Most Prevalent Animal Diseases and Their Seasonal Occurrences in East Wollega Ethiopia

[1]Dereje Berhanu Zewde and [2]Shibiru Debela Wayima

[1]College of Veterinary Medicine, Mekelle University of Ethiopia, Nekemte, Ethiopia
[2]College of Veterinary Medicine, Addis Abeba University of Ethiopia, Nekemte, Ethiopia

Abstract: Cross-sectional Study was Conducted aiming at determining the prevalence and Season of Occurrences of Major Livestock Diseases present in East Wollega Zone. Out of 1632 examined OIE Reports collected from 17 Woredas between January 2008 G.C untill December 2013 G.C 103 (21.78%), 102 (21.56%), 74 (15.64%), 44(9.3%), 37(7.82%), 34(7.19%), 23(4.86%), 23(4.86%), 14(2.96%), 14(2.96), 9(1.9%), 9(1.9%), 6(1.27%) and 4(0.85%) were found to be positive for Bovine Pasteurellosis Disease, Black Leg, Lumpy Skin Disease (LSD), Foot and mouth Disease (FMD),Contagious Bovine Pluero Pnumonia(CBPP),Anthrax (ANT), Contagious Capiraine Pluero Pnumonia, Rabies, African Horse Sickness,Sheep and Goat, Newcasttle Disease (NCD), Ovine Pasturolosis and PPR respectively using Analysis of Outbreak Report of eight Years and Laboratory Confirmation of the Disease during the study period. The prevalence of Bovine Pasturolosis and Black leg was significantly (P<0.05) higher than the prevalence of the other Diseases in the area. The results of the present study were showed significant difference in the prevalence of the diseases among the Different Season of the year and Geographical Position and Envioronmental factor of Woredas. The study also revealed seasonal occurance of each disease and also prevalence of the disease.

Key words: Infectious Diseases ⋅ East Wollega ⋅ Disease Outbreak ⋅ OIE

INTRODUCTION

Livestock diseases are the major cause of economic losses to the peasant farmer and pastoralists in Ethiopia amounting to hundreds of millions of birr annually [1]. Because livestock are the chief source of cash income to small holders, up to 88% in the highland livestock-cropping system, diseases are an important cause of reduced productivity of meat and milk as well as draft, hides and dung fuel. Although many of the diseases could be controlled by available vaccine technology, timely recognition of the disease followed by acquisition of the pharmaceuticals are lacking due to the remoteness of the livestock holder and the shortage of infrastructure facilities to support health services delivery. Livestock in Ethiopia provides drought power, incoming to farming communities, means ofinvestment and important source of foreign exchange earning to the nation. Even though the livestock sub sector Contributes much to the national economy, its development is hampered by different constraints mainlyinfectious diseases. The study was aimed to determine the prevalence of the major infectious animal diseasesaffecting the livestock and to estimate the economic loss due to the diseases [2]. Western Ethiopia Consequently, in Ethiopia the majority of disease intervention consists of mass inoculations following outbreaks rather than preventive measures.

MATERIALS AND METHODS

Description of the Study Area: The present study was conducted in East Wollega Zone veterinary laboratory center of Ethiopia. East Wollega (Nekemte) is located 331 Km far from Capital City of Ethiopia Addis Abeba. East Wollega (Nekemte) Nekemte has a latitude and longitude of 9°5'N 36°33'E and an elevation of 2,088 meters. *1,315,894.65 hectare* area. The study area receives an average annual rainfall of about *800- 2260* millimeters. The annual mean minimum and maximum temperature during the study period were 10°C and 36°C, respectively.

Corresponding Author: Dereje Berhanu Zewde, College of Veterinary Medicine, Mekelle University of Ethiopia, Nekemte, Ethiopia.

Livestock population in the area during the study time is estimated about Bovines *1635169, Shoots 533722, Equines 158340 and Poultry 856027* (CSA, 2015). The study population consisted of Animals of All Specious which were found in 17 Administrative Woreds. The sample size for estimating the prevalence of The Disease was obtained by Collection of Eight years (2008-2013) Disease outbreak Report (OIE) and Laboratory results obtained during Outbreak from Regional Laboratory [3].

Study Population and Type of Study: A total of 1632 Disease outbreak reports consisting of disease of all specious of animals were Collected from 17 Woreda which are found in East Wollega Administrative Zone. Purposive Sampling approach was chosen for the purpose of this study (Cochran, 1963).

Disease Outbreak (OIE) Report Examination: Disease outbreaks (OIE) Reports were collected from Woreda using Purposive Sampling technique for examination. In addition, secondary data were collected from 17 Woreda which are found in East Wollega Administrative Zone which are reported from January 2008untill December 2013 G.C reported from Woreda Veterinary Clinics [4].

Disease outbreaks (OIE) Reports were examined to determine the prevalence of Major animal diseases by secondary data and Laboratory Reports.

Data Analysis: Data were recorded on specially designed forms and preliminary analysis was done in Microsoft® Excel (2010). The outcome variables were the positive cases of Different kinds of animal Diseases in the area of study. Data analysis was made using SPSS statistical analysis Software.

RESULT

Disease Outbreak (OIE) Report Examination: A total of 1632 disease outbreak (OIE) Reports were examined for the Estimation of Major Livestock Disease in the area of study. From the total 103 (21.78%), 102 (21.56%), 74 (15.64%), 44(9.3%), 37(7.82%), 34(7.19%), 23(4.86%), 23(4.86%), 14(2.96%), 14(2.96), 9(1.9%), 9(1.9%), 6(1.27%) and 4(0.85%) were found to be positive for Bovine Pasteurellosis Disease, Black Leg, Lumpy Skin Disease (LSD), Foot and mouth Disease (FMD), Contagious Bovine Pluero Pnumonia (CBPP), Anthrax (ANT), Contagious Capiraine Pluero Pnumonia, Rabies, African Horse Sickness, Sheep and Goat, Newcasttle Disease (NCD), Ovine Pasturolosis and PPR using Analysis of Outbreak Report of eight Years and Laboratory Confirmation of the Disease during the study period. The prevalence of Bovine Pasturolosis and Black leg was significantly (P<0.05) higher than the prevalence of the other Diseases in the area [5].

Summery of Disease Out Break 2008-2013 East Wollega Zone

No.	Disease	2008	2009	2010	2011	2012	2013	Total	Rank
1	Bovine Pasteurellosis	13	29	5	24	29	3	103	1
2	Black Leg	16	19	40	14	12	1	102	2
3	LSD	32	18	13	4	2	5	74	3
4	FMD	7	20	9	5	1	2	44	4
5	CBPP	6	8		11	8	4	37	5
6	ANTH	5	6		12	10	1	34	6
7	CCPP	0		22			1	23	7
8	RABIS	0	1	11	1	1		14	8
9	AHS	6	1		3	2	2	14	8
10	Sheep and Goat Pox	0	1	8				9	10
11	NCD	0	1	1	4		3	9	10
12	Ovine Pasteurellosis	1	1	1	2	1		6	12
13	PPR	1	1		2			4	13
		87	106	110	82	66	22	473	
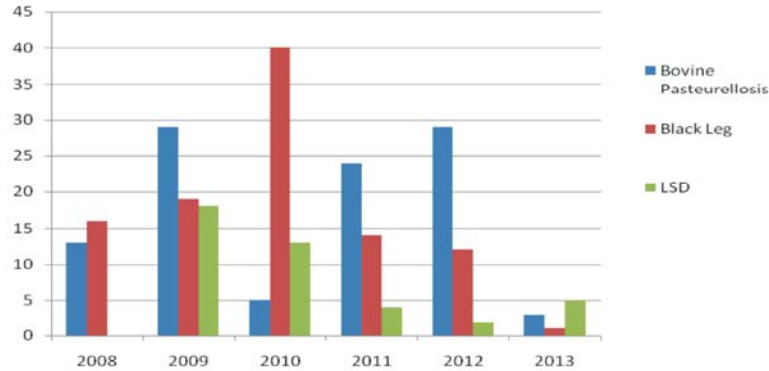
DISCUSSION

Livestock Diseases has greater health problem and causes significant economic loss to the livestock owning community in Ethiopia (Mulat *et al*., 2012). In the present study, irrespective of the seasons and topography of the grazing land, the highest prevalence was recorded in Bovine Pasteurellosis, Black Leg and Lumpy Skin (LSD), Diseases. This finding, therefore, strongly suggests that the Preventive measures should be taken in the Zone before the occurrence of those Diseases stated above. Climatic factors in the area are more favorable for the Occurrences of those diseases in the study area. The overall prevalence was found to be significantly higher (P<0.05) in Bovine Pasteurellosis and Black Leg than in the other Disease Conditions. The difference in prevalence rate between the 17 study areas more pronounced due to less Preventive measures were taken by the zonal as well as Woreda Government as well as Private Veterinary Clinics. The presence of favorable environmental, Climatic and topography of the land is also the other factor. Thus absence of Vaccinating Animals before the seasonal occurrences of the disease, which is the most important limiting, was responsible for the increased seasonal prevalence of that disease in the seventeen study sites [6, 7].

The obtained prevalence rate of Bovine Pasteurellosis (21.78%), Black Leg (21.56) and Lumpy Skin (LSD) (15.64%). The result of the prevalence rate shows as due to lack of attention for the Prophylaxis Vaccination of animals in the area. Certain miss use of Veterinary drugs, lack of proper managemental conditions and Disease outbreak reporting System has playing the major role in occurrence of the disease. The author believes that this prevalence rate will be match higher if the intervention of Government were weak.

Although a decreasing trend was analyzed along with the advancement of Veterinary service and Public awareness on animal disease extension. Relatively high prevalence of Bovine Pasteurellosis Disease infection was analyzed from the data recorded by the laboratory examination. This may be attributed to infections acquired during previous peak season (Jobre, Y. and Malone, J.B. (1998). In addition, the existence of suitable conditions in areas like Shortage of feed, uncontrolled animal movement, weak Animal Health Extension and weak Veterinary service delivery in the area may contribute to persistent but relatively low grade infection during the dry season.

CONCLUSION

The finding was concluded that Bovine Pasteurellosis Disease, Black Leg, Lumpy Skin Disease(LSD), Foot and mouth Disease (FMD) are an important diseases problem in Livestock Production in the area of Study. This may cause National as well as international trade restriction of animal and animal products which affecting the export earnings of the country. Thus, attention should be given both at production area as well as to the quarantine stations.

REFERENCES

1. Manyzewal, A.Z., M. Gurnesa and T. Tesfaye, 2014. Economic Significance of Fasciolosisat Mettu Municipal Abattoir, Southwest and Ethiopia, J. Adv. Vet. Res., 4(2): 53-59.

2. Cochran, W.G., 1963. Sampling Techniques, 2nd Ed., John Wiley and Sons, Inc. New York. Retrieved Aug. 21, 2013, from: edis.ifas.ufl.edu/pd006.

3. CSA (Central Statistical Authority) (2015). Federal Democratic Republic of Ethiopia, Central.

4. Jobre, Y. and J.B. Malone, 1998. A Geographical Information System Forecast Model for Strategic Control of Fasciolosis in Ethiopia, Veterinary Parasitology, 78:103-127.

5. Microsoft office Professional 2010 (Excel, 2010).

6. Mulat, N., B. Basaznew, C. Mersha, M Achenef and F. Tewodros, 2012. Comparison of coprological and postmortem examination techniques for the determination of prevalence and economic significance of bovine fasciolosis, J. Adv. Vet. Res., 2: 18-23.

7. StatisticalAuthority, Agricultural Sample Survey 2014/2015[2008E.C.], Report on Livestock and Livestock Characteristics (Privet Peasant Holdings), Addis Ababa, pp: 120.