Indonesian Journal of Nutritional Epidemiology and Reproductive
ISSN: 2620-8261 (Online)
DOI : 10.30994/ijner.v4i1.174
Vol. 4 No. 1 January 2021, pp. 32 -37

Sanitation Conditions To Fly Density In Duck Livestock In Gebang Village, Pakel District, Tulungagung

Via Dwi Ayuni [1],Setyo Budi Susanto [2]
[1,2]Institut Ilmu Kesehatan STRADA Indonesia
[*]Corresponding Author : viaayuni07@gmail.com

ABSTRACT

Livestock pen sanitation is sanitation which includes the success of the pen and the environment, because with the condition of the pen and the clean environment, the health of both livestock and their owners will be guaranteed.. The purpose of this study was to analyze the influence sanitary conditions of fly density in duck livestock in Gebang Village, Pakel District, Tulungagung Regency. The design of this research is an observational quantitative study with a cross sectional approach with the focus of the research being directed to analyze the effectsanitary conditions of fly density in duck livestock in Gebang Village, Pakel District, Tulungagung Regencywith a population of 40 respondents and a sample of 36 respondents who were taken using the simple random sampling technique. The findings show that hNearly half of the respondents have a sanitary condition with a sufficient category of 15 respondents (41.7%). Most of the respondents have a high fly density category of 29 respondents (80.7%). The results of the study used the test *Linear Regression* indicates that the p-value is 0.000 <0.05, then H1 is accepted, so it is concluded that there is the effect of sanitation conditions on the density of flies in duck livestock in Gebang Village, Pakel District, Tulungagung Regency. Business owners are advised to further improve duck coop sanitation in terms of providing disinfection, use of PPE, prevention of other animals, cleaning of cages, waste management.

Keywords : Density of flies, Ducks, Sanitary Conditions

INTRODUCTION

Livestock pen sanitation is sanitation that includes the success of the pens and the environment, because with the condition of the pen and a clean environment, the health of both livestock and their owners will be guaranteed. The cleanliness of the cage can be adjusted according to the needs so that the environment does not smell and humidity (Sarwono, 2012). Poor cage sanitation can have an impact on livestock and the surrounding environment. The fly density figure is one way of assessing environmental sanitation in an area, the higher the fly density, it shows that the area is in the poor sanitation category.Depkes RI (2012) Diseases that can be transmitted by lalt include dysentery, cholera, typhus stomach , diarrhea and others related to poor environmental sanitation conditions. The disease is caused by poor environmental sanitation.

According to the World Health Organization (WHO), Indonesia is ranked third in the countries having the worst / inadequate sanitation (2017). The sanitary conditions in Indonesia are indeed quite far behind from Vietnam, especially with Malasyia or Singapore which have a high commitment to environmental health.

The 2017 Animal Husbandry and Animal Health Statistics data shows that the duck population has increased every year. From 2017 there were 519,338 heads, in 2018 there were 549,302 heads. In Pakel District alone, the duck population is 73,995

On September 23, 2020 at around 08.00, an initial visit was made to observe the sanitary conditions of the duck cages in several livestock in Gebang Village, Pakel District,

Tulungagung Regency. From the survey results, it was found that the cleanliness of the stables was only carried out if the pen looked very dirty, for handling livestock waste it was only left alone and there were also some cages that did not have a sewage drain and the waste was immediately dumped into the river or in the fields. The impact of this waste causes an unpleasant odor and can also contaminate the soil and can cause vectors, one of which is flies.Flies are often regarded as disease-carrying animals in society. It has been proven that flies will carry pathogenic germs from dirty environments, transfer pathogenic germs, such as trash cans, feces dumps, and livestock pens, and then transfer the germs to food that will be eaten by humans.

The results of measurements on October 17, 2020, the density of flies in 10 duck cages in Gebang Village, Pakel District, Tulungagung Regency using a fly grill, the results of the fly density with the medium category were 4 cages with an average of 3 and 4 categorized as not high (<5) which means that it does not become The problem (Depkes RI, 1992 in January 2006) of 6 houses with an average of 6 and 7 are categorized as high (> 5), which means that the population is dense and needs planning for the places where flies breed.

Based on research by Anitasari (2008), regarding the effect of placing cattle sheds inside and outside the home on fly density, it is known that improper placement of cattle sheds can increase fly density. From a survey of 31 cattle pens in the house, 75.61% had a moderate fly density (3-5) and 17.07% had a high fly density (6-20). The closer to the house, the higher the fly density and the higher the fly density, the higher the spread of disease

This research is different from previous research such as in research (Annisa Andriana 2018) with the title ' The Relationship between Sanitation and Density Levels of Flies in the Big Market Restaurant, Madiun City". The difference with this research is the independent and dependent variables,that there is no relationship between the timing of waste disposal and the level of fly density

Likewise with research (Saffana Nuriyah, 2018) with the title `` The Relationship of Managing Environmental Sanitation, Waste with Indicators of Fly Density in the Poultry Slaughterhouse in Depok City in 2018 ". The difference with this research is the independent and dependent variables,There is no significant relationship between the behavior of waste management in the RPU and the density of flies in the RPU of Depok City.

Based on the above conditions, the authors are interested in researching the analysis of sanitary conditions on the density of flies in ducks in Gebang Village, Pakel District, Tulungagung Regency.

METHODS

In this study, researchers used a quantitative analytic design with a cross sectional approach, namely a study to study the dynamics of regression between risk factors and effects, by approaching, observing or collecting data at once (point time approach), that is, each subject. The research was only observed once and measurements were made of the character status or subject variables at the time of examination. This does not mean that all research subjects were observed at the same time (Notoadmojo, 2012). This research will analyzethe effect of sanitation conditions on the density of flies in duck livestock in Gebang Village, Pakel District, Tulungagung Regency with a population of 40 respondents and a sample of 36 respondents who were drawn using the simple random sampling technique.

RESULTS

Table 1 Analysis Results *Linear Regression* analysis of sanitary conditions on the density of flies in duck livestock in Gebang Village, Pakel District, Tulungagung Regency which was conducted on 11-27 March 2021 to 36 respondents

).	riable		R^2	3
	nstand	18,319	92	00
	nitary Conditions	3,636		

Based on the results of Linear Regression analysis, it shows that the p-value is 0.000 <0.05, then H1 is accepted, so it is concluded that there is the effect of sanitation conditions on the density of flies in duck livestock in Gebang Village, Pakel District, Tulungagung Regency.

DISCUSSION

A. Sanitation Conditions for Ducks in Gebang Village, Pakel District, Tulungagung Regency

The results showed that almost half of the respondents had sanitary conditions with a sufficient category of 15 respondents (41.7%). In addition, a number of 14 respondents (38.9%) had poor sanitation conditions. Meanwhile, 7 respondents (19.4%) had a good sanitation condition.

Sanitation is an action to kill bacteria or germs. Sanitation also means pest control measures aimed at preventing pests (wild birds, rodents, insects). The sanitation that is most often done by farmers is by disinfection / spraying the cage using a disinfectant. Sanitation measures are not only related to disinfection, but there are many other activities such as before workers / guests enter the cage, washing hands using soap, using special clothes for work, using special footwear (sandals / boots) to enter the cage, dipping footwear in a disinfectant. Disinfection should be carried out thoroughly on people, equipment, water sources, and other materials that will enter the cage (Ritongga, 2013).

Cleaning the duck coop is an effort to prevent disease by eliminating or regulating environmental factors related to the chain of disease transmission. Before being used again for the maintenance of broilers in the next period, the cage must be emptied and not used for about 14 days (Kemendikbud RI, 2013). When the duck have occupied the coop, cleaning the eating and drinking places is carried out at least 2 times a day. Drinking places usually get dirty quickly due to the fall of the soft food stuck to the duck beak (AAK, 2013).

Poor cage sanitation can have an impact on livestock and the surrounding environment. The impact on the environment is that it can cause environmental pollution. Environmental pollution according to law No.23 of 1997, namely the entry or inclusion of living things, energy substances, and or other components into the environment by human activities so that the quality of the environment decreases to a certain level which causes the environment to not function according to its designation. . The source of pollution in the duck farming business comes from waste in the form of duck manure and waste water, which comes from washing the places where the duck feeds and drinks. Untreated waste will smell and cause flies. Common fly nests are human and animal feces as well as from other organic materials that are fresh or rotting (meat, fish,

According to researchers, environmental sanitation is a public health effort to maintain and monitor environmental factors that can affect health status. Based on the results of the research, the poor sanitation of the cage, seen from the provision of disinfection, is still bad because disinfection is only sprayed on the cage after harvesting, there are still many workers who have not applied complete PPE, prevention of other animals is not good because there is still a cage located near other animal cages It is done not routinely, especially after harvesting, bad waste management is seen from almost all duck coops not managing waste properly because duck manure is only collected and then disposed of. Poor waste disposal is due to the fact that many livestock pens do not have

waste management.

B. Density of Flies in Ducks in Gebang Village, Pakel District, Tulungagung Regency

The results showed that most of the respondents had a high fly density of 29 respondents (80.7%). Meanwhile, 17 respondents (19.4%) had low fly density.

Flies are mechanical vectors of various diseases, especially diseases in the digestive tract of food. Diseases transmitted by flies depend on the species. The house fly (Musca domestica) can carry the eggs of Ascaris, Anthrax spores and Clostridium tetani. Adult flies can carry intestinal worm eggs (Ascaris, hookworm, Trichuris trichiura, Oxyiuris vermicularis, Taenia solium, Taenia saginata), protozoa (Entamoeba histolytica), intestinal bacteria, (Salmonella, Shigella and Escherichia coli), polio virus, Treponema pertenue. (Ria, Nirmala, & Saktiansyah, 2017)

Flies have a segmented body with each part of the body clearly separated. The limbs are paired with symmetrical right and left, with the characteristic that the body consists of 3 separate parts, namely the head, thorax and abdomen, and has a pair of antennae (tentacle) with 3 pairs of legs and 1 pair of wings. (Permenkes, 2017)

From a health point of view, the density of flies is an important problem, because flies are vectors of disease mechanically (mechanical transport). It is called a mechanical vector because it spreads disease, germs stick to the feet, feathers, wings, and also spread where flies fly and land. So, all parts of the fly's body can act as a means of transmitting disease, namely the body of hair on the hands and feet and feces. , and vomit (Kartikasari, 2008). Diseases that can be caused by flies include dysentery, diarrhea, typhoid, cholera, and intestinal worms in humans and animals. The disease is caused by poor environmental sanitation. Disease pathogens that are usually carried by flies come from various sources such as human feces, fecal remains, landfills,

According to Annisa Muthmainna Kasiono (2016), there is a relationship between waste management and the level of fly density and there is a relationship between sewerage (SPAL) and the level of fly density. The density of these flies is closely related to poor environmental sanitation. Environmental sanitation is a public health effort to maintain and control environmental factors that can affect health status.

According to researchers, the density of flies in an area is greatly influenced by several things, including the distance of the house from the source of pollutants. Livestock manure that accumulates for days has the potential to become a breeding ground for flies and increase the fly population. Generally, fly nests are human and animal waste and other organic matter which is fresh or decaying (meat, fish, plants). These results prove that the better the cleanliness of the cage, the lower the density of flies.

C. The Influence of Sanitary Conditions on Fly Density in Ducks in Gebang Village, Pakel District, Tulungagung Regency

Based on the results of Linear Regression analysis, it shows that the p-value is 0.000 <0.05, then H1 is accepted, so it is concluded that there is the effect of sanitation conditions on the density of flies in duck livestock in Gebang Village, Pakel District, Tulungagung Regency.

Livestock pen sanitation is sanitation that includes the success of the pens and the environment, because with the condition of the pen and a clean environment, the health of both livestock and their owners will be guaranteed. The cleanliness of the cage can be adjusted according to the needs so that the environment does not smell and humidity (Sarwono, 2012). Poor cage sanitation can have an impact on livestock and the surrounding environment. The fly density figure is one way of assessing environmental sanitation in an area, the higher the fly density, it shows that the area is in the poor sanitation category. Depkes RI (2012) Diseases that can be transmitted by lalt include

dysentery, cholera, typhus stomach , diarrhea and others related to poor environmental sanitation conditions. The disease is caused by poor environmental sanitation.

According to the World Health Organization (WHO), Indonesia is ranked third in the countries having the worst / inadequate sanitation (2017). The sanitary conditions in Indonesia are indeed quite far behind from Vietnam, especially with Malasyia or Singapore which have a high commitment to environmental health.

Based on research by Anitasari (2008), regarding the effect of placing cattle sheds inside and outside the home on fly density, it is known that improper placement of cattle sheds can increase fly density. From a survey of 31 cattle pens in the house, 75.61% had a moderate fly density (3-5) and 17.07% had a high fly density (6-20). The closer to the house, the higher the fly density and the higher the fly density, the higher the spread of disease

This research is different from previous research such as in research (Annisa Andriana 2018) with the title ' The Relationship between Sanitation and Density Levels of Flies in the Big Market Restaurant, Madiun City". The difference with this research is the independent and dependent variables,that there is no relationship between the timing of waste disposal and the level of fly density

Likewise with research (Saffana Nuriyah, 2018) with the title “The Relationship of Managing Environmental Sanitation, Waste with Indicators of Fly Density in the Poultry Slaughterhouse in Depok City in 2018”. The difference with this research is the independent and dependent variables,There is no significant relationship between the behavior of waste management in the RPU and the density of flies in the RPU of Depok City.

The results of the study are also in line with research conducted by H. S. Arroyo (2011) which states that flies prefer to breed in livestock manure, especially duck manure, this result is in accordance with the results of research, where the most types of livestock are duck (50%). Waste must be kept away and destroyed as far as possible from the area of the cage. If possible, there should be special officers who regularly collect the remaining production to be disposed of or destroyed outside the cage area (Kesumawati Hadi, 2010).

According to researchers, the effect of stable environmental sanitation conditions on livestock density is very high. Where the hygiene behavior of the cage owner is the key in the high number of fly density. Where the cleanliness of the cage is only done if the cage looks very dirty, for handling livestock waste it is only left alone and there are also some cages that do not have a sewage drain and the waste is directly dumped into the river or in the fields. The impact of this waste causes an unpleasant odor and can also contaminate the soil and can cause vectors, one of which is flies.Flies are often regarded as disease-carrying animals in society. It has been proven that flies will carry pathogenic germs from dirty environments, transfer pathogenic germs, such as trash cans, feces dumps, and livestock pens, and then transfer the germs to food that will be eaten by humans.

CONCLUSION

Nearly half of the respondents have a sanitary condition with a sufficient category of 15 respondents (41.7%).Most of the respondents have a high fly density category of 29 respondents (80.7%).There is the effect of sanitation conditions on the density of flies in duck livestock in Gebang Village, Pakel District, Tulungagung Regency.

REFERENCE

Agus, C., E. Faridah., D. Wulandari dan B.H. Purwanto. (2014). Peran Mikroba Starter dalam

Dekomposisi Kotoran Ternak dan Perbaikan Kualitas Pupuk Kandang. Jurnal Manusia dan Lingkungan, Vol. 21, No. 2, Juli 2014: 179-187.

Akbar, R.A dan T. Agung. (2016). Pengaruh Paparan CH4 dan H2S Terhadap Keluhan Gangguan Pernapasan Pemulung di TPA Mrican Kabupaten Ponorogo. Journal of Industrial Hygiene and Occupational Health, Vol. 1 No. 1, Oktober 2016.

BPS. (2016). Populasi Sapi Perah Menurut Provinsi 2009-2016. Jakarta: Badan Pusat Statistik.

BPTP-Ungaran. (2000). Sanitasi Kandang Sapi Perah. Jawa Tengah: BPTP Ungaran.

DairyNZ. (2015). Dairy Cow Housing - A Good Practice Guide for Dairy Housing in New Zealand. New Zealand: DairyNZ.

Fidiawati, L dan Sudarmaji. (2013). Pengelolaan Tempat Pemrosesan Akhir Sampah Kabupaten Jombang dan Kesehatan Lingkungan Sekitarnya. Jurnal Kesehatan Lingkungan, Vol. 7, No. 1, Juli 2013: 45 - 5.

Ihsan, I.F., R. Hidayati dan U.P. Hadi. (2016). Pengaruh Suhu Udara terhadap Fekunditas dan Perkembangan Pradewasa Lalat Rumah (Musca domestica). Jurnal Teknologi Lingkungan, Vol. 17, No. 2, 2016.

Khoiron. (2012). Perilaku Peternak Sapi Perah dalam Menangani Limbah Ternak. Jurnal IKESMA, Vol. 8, No. 2, September 2012, Hal: 90 - 97.

Manalu, M., I. Marsaulina dan T. Ashar. (2013). Hubungan Tingkat Kepadatan Lalat (Musca domestica) dengan Kejadian Diare pada Anak Balita di Pemukiman Sekitar tempat Pembuangan Akhir Sampah Namo Bintang Kecamatan Pancur Batu Kabupaten Deli Serdang Tahun 2012. Jurnal Lingkungan dan Keselamatan Kerja, Vol. 2, No. 1, 2013.