

# Identification of Intestinal Nematodes and Cestodes in Cows (Boss Sp.) With The Saturated NaCl Method in Tegalbanteng Village of Lumajang Regency

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## Identification of Intestinal Nematodes and Cestodes in Cows (*Boss Sp.*) With The Saturated NaCl Method in Tegalbanteng Village of Lumajang Regency

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### ABSTRACT

The high number of cases worms infection in cattles in East Java in 2015, especially Lumajang Regency, showed that 16.5% of cattles tested positive for worm infection. Contamination of worm parasites in farm animals when inedible by humans can cause serious diseases that attack the intestines and lungs. This is the background of researchers conducting this study. In the study conducted by researchers, 30 samples were taken randomly in cows in Tegalbanteng Village of Lumajang Regency and then examined for the presence of intestinal nematode and Cestoda worm parasites using the saturated NaCl method or flotation. Showed that of the 30 samples examined, 14 samples with a percentage of 46.7% positive were adrithetic to the Gut Nematodes, especially the species *Ascaris lumbricoides* and 16 samples with a percentage of 53.3% negatively infected with both the Intestinal Nematodes and Cestoda groups. From the results of this study it can be concluded that the high number of abuses in Tegalbanteng Village of Lumajang Regency of 46.7% shows a lack of concern for diseases that can infect livestock by livestock owners.

**Keywords:** Intestinal Nematodes, Cestoda, Kecacingan, Cow (*Boss Sp.*).

### INTRODUCTION

Quoted from the official website of the East Java provincial Animal Husbandry Office, in Lumajang regency in 2015 it was obtained that 16.5% of calves tested positive for kecacingan or helminthiasis (DisNak JaTim, 2015). This shows that disease in livestock is a problem that needs special attention so that the quality of livestock can continue to increase. If the infected cow is consumed by humans in large quantities and continues continuously, it can cause health problems in humans themselves, including the onset of worm infections in humans. Worms in cattle are usually caused by infection with a class of gastrointestinal worms that includes the intestinal Nematode and Cestoda classes. Several types of nematodes were found, namely *Haemonchus*, *Strongylides*, *Charbetia*, *Trichuris*, *Ostergia*, *Bunostonium*, *Tricotrongylides* and *Ascaris*. Meanwhile, from the cestodes class, *Taenia*, *Avitellina*, *Moniezia benedeni* and *M. expansa* were found (CC, et al., 2018). According to Chairunnisa (2018), there are many factors that cause cows to be infected with worms including high rainfall, temperature, humidity and poorly maintained cage sanitation (Chairunnisa, (2018) in (Arimurti, et al., 2020)). Against the background of these data and conditions, the authors wanted to conduct research to find out how the picture of intestinal nematode worms and Cestoda in cows (*Boss Sp.*) with the saturated NaCl method in the village of Tegalbanteng Lumajang district.

### METHODS

In this study, ethical clearance was not carried out because researchers did not treat animals, but researchers only took feces that had come out of animals. This study was conducted using the saturated NaCl test method and conducted secondary data collection to farm animal owners through interviews and questionnaires related to cow breed, cow age, cow sex, vaccination, etc. The principle of examination of this study is to take advantage of differences in the weight of the type of parasite, in this case intestinal nematodes and cestodes, with the weight of the medium type that is saturated NaCl. The weight of the type of parasite is smaller than the weight of the medium type, so the parasite will float on the surface of the medium and attach to the coverglass. This

method is also known as the buoyancy method or flotation method. After the research, the data obtained will be calculated to look for a percentage of positive and negative results using the formula:

$$P = \frac{F}{N} \times 100\%$$

Information:

P = Percentage of positive or negative samples

F = Number of positive or negative samples

N = Total number of samples

### RESULTS

Based on the research that has been done, the data is presented in the following table:

**Table 1. Tabulation Data Results of examination of Intestinal Nematodes and Cestodes in Cow Feces (*Boss Sp.*)**

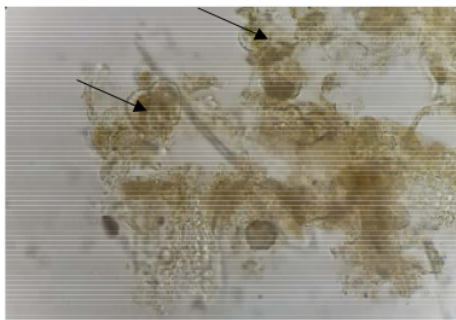
Sample code	Results of Identification of Parasites Intestinal Nematodes		Results of Identification of Parasites Cestodes	
	Positive(+)	Negative (-)	Positive (+)	Negative (-)
1.	(+)			(-)
2.		(-)		(-)
3.	(+)			(-)
4.		(-)		(-)
5.	(+)			(-)
6.	(+)			(-)
7.		(-)		(-)
8.		(-)		(-)
9.		(-)		(-)
10.	(+)			(-)
11.	(+)			(-)
12.		(-)		(-)
13.		(-)		(-)
14.		(-)		(-)
15.		(-)		(-)
16.	(+)			(-)
17.		(-)		(-)
18.	(+)			(-)
19.	(+)			(-)
20.		(-)		(-)
21.		(-)		(-)
22.		(-)		(-)
23.	(+)			(-)
24.	(+)			(-)
25.		(-)		(-)
26.	(+)			(-)
27.	(+)			(-)
28.		(-)		(-)
29.		(-)		(-)
30.	(+)			(-)

Jumlah	14	16	0	30
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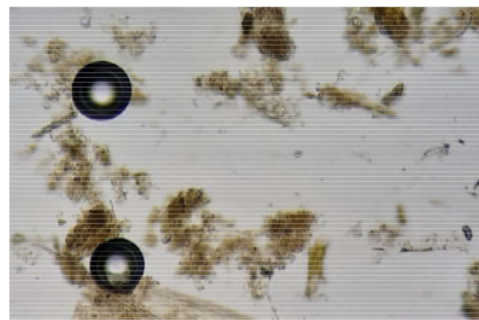
Information:

- a. Positive sign (+): Indicates the presence of eggs or larvae or worms of the Intestinal Nematodes or Cestoda
- b. Negative signs (-) : Does not indicate the presence of eggs or larvae or worms of the Intestinal Nematodes or Cestoda

From the table above obtained the results that from 30 samples examined by researchers, showed a number of 16 positive samples and 14 other samples negatively infected with intestinal nematode group worms. And 0 positive samples and 30 negative samples infected with the disease of dwarfism from the Intestinal Nematodes and Cestoda groups.



Sample Number 2  
Positive: there are *Ascaris lumbricoides* eggs  
Magnification 40x



Sample Number 12  
Negative : there is no parasite  
Magnification 40x

### DISCUSSION

#### A. Identification of Eggs, Larvae, and Intestinal Nematodes Worms

Of the 30 samples examined by researchers, 14 samples with a percentage of 46.7% tested positive for intestinal nematode worms, especially the species *Ascaris lumbricoides* (roundworms). And 16 samples with a percentage of 53.3% negative or not infected with intestinal nematode group worms. The results obtained are in line with secondary data that has been collected by the author with the method of questionnaire to the owners of livestock related to the type of cow, age of the cow, gender of the cow, vaccination, cage management etc. Where all cattle owners state that cows are only injected or vaccinated when the female cow is pregnant and there is no vaccination or worm medicine.

In addition, other factors that support a considerable percentage of disreidies are the pattern of cage management and poor livestock care. Cow owners clean the cage every day in the morning or evening, but only bathe the cow twice a week or even not at all. The high percentage of livestock, especially cows in Tegalbanteng Village, Lumajang Regency, is also due to the lack of knowledge of livestock owners about the importance of giving worm medicine.

In research conducted by Cahirunnisa (2018), it was explained that in disre berating in farm animals can be caused by environmental factors such as temperature, humidity, rainfall, and poor levels of cage hygiene can cause farm animals to contract kecacingan (Chairunnisa (2018) in (Arimurtri, et al., 2020)). In addition, the lack of knowledge of farm animal owners related to diatribes, symptoms of kinis, preventive or preventive efforts and treatment is also a factor in causing farm animals to be infected by worms (Nuraini, et al., 2020).

#### B. Identification of Eggs, Larvae, and Cestoda Worms

In this study, 30 samples examined showed that none of the samples were infected with Cestoda infection. So that the percentage of both positive and negative results is 0%. Although no infection was found due to the Cestoda group, prevention efforts need to be done so as not to appear new cases or an increase in cases of abuse.

Some efforts that can be made to prevent infection in livestock are by giving worms periodically every 3-6 months for general prevention even though the animal does not show symptoms. Good application of sanitation and hygiene of the cage: cleaning with disinfectant once every 2 weeks, maintaining the cleanliness of livestock by preventing excrement. Increase the endurance of farm animals by giving multivitamins regularly with the supervision of veterinarians or animal mantri. Provide knowledge about diatribes, symptoms, prevention, and treatment in breeders (Nuraini, et al., 2020).

#### CONCLUSION

Based on research that has been conducted on cow feces in Tegalbanteng Village of Lumajang Regency conducted by saturated NaCl method, it can be concluded that from 30 samples examined obtained results: The Gut Nematodes group was found in 14 samples by 46.7% especially ascaris lumbricoides species and 16 negative samples by 53.3%. The Cestoda group was not found in the 30 samples, so the percentage of diatribes was 0% positive and 0% negative.

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