



Quarterly Animal Health E-Bulletin Sep-Dec, 2017

This Quarterly Animal Health E-Information bulletin aims to share the information related to animal health related news to all stakeholders involved that might trigger a positive spark on program planning and decision making for the prevention and control of animal diseases. We have compiled information received from different institutions in this publication as per the request of our stakeholders. This bulletin is still in the process of rejuvenation and we assure you to provide the quality bulletin in the days to come and expect your valuable suggestions and support for the sustainability of this bulletin. In this bulletin, we have highlighted the key government animal health institutions and their major program /activities delivered.

FMD Control Program

Animal Health Directorate is the key role player in Livestock/Animal Diseases control in Nepal. It is within Department of Livestock Services (Ministry of Agriculture, Land Management and Cooperatives, GoN). Program Director (PD) of Directorate of Animal Health is the head of Animal Health Related Program and National Diseases control Programs. The major programs under AHD are Avian Influenza Control Program, National FMD Control Program, National PPR control Program, National CSF Control Program, National HS and BQ control program, National ND Control program and Rabies Control Program.

The FMD control program is focused on Early Reporting, verification, diagnosis of disease, Outbreak investigation, strategic Vaccination, Seromonitoring (usually 0.5%), Outbreak control, Regular Surveillance, NSP sero Survey, Awareness program and Program monitoring. There is a FMD Working Group under DAH which assist PD for drafting plans, strategies, policy for FMD Control in the country. From 2012 to 2015, there was only FMD sero type 'O' reported in Nepal, however, during 2016, there was one outbreak of FMD serotype A in Chitwan and one outbreak of FMD serotype Asia-1 in Kaski. There was involvement of FMDV serotype O in >80% of the outbreaks.

Tab 1: FMD Program implemented districts in 2016/17

Region	Districts	Total
Eastern Development Region	Panchthar, Ilam, Jhapa, Sunsari, Morang, Dhankuta, Udaypur, Saptari, Siraha, Taplejung, Tehrathum, Sankuwasava, Bhojpur	13
Midwestern Development Region	Dang, Banke, Bardiya, Salyan, Surkhet	5
Far western Development Region	Kailali, Kanchanpur, Dadeldhura, Bajura, Bhajang, Accham, Doti, Baitadi, Darchula	9

Tab 2: Activities under FMD Program in Fiscal year 2016/17

Year	Vaccine Procured	Animal Vaccinated	No of districts with vaccination program, Surveillance and awareness	No of districts with regular surveillance and awareness	Total districts	Sero monitoring
2016/17	1500000	1380000	15	12	27	2275

Avian Influenza Control Program

AI surveillance program was started from 2006. First outbreak of HPAI was reported in 2009 in Jhapa district. From 2009 to 2013, a total of 42 outbreaks were reported from 18 different districts in the country. A huge number (173) of outbreaks were recorded in different parts of 12 districts during 2014/15 B.S. The country remain free for next two

year but 3 outbreaks of HPAI are reported from Kaski and Sunsari Districts 2017-. All the outbreaks were controlled by stamping out operation. Surveillance activities were intensified around infected zone and throughout the country. No human cases identified so far. AI surveillance program is continuing throughout the year 2017/18.

National CSF Control Program

National CSF Control Program started since 2014 in order to improve Socio-economic status of farmers involved in swine farming and encourage commercialization. Control Measures Adopted by National CSF Control Program includes deworming, regular strategic mass vaccination and ring vaccination in case of any outbreak. The targeted vaccination under National CSF program is shown in fig 1.

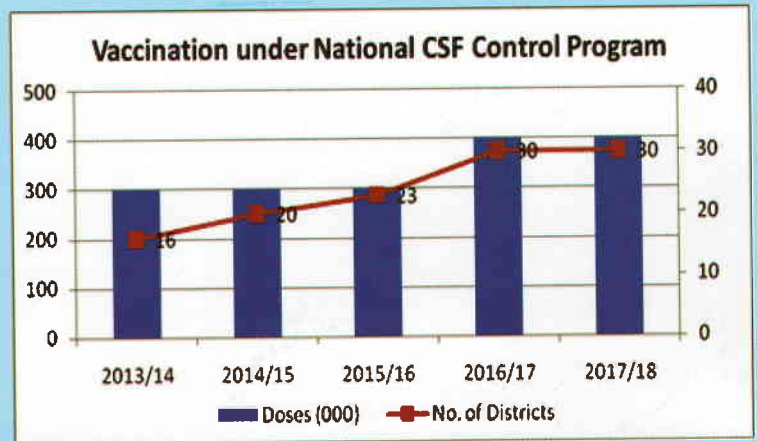


Fig 1: Vaccination under National CSF Control Program

National PPR Control program

National PPR Control Program has been launched since 2001 till date with the main objective to improve socio-economic status of rural farmers involved in goat farming by controlling PPR disease. The Disease control program focus on strategic vaccination of all susceptible animals, ring vaccination in outbreak area, Sero-monitoring of vaccinated animals and farmer awareness about PPR. PPR vaccines are produced by Central Biological Production Laboratory (CBPL) within the country. 5 millions sheep and goat were vaccinated in the year 2016. The target of PPR vaccination in year 2017/18 is 6 million to susceptible sheep and goat population

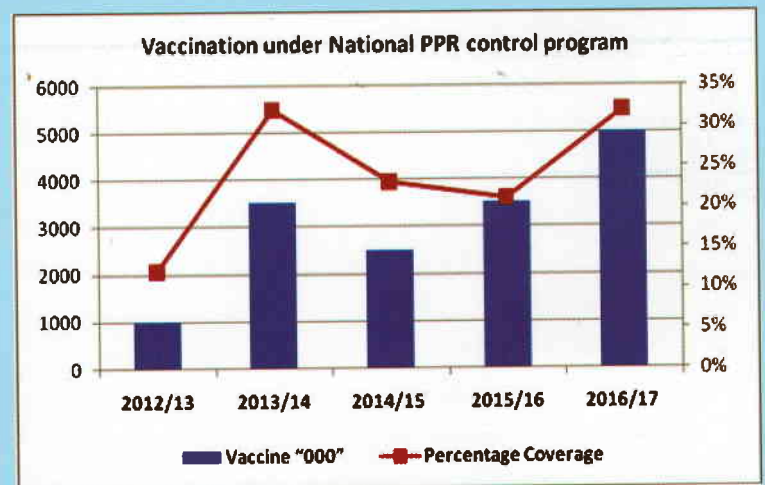
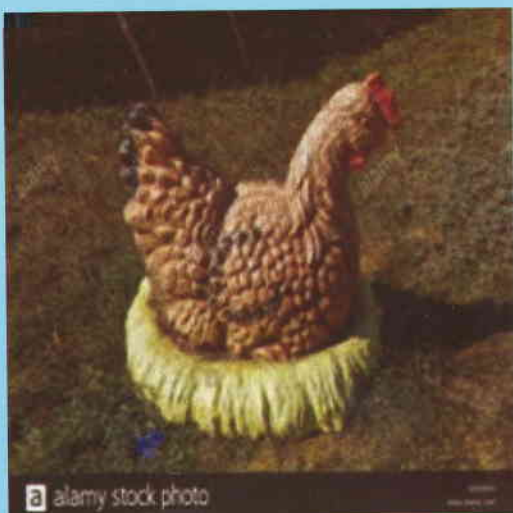


Fig 2: Vaccination under National PPR Control Program

National ND Control Program

National ND control program is one of the demand driven public program being implemented since 2014. This program was implemented with involvement of rural farmers, local level government bodies and line agencies concerned. This program has given significant economic impact in disease reduction in backyard poultry thus helping in economic upliftment of the rural farming community and food security. This program is mainly focus to reduce the number of ND outbreaks by implementing mass vaccination campaigns in Backyard poultry. In the year 2016/17 mass vaccination campaigns was executed in 35 districts by vaccinating 700,000 doses of ND vaccines in backyard poultry including deworming. Along with this interaction programs were conducted with different line agency in program implementation districts.



Vaccination Program Under National ND '000' doses

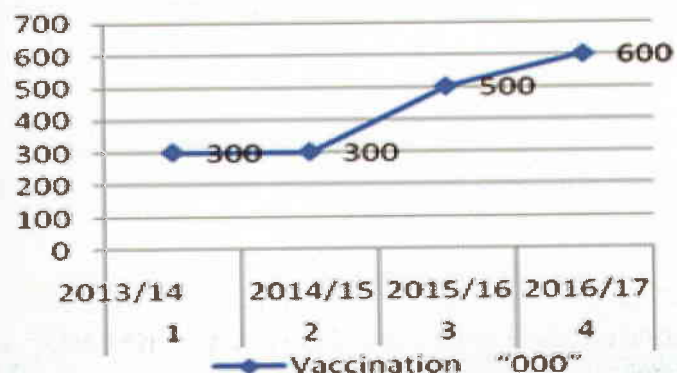


Fig 3: Vaccination under National ND Control Program

National HS/ BQ control program

National HS/ BQ control program was launched by Fiscal Year 2013/14 in order to improve socio-economic status of farmers involved in dairy farming. The major objective of program is to conduct vaccination against H.S & B.Q in dairy animals, increase awareness in public for disease control and reduce loss in animal production due to disease. This will enhance animal and animal production contributing AGDP. During outbreak of diseases strategic ring vaccination is done to prevent spread of disease in susceptible animal population. The vaccination conducted in cattle populations during National H.S & B.Q Control Program in different year are shown in fig. 4.

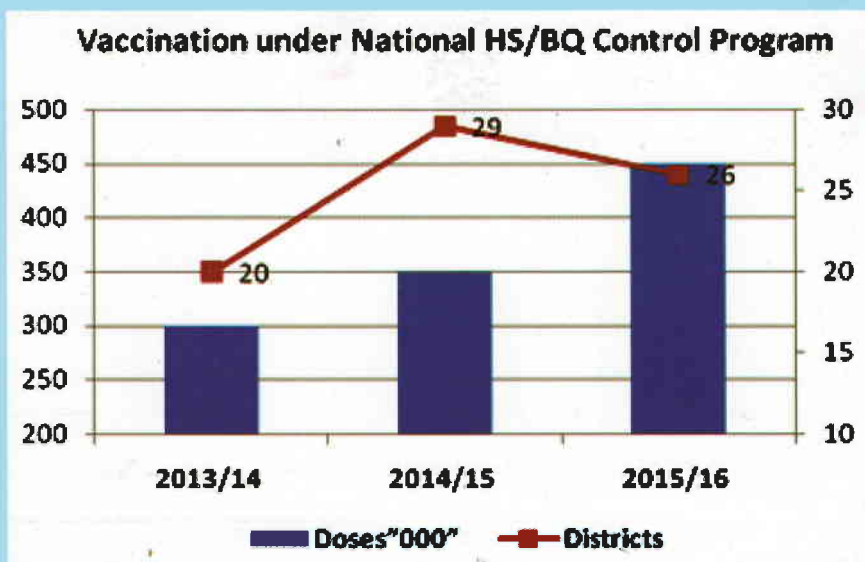


Fig 4: Vaccination under National Hs/BQ Control Program

Central Veterinary laboratory

Central veterinary laboratory is conducting different diagnostic method for diagnosis of different animal and poultry diseases. It has been contributing immensely in diagnosis of HPAI, Rabies, Brucellosis, PRRS in Nepal. This is the reference laboratory of country for diagnosis of animal and poultry diseases. There are mainly two type of samples received in the laboratory: samples during outbreaks and samples from regular surveillance. Records of different diagnostic test conducted in CVL from Sep – Dec, 2017 are follows.

S. N.	Diseases	Method	Total Sample	Positive	Remarks
A. Samples from outbreaks					
1	PPR	ELISA/ Penside test/ PCR	71	8 (11.26%)	
2	Avian Influenza	RT-PCR	112	87 (77.68%)	H9N2
3	Rabies	FAT/Negribody/Rapid test	53	50 (94.3%)	
B. Samples from surveillance					
1	PPR	ELISA	2569	1774 (69.05%)	
2	Avian Influenza	Real time PCR ELISA/HI	582	9 (1.5%) (H9N2)	
			584	13 (2.22%) (H9)	
3	Brucellosis	ELISA	110	All negative	
5	PRRS	ELISA	170	All negative	
6	Salmonellosis	PAT	139	28 (20.14%)	
7	Mycoplasma	PAT	165	51 (30.9%)	

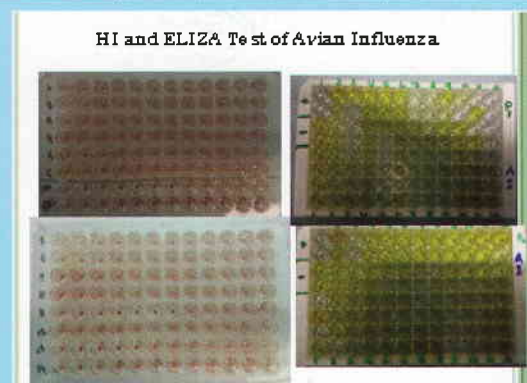


Fig 5: Laboratory Diagnostic test conducted by CVL in 2nd quarter of Fiscal year 2016/17 (PPR: Peste des Petitis, ELISA: Enzyme-linked immunosorbent assay, RT-PCR: Real Time Polymerase Chain Reaction, PCR: Polymerase Chain Reaction, HA/HI: Hemagglutination Test and Hemagglutination Inhibition Test, PAT: Plate Agglutination test)

Veterinary Epidemiology Center had conducted officer's level Surveillance and outbreak Investigation Training. There were total 10 participants from different districts and central level organizations of DLS. **Fig. 6**



Fig 6 Surveillance and Outbreak Investigation Training

Another area of this center is to provide assistance in outbreak investigation of diseases. During the outbreak of Foot and Mouth Diseases in Pokhara of Kaski District, a team from VEC including the RVL, Pokhara was mobilized. The major cause of outbreak was importing of live animals from bordering district of neighboring country. Ring vaccination was done in risk population for control of outbreak along with strengthening of farm bio-security. **Fig. 7**



Fig 7 FMD Outbreak Investigation Pokhara

Technician level Transboundary Animal Diseases, Emerging Infectious Diseases and Zoonotic Diseases identification and diagnosis related 2 days interaction Program was conducted in Pokhara district during Baishak 10 and 11 2075. There were total 20 participants from different districts of western region, Directorate of Animal Health, Regional Livestock Service Office, Regional veterinary Laboratory, Regional Training Center and Animal Quarantine Office Rupendehi. **Fig. 8**



Fig 8: TADs, EID and Zoonotic Diseases related Interaction Program (Technician Level)

Animal Health E-News letter-Nepal

Dear readers, this news letter is the first of its kind purely dedicated to an animal disease published electronically in Nepal. We also urge the recipients of this newsletter to participate in sharing any related information with Veterinary Epidemiology Center (VEC) for further improving the content.

Your kind cooperation is highly appreciated. Many thanks and best regards,

Dr. Mukul Upadhyaya

Chief, VEC

Please provide your valuable comment and suggestions to

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