



Brucellosis in Bangladesh

Dr. Md. Habibur Rahman SSO, LRI
Department of Livestock Services (DLS)
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Bangladesh at a glance



Location : In south Asia bordering with India and Myanmar
Long porous border with India with significant informal animal movement

Area : 147570 sq. km

Climate : Subtropical with long Monsoon

Population : 164 million



Livestock Population (Million)

SL No	Type of Livestock	Population (in million)
1	Cattle	25.70
2	Buffalo	1.21
3	Goat	21.56
4	Sheep	2.78
5	Poultry	118.7
6	Duck	34.1

Source: BBS



Brucellosis situation in Bangladesh

- Brucellosis was first identified in cattle in 1967
- Sero-prevalence of brucellosis as 4.5% - 8.11% in cattle
- Cattle aged more than 5 years age had insignificantly higher prevalence of 9.60% and 3.01% than that aged below 5 years



Surveillance

- Official veterinary service extended to Upazila level
- Veterinary Surgeons and ULOs at the Upazilas Livestock Offices visit farms and fields to collect samples for Lab. Diagnosis.
- Regular monthly submission of report of livestock diseases to Epidemiology Unit (Passive surveillance)
- Information taken from sub-technical personnel of 22 AD offices' of DLS those involved in Artificial Insemination activities
- A few active surveillance carried out by DLS and Universities (BAU and CVASU) for research purpose



Control program of brucellosis in Bangladesh

- Testing and culling of reactors bull(s)
- Testing of cows with abortion history and rest free for next oestrus
- Positive reaction for two subsequent abortion removed from herd
- Repeated positive reactors (3 or more) cows are culled



Country's Laboratory Organization (Lab Network)

■ **DLS Labs:**

- Central Disease Investigation Lab (CDIL)
- Veterinary Public Health Lab, LRI
- Field Disease Investigation (FDIL) Labs

■ **Bangladesh Livestock Research Institute**

■ **BAU Lab**

■ **IEDCR**

■ **CVASU**



Brucellosis diagnosis in Livestock in Bangladesh



Sl No	Laboratories	Tests performed	Purpose
1.	Veterinary public Health and Microbiology, DLS	Rose Bengal test (RBT)	Sero-surveillance and Screening
2.	Central Disease Investigation Laboratory, DLS	Isolation and identification of organism, RBT, ELISA & PT	Case diagnosis
3.	Field Disease Investigation Laboratory, DLS	RBT	Case diagnosis
4.	Faculty of Veterinary Science, BAU & CVASU	Milk Ring test, RBT	Academic Research
5.	Bangladesh Livestock Research Institute (BLRI)	RBT, ELISA	Sero-surveillance



Test result from antigen supplied by DLD



Central Disease Investigation laboratory (CDIL) Brucellosis surveillance report (Year wise)

Sl No	Year	Number of sera tested	Number of Sera Positive	Number of Sera Negative
1	2012-13	17	10	7



Test Result Using Rose Bangle Antigen

Year	Total Test Case	Total Positive Case	Total Negative case
2008-09	687	66	621
2009-10	944	75	869
2010-11	939	80	853
2011-12	942	63	879
2012-13	776	64	712

Source: DLS Labs



Prevalence of brucellosis associated with pregnancy status of the animal

Species	pregnancy status of animals	No. of sera sample tested	No. of positive sera by i ELISA(%)
Cattle	Pregnant	145	5 (3.44)
	Non-pregnant	171	7 (4.09)
Goat	Pregnant	118	5 (4.23)
	Non-pregnant	159	3 (1.88)
Cattle	Pregnant	53	1 (1.88)
	Non-pregnant	87	1 (1.14)
Cattle	Pregnant	0	0
	Non-pregnant	10	2 (20.0)

Bangladesh Livestock Research
Institute, 2007



Prevalence of brucellosis associated with abortion history

Species	Condition of animals	No. of sera sample tested	No. of positive sera by i ELISA(%)
Cattle	Previous abortion	30	5 (16.66)
	Without abortion history	286	6 (2.09)
Goat	Previous abortion	29	3 (10.34)
	Without abortion history	248	5 (2.01)
Cattle	Previous abortion	11	1 (9.09)
	Without abortion history	129	1 (0.77)
Cattle	Previous abortion	7	2 (28.57)
	Without abortion history	3	0

Bangladesh Livestock Research
Institute, 2007



Short comes in Brucellosis diagnosis and control

- National Contingency Plan for brucellosis and other emerging and reemerging communicable diseases of veterinary public health importance
- Systemic surveillance of brucellosis
- Weak capacity of field laboratories for brucellosis diagnosis
- Co-ordination of health and veterinary services



Country Plan/Policy for regional Collaboration on Diagnosis and Control of B. Melitensis



- There is no specific surveillance on B. Melitensis
- Country has a overall disease surveillance where Brucellosis is being addressed
- Control measures is being implemented by culling infected animals at government farms & AI stations along with large commercial farms, but limited to wide scale.
- VPH of LRI make aware and advocate to the people through farmers training with some awareness materials like posters, booklets, leaflets etc.
- DLS established 5 Quarantine Stations in entry point of land ports (Benapol, Vomra , Shat Mosjid and Hilly), International airport (Hazrat Shah Jalal) to check brucellosis and other emerging animal diseases and have a plan to be established new 19 quarantine stations.
- We are seeking cooperation and collaboration from regional and international organization for preparing strategy in this regards.



Conclusion

- Strengthen collaboration and cooperation on brucellosis diagnosis and control in South Asian region
- Share epidemiological data in the region
- Strengthen capacity of Laboratories for brucellosis diagnosis and research



Thank you