male Sheep

Muhammad Daud, M. Aman Yaman, Zulfan
The Effects of Functional Feed Additive Probiotic and Phytogenic in Rations on The Performance of Local Ducks

Modawy Abdelgader, Hassan Ishag Hassan Haren, Ismoyowati, Ning Iriyanti
Effect of Beet Molasses as a Source of Energy on Performance of Broiler Chickens

[ABS-57]
Heterosis Value Estimation of Magelang and Tegal Crossed Ducks Morphometrics Characteristics

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Abstract: The aim of this research is to estimate the heterosis value of Magelang and Tegal crossed ducks morphometrics characteristics. The cross between the Magelang duck male and the Tegal female is called Maggal (F1). The research material are 319 ducks consisted of Magelang and Tegal ducks with 10 males and 70 females each, also the cross result of 239 Maggal ducks. Research method is experiment. The variable measured was the morphometric characteristics (body weight, body length, chest circumference, abdominal circumference, shank length, pubis length, and neck lenght) of the duck aged at 6 months. The heterosis value is obtained by comparing the ability of the cross with the parent. This research has shown heterosis in body weight, body length, chest circumference, abdominal circumference, shank length, pubis length, and neck lenght of 6 month old Gallang and Maggal duck were 0,03; 0,01; 0,06; 0,02; -0,05; 0,01; dan 0,03. Based on the results of this study, it can be concluded that the heterosis value of Magelang and Tegal crossed ducks morphometrics characteristics were relatively high. The positive heterosis value in body weight, body length, chest circumference, abdominal circumference, pubis length, and neck lenght, while shank length negative.

Keywords: heterosis, morphometrics, crossed duck, Tegal ducks, Magelang ducks

[ABS-60]
Phenotypic and genetic correlations of growth traits in Bali cattle breeding population

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Abstract: This study aimed to estimate the phenotypic and genetic correlations of growth traits as selection criteria in Bali Cattle test center populations at Pulukan Breeding Center, Livestock and Forage Feeding Center (BPTU-HPT) Denpasar, Bali. In total 160 records were obtained from calves born between 2013 until 2016. Data collected were birth weight (BW), weaning weight (WW), yearling weight (YW), mature weight (MW) and pedigree. Data were then standardized to be weaning weight at 205 days (WW205), yearling weight at 365 days (YW365) and mature weight at 730 days (MW730). The data obtained were analyzed using univariate and bivariate animal models with REML method. Heritability values (h2) were 0.43 ± 0.12, 0.22 ± 0.12, 0.39 ± 0.15, 0.63 ± 0.18 for BW, WW205, YW365 and MW730 respectively. Phenotypic correlations among variables were vary from low to high; which were 0.16 for BW - WW205, 0.11 for BW - YW365, 0.34 for BW - MW730, 0.61 for WW205 - YW365, 0.25 for WW205 - MW730 and 0.31 for YW365 x MW730. However, the genetic correlation among growth traits were considerably high: BW - WW205 0.53, BW - YW365 0.76, BW - MW730 0.47, WW205 - YW365 0.70, WW205 - MW730 0.48, YW365 - MW730 0.64. Heritability of Bali Cattles' growth traits are categorized as moderate to high, thus selection on these traits are potential to obtain genetic improvement in the population. Phenotypic correlations among traits were considerably low, whereas the genetic correlations

spanned between medium to high. These findings implied that other than genetic, improving the farm environment and management could also affect the growth performance of Bali cattle.

Keywords: Bali Cattle, growth traits, heritability, phenotypic correlation, genetic correlation

[ABS-80]
THE CONCENTRATE TO FORAGE RASIO OF COMPLETE FEED SILAGE ON NUTRINET CONSUMPTION OF THE LOCAL MALE SHEEP

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Abstract: The aimed of this research to examine the effect of the concentrate to forage ratio of complete feed silage on crude protein consumption, crude fiber consumption, energy consumption and fat consumption of the local male sheep that was conducted at the Experimental Farm, Faculty of Animal Husbandry, University Jenderal Soedirman, Purwokerto. Five types of the ensilage of complet feed treatments consisted of P1 (Napier grass 70% + concentrate 26% + 1.5% + mineral salts urea 0.5% + 0.5% + molasses 1.5%), P2 (Napier grass 60% concentrate 36% + mineral salts 1.5% + 0.5% + 0.5% urea molasses + 1.5%), P3 (Napier grass 50% + concentrate 46% + 1.5% + mineral salts + 0.5% urea 0 , 5% molasses + 1.5%), P4 (Napier grass 40% + concentrate 56% + 1.5% + mineral salts 0.5% + 0.5% urea molasses 1.5%), P5 (Napier grass 30% + concentrate 66% + 1.5% + mineral salts 0.5% + 0.5% urea molasses + 1.5%). Twenty of local male sheep with a body weight 12.5 – 22.5 kg divided into 4 blocks were used in this experiment. The parameters measured were the consumptions of crude protein, crude fiber, energy and fat. Data were analyzed using variance analysis and followed by honestly significant difference test (HSD). The conclusion of this study is that the P3 treatment was the best concentrate to forage ratio of complete feed silage for fattening with consumption of crude protein as much as 131.01 ± 4.05 grams/day/head, crude fiber consumption 103.06 ± 3.33 grams/day/head, energy consumption 655.80 ± 18.74 grams/day/head and fat consumption 55.84 ± 1.83 grams/day/head.

Keywords: Complete feed silage, consumption, crude protein, crude fiber, energy, fat, concentrate, Napier grass

[ABS-85]
The Effects of Functional Feed Additive Probiotic and Phytogenic in Rations on The Performance of Local Ducks

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Abstract: The research aims to study the use of functional feed additive probiotic and phytogenic in rations on the performance of local duck grower phase. The study used 80 heads local duck 8-16 weeks old grower phase. The study was conducted by experimental method, using a completely randomized design (CRD) with 4 treatments of rations and 4 replications (5 ducks/pen). The experiment used completely randomized design with 4 treatment rations: R1 (basal diet /control), R2 (basal diet + phytogenic 0.4%); R3 (basal diet + probiotic 108 CFU); R4 (basal diet + phytogenic 0.4% + probiotic 108 CFU). The observed variables were: feed consumption, body weight gain, final body weight, feed conversion, and mortality of local duck. Data was analyzed by using one-way analysis of variance then continued with Duncan test. The results showed that the use of functional feed additive probiotic and phytogenic gave a positive response to the performance of local duck grower phase. The use of functional feed additive probiotic and phytogenic in ration

significantly affect (P<0,05) feed consumption, body weight gain, and final body weight, but no significant affect on ration conversion and mortality local duck grower phase. It was concluded that the use of functional feed additive probiotic and phytogenic could serve as a source of feed additive in local duck ration and able to increase performance of local duck grower phase.

Keywords: phytogenic, probiotic, feed additive, performan, local ducks

[ABS-87]
EFFECT OF BEET MOLASSES AS A SOURCE OF ENERGY ON PERFORMANCE OF BROILER CHICKENS

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Abstract: Molasses can be a source of quick energy and an excellent source of minerals for farm animals and even chickens. Molasses can also be a key ingredient for cost effective management of feeds. The purpose of this research was to study the impact of adding different levels of sugar beet molasses to feed on performance of broilers chickens. Used 112 of commercial broiler (Ross 308) l-day-old chicks were weighed in gram live weight ranged between 50-57g and subsequently placed in the treatment groups in such a way that the mean weights differed as little as possible, chicks divided into four groups replicates of 7 chicks each and reared on deep litter in open housing system. Four replicates were designed to each dietary treatment. at 15-days-old chicks, the unsexed broiler chickens were randomly allotted to four groups of 7 birds each. The four diets consisted of Group (A) as a control diet containing no Molasses, Group (B) was 5 %, Group (C) 7.5 % and Group (D)10%. Feed and water were provided adlibtum. There were no significant differences at all level (P<0.05) of adding beet molasses as source of energy among four experimental groups for the parameter studied: body weight, body weight gain, feed intake and feed conversion, also there is no mortality however, Use of beet molasses in broiler diets reduced feed cost and feeding of 7.5 % beet molasses decreased cost of feed per kg versus control and increase profitability.

Keywords: beet molasses, broiler chickens, performance

Wednesday, 7 August 2019

PARALLEL
Room SESSION I
Sapphire A

Moderator:Chomsiatun Nurul Hidayah, S.Pt., M.Si.

ABSTRACTS

Widodo Suwito, Widagdo Sri Nugroho, Andriani
Etiology and Antimicrobial Susceptibility of Udder Pathogens From Cases of Subclinical Mastitis in Dairy Ettawa Crosbread Goat (Pe) in Kulonprogo Yogyakarta

Nyak Ilham, Mohamad Maulana
Efficiency of Layer's Supply Chains in Indonesia

Mohamad Maulana, Herlina Tarigan
Farmers' Response to Economic Benefits of System of Rice Intensification, Biogas and Worm Cultivation

Franky M.S. Telupere, Welmintje M. Nalley
Phenotype and Genetic Analysis of Growth Characteristics of Sabu and Semau Chickens Which are Conserved Ex-Situ

Maureen Chrisye Hadiatry, Komarudin, S.J. Oosting
Economic Contribution of Duck Production Systems in Banten Province, Indonesia

[ABS-40]
Etiology and antimicrobial susceptibility of udder pathogens from cases of subclinical mastitis in dairy Ettawa Crosbread Goat (PE) in Kulonprogo Yogyakarta

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3) Research Institute Veterinary Science, Bogor* Corresponding author email: widodo.suwito@yahoo.com

Abstract: Subclinical mastitis in Ettawa crossbreeds (PE) is an inflammatory disease that no clinical symptoms, but there is an increase the number of somatic cells and causes decrease milk production which economically detrimental. The aim of this study was to isolation of bacteria that causing subclinical mastitis in PE goats and their sensitivity with antimicrobial. A total of 37 PE goats from 5 farms in Kulonprogo were tested by California Mastitis Test (CMT). PE goats were said subclinical mastitis if the CMT test positive (++) or (++). Bacterial examination was carried out by enrichment in the peptone water buffer medium (BPW), and cultured in mannitol salt agar (MSA), eosin methylene blue agar (EMBA), and blood agar plate (PAD). Bacterial identification based on Gram staining, and biochemical tests such as confectionery. Subclinical mastitis in PE goats in Kulonprogo was caused by S. intermedius positive coagulase 4/4 (100%), S. aureus negative coagulase 4/10 (40%), S. aureus positive coagulase 3/10 (30%), and E. coli 1/10 (10%). S. intermedius positive coagulase was resistant to ampicillin, tetracycline, and sulfamethoxazole 2/4 (50%) respectively. S. aureus positive coagulase was resistant to ampicillin 2/7 (28.6%), penicillin 1/7 (14.3%), and sulfamethoxazole 1/7 (14.3%). S. aureus negative coagulase was resistant to ampicillin 3/7 (42.9%), penicillin 3/7 (42.9%), sulfametoxazole 2/7 (28.6%), and tetracycline group 1/7 (14.3%). This study showed that subclinical mastitis PE goats in Kulonprogo were caused by S. intermedius positive coagulase and S. aureus negative coagulase which are resistant to penicillin and sulfamethoxazole.

Keywords: Isolation, subclinical mastitis, PE goat, antimicrobial

[ABS-47]
EFFICIENCY OF LAYER'S SUPPLY CHAINS IN INDONESIA

NYAK ILHAM AND MOHAMAD MAULANA

Indonesian Centre for Agricultural Socio Economic and Policy Studies (ICASEPS)

Abstract: Research on the efficiency of egg's supply chain focused on various markets is expected to provide input to maintain the existence of small scale layers' farming. This study aim is to analyze the supply chain efficiency of small-scale layers' farming. This research is conducted in April-October 2017 in Blitar Regency, in East Java; Sidrap Regency, in South Sulawesi; and Kabupaten 50 Kota, in Payakumbuh City and Pariaman Regency, in West Sumatra. The number of respondents used are 139 people consisting of officers in related institutions, poultry shop entrepreneurs, traders, breeders association farmers, supermarket managers, hotels, restaurants and caterings. The data collected is analyzed using the Data Envelopment Analysis (DEA). The results concludes that traders naturally seek efficient supply chains so that their business can be endured. Factors that influence supply chain efficiency are share farmer, profit and marketing cost ratio, and number of actors involved. The higher the farmer share, and the profit-to-cost ratio, and the fewer marketing channel in a supply chain, the more efficient the supply chain system. Large capital farmers are advised to be able to shorten the supply chain by marketing directly to consumers such as hotels, supermarkets, restaurants, hospitals and caterings. The egg supply

chain can also utilize the Indonesian Farmer Shop (TTI) developed by the Ministry of Agriculture so that it can increase farmer's income and stabilize prices.

Keywords: supply chain, efficiency, egg, DEA

[ABS-63]
FARMERS' RESPONSE TO ECONOMIC BENEFITS OF SYSTEM OF RICE INTENSIFICATION, BIOGAS AND WORM CULTIVATION

MOHAMAD MAULANA AND HERLINA TARIGAN

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Abstract: The availability of abundant cattle waste in a village is an important factor for implementing organic paddy farming practice. The utilization of cattle waste in SRI practice, biogas and worm cultivation increase farmers' income but this issue is not informed well to farmes because traditionally agricultural extention agent focused on delivering cropping techniques than economic advantages. The objective of this study is to assess farmers' response to the possibility of inserting the information about the economic benefits of integrating SRI, biogas, and worm cultivation in the SRI extension program, The respondents were conventional farmers in Boyolali District and using value added and farmers' response concept. There are three activities in this research namely obtaining value added throughout biogas value chain, presenting the value added to farmers, and receiving farmers' response. The results shows in three parts of biogas value chain increase farmers' economic benefits from 974.000 IDR/year to 5.18 million IDR/year. Conventional farmers give high positive response to the integration of implementing SRI and following biogas project and receiving value-added from installing biogas digester. However, farmers give low response to cultivate worm due to unstable demand and its price volatilization.

Keywords: paddy, organic, cattle waste, biogas, worm, farmers' response, extension

[ABS-69]
PHENOTYPE AND GENETIC ANALYSIS OF GROWTH CHARACTERISTICS OF SABU AND SEMAU CHICKENS WHICH ARE CONSERVED EX-SITU

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Abstract: Sabu and Semau chickens originated from the island of Sabu and Semau, East Nusa Tenggara. The aim of this study was to analyze the phenotypic and genetic of growth characteristics of sabu and semau chickens which were conserved ex-situ. Four mating groups, 2 interse matings and 2 crosses, each using 4 males and 24 females, produced 144 chicks as research material. Artificial insemination of marriage. Feed and drinking water are given in ad libitum. Observations include data on body weight from the age of 0-12 weeks. Data were analyzed by ANOVA with nested design to obtain the various components used to estimate the heritability of growth properties. Heritability was estimated based on male, female, and total variance. The results of the phenotypic analysis showed that the body weight resulting from the interse mating (Sabu><Sabu) was better than other crosses. The estimation of heritability based on male variance (h2S), semau males showed positive values, while sabu males are more negative. Likewise based on females. Based on the total variance (h2S+D), more positive values are found in Sabu><Sabu compared to other matings. It can be concluded that sabu and semau chickens can be conserved ex-situ.

Keywords: Sabu and Semau Chickens, Phenotype, Genetic, Growth, Heritability

[ABS-74]
ECONOMIC CONTRIBUTION OF DUCK PRODUCTION SYSTEMS IN BANTEN PROVINCE, INDONESIA

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Abstract: A study on duck production systems was conducted in Banten Province, Indonesia. The objective of the study was to assess the economic contribution of duck production systems for smallholders livelihood. Four duck production systems were distinguished in the research area; a fully yarded-small scale system (DPS 1), a fully yarded-large scale system (DPS 2), a combination of yarded and scavenging system (DPS 3) and a combination of herded, scavenging and yarded system (DPS 4). Primary data was gathered from 43 respondents using a questionnaire. The economic parameter such as costs, benefits, gross margin and income contribution from each duck production system were calculated. Data were analyzed using the Kruskall-Wallis test. From the result, the highest family labor time was in DPS 4 (7.0±0.48 hours/hh/day) and the lowest was in DPS 2 (2.0±1.00 hours/hh/day). Compared to other systems, DPS 2 had the highest labor cost (14,400¬± 4,800 (thousand IDR/year)) and gross margin (131,875.65±28,152.85 (thousand IDR/year)). In Banten Province, duck production systems contributed to smallholders' livelihoods. In some cases, it only gave a small contribution (DPS 3) or even negative contribution (DPS 1) to the households income. In other cases, it resulted in good output (DPS 2 and DPS 4).

Keywords: duck production systems; economic contribution

Wednesday, 7 August 2019

PARALLEL
Room SESSION J
Sapphire B

Moderator:Dr. sc.agr. Ir. H. Yusuf Subagyo, M.P

ABSTRACTS

Harmini, R. Rusdiana
Development of Agrinak Compass Sheep in the Application of Seedlings from Superior Science and Technology

Suyadi, Tri Eko Susilorini
Conception Rate of 11 Months Old Dairy Heifer Following Artificial Insemination with Natural Estrus and Pgf2α Treatment

Tri Eko Susilorini, P. Punamaning Wulan, Suyadi
Dairy Breeding Management: The Effect of Body Weight on Conception Rate of Yearling Heifer With Pgf2α Induced Estrus Following Artificial Insemination

Mohammed Salah, Edjeng Supriatna, Luthfi Djauhari M, Vitus Dwi Y.
The Effect of Ambient Temperature and Dietary Nucleotide Supplementation on Tonic Immobility Reaction on Broiler Chicken

Asep Rahmat Khaerudina, F.M. Suhartati, Yusmi Nur Wakhidati
The Relatitionship between Pattern of Feeding and Health Problems in the Transitional Period of Dairy Cows and Their Potensial Losses in Kpbs Pangalengan Area

[ABS-75]
Development of Agrinak Compass Sheep in the Application of Seedlings from Superior Science and Technology

1)Harmini; 2) R. Rusdiana

Balitnak

Abstract: The appearance of sheep Compass Agrinak (CA) with pastoral care management such as the habits of farmers in Indramayu district shows that CA sheep can adapt well. One of the markers can be seen from the birth weight of lambs from cross-breeding between local mother sheep and CA males. Birth weight of lambs from crosses is relatively higher than local lambs, which is 3.08: 2.5 kg for females and 3.50: 3.04 for males. Some problems that require more careful observation where CA sheep die because of "swallowed/consumed" plastic that may still have left in them as food leftovers consumed by humans wrapped in plastic bags, so that when eating the leaves "eaten" also the plastic wrap that blocks the system digestion and breathing which eventually die. Technology guidance on the preparation of sheep feed from rice (straw) by-products has been carried out at the Bogor experimental station as well as making good and true block minerals and sheep cultivation. Preparations for developing BC sheep to be "averted" at the UPTD are being prepared by the pregnancy test through USG

Keywords: Compass Agrinak Sheep

[ABS-76]
Dairy Breeding Management: The effect of body weight on conception rate of yearling heifer with PGF2a induced estrus following artificial insemination

*Tri Eko Susilorini *, P. Punamaning Wulan and Suyadi Suyadi*

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Abstract: This study was to evaluate the conception rate of yearling dairy heifer at PT. Ultra Peternakan Bandung Selatan following artificial insemination with PGF2α-induced estrus. A total of 100 heifer records selected randomly from 700 heifers based on body weight (>300 kg) and has normal reproduction were used for this study. Non estrus animal during one day observation was then injected with PGF2α for estrus induction. The animal showing estrus within 11 days observation post PGF2α injection, was inseminated, nevertheless was reinjected for second PGF2α, and the estrus animal was inseminated according to the standard procedure. The results showed that following first PGF2α injection, 50 heifers showed estrus, while 50 non-estrus others were re-injected PGF2α. All 50 animals showed estrus following second PGF2α injection within 11 days thereafter. Body weight was divided into 3 groups, Low (<341 kg), Medium (341-355 kg), and High (>355 kg). There was no significant difference (P>0.05) for Service per Conception, S/C (1.94±0.86, 1.60±0.74 and 1.78±0.87), and Conception Rate, CR (39%, 54% and 50%), respectively for Low, Medium and High body weight of yearling heifer. It was concluded that yearling dairy heifers were possible to breed and result pregnancy when reached body weight more than 300 kg. It was possible to induce the estrus by single PGF2α injection, although double injection at the interval of 11 days was more insured to get higher conception rate.

Keywords: dairy industry, yearling heifer, estrus induction, conception rate.

[ABS-77]
Conception rate of 11 months old dairy heifer following artificial insemination with natural estrus and PGF2α treatment

Suyadi Suyadi and Tri Eko Susilorini

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Abstract: In dairy industry, earlier mating of heifer is considered can reduce pre-breeding cost management and improve the benefit income of industry. This study was conducted to evaluate the conception rate of 11-months old dairy heifer following artificial insemination with natural estrus or treated with PGF2α at PT. Ultra Peternakan Bandung Selatan. From selected 300 samples out of 700 heifers resulted 25 heifers were natural estrus (Control), 50 estrus after single PGF2α injection (PG), 95 following single PGF2α and left to normal estrus after 21 days (PG-N), 50 after double PGF2α (2PG), and the rest of 80 heifers showed estrus following double PGF2α – Natural estrus (2PG-N) with the conception rate (CR) of 17/25(68%), 44/50(88%), 42/50(84%). None of heifers in PG-N and 2PG-N groups became pregnant after first insemination. The body weight (BW) was classified into Low (336-347kg), Medium (348-359kg) and High (360-372kg). The total conception rate was 34%. The CR for Low, Medium and High BW were 41%, 32% and 31%, respectively. The conclusion, the 11-months old heifer was possible normal pregnant following insemination without and with PGF2α injection when reached body weight over 300 kg. To ensure the higher number animal exhibiting estrus, double PGF2α injections should be applied.

Keywords: 11-months old heifers, natural estrus, PGF2α induced estrus, conception rate.

[ABS-89]
The Effect of Ambient Temperature and Dietary Nucleotide Supplementation on Tonic Immobility Reaction on Broiler Chicken

Mohammed Salah[1], Edjeng Supriatna[2], Luthfi Djauhari M[2], Vitus Dwi Y BI[2]*

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[2]Faculty of Animal and Agricultural Sciences, Diponegoro University.Indonesia

Abstract: The purposes of this experiment were to study the effect of three different environmental conditions (hot, cool, and natural) in the chicken behavior as indicated by duration of tonic immobility, and the role of dietary nucleotide supplementation on the elevate the stress. A total of 165 unsexed commercial chickens at fourteen-day of age were divided into three different environmental conditions; hot environment (H) with ambient temperature 31±1°C, comfortable environment (C) with ambient temperature 23 ±1°C, and natural environment (N). The chicken in Every environment condition received a basal diet supplemented with three levels of nucleotide (0 mg/kg) as a control group (T0), T1; 1000 mg/kg, and T2; 500 mg/kg. Birds were fed ad libitum until slaughter at 35 day. The duration of tonic immobility was evaluated two times on age 25 day and 34 day. The result of this study revealed that chicken reared under high temperature (hot and natural environment) increase the duration of tonic immobility compare with chickens rear under comfortable condition. The supplementation of dietary nucleotide has no effect on reducing the stress behavior.

Keywords: Environment, Nucleotide, Stress, Tonic immobility

[ABS-90]
The relatitionship between pattern of feeding and health problems in the transitional period of dairy cows and their potensial losses in KPBS Pangalengan area

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Abstract: Feed management is prepared to support the nutritional needs of early lactation, where the initial period of lactation is a critical period for the productivity of dairy cows, this period is a period of transition or period surrounding the birth (periparturient), which characterized by the high incidence and severity of metabolic diseases. Survey conducted research using cohort restrospective design by taking data on birth and health disorders around birth (hypocalcemia, Retensio placenta, diplasia abomasum, Ketosis, Mastitis, Metritis and lameness) from January 2017 until December 2018, in the working area of KPBS Pangalengan-Bandung Regency, in this period there are 2065 heads parturition cow from 3 groups of feeding patterns, pattern I (RC concentrate, wild grass, Penissetum purpureun, tofu/cassava by product), Pattern II (Concentrate RC, Penissetum purpureum , straw, cassava by product and pattern III (RC concentrate, wild grass). Analysis results between the pattern of feeding as a risk factor with the frequency of incidence of disease using). Relative Risk (RR) and Odds Ratio (OR), to determine the significance of the association between the feeding pattern with incidence of diseases using chi square. The result of analysis incidence of disease and feeding pattern in transition period carried out by farmers in the pattern I group had a tendency and greater risk of hypocalcemia and diisplasia abomasum than pattern II (OR 1,477, 95% CI =1,550-1,899, P 0,002) (RR 1,362 , 95% CI 1,118-1,659, P 0,0001) and pattern III (OR 2,217, 95% CI 1,578-3,114, P 0,0001) (RR 1,923 95% CI 1,438-2,571), pattern II group had a tendency and greater risk of i retensio placenta(OR 1,33, 95%CI 1,008-1,71 ,p 0,043)(RR 1,257 65%CI 1,008-1,567, p 0,0001), metritis (OR 1,527 65% CI 1,185-1,967 p 0,001) (RR 1,415 95%CI 1,150-1,741 p0,002) and mastitis(OR 5,650 95% CI 4,528-7,050 p 0,0001)(RR 2,076 95%CI 1,899-2,271)than pattern group . Pattern I and II had a tendency and greater risk of experiencing hipocalsemia, retensio secunndinae, displasia abomasum, ketosis ,mastitis, metritis and lameness than pattern III. The conclusion of analysis is that there is a significant ($p < 0,05$) relationship or influnce betweenthe pattern of feeding in transitiom period and pattern III group is the best in reducing incidence of periparturient diseases. Diseases that arise implicates the economic loss due to health problems in the transition period is calculated from the cost of veterinarians and the treatment of (veterinary and care), Labor (producer Labor), loss of milk (milk loss), Milk wasted (discarded milk), cost of rejects (culling cost), death of (death), extended days open

Keywords: Relative Risk (RR), feeding pattern, periparturient diseases

Wednesday, 7 August 2019

PARALLEL
Room **SESSION K**
Jade A

Moderator: Hermawan Setyo W., S.Pt., MP.;
Lis Safitri, S.Th.I., M.Pd.

ABSTRACTS

Agustinah Setyaningrum, Najib Amrullah, Pambudi Yuwono
Physiological Conditions of Decomposition Process and Quality of Compost Based on Faeces Beef Cattle Enriched With Azolla Sp.

Eko Hendarto, Bahrun, Nur Hidayat
The Effect of The Levels of Liquid Organic Fertilizer from Traditional-Market Waste on the Production and Nutrient Contents of Setaria Grass

Iwan Fajar Pahlawan, Widari, Gresy Griyanitasari
The Effect of Flame Retardant Addition on the Physical and Mechanical Properties of Cattle-hides Leather for Working Gloves

Veronica Sri Lestari, Sitti Nurani Sirajuddin, Ikrar Mohammad Saleh, Kusumandari Indah Prahesti
Level of Biosecurity Adoption Practices in Beef Cattle Farmers in South Sulawesi, Indonesia

Sitti Nurani Sirajuddin, Ikrar Mohammad Saleh, Jamilah Mustabi,Syamsinar
Perception of Beef Cattle Farmers on the Utilization of Banana Stems as Animal Feed in Soppeng Regency, South Sulawesi Province

[ABS-25]
PHYSIOLOGICAL CONDITIONS OF DECOMPOSITION PROCESS AND QUALITY OF COMPOST BASED ON FAECES BEEF CATTLE ENRICHED WITH AZOLLA Sp.

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Abstract: The research entitled "Physiological Conditions of Decomposition Process and Quality of Compost Based on Beef Cattle Faeces Enriched with Azolla sp", was aimed to determine the effect of the addition of Azolla sp. on physiological conditions which include the kinetics of temperature and pH, and the quality of compost which includes carbon content, and compost organic matter. The method used was experimental with Completely Randomized Design (CRD). There were three treatments that were the addition of Azolla sp. 0% (P0), 10% (P1), and 20% (P2). Each treatment was repeated 6 times, so that the amount of material was 18 mounds of compost. Variables measured were temperature kinetics, pH kinetics, levels of organic carbon and compost organic matter. Observations of temperature and pH kinetics were carried out on days 0, 4, 8, 12, 16, 20, 24 and 28 at 01.30 – 02.30 pm. The carbon content and compost organic matter of the final compost product were analyzed in the laboratory. Data on the kinetics of temperature and pH were analyzed using Repeated Measure Analysis of variance (RMA), while those of the levels of organic carbon and organic matter compost were analyzed using Analysis of variance (ANOVA). The results of the variance analysis showed a significant interaction ($P < 0.05$) between the treatment and the time of observation on the kinetics of temperature and pH. The highest temperature kinetics observed for P2 and P1 were reached on day 4 (54.00˚C and 50.50˚C, respectively), while the highest temperature for P0 was reached on day 8 (50.33˚C). The temperature of P0, P1 and P2 ranged 27.17-50.33˚C; 28.17-50.50˚C and 30.00-54.00˚C, respectively. The lowest pH kinetics for P0 and P1 were reached on day 20 that were 3.10 and 3.38, respectively. While the lowest pH kinetics for P2 was achieved on day 12 that was 3.20. After that, All pH rised to near neutral pH. PH kinetics ranged 3.10 - 6.70 (P0), 3.57 -6.82 (P1) and 3.20 - 6.95 (P2). Least Significance Different (LSD) results have significant variations in temperature kinetics and pH kinetics. Enrichment of compost with Azolla sp had no significant effect ($P > 0.05$) on the levels of organic carbon and compost organic matter.

Keywords: physiological conditions, decomposition, faeces, azolla sp, compost quality

[ABS-79]
THE EFFECT OF THE LEVELS OF LIQUID ORGANIC FERTILIZER FROM TRADITIONAL-MARKET WASTE ON THE PRODUCTION AND NUTRIENT CONTENTS OF SETARIA GRASS

Eko Hendarto, Bahrun and Nur Hidayat

Animal Science Faculty, Jenderal Soedirman University

Abstract: The efforts to improve the agronomy management techniques to increase the production and nutrient contents of forages are continually studied to increase the efficiencies in all aspects of life, one of which is fertilization. Tradidional-market waste liquid organic fertilizers can beused to fertilize setaria grass. This research was conducted to get information concerning the best dosage of liquid organic fertilizer utilization. An experimental method using Completely Randomized Design was applied in this study. The treatments were: 6 (six) doses of mixtures of the liquid organic fertilizer : water, of the ratios of 0:0, 1:1, 1:2, 1:3, 1:4, and 1:5, volume by volume, each of which was repeated 4 times. The land area used was 2 m x 1.5 m per plot (experimental unit). The variables measured were the dry matter (DM) concentration, DM production, crude protein (CP), crude fat (CFt), and crude fiber (CFb) contents. The data used were the results of the

harvest at second defoliation. The results of the study showed that the doses of water in the fertilizer did not indicate any significant differences (P > 0.05) on all varibles being studied. On the basis of the results, it is suggested that the addition of water into the fertilizer can be applied up to 5 folds the volume of the organic liquid fertilizer in the agronomy management of Setaria grass (Setaria splendida).

Keywords: liquid fertilizer, traditional market organic wastes, Setaria grass (Setaria splendida), production.

[ABS-84]
The Effect of Flame Retardant Addition on the Physical and Mechanical Properties of Cattle-hides Leather for Working Gloves

Iwan Fajar Pahlawan, Widari, Gresy Griyanitasari

Center for Leather, Rubber and Plastics, Ministry of Industry

Abstract: The study aimed to investigate the influence of flame retardant addition in fatliquoring and finishing process on the quality of the finished leather. The research used materials, i.e. pickled cattle hides, chromium basic sulphate, synthetic tanning agents, commercial flame retardant, fatliquors, dyestuff, and other chemicals for beam house operation and finishing process. The trial included the addition of flame retardant in fatliquoring (2%, 4%, and 6% w/w) and finishing process (100 parts, 200 parts, 300 parts). As a control, pickled cattle hides were processed without the addition of the flame retardant. The evaluation of the samples was emphasized on the physical and mechanical properties of those after the treatment. Physical properties were represented by the shrinkage percentage, thickness, and rub fastness. While, mechanical properties comprised the tensile strength and elongation at break. The results showed that the resultant leather's shrinkage percentage varied from 7.65% to 13.03%, the thickness covered a range between 0.71 mm to 1.01 mm, and the rub fastness was 5 (dry basis) and 4/5 (wet basis). This study concluded that several treatments could meet the standard related to leather working gloves and heat resistance leather.

Keywords: Fatliquoring, finishing process, flame retardant, heat resistance leather, leather working gloves

[ABS-86]
Level of Biosecurity Adoption Practices in Beef Cattle Farmers in South Sulawesi, Indonesia

Veronica Sri Lestari, Sitti Nurani Sirajuddin, Ikrar Mohammad Saleh, Kusumandari Indah Prahesti

Faculty of Animal Husbandry, Hasanuddin University

Abstract: The aim of this study was to determine the level of adoption of a range of standard biosecurity practices in beef cattle farmers in Soppeng Regency, South Sulawesi. Data were collected from 45 beef cattle farmers through observation and in-depth interview by using questionnaire. There was 26 questions which consisted of biosecurity practices: sanitation, isolation and traffic control. Data were analyzed descriptively using mean and percentage. The results showed that a level of partial adoption of biosecurity had been achieved by the beef cattle farmers. The implication is that beef cattle farmers could be motivated to enhance their level of biosecurity practices.

Keywords: Adoption, biosecurity practices; beef cattle farmers

[ABS-88]

Perception of Beef Cattle Farmers on the Utilization of Banana Stems as Animal Feed in Soppeng Regency, South Sulawesi Province

Sitti Nurani Sirajuddin[1], Ikrar Mohammad Saleh[1], Jamilah Mustabi[1],Syamsinar[2]

Faculty of Animal Husbandry - Hasanuddin University

Abstract: This study aimed to determine the perceptions of beef cattle farmers on the use of banana stems as animal feed. The study was conducted in May-June 2019 in Marioriawa District, Soppeng Regency, South Sulawesi. The type of research used is descriptive quantitative. This research uses survey method. The type of data used in this study is qualitative data and quantitative data. Data sources are primary data and secondary data. The population in this research is the whole breeder of beef cattle in Patampanua Village, Marioriawa Subdistrict, Soppeng Regency. The number of population in this research is 78 breeders of beef cattle and all population taken as sample of research. The results showed that farmers perceptions of making animal feed from banana stems were on a high scale because this activity had never been done before so that beef cattle breeders were very enthusiastic in making animal feed from banana stems.

Keywords: perception, banana stems, animal feed, cattle farmers

Wednesday, 7 August 2019

PARALLEL
Room SESSION L
Jade B

Moderator: Mochamad Sugiarto, S.Pt., M.M., Ph.D.

ABSTRACTS

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Yusmi Nur Wakhidati, Mochammad Sugiarto, Hudri Aunurrohman, Sri Mastuti
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Titin Widiyastuti, Caribu Hadi Prayitno, Munasik
Digestibility and Rumen Fermentation Products of Rice Bran From Various Varieties of Rice

[ABS-8]
Unintended Effect of Government Program on Beef Development in Indonesia; a System Approach

Novie Andri Setianto, Nunung Noor Hidayat, Pambudi Yuwono, Mochamad Sugiarto, Krismiwati Muatip, Rahayu Widiyanti

Faculty of Animal Science, Jenderal Soedirman University

Abstract: A study has been undertaking for three years to develop a step by step protocol on systems analysis of smallholder beef farming systems in rural Java. One of the objective of the study is to identify and analyse the effect of government program on beef development. The participants of the research were 50 farmers of beef farming in two farmers group in Kabupaten Banjarnegara, Central Java. A series of direct observation combined with semi-structured interviews and workshops have been carried out to capture the everyday activity of the beef farming and to highlight the potential driven factors affecting the performance of the farming. Descriptive statistics was used to analyse: (i) the activities which commonly performed by farmers before and after receiving government grant (ii) the resources affected and affecting the grant, and (iii) pressures which drove farmers to get the government grant. Then, all the relationship among identified variables were drawn using Vensim® software to develop a qualitative model of the systems. Lastly, a stock and flow dynamic modelling was performed using iThink® software. The model showed several common systems loops as the findings. One of the highlighted was the double effect of government grant to the systems performance. Initial design of the government program was to increase the sufficiency of national beef stock by importing cattle. However, model showed that it also had unintended concequences to increase farmers' expectation to get easy instant cash.

Keywords: causal loop diagram; dynamic modeling; beef farming; stock and flow

[ABS-20]
Effect of liquid probiotic supplementation in drink water on blood cholesterol and immune response in Japanese quails (Coturnix coturnix japonica)

Elly Tugiyanti, Emmy Susanti

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Abstract: The aim of this research was to understand the effect of liquid probiotic supplementation in drink water on blood cholesterol (HDL, LDL,Triglyceride) level, hemaglobin level (Hb), plasma hematocrit level and total of plasma protein (TPP) of quails. Prohibition of antibiotics in poultry, resulting in increased probiotic offers on the market. Each probiotic has an advantage in increasing productivity and immunity of quails. The research was conducted as an experimental research and used completely randomized design. Four treatments were done in this research, which was control (drink water without probiotic), drink water added by probiotics A (containing Lactobacillus sp., Rhodopseudomonas sp., Streptococcus sp., Saccarhomyches sp.), probiotic B (containing Bacillus careus, Azotobacter paspalii, Bacillus laterosporu, Bacillus lentus, Bacillus licheniformes, Bacillus pumilus Corynebacterium, Pseudomonas fluorescens Sarcina lutea Staphylococcus epidermis Staphylococcus thermophyllus Lactobacillus sp. Saccharomyces cerevisceae and Phicia anomola) and probiotic C (containing Lactobacillus casei, Saccharomyces cerevisceae, Rhodopseudomonas palustris, Molases, water). The obtained all data were then analyzed by analysis of variance and if the result showed a significant effect, further analysis will be done by

honestly significant difference test. The analysis of variance showed that variety of fluid probiotic supplementation in drink water showed had no significant effect (P>0.05) on the on blood cholesterol, HDL level, LDL level, triglyceride, but had significant effect (P<0.05) on Hb, plasma hematocrit and TPP level. The research concluded that liquid probiotics supplementation in drink water will increase immune response but not able to reduce blood cholesterol of quails.

Keywords: Antibiotics, Probiotics, Drink water, Cholesterol, Quails

[ABS-48]
TREATMENT OF RABBIT COCCIDIOSIS WITH COMBINATION OF HERBAL EXTRACT II TOWARD OOCYST EXCRETION AND HEMATOLOGY PARAMETERS

Diana Indrasanti, Mohandas Indradji, Endro Yuwono, Muhamad Samsi, Putri Vani Sundari, Mochamad Nur Ichwan, Eka Sriti Anengseh, Muhammad Natra Hatmadifia, Taufik Nur Hidayat,

Faculty of Animal Science, Universitas Jenderal Soedirman, Purwokerto, Indonesia

Abstract: This study aims to determine oocyst excretion and hematological profile in coccidiosis rabbits given a combination of herbal extract II. Hematological profiles observed were red blood cells, white blood cells, hemoglobin, hematocrit, platelets, granulocytes, eosinophils, monocytes, lymphocytes, MCV (Mean Corpuscular Volume), MCH (Mean Corpuscular Hemoglobin) and MCHC (Mean Corpuscular Hemoglobin Concentration) and body temperature. This study used 60 coccidiosis rabbits with ± 3 months age of ± 650 g weight, a combination of herbal extracts consisting of banana stem extract (BSE), papaya seeds (PSE) and garlic (GE), a set of tools and materials for rabbit maintenance and a set of hematological examination tools. The research method was carried out experimentally using a Completely Randomized Design (CRD). The analysis used was variance analysis followed by Honest Real Difference (BNJ). The combination of herbal extract II consists of BSE: 40 mg; PSE: 20 mg; GE: 40 mg. Rabbits were divided into 8 treatments with 5 replications, namely giving a combination of herbal extracts consisting of 0 mg (D0), 10 mg (D1), 20 mg (D2), 40 mg (D3), 80 (D4) mg, 100 mg (D5) and the comparison used are I herbal extract (consisting of BSE: 33 mg; PSE: 2 mg; GE: 65 mg) as much as 100 mg (D6) and Aquaprime (D7). Blood collection was conducted through the heart on the 14th day after the treatment. The combination of herbal extract II had a very significant effect on oocyst excretion and body temperature, but did not have a significant effect on all blood parameters. Hence, a combination of herbal extracts can be used as an alternative to reduce the number of oocysts in coccidiosis rabbits.

Keywords: Rabbit coccidiosis; Oocyst; Herbal extract

[ABS-50]
Effect Of Year and Season Of Birth On First-Lactation Milk Yield Of Dairy Cows

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Abstract: Nutritional status (protein and energy) during early life has important effect on milk yield of dairy cows. Feed quantity and quality is often influenced by season representing the fluctuation of water supply which is essential for plants including forage. The aim of the present study was to analyse the effect of year and season of birth on first-lactation milk yield of Holstein Friesian cows. The data included 1005 records of first-lactation daily recorded milk yield available in National Breeding Centre for Dairy Cows and Forages of Baturraden (the so-called BBPTUHPT Baturraden)

database. The milk yield was recorded within the years of 2004 to 2014. Milk yield data were adjusted to 305 standard days of milking using multiplicative-local correction factor. Animals' date of birth was grouped divided into years and months of birth. Months of birth were assigned into: (1) traditional-two season categorization (wet and dry), (2) extended-categorization of three seasons (wet, wet-dry and dry), (3) extended-categorization of four seasons (wet, wet-dry, dry and dry-wet). The effect of date of birth factor on first-lactation milk yield was tested using likelihood ratio test of full and reduced model. The result showed that both years and months of birth have significant effect on first-lactation milk yield, regardless of the season categorization. It is therefore concluded that season plays important role to consider in dairy cattle management and has to be included in genetic analysis to remove non-genetic effect which regards to first-lactation milk yield.

Keywords: birth, cows, non-genetic, Holstein, Indonesia

[ABS-78]
THE EFFECT OF NON-GENETIC FACTORS ON PRODUCTION DAIRY CATTLE IN BBPTU HPT BATURRADEN, BANYUMAS, CENTRAL JAVA

Setya Agus Santosa, Agus Susanto, Dattadewi Purwantini, and Novita Hindratiningrum

Animal Science Faculty, Jenderal Soedirman University

Abstract: The purpose of the study was to identify non-genetic factors that influence the milk production of the dairy cattle at Baturraden BPTU-HPT. The data examined were 607 production records from 233 dairy cattles that had completed lactation between first and sixth. The non-genetic factors studied were the lactation period, days of milking and age at giving birth. The influence of non-genetic factors were analysed by multiple regression of the Stepwise method. The number of lactation days had a very significant effect and the age at giving birth had a significant effect on milk production.

Keywords: non genetic factors, milk production, dairy cattle

[ABS-81]
Factor affecting behavior farmers towards risk production of broiler production in Banyumas

Yusmi Nur Wakhidati, Mochammad Sugiarto, Hudri Aunurrohman dan Sri Mastuti

Fakultas Peternakan Unsoed

Abstract: Broiler farming and production is problably more risky than others. Most broiler farmers express their risk aversion by pursue contract farming system. This study investigates production risk and behavior toward production risk of broiler farming in Banyumas. The aims of this research were to know risk production and the socio economics factor that affect the behavior of farmers towards the risk production of broiler farming. The survey was conducted on 40 broiler farmers in Banyumas through a simple random sampling method. Coefficient of variation and multiple linear regression analisis has been selected to analyse the risk production and factors affecting farmers behavior. The result showed that feed and labour are important determinant of broiler production in Banyumas (P<0,1). The regression result showed that behavior of farmers towards risk was affected by number of birds, level of education, and farming experience

Keywords: broiler farming, farmer behavior, socio-economic, risk production

[ABS-55]

DIGESTIBILITY AND RUMEN FERMENTATION PRODUCTS OF RICE BRAN FROM VARIOUS VARIETIES OF RICE

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Faculty of Animal Science, Jenderal Soedirman University

Abstract: Rice has many kind of varieties with varied organic ingredients. The purpose of this study is to assess influence of varied organic matter content on digestibility and fermentation products in rumen. The method of research is done by in vitro, using completely randomized design with 6 varieties of rice bran as treatments (Pandan Wangi, Ketan Putih, IR 64, Aek Sibundong, Ketan Hitam and Umbul). Each treatment is repeated 3 times, continued by Honestly Significant Difference (HSD). The objective of the research was to evaluate VFA level, N-NH3, dry matter digestibility (DMD) and organic matter digestibility (OMD). Results of analysis of variance showed that the rice bran varieties have a Highly significant effect on the levels of VFA ($P < 0.01$), but its not significant effects on N-NH3 level, DMD and OMD. A highly significant difference is shown by rice bran of Pandan Wangi varieties with Ketan Putih and Ketan Hitam. Based on the results can be concluded that rice varieties affect the level of VFA but do not affect the level N-H3, DMD and OMD, Pandan Wangi varieties has the highest VFA produce in the rumen.

Keywords: Rice varieties, VFA, N-NH3, DMD, OMD, in vitro

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Vertical Integration of Broiler Industries in Indonesia (Analysis of Case Decisions Number 02/KPPU-I/2016)

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Abstract. This study aims to get a deeper explanation of vertical integration in the broiler industry in Indonesia. The data used is secondary data on case decisions number 02 / KPPU-I / 2016. KomisiPengawasPersaingan Usaha (KPPU) Republik Indonesia has issued a decision about the alleged violation of article 11 of Act Number 5 of 1999 related to the regulation of broiler production in Indonesia. The data obtained were analyzed by descriptive method. The results obtained are (1) there are 20 large companies that are directly related to the broiler trade industry, (2) broiler industry products are DOC, feed, vitamins and drugs, raw materials for poultry feed and carcasses, (3) the business category in the broiler trade industry is integrated business, semi-integration business and non-integrated businesses. Integration business consists of vertical integration and horizontal integration. Vertical integration is a business that has a series of production processes from upstream to downstream. Semi-integration business is a business that only has more than one production line but does not control the business from upstream to downstream. Non-integration business is a business that only has one production process. Integration business has a dominant market share and can influence the price maker. It was suggested that the Government monitor more closely the large companies that carry out integration so as not to collude and form a monopoly market.

Keywords: business integration, vertical integration, broiler industry

1. Introduction

Broiler is a superior breed of chicken produced by crossing species / chicken breeds that have high productivity, especially in producing chicken meat. In the development of business growing and developing very rapidly, businesses are not only farmers who do chicken breeding (DOC FS), but up to harvest live chickens (Live Bird).

The geographic market for businesses that supply DOC FS is to the entire territory of the Republic of Indonesia, and does not divide the marketing area of DOC FS. Regulatory related to marketing permits, the company is not restricted in its territory regionally, so it is free to do marketing both inside and outside its domicile. There is no absolute behavior of barrier to entry by entrepreneurs to limit marketing between competitors, so buyers from any region are free to choose the market.

Vertical integration is a process to internalize transaction internalization through merging different stages like production, distribution, etc [1]. One activity that can encourage economic activities of the

coastal communities is the development of integrated enterprises between the aquaculture and fishing with processing. All of the processing that is integrated with the cultivation and fishing provides the benefits to coastal communities such as integration with the enterprises of catfish crackers, seaweed dodol with seaweed cultivation, curing fish, dried fish and fish ball producers. The integration of these enterprises creates increased in revenue through the increases of value added, price of fresh fish and price stability of the fish [2].

The research was investigated the correlation between the type of integration with the corporate performance in financial perspective, customer perspective and internal business process perspective. The result of the research, there was strong correlation between the type of integration quality of integration and industry performance [3]. The results of the study Mulyaningsih and Karseno [4] entitled vertical competence on efficiency and competition, discussed the motivation of vertical integration in the clove cigarette industry to profit in the long run is positive. Vertical integration increases efficiency because by integrating margins in the industry can reduce prices down or profit increase.

An industry in terms of carrying out its business can be influenced by vertical integration behavior. The company's objectives for vertical integration include efficiency, certainty of raw materials and increased access to consumers and reducing or eliminating competitors in the market. This study aims to get a deeper explanation of vertical integration in the broiler industry in Indonesia.

2. Methodology

The study uses secondary data in the form of the Business Competition Supervisory Commission (*Komisi Pengawas Persaingan Usaha* or KPPU) with descriptive analysis which is a research method consisting of making a description, general picture or systematic drawing. Factual and accurate about facts, the nature of interrelated relationships. This type of descriptive research tries to find answers about cause and effect relationships by analyzing the causes or considering a particular phenomenon [5] [6].

Komisi Pengawas Persaingan Usaha (KPPU) Republik Indonesia [7] has issued a decision about the alleged violation of article11 of Act Number 5 of 1999 related to the regulation of broiler production in Indonesia. Brokerage Cutting or culling of Broilers Parent Stock by Breeders in 2015 in Indonesia. Breeders violate Article 11 of Law Number 5 Year 1999 which states: "Businessmen are prohibited from making agreements, with business competitors, who intend to influence prices by regulating the production and or marketing of goods and or services, which may result in monopolistic practices and or unfair business competition"

The geographical market for supplying DOC FS is to the entire territory of the Republic of Indonesia, and does not divide the marketing area of DOC FS. In terms of regulations related to marketing permits, companies are not limited to regional areas, so they are free to do marketing both inside and outside their domicile. No absolute barrier to entry behavior was found by entrepreneurs to limit marketing between competitors, so that buyers from any region were free to choose the desired market.

3. Result and Discussion

Broiler Industry

In Indonesia there are at least 20 companies, 14 among them big companies directly related to the broiler industry, namely:

1) Company A is engaged in purchasing, importing, as a distributor and retailer of chicken, domestic chicken, livestock and its products, livestock products and food, animal food supplementary materials including veterinary medicines and hatchery companies.
2) Company B is engaged in breeding and breeding of mains, day old chicks and all other types of birds.
3) Company C is engaged in animal feed, broiler and laying Day Old Chick (DOC), broiler duck, animal feed raw materials, industrial goods, fisheries and related products, slaughtered goods

and goods goods produced by processing and preservation whether produced by themselves or not, which include import and export trade, between islands / regions and local and intersulair for goods produced by themselves and products of other companies.

4) Company D is engaged in poultry farming, including the cultivation of ducks, geese, pigeons, ostriches, laying hens and breeding of chicken breeds including the Grand Parent Stock, Parent Stock and Day Old Chick (commercial chicken) and pure line and related business activities.
5) Company E is engaged in agriculture, plantation, animal husbandry, timber, forestry, fisheries which includes fishing, fish farming, agricultural cultivation, plantations, livestock, timber, forestry and the sale and collection of trade in fisheries, agriculture, plantations, livestock, timber, forestry.
6) Company F is engaged in chicken farming.
7) Company G is engaged in importing Grand Parents Stock (GPS) and selling its products to markets in Java and Kalimantan.
8) Company H is a company that produces Grand Parents Stock (GPS) and Final Stock farm.
9) Company I is engaged in agriculture, fisheries, both land, sea and shrimp, livestock, timber and rattan, marine.
10) Company J is engaged in industry in general, including the animal feed industry, chickshatchery industry.
11) The K company is engaged in chicken breeding and broiler farm.
12) Company L is engaged in animal husbandry, especially poultry, aquaculture including breeding and cultivation of shrimp and seaweed and several other business fields.
13) M and N companies are engaged in chicken farming.

Most companies engaged in poultry have many other activities, both directly related and not directly related to poultry. The market share showed in **Table 1**.

DOC and Carcass Products

Chicks are a key factor in the success of the broiler industry. Day Old Chick Final Stock (DOC FS) is a term for one day chicks. DOC FS is the result of a Hatcher (PS), PS DOC was raised to the age of 25 weeks then will continue to enter in the production age of up to 65 weeks. DOC FS received by breeders is the last level of the chicken strain or commonly called Final Stock (FS). DOC FS is the result of selection so that the final result is truly productive and of high quality. DOC FS is an input cost for businesses engaged in cultivation to become live chickens ready to cut (live birth). The scheme of DOC Parent Stock up to DOC Final Stock showed in **Figure 1**.

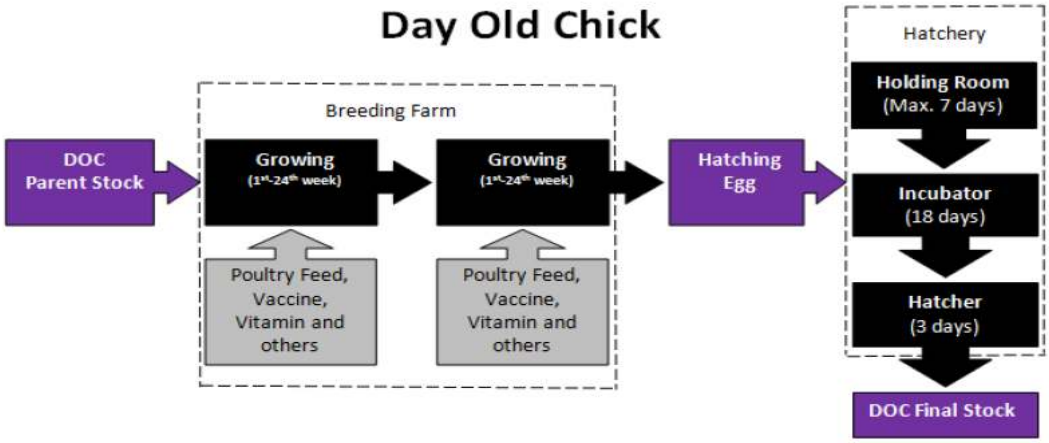


Figure 1. The scheme of DOC Parent Stock up to DOC Final Stock

Carcass is the final product in the broiler industry. Based on its characteristics, carcass products are final products sold both in traditional markets and modern markets. To get carcass products, live chicken is ready to cut then cut and cleaned until it produces carcass chicken products. Business in the carcass sector do not carry out such a long process as DOC. Business people profit based on the difference between the purchase price and the selling price. Consumers on carcass products are final consumers because in general the chicken carcasses purchased are immediately cooked for consumption. Based on the purpose, carcass products are very different from DOC products. Carcass products are products that are distributed directly from slaughterhouse to merchant businessmen whose purpose is to have these products sold to end consumers. Price of 1 Kg carcass is around Rp 28,000 to Rp. 40,000 (2016).

Table 1. Market share of GPS in 2015

Number	Company	Market share (%)
	B	35
	A	10
	C	10
	D	8
	E	5
	F	4
	G	4
	H	3
	I	7
	J	4
	K	2
	L	4
	M	1
	N	3

Source : Case Decisions Number 02/KPPU-I/2016

According to the decision of case number 02 / KPPU-I / 2016, breeders are more related to brokers, and more prices are determined based on conditions of supply availability in the market and consumer demand. Independent farmers compete directly with integrated companies that produce more. Integrated companies are easier to influence market prices. Independent breeders act as price takers. Broker has a role in selling chicken meat. The broker has information at the farmer level, as well as information about market needs. Thus, the broker will always be easy to get profits, while the basket / retailer is very large, acting as a price taker. Independent farmers have suffered losses in recent years, mainly due to very high dependence on integrated companies as well as competition that is not comparable in the chicken meat market, so that the losses experienced by independent farmers can be a disincentive for independent farmers and potential breeders.

Vertical Integration

Business in the poultry trade system, especially for broilers, can be divided into three categories of businesses, namely integration business, semi-integration business and non-integration business.

a) Integration business is a business that has a series of production processes from upstream to downstream. Integration business having a dominant market share can usually influence the price maker. The production process in the chicken industry from upstream to downstream can be seen based on the business as follows: hen breeding / Grand Parent Stock to Parent Stock (Breeding Farm that produces PS DOC), commercial broiler breeding (Breeding Farm that produces DOC FS), feed business , vitamins and medicines, poultry feed raw material business, commercial broiler farm business and chicken cultivation business in partnership

with the provisions made by the Nucleus Company, and businesses that open live broiler bases in traditional markets, and seek processing ready-to-eat chicken.

b) Semi-integration business is business that only has businesses in more than one series of production but do not control businesses from upstream to downstream. This business usually still has a dependency with business on the upstream and downstream sides. An example of a semi-integrated business is a farmer who also has a feed business, but does not have a GPS parent, so he still has to buy DOC PS from other business and does not have a slaughterhouse resulting in live chicken production directly sold to the market or to the slaughterhouse chicken.

c) Non integration business that only have one production process. This business has no bargaining power in the market and tends to be a price taker. Business in this segment is the largest business operators by number. Examples of business in this sector are independent chicken breeders, brokers, *pelapak* and others.

Integration businesses are generally in the form of legal entities and have good corporate organizations; even 3 out of 12 companies are integration businesses that have become publicly listed companies. The number of integrated business is less than that of semi-integrated business and non-integrated business. The vertical market not being integrated, there is a tendency for profit margins not to be well distributed in every competitor in the distribution chain [8].

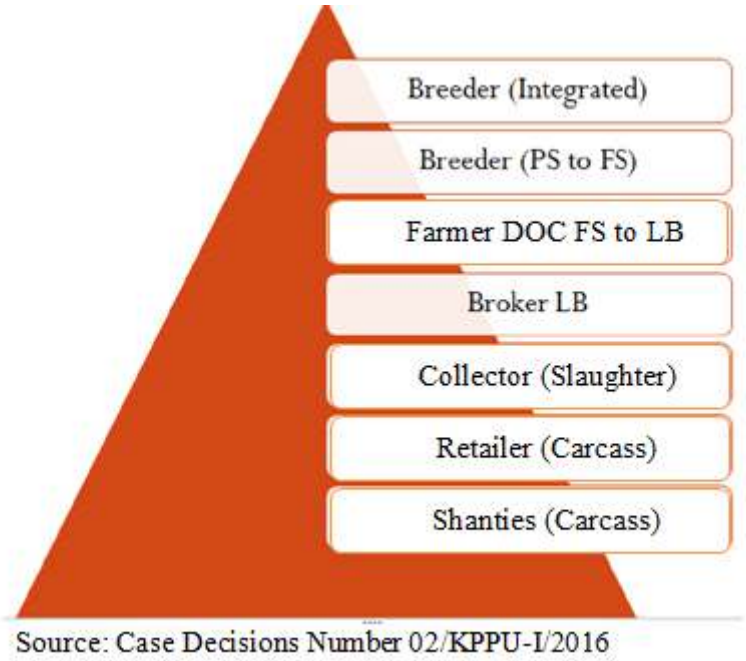


Figure 2. Pyramid Broiler Company

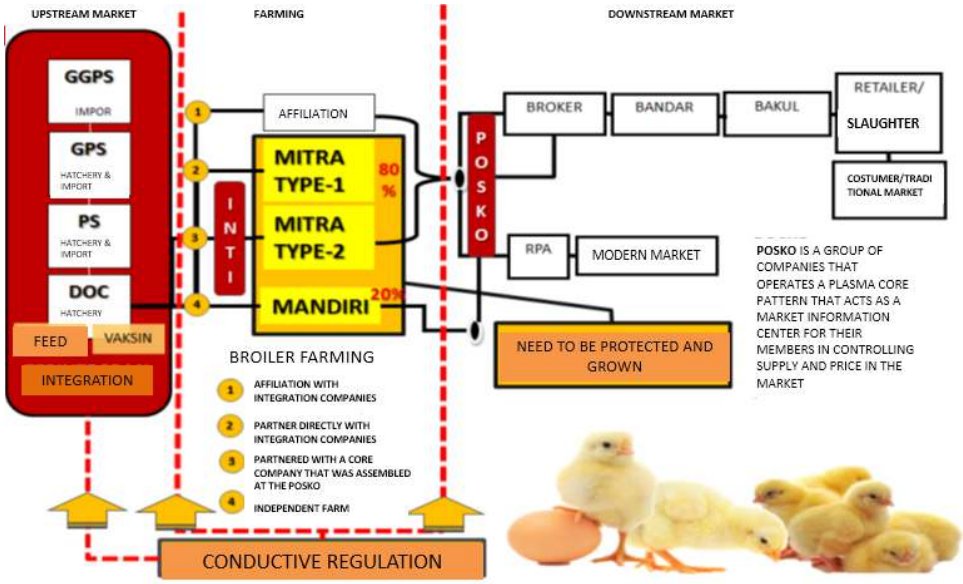
Broiler industry is an industry that is concentrated in several businesses. Industry players conduct their business by forming vertical integration from upstream to downstream. While on the other hand, independent farmers are highly dependent on integrated companies as a source of production inputs, while on the downstream side, competing in the same market that is the chicken meat market. In general, businesses in the poultry trade system can be described in **Figure 2**.

Based on **Figure 2**, it appears that integrated companies are at the peak level of the pyramid with a small number of business then followed by breeder business. Breeder business can be divided into two categories. First, Breeder is a subsidiary of a holding company that has an integrated business. Breeders in this category usually have GPS so that the selling products are DOC PS and DOC FS. Second, Breeders which only produces DOC FS. Breeders in this category do not have GPS so it is

highly dependent on hatchery businesses that produce DOC PS. DOC PS was later raised to produce new DOC FS and then sold. Breeders in the second category are generally included as semi-integrated business due to the fact that breeders have a cultivation business of enlarging DOC FS to LB. At the next level there are business breeders / cultivators. The level of the breeder business up to the last level of the business is a business that is generally not integrated, except for farmers who have a partnership. Farmer businesses are in dire need of good supply of DOC FS, feed, vitamins and drugs from businesses at the top level.

The product of the breeder business is Live Bird. The Live Bird harvest is then sold by the breeder business to the broker business (dealer or intermediary). Brokerage is business people who are usually individuals. While brokerage may concurrently become a broker and / or only become a dealer.

The last level is retailer and/ or *pelapak*. Retailers and/ *pelapak* are business at the final level because the products they sell are carcasses which will be consumed by end consumers in the broiler industry. The difference between retailers and *pelapak* lies only in the large number of chickens they sell. Retailers have a larger amount that usually gives *pelapak* to be sold in traditional markets.



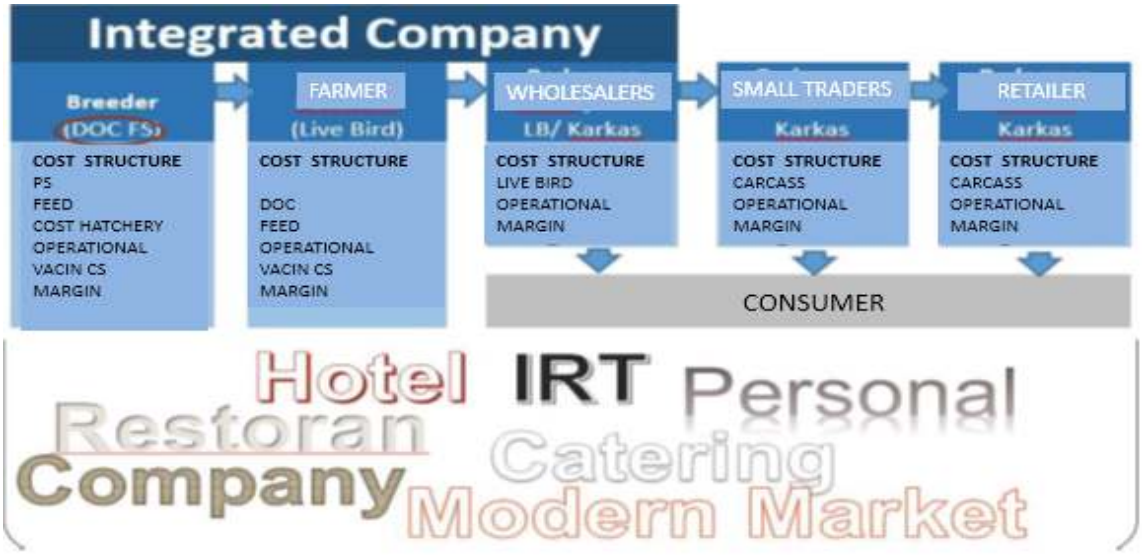
Source : Case Decisions Number 02/KPPU-I/2016

Figure 3. The scheme of Broiler Marketing in Indonesia

Integration companies control business processes from upstream to downstream, so integration companies should be more efficient in providing the selling price of live chickens at the consumer level because they do not cross the long supply chain. There is no policy set by the Government related to the protection of independent farmers, in the form of guarantees of supply of DOC and feed.

Integrated supply chain practices enhance the development of better quality and innovative products. It also help firms in improving their set up processes by reducing costs and delivery timings to the end users that effectively influence competitive strategies [9]. Such vertical integration strategies are capable of avoiding the intermediate channels of middlemen, raising direct benefits by enhancing yield and quality and producing internal economies [10].

Business in the broiler industry can be divided into several businesses, namely horizontal business and vertical business. Horizontal business, namely: (1) chicken feed business, (2) drug and vitamin business, (3) facility and infrastructure business, and (4) other equipment. Vertical business, namely: (1) parent stock business, (2) day-old chicken final stock business, (3) farming (enlargement to chicken ready for consumption / live bird), (4) brokers of live bird, (5) chicken slaughterhouses, (6) market traders / *pelapak*, (7) cold storage businesses, and (8) food processing businesses.



Source: Case Decisions Number 02/KPPU-I/2016

Figure 4. Integration of Broiler Company in Indonesia

The vertical integration of coal enterprises has positive incentives for the promotion of ICSR, financing structure and market power play a chain intermediary role in this process ofincentive, in areas with high marketization process, vertical integration has more significantincentive effect on ICSR [11]. The advantages of this collaboration support sustainability both directly and indirectly. Economically, it increases the revenue while reducing the operational cost since they share some resources. It increases the productivity since the farmers get more resources which possibly have an impact on the improvement of internal process efficiency producing more yields [12]. A strategic rationale for partial backward integration is developed for a dominant firm with a competitive fringe purchasing from competitive input suppliers. A partially backward integrated dominant firm potentially can increase profit through production efficiency gains and through a lower price for externally purchased input. The optimal degree of backward integration results when the dominant firm's profit from exerting monophony market power in the external spot market equals its profit from producing raw input internally, less the incremental cost of acquiring internal raw input production capacity [13].

Based on **Figure 4**, there is a dominant position held by integration companies. Integration companies control business processes from upstream to downstream. Integration companies should be more efficient in providing the price of live chickens at the consumer level because they do not cross a long supply chain.

Integration between different businesses is a form of mutual symbiosis and resultant outcome that produces multiple effect in the form of added value and greater employment opportunities [14]. Factors contributing to this vertical product differentiation likely include brand loyalty, differences in marketing services, and previous seed experience. The results also reveal that vertical organization influences how firms exercise market power and price goods [15].

Integration businesses also sell chickens in the form of carcasses in modern markets and traditional markets as well as in the hotel, restaurant and catering markets (HORECA) and also markets in special segments such as private companies. It is different from non-integration companies which must pass the distribution chain which only leads to the traditional market. Variable such as environment, discount price, payment procedures and facility affect impulsive buying in traditional markets [16].

Payoffs and risks increase as firms become more vertically integrated. Firms that become more vertically integrated by owning shuttle facilities are able to insure themselves with a greater possibility

of owning soybeans to ship in order to capture the arbitrage opportunities that arise compared to the limitations of purchasing soybeans as a nonintegrated firm [17].

4. Conclusion

There is a vertical integration in the broiler industry which dominates the broiler market in Indonesia. There is no policy set by the Government related to the protection of independent farmers, in the form of guarantees of supply of DOC and feed. Suggestion that the government needs to monitor more closely the large companies that carry out integration so as not to collude and form a monopoly market.

References

[1] L. Kai and G. Xiao-ling, 2017. A literatur review on the vertical integration strategy of Industry chain. *JINDEC Review.* 03.
[2] R. Darma, L. Fudjajadan, and A. N. Tenriawaru. 2018. Fishery based-processing enterprises integration for the coastal community development. *JEAS.* 13(3): 588 – 595.
[3] Rupiarsieh and S. H. Santosa. 2019. Performance improvement in order to improve competitiveness analysis on supply chain management integration strategy leather industry in Tanggulangin. *ASSRJ.* 6(2) :1-13.
[4] T. Mulyaningsih and A. R. Karseno, 2004. Pengaruh integrasi vertikal pada efisiensi dan persaingan: studi empiris pada industri rokok kretek tahun 1976-2001. *JIEB*.17, 693-717.
[5] E. Babbie, 1986. The practice of social research. fourth edition, Wadsworth Publishing Co. Belmont, California a Division of Wadsworth Inc.
[6] M. Nasir. 1988. Metodologi penelitian. Ghalia Indonesia. Jakarta.
[7] Komisi Pengawasan Persaingan Usaha Republik Indonesia (KPPU RI). 2016. Putusan Perkara nomor 02/KPPU-I/2016 Pelanggaran Pasal 11 Undang-undang Nomor 5 tahun 1999 terkait Pengaturan Produksi Bibit Ayam Pedaging (Broiler) di Indonesia. 868 halaman
[8] R. Ningsih and D. W.Prabowo, 2017. The level of market integration of chicken broiler at main production center: case study East Java and West Java. *BILP*.11 (2):247-270.
[9] K. Jermsittiparsert, W. Joemsittiprasert, and M. Syazali. 2019. Impact of process and product modularity on competitive performance of Thailand manufacturing firms: mediating role of supply chain quality integration. *IJSCM.* 8(3): 83 – 94
[10] R. V. R Murthy. 2011. Does vertical integration benefit cotton farmers? Encouraging evidence from an experiment in Andhra Pradesh. *The IUP J. Agr. 42 Eco*. VIII (4): 41-57.
[11] Z. Sun, Y. Li, M. Wang, X. Wang, Y. Pan Y, and F. Dong, 2019. How does vertical integration promote innovation corporate social responsibility (ICSR) in the coal industry? A multiple-step multiple mediator model. PLoS ONE 14(6):e0217250. https://doi.org/10.1371/journal.PLOS ONE | https://doi.org/10.1371/journal.pone.0217250 June 12, 2019 1- 23
[12] W. A. P. Dania, K. Xing, and Y. Amer, 2019. An integrated collaboration framework for sustainable sugar supply chains. *IJSCM.* 8 (3): 706 – 717.
[13] H. A. Love and D. M. Burton, 1999. A strategic rationale for captive supplies. *JARE.* 24(1):1-18
[14] R. Darma, A. Majdah, M. Zain dan N. Tenriawaru, 2015. Brown cane sugar-cattle production integration for rural economic development prospects in South Sulawesi, Indonesia. *Exp.Agric*. 9: 107 – 119.
[15] G. Shi and J. P. Chavas, 2011. The Effects of vertical organization on the pricing of differentiated products. *JARE.* 36(3):448–464.
[16] W. Handayani, E. Iryanti, M. Safeyah, and S. Hardjanti. 2019. Improving traditional market sustainability in the industrial 4.0 era through impulsive buying strategy: A case in East Java, Indonesia. *IJSCM.* 8(3): 1045 – 1056.
[17] K. Skadberg, W. W. Wilson, R. Larsen, and B. Dahl. 2015. Spatial competition, arbitrage, and risk in U.S. Soybeans. *JARE.* 40(3):442-456.