EpiNET.India

ICAR-NIVEDI

Animal Disease Information e-bulletin

Vol. 4 Issue 01, January 2017

Contents

Published by :
Dr. Parimal Roy
Director
ICAR-NIVEDI

Contact:
Indian Council of Agricultural Research -National Institute of Veterinary Epidemiology & Disease Informatics (ICAR-NIVEDI),
Post Box No. 6450
Ramagondanahalli, Yelahanka,
Bengaluru-560064

Phone: 0091-80-23093110/23093111
Email: epinetnivedi@gmail.com

January 2017

The top ten diseases reported during January, 2017 are Black Quarter, Sheep and Goat pox, Peste des petits ruminants, Classical Swine Fever, Anthrax, Enterotoxaemia, Haemorrhagic Septicaemia, Fascioliasis, Babesiosis and Theileriosis. The following Pie chart shows the top ten diseases reported during the month of January, 2017 (Fig 1).

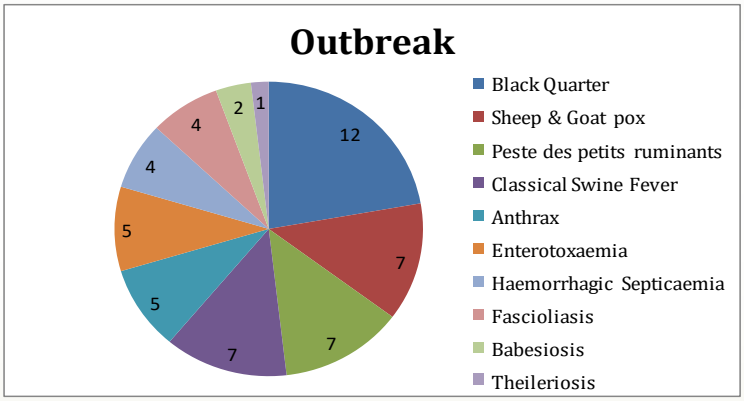

Fig. 1 Top ten diseases reported during January 2017
(Numbers in chart indicate outbreaks)

Black Quarter disease has been recorded from three states involving seven districts. Maximum number of outbreaks has been recorded in Karnataka state. Assam and Manipur are the other states that reported the disease (Fig 2).

Sheep and Goat Pox disease has been recorded from three states involving eight districts. Highest number of outbreaks has been recorded from Karnataka state. Assam and Himachal Pradesh are the other states that reported the disease (Fig 3).

Peste des petits ruminants has been recorded from four states involving four districts. Maximum number of outbreaks has been recorded in Karnataka state. Assam, Punjab and Rajasthan are the other states that reported the disease (Fig 3).

Classical Swine Fever disease has been recorded from three states involving four districts. Assam has reported maximum number of outbreaks. Madhya Pradesh and Haryana are the other states that reported the disease (Fig 3).

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

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

Haemorrhagic Septicaemia disease has been recorded from Karnataka state involving two districts (Fig 2).

Fascioliasis disease has been recorded from Puducherry Union Territory involving one district.

Babesiosis disease has been recorded from Puducherry Union Territory involving one district.

Theileriosis disease has been recorded from Haryana state involving one district.

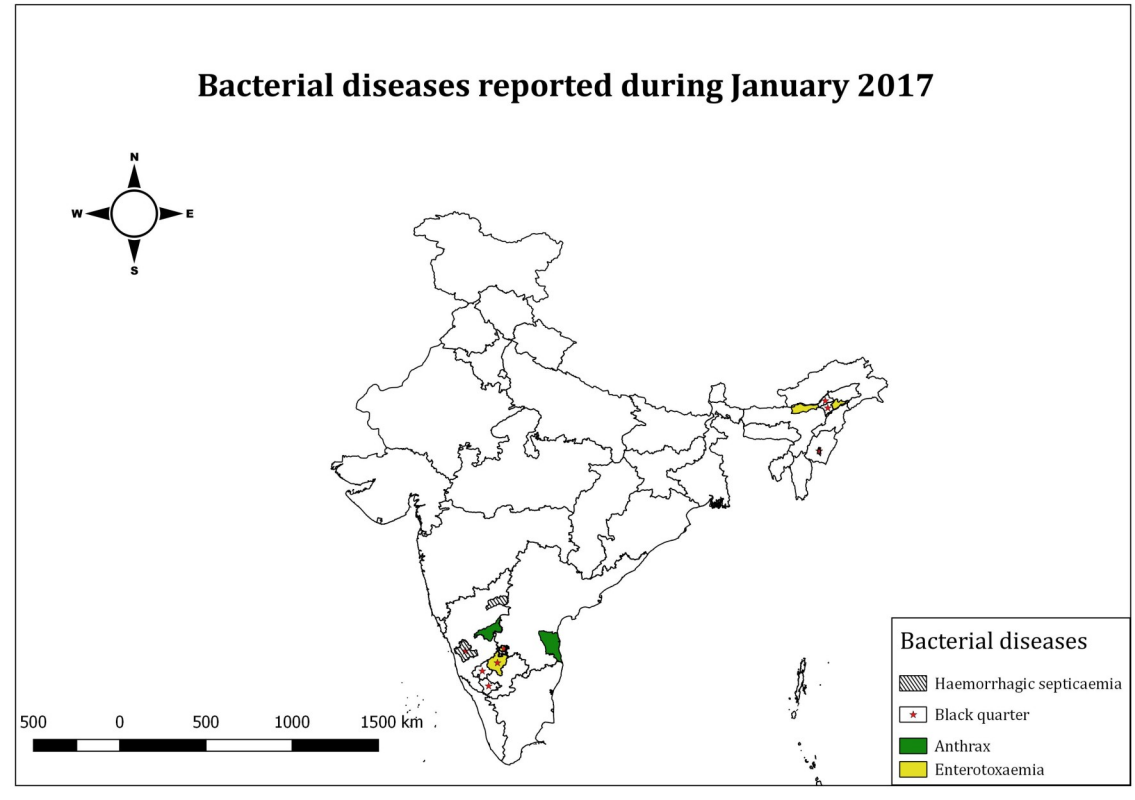

Fig. 2 Spatial distribution of bacterial diseases reported during January 2017

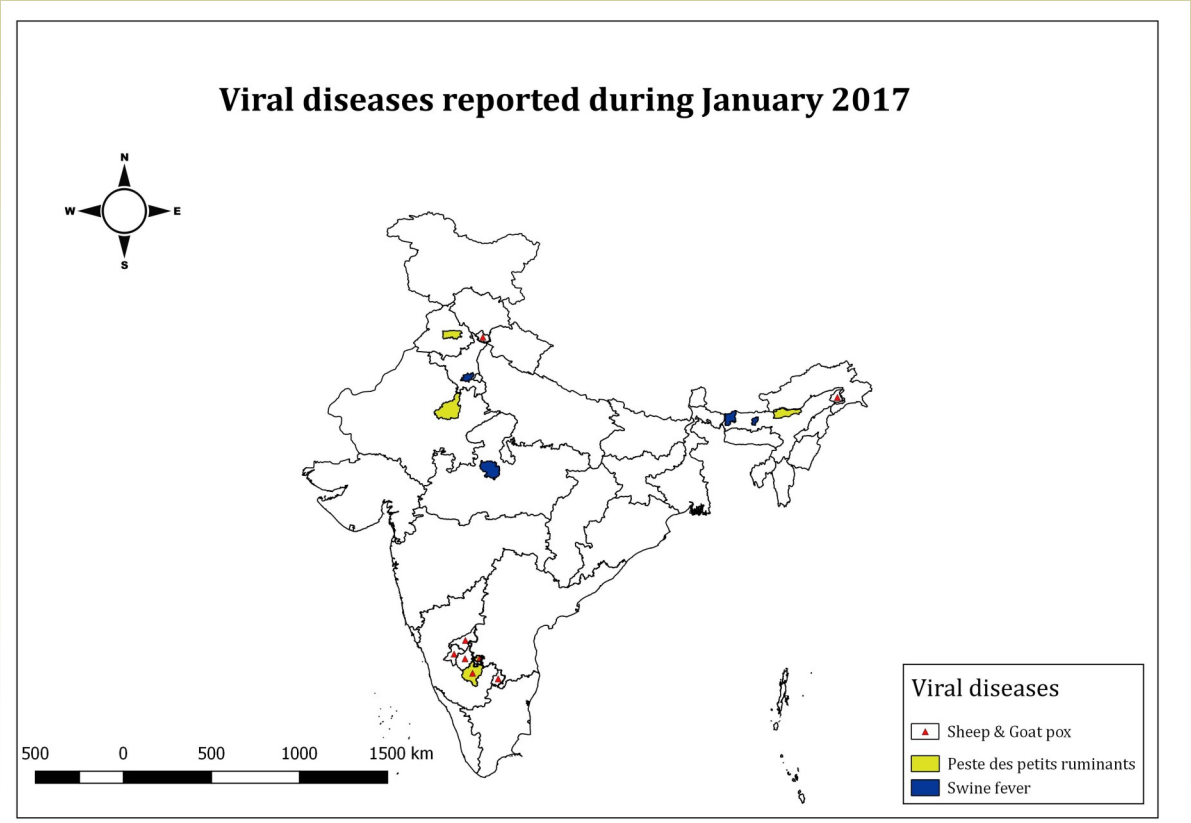

Fig. 3 Spatial distribution of viral diseases reported during January 2017

Table.1 State wise disease reports for January, 2017

State	Diseases Reported
Andhra Pradesh	Anthrax (Sheep)
Assam	Enterotoxaemia (Goat); Peste des petits ruminants (Goat); Classical Swine fever (Pig); Sheep and Goat pox (Goat)
Haryana	Classical Swine fever (Pig); Theileriosis (CB Cattle)
Himachal Pradesh	Sheep and Goat pox (Goat)
Karnataka	Black Quarter (Cattle); Haemorrhagic septicaemia (Cattle, Buffalo); Peste des petits ruminants (Goat, Sheep); Sheep and Goat pox (Sheep)
Madhya Pradesh	Classical Swine Fever (Pig)
Manipur	Black Quarter (Cattle)
Puducherry	Fascioliasis (Cattle); Babesiosis (Cattle)
Punjab	Peste des petits ruminants (Goat)
Rajasthan	Peste des petits ruminants (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

02 January 2017: Cattle hit by foot and mouth disease in West Siang, Itanagar, six Mithuns die

At least six cattle (mithuns) have reportedly died due to outbreak of foot and mouth disease (FMD) at Tato circle in West Siang district. More than fifty cattle specially mithuns are said to be affected by the disease in Tato, Pidi and Monigong circles. Deputy Commissioner of West Siang, Gamli Padu said that district administration is yet to get report of such FMD cases from the area. District Veterinary Officer Dr. Kejom Padu informed that earlier first sporadic case of FMD was reported from Monigong, however it was contained by the department with an effective vaccination campaign. (http://www.arunachaltimes.in/cattle-hit-by-foot-and-mouth-disease-in-west-siang-six-mithuns-die/).

15 January 2017: Bird flu in Odisha capital as crows test positive for H5N1

The deadly H5N1 virus rears its ugly head in Odisha capital as blood samples of dead crows have tested positive for the avian influenza. The samples were sent to National Institute of High Security Animal Diseases (NIHSAD), Bhopal. Around 53 crows were found drop dead in Bhubaneswar in last two weeks following which blood sample of some crows and poultry were sent to NIHSAD for H5N1 test. The state Housing and Urban Development (H&UD) department has issued a notification to take precautionary measures after bird flu was confirmed in Sundargarh, Bhubaneswar and Baripada. It has directed to burn carcass of crows and cranes found in the state and to administer preventive vaccine to poultry. No chicken has been detected with bird flu in Bhubaneswar and we have not received death case of any chicken in the city, said Bhubaneswar Sub-Divisional Veterinary Officer Dr. Balaram Sahu. (http://odishasuntimes.com/2017/01/15/bird-flu-in-odisha-capital-as-crows-test-positive-for-h5n1/)

17 January 2017: Gujarat High court seeks action plan taken to prevent Bird flu in Memnagar

Ahmedabad: The Gujarat High Court today asked the state government and the city civic body to furnish an affidavit on the action plan followed to tackle bird flu reported at Memnagar and steps to prevent its outbreak in the future. The PIL filed by 92-year-old resident Bhagwatiben Brahmbhatt also questioned the lack of action plan on AMC's part in preventing the outbreak of the deadly disease, after one sq km zone of Memnagar - a thickly populated residential locality - was declared as bird flu affected area, and 10 sq kms as 'bird flu alert zone' through a district administration notification issued on January 12. The PIL also sought a report on how 1,400 birds were brought into the premises of an animal rescue centre run by Sarv Dharm Trust in Memnagar and later culled and buried in the same locality. According to the PIL, as many as 200 out of the 1,400 birds reportedly died from bird flu, as ascertained by a Forensic Science Laboratory report. (http://punemirror.indiatimes.com/news/india/gujarat-high-court-seeks-action-plan-taken-to-prevent-bird-flu-in-memnagar/articleshow/56624338.cms)

21 January 2017: 2 Emu birds dead in zoo, samples sent for testing, Delhi

NEW DELHI: Two emu birdswere found dead in their enclosure at the Delhi zoo this week, forcing the authorities to once again send samples to be tested for avian influenza virus. This is the first bird death reported since the zoo re-opened on January 11 after a gap of 84 days and it has put zoo officials in a fix once again. Earlier, the zoo was closed after quite a few birds were found dead, some testing positive for the H5N8 strain of the bird flu virus. Zoo authorities said the emu birds may

have died due to the cold, since they were quite young, but they are not ruling out bird flu yet. "We have sent the samples to be tested for the virus and we are awaiting results. It is suspected the birds may have died due to the weather, but we cannot be sure at this point," said a senior zoo official. Samples have been sent to the High Security Animal Disease Laboratory in Bhopal where earlier samples were also sent to determine the cause of bird deaths in the capital. "We will decide on the action only when the samples return. At present, instructions have been given to report any bird death inside the zoo and to send the samples for testing," said a senior animal husbandry official. (http://timesofindia.indiatimes.com/city/delhi/2-birds-dead-in-zoo-samples-sent-for-testing/articleshow/56697181.cms)

Asia International News

11 Jan 2017: China confirms more human bird flu (H7N9) infections
China has confirmed 106 cases of human H7N9 bird flu infections, and 20 deaths in December, according to a statement issued on the website of National Health and Family Planning Commission on Wednesday. The new official number is a significant jump from around 40 cases that had been revealed in media reports and by local government to date. The latest government statement did not include details of where each case happened. China has culled more than 170,000 birds in four provinces since October and closed some live poultry markets after people and chickens were infected by strains of the avian flu. This comes as South Korea and Japan battle their own major outbreaks. The current outbreaks appear isolated. The virus is likely to strike in winter and spring, and farmers have in recent years ramped up measures such as cleaning regimes to prevent the disease. Widespread infection can lead to severe health risks and big financial losses. (*ECTAD, Vol. 06, No. 02 12 January 2017)

29 Jan 2017: Bird flu virus found in 80 percent of Dhaka markets , Bangladesh
The avian influenza or bird flu (HPAI-H5N1) was found in up to 80 percent markets in Dhaka where live poultry birds are sold or being processed, according to a survey. Food and Agriculture Organisation, Department of Livestock Services, and Bangladesh Livestock Research Institute jointly carried out the survey at different markets in Dhaka in 2016. The results were based on the four months of the survey period from January to April, 2016 and the detection rate was in between 60 to 80 per cent of the markets. (*ECTAD, Vol. 06, No. 05 02 February 2017)

21 Jan 2017: Summary of Avian Influenza- Globally
Since the last reporting, there were ninety-eight new human cases of avian influenza A(H7N9) reported by Mainland China health authorities in Jiangsu (34 cases), Zhejiang (23 cases), Anhui (14 cases), Guangdong (11 cases), Hunan (7 cases), Fujian (5 cases) and Jiangxi (4 cases). As of January 23, 2017, 229 cases have been recorded in Mainland China. There were no new human cases of avian influenza A(H5N1) reported by the World Health Organization (WHO) in 2017. From 2011 to 2015, 32 to 145 confirmed human cases of avian influenza A(H5N1) were reported to WHO annually . (*ECTAD, Vol. 06, No. 04 26 January 2017)

* Emergency Centre for Transboundary Animal Diseases

Epidemiology concept

Stages of epidemiological investigations

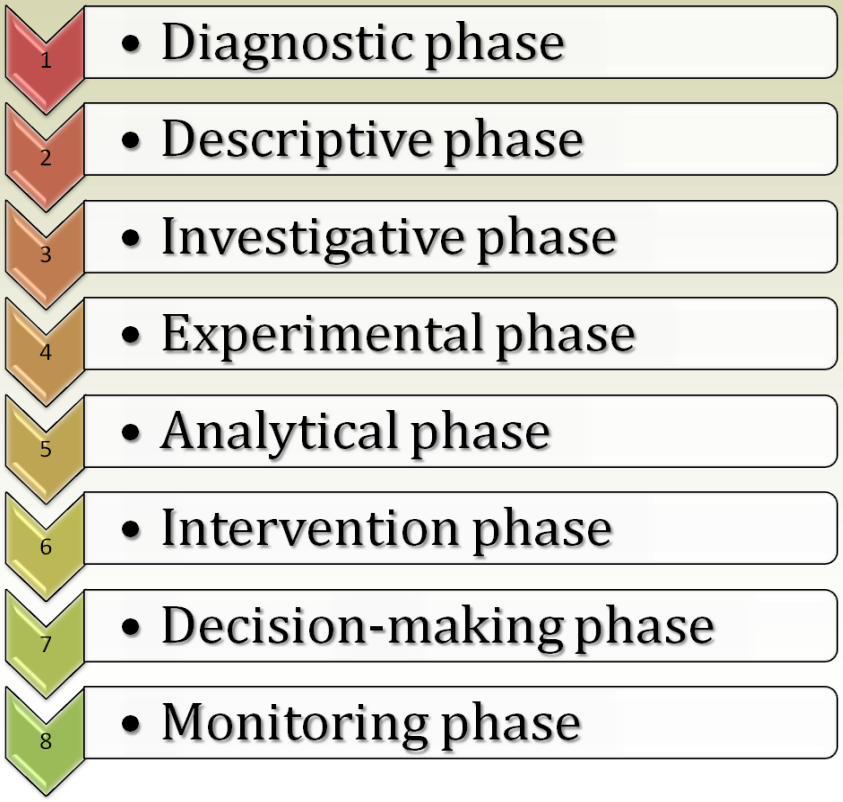

Fig 4: Flow chart showing the stages of epidemiological investigations in order.

Epidemiological Investigations are done with the objective of describing and quantifying disease events. Investigations are divided into different phases as follows (Fig 4):

⇒ *Diagnostic phase:* Presence of the disease is confirmed by either clinical/ Lab methods or both.

⇒ *Descriptive phase:* This phase describes the population at risk and distribution of the disease in that population both in space and time. This in turn helps to generate hypotheses which would lead to a systematic epidemiological study to determine the factors that lead to disease occurrence.

⇒ *Investigative phase:* It involves the implementation of a series of observational field studies designed to test the hypotheses which was developed based on descriptive epidemiological data.

⇒ *Experimental phase:* Experiments are performed in controlled conditions to test the hypotheses in detail, which has to prove the investigative phase promising and finally lead to establishing the causal relation.

⇒ *Analytical phase:* Results produced in the previous phases are analyzed and combined. With the information generated, epidemiology of the disease can be studied.

⇒ *Intervention phase:* Methods for control of the disease are scrutinized under experimental/field conditions. Interventions in the disease process are effected by manipulating existing determinants or introducing new ones.

⇒ *Decision making phase:* Understanding epidemiology of the disease is then used to find options for its control, which involves the modeling of the effects that these different options are likely to have on the incidence of the disease. These models can be combined with other models that examine the costs of the various control measures and compare them with the benefits, in terms of increased productivity, that these measures are likely to produce. The optimum control strategy can then be selected as a result of the expected decrease in disease incidence in the populations of livestock at risk.

⇒ *Monitoring phase:* This takes place during the implementation of the control measures to ensure that the measures are giving positive outcome in the field and are having the desired effect on reducing disease incidence. This helps to determine the success of the control programme implemented.

References:

- *www.fao.org*