



Volume 14 No 04

Veterinary Epidemiological Bulletin Sri Lanka



Oct - Dec 2021

ISSN 1800 -1881

Department of Animal Production and Health, P.O. Box 13, Peradeniya, Sri Lanka.

Contents

1. **Porcine Reproductive and Respiratory syndrome (PRRS)**
2. **Status of Livestock Diseases**
 - 2.1 Bovine Diseases
 - 2.1.1 Bovine Brucellosis
 - 2.1.2 Bovine Babesiosis
 - 2.1.3 Black Quarter
 - 2.1.4 Foot and Mouth Disease
 - 2.1.5 Haemorrhagic Septicemia
 - 2.1.6 Mastitis
 - 2.2 Caprine Diseases
 - 2.2.1 Contagious Pustular Dermatitis
 - 2.3 Rabies
 - 2.4 Poultry Diseases
 - 2.4.1 Fowl pox
 - 2.4.2 Gumboro Disease
 - 2.4.3 New Castle Disease
3. **Highly Pathogenic Avian Influenza**
 - 3.1 National HPAI Surveillance Programme
 - 3.2 Global Distribution of Notifiable Avian Influenza
 - 3.3 Global Situation of Notifiable Avian Influenza

Porcine Reproductive and Respiratory Syndrome

Porcine Reproductive and Respiratory Syndrome (PRRS) is a viral disease that cause a decrease in reproductive performance in breeding pigs and respiratory disease in pigs of any age. PRRS is the most economically significant disease affecting the swine production of most of the countries.

The disease first discovered in 1987 in US and initially referred as Swine Mystery Disease (SMD). During the past 20 years, understanding on control of PRRS virus has greatly improved, but still much to discover. Throughout the past 15 years, the entire swine production systems being designed around strategies for controlling or elimination of this disease. The economic impact of this disease is substantial and global. The disease's economic impact occurs through pig death losses, poor reproductive performance, poor growth rates and increased use of medications. Mortality of the diseases varying from 2 to 100% in the most extreme cases of emergent highly pathogenic strains.

The clinical picture of the PRRS can vary tremendously from one herd to another, as one will show no recognizable disease, the second would show mild disease and third moderate to severe disease. The reasons for this are not clear, but, that the higher the health status of the herd, the less severe the disease effects, possible due to better controlled opportunistic pathogens in the environment. PRRSV displays complex interactions with the immune system and a high mutation rate, making the development and implementation of control strategies a major

challenge. There is no evidence of human infection with PRRS virus.

Porcine reproductive and respiratory syndrome is now found in most areas of the world where pigs are raised. Besides Europe and North America, it was identified in China in 1995 and is present in Japan, Vietnam, the Philippines, Malaysia, and Korea among other countries in Asia. Australia, New Zealand, several European countries, parts of Africa and India are currently free of the disease.

Etiology

The agent of PRRS is a RNA virus in the group Arteriviridae. It is enveloped, ranges in size from 45 to 80nm and very stable under freezing conditions retaining its infectivity for 4 months at -70 °C. Due to its RNA genetic material, there is a lot of variation in virus makeup by mutations. Two distinct strains of virus has been identified in Europe (Type I) and United States (Type II), both strains can be found globally.

Epidemiology

The primary vector for the transmission of the virus is the infected pigs and contaminated semen. Infected pigs with or without symptoms are “shedding carriers” and are probably the most common way of introducing disease into a new animals. The virus is highly infectious as its infectious dose is about 10 virus particles. PRRS can be introduced to a herd via: nasal secretions, saliva, feces, urine, semen, mammary secretions, vectors (mosquito, flies), fomites as well as aerosol transmission.

Pathogenesis

PRRS virus can affect all age groups. Reproductive failure/impairment is more obvious in sows, gilts and boars. The respiratory syndrome is more often in young growing pigs. It affects all type of herds including high or ordinary health status, irrespective of size.

The PRRSv destroys up to 40% of pig's macrophages removing a significant part of the pig's defense mechanism which allows secondary infections by bacteria and other viruses (*Streptococcus suis*, *Escherichia coli*, *Haemophilus parasuis*, *Mycoplasma hyopneumoniae*, Swine Influenza).

Clinical Signs

The disease appears to have two distinct clinical phases as reproductive failure and respiratory disease. The reproductive phase of the

disease includes increases in the number of still-born piglets, mummified fetuses, premature farrowing, weak-born pigs and anorexia and agalactia in sows. Suckling piglets develop a characteristic thumping respiratory pattern due to severe pneumonia. Clinical signs are evident as early as one week after weaning with the piglet losing condition with pale skin, mild coughing, sneezing and increased respiratory rate. Boars with PRRS show the signs as inappetence, fever, lethargy, loss of libido.

Diagnosis

This is based on clinical signs, post mortem lesions (severe necrotizing interstitial pneumonia) and known presence of the virus in the herd or by serological examinations, isolation of the virus in a laboratory and immunohistochemistry. Most commonly used serologic assay to help diagnose PRRS is the ELISA.

Treatment

In the absence of medication to treat viruses, treatment is aimed at preventing secondary infections both respiratory and enteric until an immunity builds up. Antibiotic treatment should be given for three to four weeks as immediately the disease is diagnosed or suspected. If necessary fever reducing NSAIDs or appetite stimulants also can be useful.

Control and Prevention

Modified live vaccines have been clinically proven to be the most effective way to control clinical signs and reduce the shedding of the virus. Prevention of infection appears to be primary means to control. Elimination of the virus is possible on an individual farm basis through the use of the herd closure technique. Following successful elimination, strict quarantine and testing programs, purchase disease free stocks, sanitation and strict movement protocols should be practiced.

2. Status of Livestock Diseases 4th Quarter - (Oct— Dec) 2021

2.1 Bovine Diseases

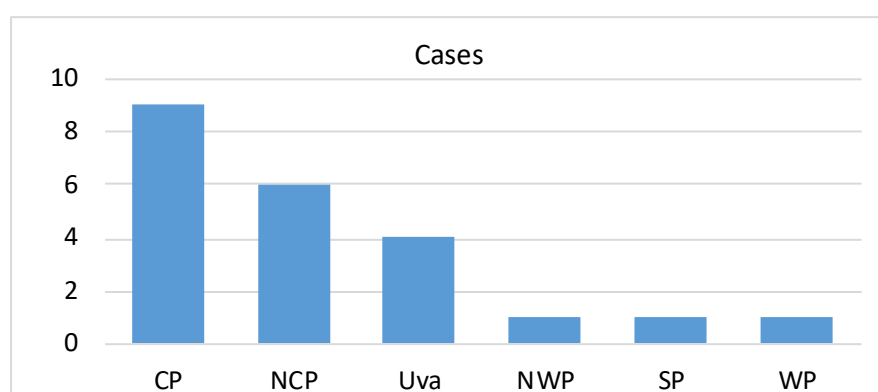
2.1.1 Bovine Brucellosis :

During the fourth quarter 2021, a total of 22 clinically suspected Brucellosis cases have been reported from six provinces of the country. Majority of the cases were found in the Central Province. It is a remarkable decrease of the disease incidence when comparing with the reported 65 cases during the fourth quarter of 2020.

According to the VRI lab surveillance, within the period of fourth quarter 875 samples were received by VRI for confirmatory diagnosis. Out of them 92 RBST positive samples were identified and then 85 CFT positive cases were isolated.

Provincial Distribution 4th Quarter -2021

Province	Cases
CP	9
NCP	6
Uva	4
NWP	1
SP	1
WP	1
Total	22



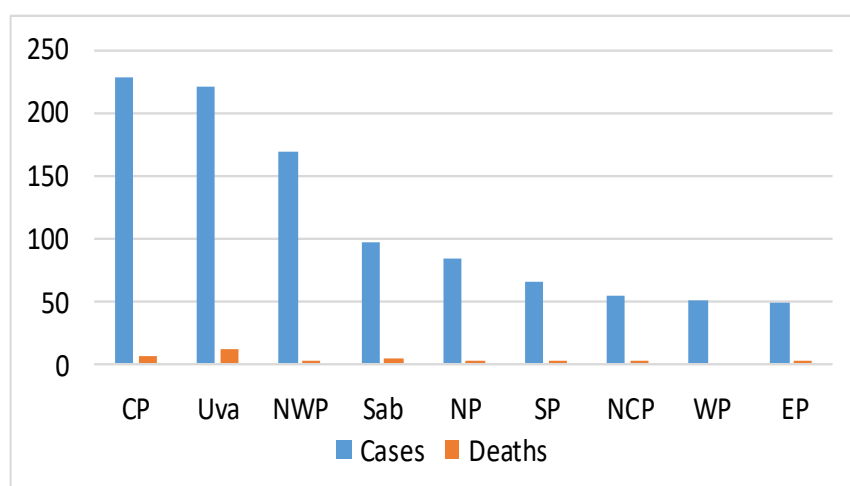
2.1.2 Bovine Babesiosis :

Bovine Babesiosis 1016 cases with 31 deaths were reported in the fourth quarter 2021. Pre-immunizations carried out by VIOs in order to control this disease. Majority of cases were found in the Central and Uva Provinces, where as the Eastern province had very limited cases.

Comparison shows slight reduction of reported cases in 2021 as it was reported 1245 cases in the fourth Quarter 2020.

Provincial Distribution 4th Quarter -2021

Province	Cases	Deaths
CP	228	6
Uva	220	11
NWP	169	3
Sab	97	4
NP	84	2
SP	66	1
NCP	54	3
WP	50	0
EP	48	1
Total	1016	31



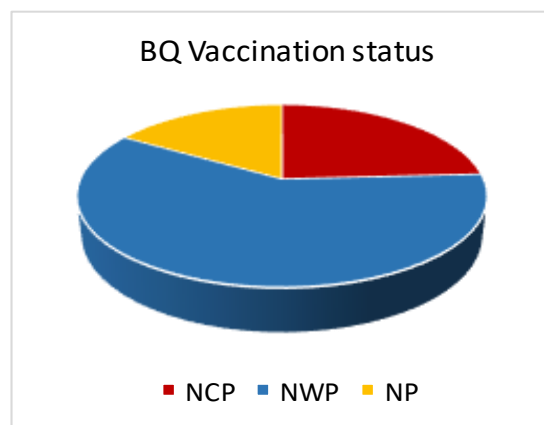
2.1.3 Black Quarter :

Black Quarter nine cases with six deaths were reported in the North Western Province during the fourth quarter of 2021. Comparing to the 4th quarter of 2020, only one case was reported.

A totally of 19,475 vaccination were carried out during this period.

BQ Vaccination 4th – Quarter 2021

Province	Immunization
NCP	4,696
NWP	11,585
NP	3,194
Total	19,475



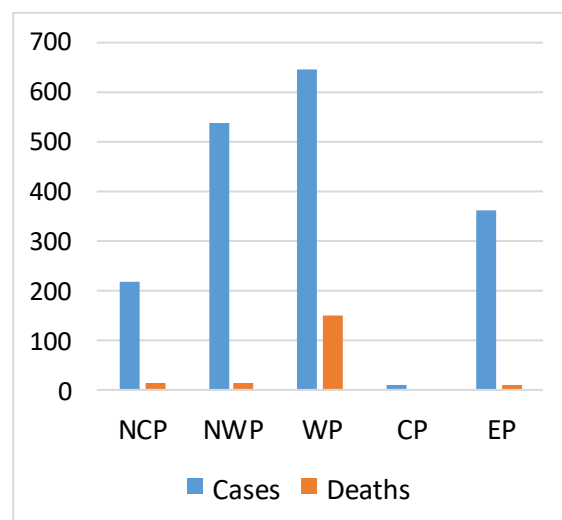
2.1.4 Foot and Mouth :

During the fourth quarter of year 2021, 1770 Foot and Mouth disease cases and 185 deaths were reported. Totally 178,161 animals were vaccinated against the disease island wide during the same period.

In the fourth quarter of 2020, there had been 570 cases and 5 deaths were recorded. A significant increase of the disease could be observed during the mentioned period of 2021.

Provincial Distribution - 4th Quarter 2021

Province	Cases	Deaths
NCP	216	12
NWP	538	15
WP	645	150
CP	8	0
EP	363	8
Total	1770	185



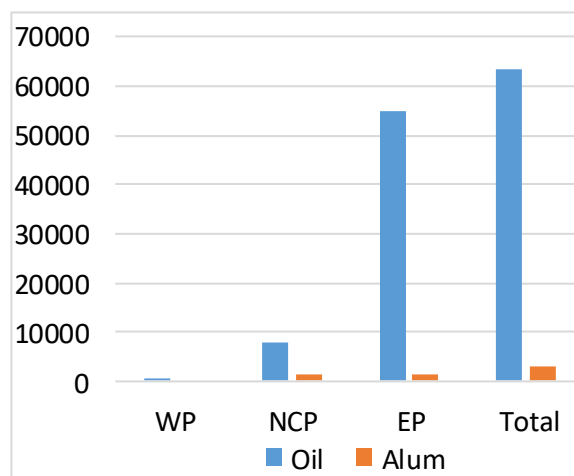
2.1.5 Hemorrhagic Septicemia :

Hemorrhagic Septicemia disease 6 cases and 6 deaths were reported in North Central province Madirigiriya veterinary range during the fourth quarter of 2021. It reveals the significant decrease in reported cases than 2020 corresponding quarter as it was reported 31 cases with 15 deaths.

A total of 66,124 vaccination were carried out island wide during the particular period of 2021.

HS Vaccination status - 4th Quarter 2021

Province	Oil	Alum
WP	357	0
NCP	7,787	1,355
EP	55,145	1,480
Total	63,289	2,835



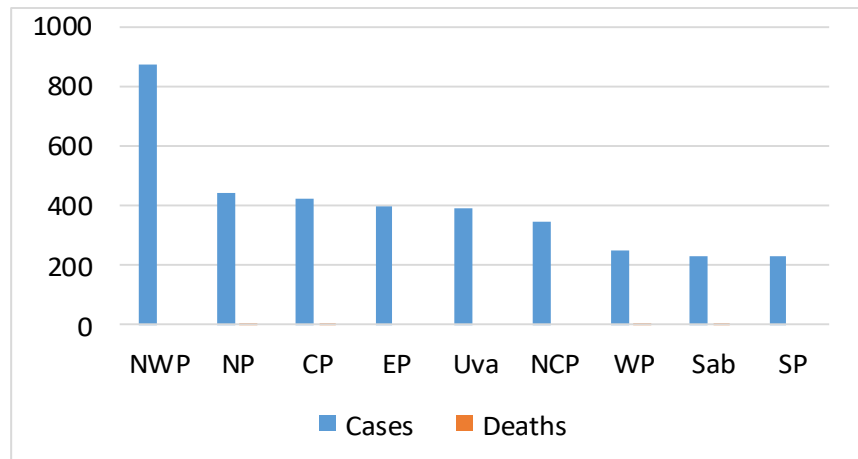
2.1.6 Mastitis :

Total Mastitis cases during the fourth quarter of the year 2021, were 3569 with 10 deaths. Majority of cases were found in the North Western and Northern provinces. In comparison, fourth quarter of the year 2020 had been reported 4423 cases with 7 deaths, which indicates significant reduction of mastitis cases in 2021.

430 liters of CMT reagent and 953.5 liters of teat dip solution have been issued to the field in order to control mastitis. 333 ABST and 1868 CMT screenings were done by VIOs in island wide during the same period.

Provincial Distribution - 4th Quarter 2021

Province	Cases	Deaths
NWP	869	0
NP	439	1
CP	423	5
EP	395	0
Uva	389	0
NCP	345	0
WP	252	3
Sab	230	1
SP	227	0
Total	3569	10



2.2 Caprine Diseases :

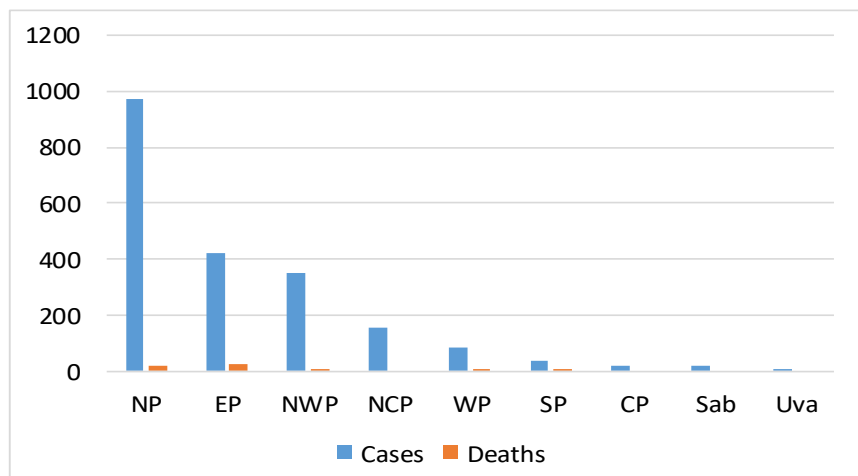
2.2.1 Contagious Pustular Dermatitis :

During the fourth quarter 2021, 2060 cases and 43 deaths were reported due to Contagious Pustular Dermatitis. Majority of cases were found in the North western and Eastern provinces of the country.

The comparison shows a slight decrease of the disease incidence in 2021 fourth quarter, as it was reported only 2525 cases and 20 deaths during the corresponding quarter of the year 2020.

Provincial Distribution - 4th Quarter 2021

Province	Cases	Deaths
NP	972	18
EP	423	21
NWP	352	2
NCP	156	0
WP	83	1
SP	37	1
CP	19	0
Sab	16	0
Uva	2	0
Total	2060	43

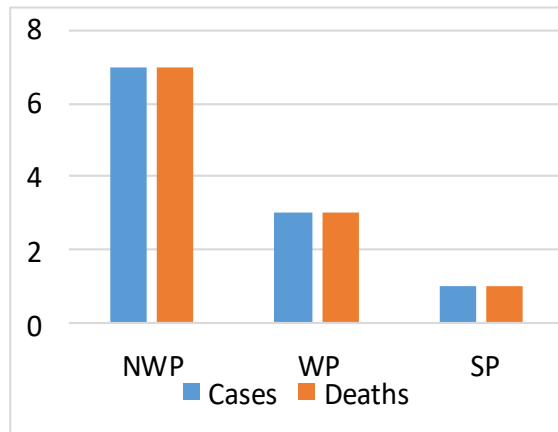


2.3 Multi Species Diseases : Rabies

During the fourth quarter of 2021, 11 rabies cases have been reported from following three provinces. Out of them 10 were Bovine cases and 01 were canine cases. Majority of the cases were reported from North western Province as 07 cases.

In the same quarter of the previous year, 11 rabies cases had been reported in island wide.

Provincial Distribution 4th Quarter 2021



Prov.	Cases	Deaths
NWP	7	7
WP	3	3
SP	1	1
Total	11	11

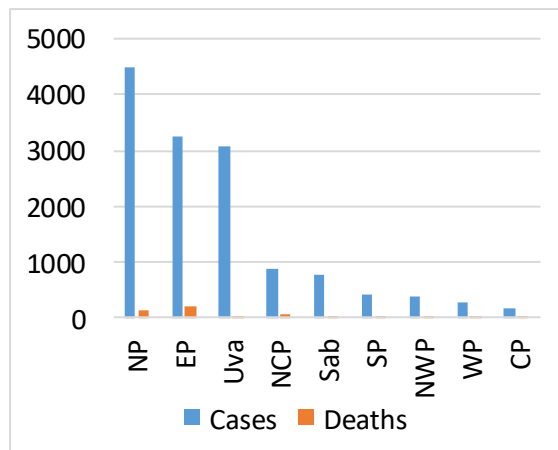
2.4 Poultry Diseases :

2.4.1 Fowl Pox :

Totally 13754 Fowl Pox cases and 496 deaths were reported in island wide during the 4th quarter, the majority of them (32.77%) were reported from Northern province.

In the same quarter of 2020, 36751 fowl pox cases with 1274 deaths had been reported from island wide which revealed remarkable reduction of disease incidence.

Provincial Distribution 4th Quarter 2021



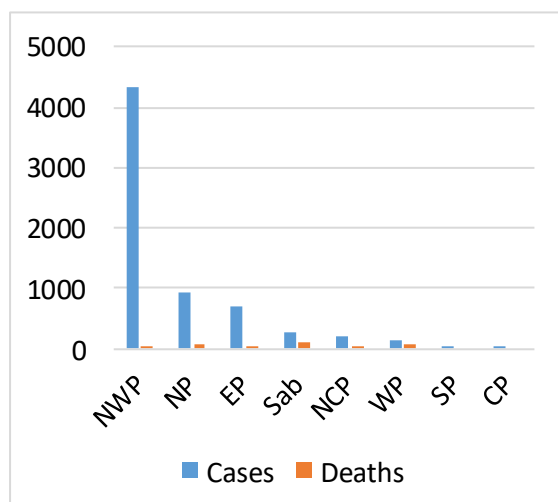
Provi.	Cases	Deaths
NP	4508	151
EP	3249	192
Uva	3082	28
NCP	890	69
Sab	779	8
SP	417	6
NWP	372	12
WP	273	10
CP	184	20
Total	13754	496

2.4.2 Gumboro Disease :

During the fourth quarter of 2021, 6582 cases of Gumboro (IBD) with 377 deaths have been reported from Island. Most of the cases were reported from North Western province as 65.67% of total reported cases.

Comparison with fourth Quarter of 2020, indicate a remarkable decrease of the disease in 2021 as it was reported as 13685 cases and 957 deaths in the particular year.

Provincial Distribution – 4th Quarter 2021



Provi.	Cases	Deaths
NWP	4323	46
NP	942	79
EP	697	55
Sab	270	98
NCP	202	35
WP	141	64
SP	5	0
CP	2	0
Total	6582	377

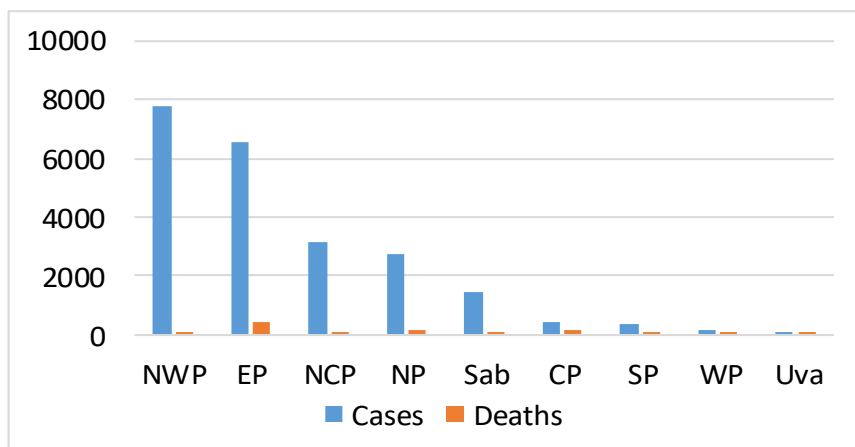
2.4.3 Newcastle Disease :

Totally 22726 cases and 944 deaths were reported from all provinces of the country during the fourth quarter of 2021. Majority of the cases were reported from North western (34.16%) and Eastern Provinces (28.94%). Uva province has reported very less number as 71 cases.

Comparison shows a significant decrease of the disease incidence as 35030 cases and 3388 deaths were reported during the same quarter of the 2020.

Provincial Distribution 4th Quarter 2021

Province	Cases	Deaths
NWP	7764	77
EP	6578	438
NCP	3166	12
NP	2757	140
Sab	1463	79
CP	418	139
SP	346	38
WP	163	13
Uva	71	8
Total	22726	944



3. Highly Pathogenic Avian Influenza :

3.1 National HPAI Surveillance Program :

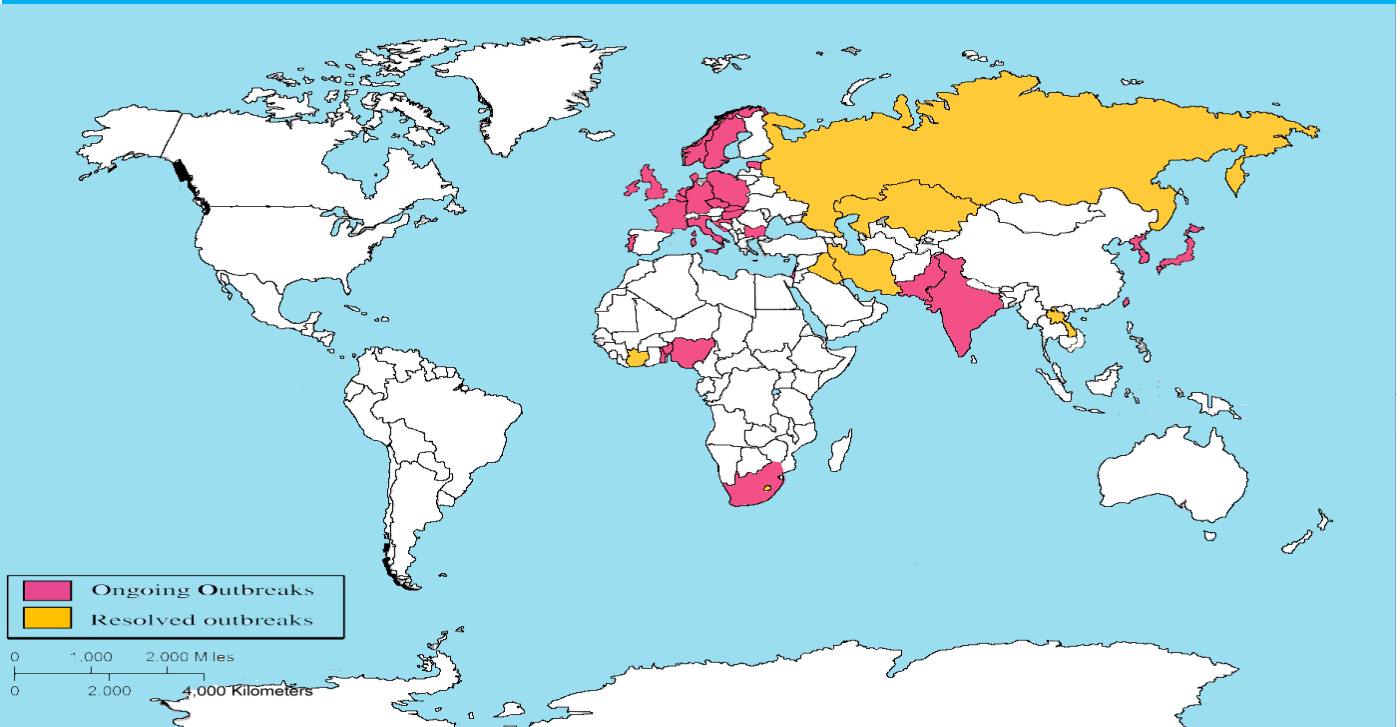
District	Serum Samples (Commercial poultry) *		Fresh droppings and Cloacal swabs Migratory birds & backyard poultry *	
	No. Tested	Results	No. Tested	Results
Batticaloa	-	-	120	(-) ve
Chilaw	75	(-) ve	335	(-) ve
Colombo	9	(-) ve	-	-
Galle	-	-	150	(-) ve
Gampaha	90	(-) ve	287	(-) ve
Hambantota	-	-	180	(-) ve
Jaffna	-	-	675	(-) ve
Kalutara	52	(-) ve	72	(-) ve
Kandy	60	(-) ve	60	(-) ve
Kegalle	45	(-) ve	60	(-) ve
Kurunegala	30	(-) ve	12	(-) ve
Kilinochchi	82	(-) ve	235	(-) ve
Mullaitivu	-	-	285	(-) ve
Polonnaruwa	45	(-) ve	-	-
Ratnapura	32	1 sample (+) ve for Ab	-	-
Trincomalee	75	(-) ve	180	(-) ve
Vavuniya	4	(-) ve	195	(-) ve
Total	599		2846	

3.2 Global Distribution of Notifiable Avian Influenza :

Active surveillance against Highly Pathogenic Avian Influenza consist with clinical surveillance, sero-surveillance in commercial poultry and epidemiological surveillance in migratory birds and backyard poultry. Total of 599 serum samples, 2846 pooled droppings and cloacal samples were tested representing 17 districts in country during the fourth quarter of the year 2021. All of the samples were declared as negative for the Highly Pathogenic Avian Influenza Virus and this result was confirmed by the Animal Virus Laboratory, Polgolla.

According to the OIE records on HPAI global situation, twenty eight countries (Poland, Togo, S. Africa, India, UK, Benin, Netherland, Nigeria, Sweden, Portugal, Bulgaria, France, Czech Republic, Hungary, Italy, Slovakia, Japan, Chinese Taipei, Korea, Israel, Ireland, Germany, Denmark, Belgium, Norway, Pakistan, Estonia, Croatia) in the world have reported ongoing HPAI status and seven countries (Iran, Cote D'Ivoire, Iraq, Kazakhstan, Russia, Lesotho, Laos) have resolved their disease status by the end of the fourth quarter of 2021.

3.3 Global Situation of Notifiable Avian Influenza outbreaks :



Compiled by:

Mrs. Janani Kularathna.
Animal Health Division
Livestock Development Officer

Suggestions and comments to:-

Director Animal Health
Department of Animal Production & Health
P.Box 13,Getambe, Peradeniya
e-mail:dah_daph@yahoo.com

Editor:

Dr. D.R.K.Perera
Veterinary Surgeon Animal Health
Dept. of Animal Production and Health,
P.Box 13,Getambe, Peradeniya
e-mail :roshaniperera1919@gmail.com

Guided By:

Dr. G.G.I.A. Jayawickrama
Deputy Director Animal Health
Dept. of Animal Production and Health,
P.Box 13,Getambe, Peradeniya
e-mail :jayawickrama64@yahoo.com
TP : 0812388462

Advised by:

Dr. L.W.B. Epakanda
Director Animal Health .
Dept. of Animal Production and Health,
P.Box 13,Getambe, Peradeniya
e-mail:lakshith63@Yahoo.com
TP:0812384551