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October 2016

The top ten diseases reported during October, 2016 are Rabies, Sheep and Goat pox, Anthrax, Babesiosis, Contagious Caprine Pleuro Pneumonia, Enterotoxaemia, Black Quarter, Haemorrhagic Septicaemia, Peste des petits ruminants and Classical Swine Fever. The following Pie chart shows the top ten diseases reported during the month of October, 2016 (Fig 1).

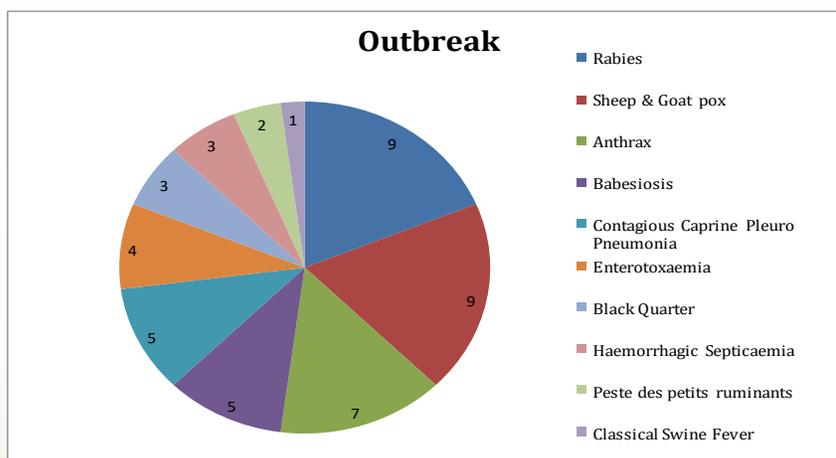


Fig. 1 Top ten diseases reported during October 2016
(Numbers in chart indicate outbreaks)

Rabies disease has been recorded from two states involving four districts. Maximum number of outbreaks has been recorded in Kerala state. Assam is the other state that reported the disease (Fig 3).

Sheep and Goat Pox disease has been recorded from four states involving eight districts. Highest number of outbreaks has been recorded from Assam and Jammu & Kashmir states. Karnataka and Rajasthan are the other states that reported the disease (Fig 3).

Anthrax disease has been recorded from four states involving five districts. Maximum number of outbreaks has been recorded in Karnataka

state. Andhra Pradesh, Kerala and Madhya Pradesh are the other states that reported the disease (Fig 2).

Babesiosis disease has been recorded from Haryana state and Puducherry Union Territory involving two districts. Maximum number of outbreaks has been recorded from Puducherry Union Territory.

Contagious Caprine Pleuro Pneumonia has been recorded from three states involving four districts. Himachal Pradesh and Kerala have reported highest number of outbreaks. Jammu and Kashmir is the other state that reported the disease (Fig 2).

Enterotoxaemia has been recorded from two states involving three districts. Assam and Karnataka have reported equal number of outbreaks (Fig 2).

Black Quarter disease has been recorded from Karnataka state involving three districts (Fig 2).

Haemorrhagic Septicaemia disease has been recorded from two states involving three districts. Maximum number of outbreaks has been recorded in Karnataka state. Madhya Pradesh is the other state that reported the disease (Fig 2).

Peste des petits ruminants has been recorded from two states involving two districts. Assam and Punjab have reported equal number of outbreaks (Fig 3)

Classical Swine Fever disease has been recorded from Kerala state involving one district. (Fig 3).

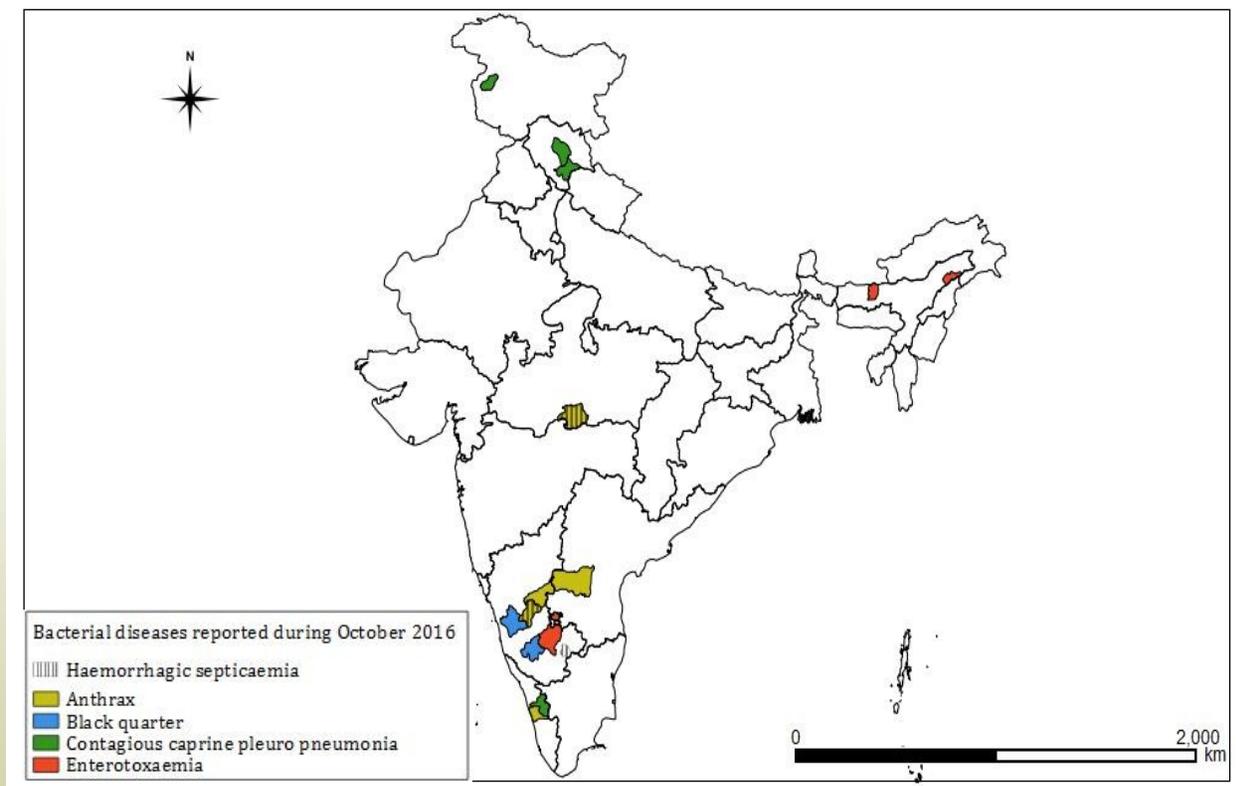


Fig. 2 Spatial distribution of bacterial diseases reported during October 2016

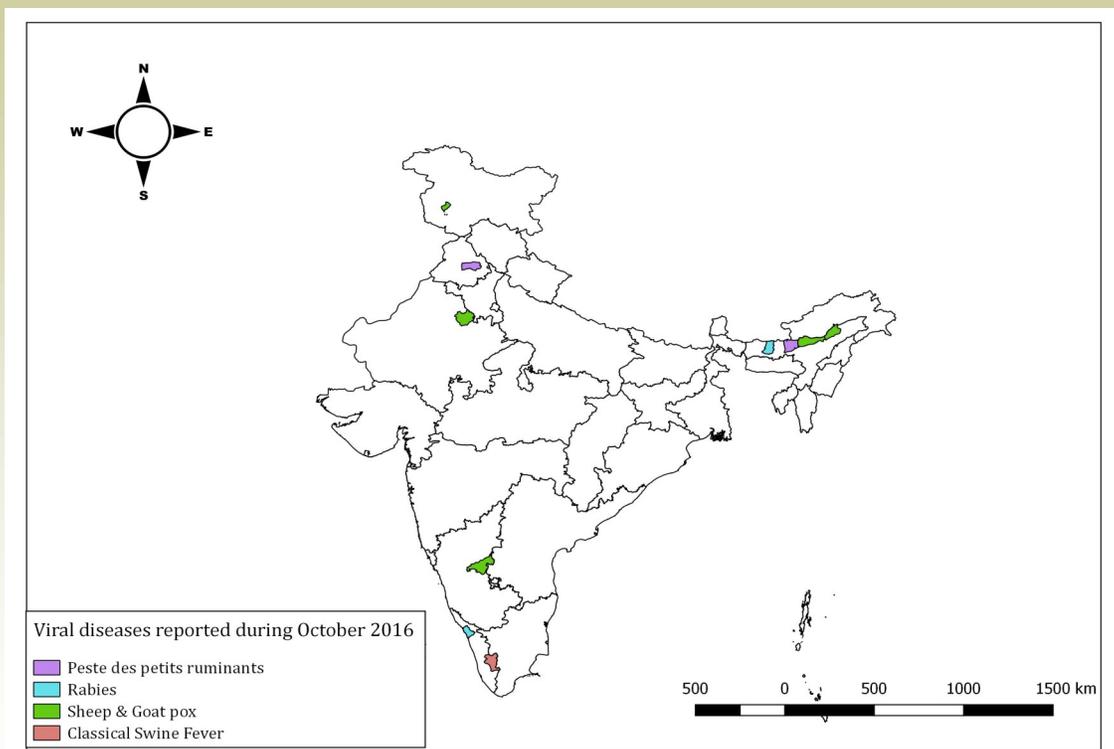


Fig. 3 Spatial distribution of viral diseases reported during October 2016

Table.1 State wise disease reports for October, 2016

State	Diseases Reported
Andhra Pradesh	Anthrax (Sheep)
Assam	Enterotoxaemia (Goat); Peste des petits ruminants (Goat); Rabies (Goat, Cattle); Sheep & Goat pox (Goat)
Haryana	Babesiosis (Cattle)
Himachal Pradesh	Contagious Caprine Pleuro Pneumonia (Goat)
Jammu & Kashmir	Contagious Caprine Pleuro Pneumonia (Sheep/Goat); Sheep & Goat pox (Sheep/Goat)
Karnataka	Anthrax (Cattle); Black Quarter (Cattle, Buffalo); Enterotoxaemia (Goat/Sheep); Haemorrhagic septicaemia (sheep); Sheep & Goat pox (Goat/Sheep)
Kerala	Anthrax (Cattle); Contagious Caprine Pleuro Pneumonia (Goat); Rabies (Canine, Cattle); Classical Swine Fever (Pig)
Madhya Pradesh	Anthrax (Cattle); Haemorrhagic Septicaemia (Cattle)
Puducherry	Babesiosis (Cattle)
Punjab	Peste des petits ruminants (Goat)
Rajasthan	Sheep & Goat pox (Sheep/Goat)

Note: * The livestock species in parentheses indicates the occurrence of the disease in those species of livestock during the reporting month in respective states

News

11 Oct 2016: Rabies testing laboratory and service center to be set up, Goa:

PANAJI: Taking forward their initiative to vaccinate dogs in Goa and make the state rabies free, Mission Rabies has now set up a rabies testing facility in Panaji for faster results. The samples were previously sent to Bengaluru for testing. Besides testing samples at the lab, epidemiological study to understand and eliminate the virus is also being done. The month-long special campaign, which commenced this month will, this time focus on the stray dog population in Bardez. It's aim is to vaccinate 70% of the dogs in the taluk.

A dog service centre has been set up at Assagao. The centre will shelter rescued dogs, has a sterilization facility, and will also conduct training of veterinary doctors in spreading awareness. (<http://timesofindia.indiatimes.com/city/goa/Rabies-testing-lab-and-service-centre-in-Goa/articleshow/54787047.cms>)

15 Oct 2016: Elephant calf dies of anthrax, Odisha

BARIPADA: An elephant calf died of anthrax in the Sanasole cashew forest on the foothills of Similipal sanctuary, officials said on October 15th, 2016. The carcass was located with blood oozing out of its mouth, said Arun Kumar Patra, Assistant Conservator of Forest (ACF) of Baripada forest division. The calf died of anthrax and the cause of the death was ascertained after an autopsy, he said. Autopsy was carried out after the guarding mother left the carcass that morning. On September 10, a female elephant died of anthrax in Gudugudia range under Karanjia forest division, officials said (<http://www.thehindu.com/news/national/other-states/Elephant-calf-dies-of-anthrax/article16072121.ece>)

21 Oct 2016: Avian flu H5N8 detected in Delhi, Madhya Pradesh and Kerala

On 19-10-2016, The National Institute for High Security Animal Diseases (NIHSAD), an OIE Regional Reference Laboratory, has confirmed that the virus subtype H5N8 infection in wild birds in Delhi and Gwalior Zoos is a new subtype being reported for the first time in the country. H5N8 has been reported from 11 countries during 2015 and four countries (including India) during 2016. Government of India has already issued H5N8 infection alert in wildlife and bird sanctuaries and the necessary guidelines to the State Government and the Zoo Authorities on control and containment of the Infection. Subsequently, H5N8 virus has also been found in ducks in Alappuzha district in Kerala. The outbreak was confirmed in ducks on 26-10-2016 after samples were tested and confirmed as H5N8 at NIHSAD, Bhopal (ECTAD, Vol. 05, No. 43, 27 October 2016)

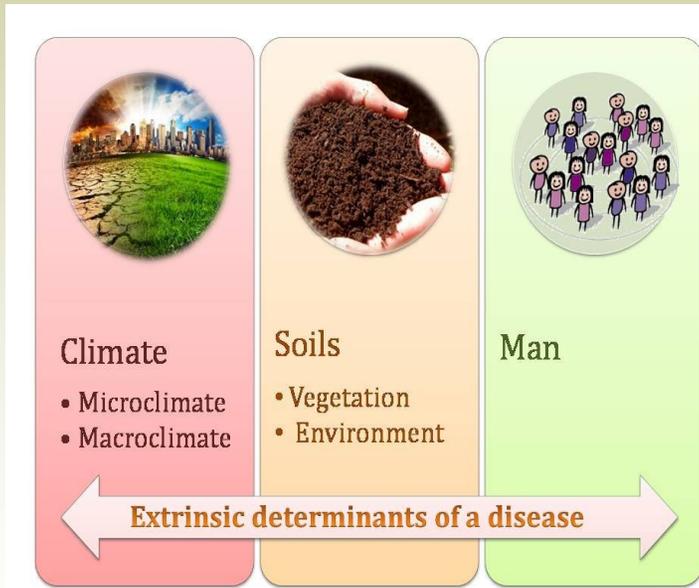
27th Oct 2016: Blood samples of pigs in Odisha test positive for Japanese Encephalitis virus

KORAPUT: After tribal-dominated Malkangiri district where Japanese Encephalitis outbreak has claimed 63 lives, the virus has now been found in pigs of neighboring Koraput district in Odisha. Of the 28 blood samples sent to the Indian Veterinary Research Institute at Bareilly in Uttar Pradesh, eight samples tested positive for the JE virus, according to the report received by the Koraput district administration.

Awareness drive against the vector-borne disease has already started in the district and JE affected pigs are being kept three kilometers away from the villages in special enclosures, an officer said. (<http://www.newindianexpress.com/states/odisha/2016/oct/27/blood-samples-of-pigs-in-koraput-test-positive-for-japanese-encephalitis-virus-1532406.html>)

Epidemiology concept

Extrinsic determinants of a disease



Extrinsic determinants play an important role in epidemiology as they can affect the host, agent, intermediate host and vector and their interactions.

Extrinsic determinants are of 3 types:

- ⇒ Climate
- ⇒ Soil type
- ⇒ Man

Climate:

a. *Microclimate*– Microclimate refers to the actual immediate climatic conditions the host, agent, intermediate host and vectors live in. Microclimate includes the temperature, air movements, animal heat and moisture production and humidity of the place where livestock is

kept, regulated by animal husbandry practices. Man can manage and manipulate microclimate to some extent.

b. *Macroclimate*– Macroclimate refers to large scale climate (temperature, rainfall, wind and humidity) of a country or an area. Macroclimate does not affect the livestock directly but influences microclimate of a place, which makes it an important extrinsic determinant of a disease.

Soils: By interacting with climate, soils determine vegetation and the environment in which the livestock are kept. The main effect of vegetation is on nutrition. Soils therefore act indirectly as determinants of disease by causing starvation, if there is little or no vegetation, or nutritional imbalances such as protein, energy, vitamin or mineral deficiencies. Malnutrition can be the direct cause of disease, or it can stress the host and thus increase its susceptibility to infection and disease from other sources. Soils can also have an effect on the ability of the agent to survive in the environment, through such factors as water logging, pH etc.

Man: Man can create a favorable environment for the livestock such as housing, water supplies, irrigation etc. These changes in systems and methods of production might sometimes result in changes in the relative importance of the diseases present, with perhaps some new diseases being introduced and others disappearing.

Man is also able to interfere directly in the disease process through the use of drugs, vaccines, movement controls, quarantines etc.

Answers for Crossword Sep16 in Vol. 3 Issue 23, September 2016

Across:

1. Culicoides; 2. Correlation; 5. Isolation; 8. Addison's; 10. Triad; 11. PCT

Down:

1. Correlation; 3. Latitude; 4. Rinderpest; 5. IPAT; 6. Sylvatic; 9. Epulis; 12. Naris; 13. OIE

