

FARMER RESPONSE IN USING INSECTS AS ALTERNATIVE FEED IN THEIR NATIVE CHICKENS CULTIVATION IN TOMOHON DURING COVID-19 SITUATION

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Abstract

The native chickens farming activities in Tomohon could support a provision of quality food continuously to the community, especially during the current covid-19 pandemic, but on the other hand various obstacles are still faced by small-scale farmers related to purchase price of feed and its availability. The empowerment of insects in animal feed could be an alternative solution. Based on this condition, a survey has been conducted in Tomohon City area which aimed to find out to what extent the using of insects as alternative feed applied in their livestock. This survey was conducted on thirty respondents in this area. Descriptive statistics were used in processing and presentation of data obtained in this survey. The responses of the respondent farmers were recorded in several points of view: time of experience in rearing chickens; experience in finding feed ingredients; farmer recognition on role of insect as animal feed; willingness to acquire skill improvement training. Concerning the time of experience in rearing chickens the most of respondents (70%) have an experience more than one year, 23% were between 6 months to one year, while the experience in finding feed ingredients: 47% of respondents (A1) informed easy to get it and 40% of respondent (A2) told that the ingredients were quite easy to get but the price increased. The farmer's recognition on role of insect as animal feed: 24% mentioned the insects in order of orthoptera, 21.2% described isoptera, 16.3% coleoptera, and then 14.4% informed the insects in diptera order as chicken feed. The respondents showed a different willingness to acquire training to improve their skill to use insect as alternative feed: 70% desired and 30% didn't thought the same thing. We concluded that the native chicken cultivation became interesting activities by the respondents in Tomohon to contribute the food, which is needed to improve their skill to use insect as alternative ingredient for their livestock chicken production improvement especially in the covid-19 situation.

Key words: Insect, farmer, Tomohon, native chickens

INTRODUCTION

The present situation of native chickens farming activities in Tomohon has several characteristics such as: could be found sporadically and individually; conducted as a house-hold activity; contribute to the food supply for the local community; the results are eggs and chicken meat to be consumed by the family, or sold in a traditional market.

Globally, COVID-19 pandemic, caused various challenges in chicken industry as related to Hafez and Attia [3]. The same reality appeared in Tomohon area in

developing native chicken business, especially related to the availability of quality feed and its prices; but the selling price of this type chicken is relatively more expensive than the commercial breeds. In other hands the chicken cultivation in tropical humid area has a unique challenging including health problems [4].

Various types of insects have the potential to be used as quality alternative animal feed because of their nutrient content [7], besides that insect could be easily reared as linked to Feng et al. [1].

Therefore, the production of insects can be used to support the fulfilment of nutrients for poultry, the pattern of maintenance is extensive. Advantages in raising local

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The manuscript was received: 04.10.2021

Accepted for publication: 05.11.2021

chickens such as seeds are easily obtained by farmers; more disease resistant than commercial breeds, more resistant to environmental conditions such as climate, in extensive rearing the chickens can find and select food naturally from the environment, the taste is preferred by consumers.

Based on the above conditions, we have conducted a survey in Tomohon City which aims to evaluate the farmer of local chicken cultivation response on using insects as alternative feed during the pandemic of Covid-19 situation.

MATERIAL AND METHOD

This research was conducted through a survey on 30 respondents of native chicken breeders in the Tomohon area. Respondents were chosen through a purposive sampling method. Respondents were asked to provide information based on the questions posed. Four categories of questions have been used in this survey: the first was about the time of experience in rearing native chicken; the second was the opinion in getting ingredient for chickens feed; the third was recognition of farmer about insect as chickens feed; and fourth was willingness to get skill training. The data obtained were presented with a bar graph.

RESULTS AND DISCUSSIONS

The result of experience in rearing native chickens was shown in following pie chart.

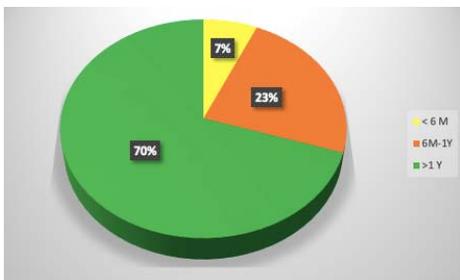


Fig. 1 Time of experience in rearing native chickens

The respondents gave diverse response according to the duration in rearing native chickens: Most of them (70%) responded their experience was more than one year, while 23% have been rearing native chickens

between 6 months to one year, and only 7% who just became a new breeder for a period less than 6 months' experience. This experience could benefit to manage their native chicken cultivation as related to Folitse et al. [2].

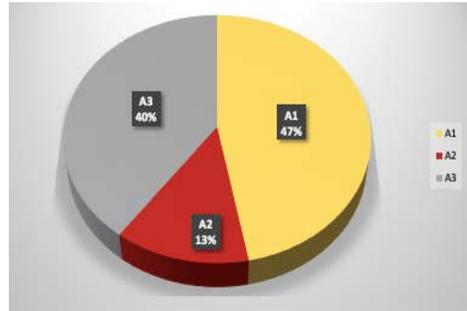


Fig. 2 Experience in finding feed

“The ingredient as chickens feed were still easy to get with normal price in pandemic Covid-19 situation” this response has been expressed by 47% of respondents (A1), 40% of respondent (A2) told that the ingredients were quite easy to get with the price increased but they would buy it, and 13% of respondents (A3) informed that it was quite difficult for them to get the ingredients in market and if existed the price was increased. The availability of feed quality and feed ingredients are important things to support the efforts in poultry production [4].

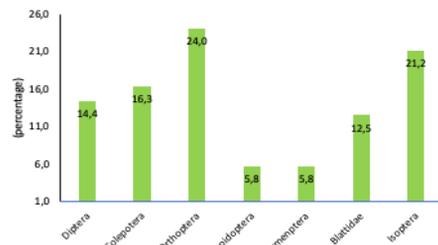


Fig. 3 Farmer recognition on insect as animal feed

Various of insect has been mentioned by the farmer during the survey. The member of orthoptera was the most important number that recognized by the farmer (24%), after that member of isoptera was the second of insect has been described by the farmer (21.2%), followed by coleoptera (16.3%),

and then Diptera for 14.4%. Various edible insects in this area could be use as animal feed [6], furthermore Toar et al. [9] have reported about the presence of insects in farm production especially in north of Sulawesi. The eminence of insect as animal feed was mentioned by Toar and Rumokoy [9].

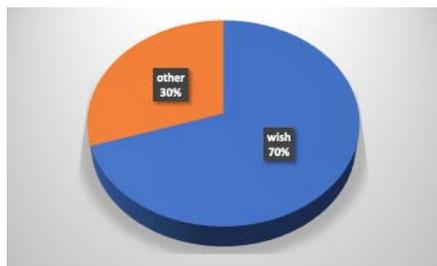


Fig. 4 Willingness to acquire skill improvement training

The respondents showed a different willingness to acquire training to improve their skill to use insect as alternative feed: 70% desired and 30% didn't thought the same thing. The skill level of farmer could influence they manner of poultry management and the benefit obtained from this business. The training will increase their ability to use insect as chicken feed [10]. Thakur et al. [8] pointed that skill training is needed to apply for the farmer in a livestock farming.

CONCLUSIONS

Based on the farmer information, we concluded that the native chicken cultivation became interesting activities by the respondents to contribute food supply in Tomohon, and they need to improve their skill for manage their farming and to increase their ability to rear and use insect as alternative ingredient for their livestock chicken production improvement especially in the period existed an obstacle in finding quality ingredients especially in covid-19 pandemic situation.

ACKNOWLEDGEMENTS

This study was realized under a fund support of "PNBP UNSRAT 2021", delivered through "Institut of Research and Community Service" (LPPM) of Sam Ratulangi University – Indonesia, and therefore the authors would like to address a thankful for this great attention.

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