Relationship Between Farmers Weaknesses About Knowledge of Formulation and Feed Technology on Feed Conversion in Alabio Ducks

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Abstract

The study aims to determine and analyze the relationship between breeders' knowledge about feed formulations and the conversion value of duck feed. The subjects in this study were Alabio duck breeders in Hambuku Raya Village and Putat Atas Village, Hulu Sungai Utara, South Kalimantan Province, Indonesia with observed objects in the form of Alabio duck feed conversion and breeders' knowledge of feed formulation knowledge and Alabio duck feed technology. The research method used was non-experimental explorative, the researcher did not give treatment to the group of Alabio ducks and conducted a survey by distributing questionnaires to farmers. Observation of feed conversion is carried out for 3 (three) months from February-April 2018 in each group. Observation of feed conversion is carried out starting from Alabio ducks to produce eggs, which are about 6 months old. Testing of feed conversion, normal data using analysis of variance (Anova), if significant continued with LSD. Survey research is the stage of analyzing using SWOT analysis to determine the level of weakness and strength in the framework of the development of Alabio ducks in the Hulu Sungai Utara Regency of South Kalimantan Province. The results of the analysis of feed conversion of the three groups were not significantly different, the group of Putat Atas Ducks for feed conversion an average of 4.51 ducks Hambuku Raya 1 group an average of feed conversion every month 5.30, the ducks of the Hambuku Raya 2 group the average conversion of feed every month 4.75. SWOT analysis value of weakness factor is 1,764, this factor includes one of them is knowledge of farmers about feed formulation. The results of this study are in line with the results of feed conversion in the first stage of research, the value of feed conversion obtained is still relatively high at 4.51-5.30. The conclusion is the SWOT analysis score of weakness factors one of which is the lack of knowledge of farmers about formulation and feed technology affect the high feed conversion.

Keywords: *Alabio duck, feed convertion, SWOT analysis*

Introduction

Animal husbandry is one of the agricultural sub-sectors that has great potential to be developed because it provides a large enough contribution to the Indonesian agricultural sector. Laying ducks are waterfowl raised specifically to produce eggs. Increased economy and public awareness about the need for animal protein has resulted in an increase in the need for eggs and meat. One effort to meet the needs of animal protein in the community is the livestock business[1]. Sulaiman and Rahmatullah states that in general Alabio duck eggs are very popular, especially for the people of South Kalimantan, who value duck eggs more than chicken eggs[2].

The maintenance of Alabio ducks has a bright prospect along with increasing population and increasing public awareness of the consumption of animal protein from livestock, supported by adequate human resource capabilities[1,2]. Efforts to develop Alabio ducks on an agribusiness scale have promising opportunities and prospects, this is shown by the results of egg sales in the Alabio duck, Hulu Sungai Utara Regency market and increasing consumer demand.

The success of the Alabio duck farm is one of them is the feed factor that meets the quality and quantity requirements. Farmers can use quality feed at a lower price, so the Duck business can provide more appropriate benefits for the business carried out. The high cost of feed is often an obstacle for breeders in fulfilling duck nutrition.

The nutritional needs of ducks that are maintained based on this need an effort to provide technology that is suitable to the needs of farmers at low prices through the utilization of the potential of local feed. Technology is generally defined as ways to carry out the process of activities that produce results or products. Technology is one of the main means to achieve the goals of effectiveness, efficiency and high productivity of business[3].

Feed technology does not only include preservation, but all technologies ranging from the provision of feed ingredients to rations given to livestock[3]. The study aims to determine and analyze the relationship between breeders' knowledge about feed formulations and the conversion value of duck feed..

Materials and Methods

Object of research

Subjects in this study were Alabio ducks breeders from the Usaha Maju, Putat Atas Village group, and Maju Bersama, Hambuku Raya Village group, Hulu Sungai Utara, South Kalimantan Province with the object observed were conversion of Alabio duck feed and breeder knowledge about formulation knowledge Alabio ducks and feed technology.

Research Methods

The research method used was non-experimental explorative, the researcher did not give treatment to the group of Alabio ducks and conducted a survey by distributing questionnaires to farmers.

Breeder Profile

The group of ducks that assisted the research was a group of livestock fostered by the Plantation and Animal Husbandry Office of South Kalimantan Province, located in Hulu Sungai Utara Regency. The herd has been educated and experienced in the field, and has long maintained Alabio ducks.

Population and Sample

The population in this study are people who are aware of the development of Alabio ducks in Putat Atas, and Hambuku Raya, Sungai Pandan District, Hulu Sungai Utara Regency. The sampling technique uses Purposive Technique where the deliberate sampling is mainly in determining expert respondents at least 5 people consisting of practitioners namely breeders who have long been breeding the Alabio Duck.

Research Location Determination Techniques

The technique of determining the location of the study was determined intentionally, namely in Alabio Duck Farm, a member of the business group Advanced Village Putat Atas, and the Advanced group Together Hambuku Raya Village Sungai Pandan District, Hulu Sungai Utara Regency, South Kalimantan Province. For certain considerations, among others, herds in Sungai Pandan District are herds that are in the central nurseries of Alabio ducks and breeders in the location meet the criteria of the variable studied.

Observation of Feed Conversion

Observation of feed conversion is carried out for 3 (three) months from February-April 2018 in each group. Observation of feed conversion is carried out starting from Alabio ducks to produce eggs, which are about 6 months old. Observation of feed conversion is carried out in each flock and recorded every day how much leftover feed is left each day, and recorded every week and every month for 12 weeks.

Hidanah *et al.* stated that the remaining feed consumption of each treatment unit during the last week of the study was weighed to be calculated on average so that the average consumption data per day per duck was obtained in grams. Feed conversion ratio (FCR) is calculated by dividing the consumption of feed spent in one week (g) with egg production obtained during the week (g). Feed conversion starts from the fourth week after stable egg production[4].

Data analysis

Testing of feed conversion, normal data using analysis of variance (Anova), if significant continued with LSD. If the data are not normal then the Kruskal Wallis test is used, if significant it is continued with the Wilcoxon-man whitney test. The test results are significant if P values <0.05 are obtained.

The data obtained were processed and analyzed using the SWOT analysis method[5]. There are three analysis stages namely data collection, analysis phase and decision making stage.

a. Data Collection Stages, namely the classification and pre-analysis stages. At this stage the Internal Strategic Factors Analysis Summary (IFAS) matrix and the External Strategic Factors Analysis Summary (EFAS) matrix are used.

b. The analysis phase (process), this stage, internal and external factors are included in the SWOT matrix model, space analysis matrix, internal-external matrix (IE), space analysis matrix and grand strategy matrix.

c. The decision making stage is determining the alternative priority list for duck development using the QSPM (Quantitative Strategic Planning Matrix) matrix.

Results

Feed Conversion

Duck group (Putat Atas) feed conversion an average of 4.51, duck group (Hambuku Raya 1) average feed conversion every month 5.30, duck group (Hambuku Raya 2) average feed conversion every month 4.75. p-value = 0.000 > 0.05 so that it can be concluded that there is a significant difference in the average conversion based on the three groups of ducks.

SWOT Analysis

The weighting of each internal and external factor is supported by Expert Choice 11 and Microsoft Excel programs, followed by an analysis of internal strategy factors (IFAS) and external strategy factors (EFAS), internal-external matrix analysis (IE), space matrix analysis and decision making stages refer to Yuniar[6].

In the preparation of the business plan for Alabio duck breeding in Hulu Sungai Utara Regency, South Kalimantan Province, the steps being referred to are the compilation of strengths, weaknesses, opportunities and threats, weighting and rating on each factor on a scale of four (very strong) up to one (very weak) and four (very strong) times the weights with ratings with values from one to four and scoring.

Table 1. Recapitulation of IFAS and EFAS Score

SWOT Analysis	Value				
	Total Score	Strength	Weakness	Opportunity	Threat
IFAS	10.236	8.472	1.764		
EFAS	12.198			7.995	4.203

Information:

1. Strengths include aspects of geographical conditions, availability of seeds, facilities and infrastructure, experienced breeders, farmers joining the livestock group under the guidance of the relevant Dinas, and availability of feed.

2. Weaknesses include aspects, namely limited capital and knowledge of farmers about the nutritional content of animal feed.

3. Opportunities include aspects, namely increasing the power consumption of eggs in the community, developing market demand, the existence of funding from banks.

4. Threats include fluctuations in the price of feed and products from outside entering the local market.

Discussion

The results of this study still have high feed conversion values, although these results are slightly lower compared to the opinions of Suswoyo and Rosidi, who reported that the conversion of laying duck feed production periods ranged from 5.84±1.55[7]. When compared with the conversion of laying commercial chicken feed, the conversion of feed in ducks is much worse.

Feed conversion of laying hens between 2.11-2.90[8]. Poor conversion of duck feed is caused by the

eating habits of ducks, including the habit of immediately looking for drinking water after eating. Generally the feed is always scattered/discarded when the duck is moved from the feed to the drinking place or also dissolved in the duck while drinking. Poor feed conversion may also be caused by the inability of ducks to control the amount of feed consumption that is regulated by the amount of energy consumption as can be done by chickens[7].

Strategy formulation based on the identification of internal and external environment, can be known strengths, weaknesses, opportunities and threats for the company. SWOT analysis can be used to find out what strategies should be implemented by Alabio duck breeding in South Kalimantan in utilizing market opportunities through analysis of internal and external factors that affect the business of Alabio duck breeding in South Kalimantan.

After the SWOT analysis is carried out, a plan for developing the operational functions of the Alabio South Kalimantan duck business operations will be formulated based on the diagram and table above based on the SWOT calculation, Alabio South Kalimantan duck farms with a S < O score, which is a greater chance than the existing strength, where the direction of the Alabio duck breeding in South Kalimantan is in a stable growth strategy.

The SWOT analysis results obtained positive internal and external factors, meaning that the strength of the Alabio duck breeding in South Kalimantan is relatively superior compared to its weaknesses, while the environmental opportunities currently faced are greater than the threats. The results mentioned above can make, Alabio duck breeding in South Kalimantan have the ability to change the potential into a better yield. The right policy direction for Alabio duck farms in South Kalimantan Province is to increase and enlarge production activities in accordance with their capabilities while expanding their participation in order to take advantage of various opportunities.

SWOT analysis value of weakness factor is 1.764, this factor includes one of them is knowledge of farmers about feed formulation. The results of this study are in line with the results of feed conversion in the first phase of research, the value of feed conversion obtained is still relatively high at 4.51-5.30, even though the results of this study have a lower feed conversion value compared to Hidanah *et al*. which is equal to 5.84±1.55[4]. Efforts to improve the quality of Alabio ducks must continue to be developed, in order to increase the interest of breeders in raising Alabio ducks. Government efforts to overcome the weakness factor will result in two-way success that can reduce the value of weakness and can improve feed conversion results better.

Conclusion

Is sum, one of the SWOT analysis scores from the weakness factor is the lack of knowledge of breeders about formulation and feed technology which has a high effect on the high feed conversion.

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