PROCEEDINGS OF

THE INTERNATIONAL CONFERENCE ON ENVIRONMENTALLY SUSTAINABLE ANIMAL INDUSTRY (ICESAI) 2020

Malang, 18-19 November 2020

“Achieving Resilient and Environmentally Sustainable Animal Industry in the post COVID-19 Pandemic Era”
# TABLE OF CONTENT

## PREFACE

Welcome Speech

PROCEEDINGS

The Impact of COVID-19 Pandemic on Poultry Production: Challenges and Prospects

Sustainability of Sheep and Goat Production in Asian Countries

Electrical Conductivity of Milk: Measurement and Analysis of Mastitis Detection Performance on Dairy Cattle

Analysis of Critical Point Amplification of DNA Microsatellite of Capra hircus

Case Study of Critical Point on RFLP (Restriction Fragment Length Polymorphism)

Observational Study on Critical Point of Polymerase Chain Reaction (PCR) Process of Mitochondrial DNA

Estimation of Heritability for Body Weight Using Fullsib and Halfsib Method in Etawah Grade Goat

5 Ways to Improve Farmer Management Skills of Joper Parent Stock in Berline Farm, Ngajum, Malang

The Potential of Antioxidant Activity and the Characteristics of Fingerroot Extract (Boesenbergia pandurata Roxb. Schlecht.) with Nanoencapsulation Technology

Nutritional Content, Gross Energy and Density of Banana Corn Evaluation from Nanotechnology and Re-binding as A Hybrid Duck Feeds

The Effect of Corn Substitution with Re-Binding Banana Hump Flour in Feed on Internal Organs, Abdominal Fat Percentage and Size of Caeca in Hybrid Ducks

The Effect of Corn Substitution with Palm Kernel Meal with Addition of Enzyme Mananase in Feed on Carcass Weight, Carcass Percentage, Pieces of Carcass Hybrid Ducks
Ruminal Degradation of Selected Local Feeds in Dairy Cattle Using In Sacco Techniques
A. Rosmalia, I.G. Permana, Despal, and R. Zahera ...................................................................... 77

The Effect of Fresh Dayak Onion (Eleutherine palmifolia L. Merr) and Storage Time on
Rejected-Duck Nuggets N. Hidayat ........................................................................................................ 83

Effect Ozonation on the Physicochemical and Penicillin-G Residues in Dairy Milk D.
Suprapto, L. E. Radiati, C. Mahdi, and H. Evanuarini ...................................................................... 91

Extraction of Chicken Head Proteins and Evaluation of Their Functional Properties K. U. Al
Awwaly, I. Thohari, M. W. Apriliyani, and D. Amertaningtyas .......................................................... 97

Water Requirements in Hydroponic and Aquaponic Maize Fodder Production Hermanto,
S. Chuzaemi, B. A. Nugroho and I. Subagiyo .................................................................................. 103

The Fermentation Quality of Agricultural Waste-based Complete Feed Silage Treated with
Cellulase and its Effect on Productivity of Kacang Goats B. Santoso, T. W. Widayati, and
B. T. Hariadi ...................................................................................................................................... 110

Indonesian Food Culture, Goat Satay: Nutritional Profile and Precursor Compounds of
Heterocyclic Aromatic Amine (HAA) Carcinogens D. Rosyidi, E. Saputro, L. E. Radiati and
W. Warsito ...................................................................................................................................... 115
5 Ways to Improve Farmer Management Skills of Joper Parent Stock in Berline Farm, Ngajum, Malang

M. H. Natsir*, V. M. A. Nurgiartiningsih, O. Sjofjan, W. Firdaus, and Y. F. Nuningtyas
Faculty of Animal Science, Universitas Brawijaya, Malang 65145, Indonesia
*Corresponding email: emhanatsir@ub.ac.id

Abstract
The aim of this community service was to developed Berline Farm in Ngajum - Malang through improving management, feed formulation, and digital marketing. The activities were performed to developed berline farm: 1) selection and breeding of male and female parent stock, 2) hatchery management, 3) produce good quality of feed to minimize feed costs and increase demand, 4) replace the use of antibiotic with natural feed additives, 5) develop marketing with digital marketing. The method in this community service was used counseling, discussing, training, practice, and applied in the farm. Based on these activities has a positive impact on the farmers, it can be shown that the farmers were very interested in every meeting. They also can be formulated feed, used natural feed additive to the replaced antibiotic. The results of the activities were 1) have ability to choose of parent stocks 2) hatchability and fertility have increased through improved crossing management with artificial insemination technology, 3) have the ability to make self mix feed, 4) Use of natural additives to replace antibiotics from UB Feed, 5) Strengthen product branding and digital marketing to expand product marketing (DOC). The conclusion of this service community shown the Berline farmer have required training and practice about the feed formulations and modern management of the breeding farm to improve income by lowering feed costs, selection of parent stock and improving marketing techniques.

Keywords: joper parent stock, feed, branding, management

INTRODUCTIONS
The development of livestock in Indonesia is accelerating by the improvement of consumer demand for a source of animal protein. The Source of animal protein has come from eggs, chicken meat, beef, and milk. Recently, consumer demand for native chicken (kampung chicken) meat was increased due to the free from chemicals compound (Tacconi et al., 2017). Since the development, purification, and breeding of local chickens has been carried out, it was also found some of the superior breeds of kampung chickens. Kampung chicken has a harder quality of meat compared to buras chicken (Aman, 2011). The development of hybrid kampung chickens in Indonesia is growing very rapidly along with increasing consumer demand. One of the hybrid kampung chickens that began to be commercialized is "jowo super/joper chickens". Joper is the result of the breeding between Bangkok chicken and laying hens. The emergence of joper chicken is against the backdrop of high consumer demand to provide food from the kampung chicken and the lack of availability in the market. So there was an innovation of breeding called jowo super/joper chickens which performed very similarly to the kampung chickens. Kampung chickens commercial farm are still few compared to other livestock company. The prospect of this chicken is very bright, with only a two-month cultivation process, which can reach a weight of 1 kg. Joper chickens have tender meat and are not mushy, sweet and savory. The texture of the meat similar to kampung chickens. The harvest period around 55-66 days, with the number of eggs 180 eggs per bird/year. Berline Farm is a breeding farm produced DOC (Day Old Chickens) Joper located in Maguan Village Ngajum District Malang Regency. This breeding farm has the opportunity to develop the production DOC joper in Indonesia. The
The aim of this community service was to develop the Berline Farm in Ngajum - Malang through improving management, feed formulation, and digital marketing. The activities were performed to develop Berline farming: 1) selection and breeding of male and female parent stock, 2) hatchery management, 3) produce good quality feed to minimize feed costs and increase demand, 4) replace antibiotic use with natural feed additives, 5) develop marketing with digital marketing.

**MATERIALS AND METHODS**

The method in this community service was used counseling, discussing, training, practice, and applied in the farm. This activity was carried out in CV. Berline Farm, Maguan Village, Ngajum District Malang Regency. The activity was carried out through several stages, namely:

1. Selection and breeding of male and female parent stock,
   - grouping Bangkok chicken as a male for semen collection,
   - grouping female layer hens in artificial insemination,
   - weighing of the DOC,
   - analysis performance of DOC to find out the super breed
2. Hatchery management,
   - Counseling about how to choose parent stock and process of egg selection
3. Produce good quality feed to minimize feed costs and increase demand,
   - Counseling on the selection of local feed ingredients that can be used as chicken feed
   - Introduction of local feed as a raw material to formulate feed through improvement technology with fermentation technology, hydrolysis, meal produce etc.
   - Analysis of feed materials in Laboratory of Nutrition and Livestock Food, Faculty of Livestock, Universitas Brawijaya
   - Practice formulating natural feed additives.
4. Replace antibiotic use with natural feed additives
   - Counseling about the role of natural feed additive
   - Introducing the materials that can be used as a natural feed additive
5. Develop marketing with digital marketing.
   - Improvement website of CV.
   - Berlin website linked to marketplace

**RESULTS AND DISCUSSIONS**

3.1 Location of CV. Berline farm

CV Berline Farm is a breeding farm that produces DOC (Day Old Chickens) of the cross-breeding between the male of Bangkok chicken and the female of laying hens. CV Berline Farm is the largest joper breeding farm in East Java. The company was founded by an entrepreneur in 2017. Currently, the company expanded to grow the business by sending DOC to some of the regions in Indonesia, market products in the form of carcasses and meat products by online.

3.2. Selection and breeding of the male and female

The selection aimed to increase flattening in a livestock trait followed by increased uniformity. The selection process was carried out to determine the uniformity of DOC body weight. Breeding is a genetic improvement of livestock through the mating of male and female. Breeding consists of genetically selecting purebred lines for desirable characteristics and multiplying and crossing these lines in three to four steps to breed commercials chickens. Genetic selection, based on the performance of the bird itself and of relatives (Leory et al, 2015). Multiplication and crossing take place at multiplication sites, where only birds with visible abnormalities are rejected.
3.3. Feed formulations

The feed formulation practice aimed to guide the farmers to arrange or formulated feed based on the nutritional requirements to obtained good performance. This training explained the selection of local feed ingredients that can be utilized as a joper feed. It was the local feed utilization can reduce feed costs. In the other hand, to improve feed quality can be done with fermentation technology, hydrolysis and others (Araujo, 2004). The results of feed formulations can be analyzed in the Laboratory of Nutrition and Livestock Food, Faculty of Animal Husbandry, Universitas Brawijaya to find out the nutritional content of feed and feed self-mixed. The feed composition of joper can be shown below:

<table>
<thead>
<tr>
<th>Feedstuff</th>
<th>Composition (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>57,11</td>
</tr>
<tr>
<td>Soybean meal</td>
<td>13,89</td>
</tr>
<tr>
<td>Rice bran</td>
<td>5,00</td>
</tr>
<tr>
<td>Meat Bone Meal (MBM)</td>
<td>16,12</td>
</tr>
<tr>
<td>Fish meal</td>
<td>7,00</td>
</tr>
<tr>
<td>Casava meal</td>
<td>5,00</td>
</tr>
<tr>
<td>Coconut Oil</td>
<td>1,11</td>
</tr>
<tr>
<td>CaCO₃</td>
<td>0,1</td>
</tr>
<tr>
<td>Salt</td>
<td>0,15</td>
</tr>
<tr>
<td>Premix</td>
<td>0,64</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

Nutritional Content

<table>
<thead>
<tr>
<th>Metabolizable Energy (Kkal/Kg)</th>
<th>3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Protein (%)</td>
<td>18</td>
</tr>
<tr>
<td>Extract Eter (%)</td>
<td>5,43</td>
</tr>
<tr>
<td>Crude Fibre (%)</td>
<td>3,43</td>
</tr>
<tr>
<td>Ca (%)</td>
<td>0,16</td>
</tr>
<tr>
<td>P (%)</td>
<td>0,62</td>
</tr>
<tr>
<td>Lysine (%)</td>
<td>1,02</td>
</tr>
<tr>
<td>Methionine (%)</td>
<td>0,36</td>
</tr>
</tbody>
</table>

3.4 Natural feed additive

Natural feed additive can be replaced the used of antibiotic growth promotor. Natural feed additive can be obtained from plants and microorganism. Plants have the bioactive compounds and essential oil that can improved the healthy of the animal without any residue. Kind of the plants can be utilized as an natural feed additive consist of *curcuma domestica*, ginger, garlic, tamarind, celery and each other. Microorganism that can be used as a feed additive namely probiotics. Probiotics contain good microorganisms such as *lactobacillus*. These bacteria are useful for maintaining a good balance of bacteria in the gastrointestinal tract, with stopping the growth of harmful microorganisms.

3.5 Digital marketing

Digital marketing is one steps to developed Berline Farm. Especially, in this periods of pandemic covid-19 the trading should be online. The community service has the assistance the farmer to create a website that can be visited by all users. On the website are displayed products from berline farm such as DOC and carcass. In addition, the marketplaces such as shoppe, bukalapak and Tokopedia also created to improve
CONCLUSIONS

The conclusion of this service community shown the Berline farmer have required training and practice about the feed formulations and modern management of breeding farm to improve income by lowering feed costs, selection of parent stock and improving marketing techniques.

REFERENCES


Tacconi1, S.M. Mendoza, G.R. Murugesan, E. Hendel, A. Kóvacs. 2017. Natural Feed Additives As Alternative To In-Feed Medication. 12th International Symposium on the Epidemiology and Control of Biological, Chemical and Physical Hazards in Pigs and Pork. August 21-24, Brazil
