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INFESTATION PATTERN OF CATTLE GADFLY FLIES IN TOMPASO MINAHASA

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Abstract

The diversity and abundance of flies (FA) that infest cattle by geography in the central area of livestock rearing can be identified after the fly is caught. The purpose of the study was to find out how much diversity and abundance of some types of skin defect-causing flies were maintained at the location based on differences in temperature and humidity levels in the Tompaso Minahasa area of North Sulawesi. Catching flies is carried out in the morning in which the catch is collected to be identified and analysed its diversity and abundance. The results of identification and analysis showed that the average FA values at various humidity levels showed still in the moderate category namely: 56.1 to 60.7, with the largest abundance being 132.03 ± 7.78, on the other hand at high humidity of 60.8 to 65.4. The FA's average diversity at various temperatures shows that at low temperature levels (26.3-28.6 C) has the largest value of 127.40 ± 5.76, on the other hand at medium temperatures ranging from 28.7 to 30.8 C has an FA value of 115,83 ± 3.96.

Key words*: flies infest, cattle, minahasa, diversity, abundance.*

INTRODUCTION

Flies are naturally carriers of pathogens and play an important role in the spread of viruses, fungi, bacteria and parasites around the world (Banjo et al., 2005) in general, flies can be classified into two types, namely the licking type such as the domestic *Musca* and the type of biter and bloodsucker such as *Stomoxys, Haematopota, Tabanus* and *Hipobosca* (Ahmed et al., 2005). Tabanus spp. or horse fly is an important vector, consisting of the genus *Tabanus, Chrysops* and *Haematopot*a, with the largest size variation in the Brachycera class. The Tabanus fly is very important in Asia, as it is in China (Xu Baohai and Xu Rongman, 1992) and in Thailand (Phasuk, 2013). Haematobia irritans flies are usually found on livestock horns and are dark red in color and brown eyes with long palps of proboscis (Moon, 2002). Haematobia spp. active during the day and are obligate (Syaffitri, 2013).

The cattle system in North Sulawesi, such as in the Minahasa District, Tompaso region, is generally herded around 7.00 - 17.00, in dry fields and in moor or under trees, both in the rainy season and in the dry season. The pattern of grazing cattle as practiced by farmers does not pay attention to livestock health. Health problems in cows that are caused by flies that result in a decrease in the health condition of the cow, the flies directly suck the cattle's blood, the flies can indirectly act as vectors that cause Stephanofilariasis infection which is also called scabies disease, is a disease in cows characterized by dermatitis.

This disease is caused by worms from the genus Stephanofilaria and is transmitted by fly vectors. This condition easily occurs because the breeding of flies in decomposing dung and garbage habitats full of bacteria and pathogenic organisms, coupled with high fly populations can disturb the peace of livestock.

MATERIALS AND METHODS

In order to characterize the abundance of flies, the following indicators were used: number of flies, of which area of cattle body and type of flies density per square centimetre.

The period analysed in this study was 2019-2020.

The data, collected from Pinabetengan Village, have been statistically processed and interpreted, building the trend line and recommendation.

RESULTS AND DISCUSSIONS

The average abundance of cow fly at various humidity is presented in Figure 1. From this figure shows that at moderate humidity levels (56.1-60.7) the largest abundance of nuisance flies causing defects is 132.03 ± 7.78, on the other hand at high humidity (60.8-65.4) has an abundance of flies that cause the smallest defect, namely 114.17 ± 5.81.

The difference in fly abundance according to humidity is largely due to the conditions of agricultural land and plantations where cattle are grazing.

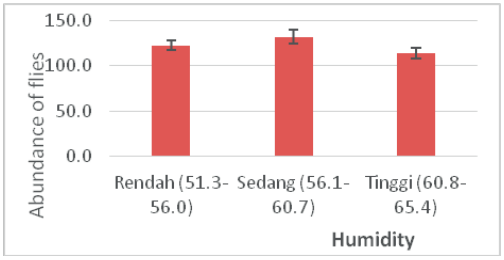

Figure 1. Abundance of flies and humidity, by area

The average and diversity of flies that cause cow defects at various temperatures are presented in Figure 2.

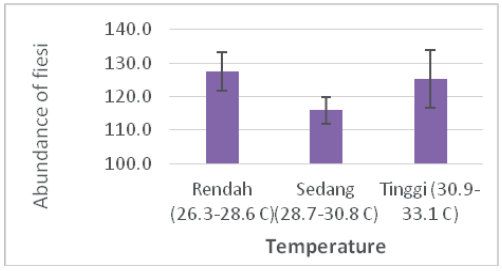

Figure 2. Abundance of flies and temperature, by area

From this figure shows that at low temperature levels (26.3-28.6°C) has the largest insect abundance that causes defects, namely 127.40 ± 5.76, on the other hand at moderate temperatures (28.7-30.8°C) has an abundance of insects causing the smallest defects, namely 115.83 ± 3.96.

The abundance of flies that causes defects is greatest at low temperatures, namely in areas of low humidity which have the largest cattle population, with agricultural land conditions that are dominated by secondary crops such as maize, beans, and plantation land such as coconut. The condition of the settlements of the adjacent settlements also contributed to the abundance of insects, this condition was followed by a larger population

Identification and analysis showed the average abundance of flies at various humidity showed that at moderate humidity levels (56.1-60.7) had the largest fly abundance, namely 132.03 ± 7.78, on the other hand at high humidity (60.8-65.4).

The average diversity of fly abundance at various temperatures shows that at low temperature levels (26.3-28.6°C) has the largest fly abundance, namely 127.40 ± 5.76, on the other hand at moderate temperatures (28.7-30.8°C) has an abundance of flies, namely 115.83 ± 3.96.

CONCLUSIONS

The results of identification and analysis showed that the average FA values at various humidity levels showed still in the moderate. The FA's average diversity at various temperatures shows that at low temperature levels has the largest value of flies.

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