



VETERINARY RESEARCH & DISEASE INVESTIGATION CENTER
MANDIAN ABBOTTABAD

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142

ANNUAL PROGRESS REPORT VETERRINARY
RESEARCH & DISEASE INVESTIGATION CENTER
ABBOTTABAD

REGIONAL DIRECTOR

YEAR
2014

Introduction

Hazara is a region in the eastern part of the Khyber Pakhtunkhwa province of Pakistan. It is located east of the Indus River and comprises six districts: Abbottabad, Battagram, Haripur, Mansehra, Kohistan and Torgar

Hazara division has diversified topography and climate. It has vast plains and highest mountain. Plain with rich in fertility, irrigation system established and alpine pastures. , a high altitude alpine pasture is located in the northern mountains of Pakistan in Kaghan valley, Hazara Division, Khyberpakhtunkhwa. The nomad's flocks graze this pasture for short periods during each summer. All kinds of livestock are driven up, mostly during the month of June, each year and grazing continues till late autumn.

Veterinary Research & diseases Investigation center Mandian Abbottabad is providing research and diagnostic facilities to the Farmers, public and private Organizations since 2007 at this site. This center is also responsible for providing the quality research opportunities to the students of different relevant universities & post graduate colleges of the area. Modern diagnostic research technologies are utmost requirement of quality research work. so keeping in view the importance of contemporary efficient diagnostic and research requirements, ELISA, conventional PCR facilities has been achieved.

Center is [providing services for the farmer through following sections/laboratories.

1. Poultry Pathology/Postmortem
2. Genral Microbiology
3. Virology
4. General parasitology
5. Biochemistry/Animal nutrition

Activities of different sections of VR&DIC in detail are listed below.

146

Poultry Section

Poultry Disease Diagnose through Postmortem(Table-I)

S.No	Disease	Detail of Disease	Number of Cases	%age
1	Viral	ND	132	7
		LPAI	3	0.2
		IB	55	3
		HPS	42	2.2
		IBD	181	9.8
		EDS	1	0.05
		Viral Enteritis	07	0.4
		Fowl Pox	2	0.1
2	Bacterial	Big liver Syndrome	19	1.0
		E.Coli	241	13
		Salmonellosis	72	4
		Enteritis	155	8.2
		Fowl Cholera	1	0.05
		Coryza	1	0.05
		CRD	45	2.4
		RTS	41	2.2
		Streptococcal infection	7	0.4
		Septic Yolk	79	4.2
		Coccidiosis	66	3.5
3	Protozoal	Histomoniasis	9	0.5
4	Fungal	Aspergillosis	20	1.0
5	Parasitic	Round worms	9	0.5
		Tape worms		
6	Managmental	Toxicity (Feed)	28	1.5
		NH ₃ / CO toxicity	128	7
		Indigestion	1	0.05
		smoke	17	01
		Pulmonary & Abdominal Ascities	157	8
		Stress	29	1.5
		Heat stress	28	1.5

145

A (iii). BIOLOGICS

During the year following tabulated vaccines for livestock disease like Haemorrhagic Septicaemia, Black Quarter, Enterotoxemia and vaccine for Newcastle disease of poultry were disseminated.

Year 2014	BIOLOGICS DISTRIBUTED						GRAND TOTAL
	HSV Bottles	BQV Bottles	ETV Bottles	FMD Bottles	NDV (100 D) vials	NDV (500D) Vials	
Total vials/bottles	1071	380	430	430	2500	1643	
Auto Vaccine	72500 doses			6050/- rupee			
Rupee	192780/-	68400/-	86000/-	516000/-	37500/-	98580/-	100,5310/-

B. Animal Section.**Milk Sample Received for Mastitis during the Year 2014.**

Month	Buff	Cow	Goat	Sheep	total	Positive	Negative
January	3	5	1	-	09	04	05
February	3	1	-	-	04	02	02
March	5	-	-	-	05	01	04
April	2	3	1	-	06	04	02
May	5	6	-	-	11	05	06
June	1	2	1	-	04	02	02
July	2	-	-	-	02	01	01
August	3	2	-	-	05	05	00
September	2	2	1	-	05	03	02
October	-	01	-	-	01	01	00
November	-	-	-	-	00	00	00
December	-	3	-	-	03	02	01
Total	26	25	4	-	55	30	55

116

PARASITOLOGY SECTION

Fecal Samples Year 2014

Month	Buff	Cow	Goat	Sheep	Horse	total	Positive	Negative
January	14	7	2	92	-	115	68	47
February	14	4	1	4	-	23	21	02
March	11	8	-	97	-	116	77	39
April	10	21	-	11	-	42	32	10
May	13	8	1	-	-	22	14	08
June	6	2	-	-	0	08	06	02
July	7	6	1	-	0	14	11	03
August	5	10	1	-	1	17	11	06
September	3	1	1	2	-	07	03	04
October	2	04	-	01	-	07	07	00
November	2	4	-	-	-	06	04	02
December	6	7	-	-	-	13	10	03
Total	93	82	7	207	01	390	264	126

Faecal Samples has been collected as per "annual technical research program" and processed following the protocol as mentioned in ATP 2013/14.

Detail of the progress is enlisted below.

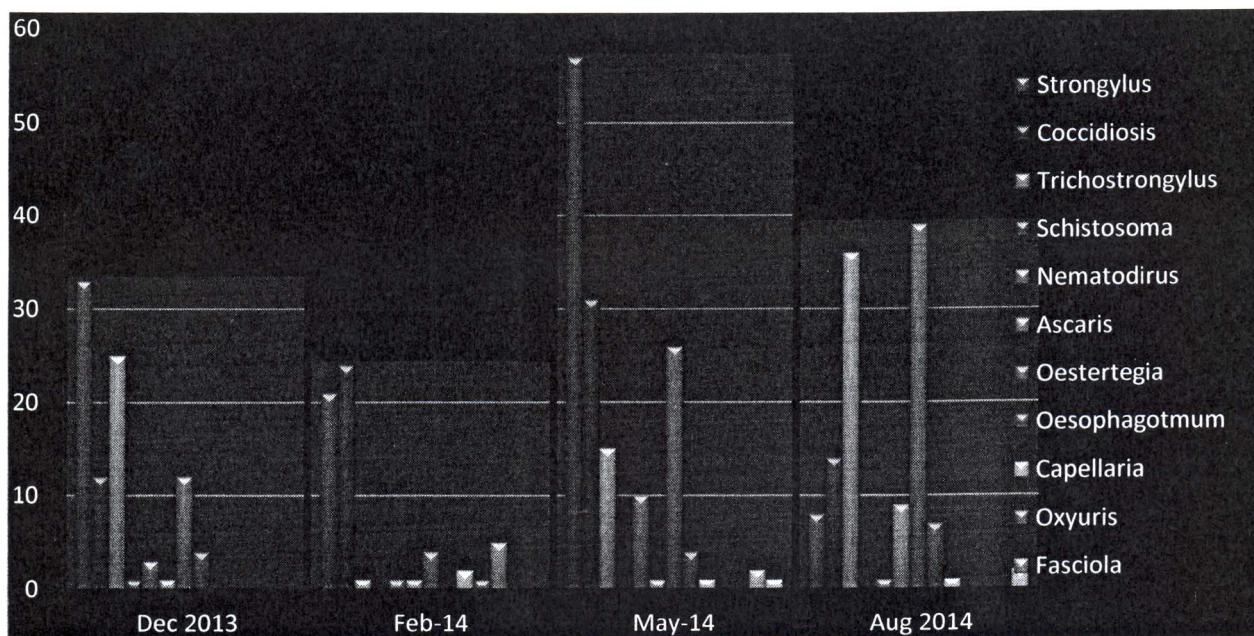
Five hundred faecal samples have been performed since December 2013 to December 2014.

S.No	Month	No of samples processed	Positive	Negative
01	December 2013	89	74	15
02	February 2014	92	54	38
03	March 2014	100	98	02
04	August 2014	75	68	07

Prevalence of Different Helminthes from December 2013 to August 2014 at LES Jaba

Name of Helminthes	December 2013	February 2014	May 2014	August 2014
Strongylus	33	21	57	08
Coccidiosis	12	24	31	14
Trichostrongylus	25	01	15	36
Schistosoma	01	nil	nil	Nil
Nematodirus	03	01	10	01
Ascaris	01	01	01	09
Oestertegia	12	04	26	39
Oesophagotmum	04	nil	04	07
Capellaria	Nil	02	01	01
Oxyuris	Nil	01	nil	00
Fasciola	Nil	05	nil	00
Giardia	Nil	nil	02	00
Cestode Segments	Nil	nil	01	02

247



General Microbiology LAB:

Morbid material received

	Culture Sensitivity Test	Liver	Lungs	Spleen	Nasal Discharge	Trachea	Blood	Milk
January	11	06	03	01	02	-	-	02
February	07	07	-	-	-	-	-	-
March	12	11	03	-	-	01	-	-
April	13	10	-	02	02	-	-	-
May	12	11	02	-	-	-	01	-
June	10	06	02	-	-	-	-	02
July	08	08	-	-	-	-	-	-
August	07	05	-	02	-	-	-	02
September	11	11	-	-	-	-	-	-
October	08	08	-	02	-	-	-	-
November	09	09	-	01	-	-	-	-
December	12	09	-	-	-	-	-	02

Table: Water samples from different sources received(Domestic & poultry farms)

Month	Boring	Well	Spring	Public water Supply	Total Samples
January	6	-	-	-	06
February	1	01	-	-	02
March	3	-	-	19	22
April	14	03	03	01	21
May	09	01	06	02	18
June	16	04	05	03	28
July	13	-	01	-	14
August	24	04	-	06	34
September	10	03	-	03	16
October	14	09	-	-	23
November	12	02	-	04	18
December	07	01	-	03	11
Total	129	28	15	41	213

Bacterial Isolation during the year of 2014:

Month	Salmonella	E-coli	Streptococcus	Staphylococcus	Total
January	2	1	2	6	11
February	2	4	-	-	06
March	-	5	6	-	11
April	1	3	6	1	11
May	1	4	5	2	12
June	1	3	3	2	9
July	1	4	1	-	6
August	-	7	-	-	7
September	02	7	-	1	10
October	05	4	-	-	-
November	03	4	-	-	-
December	02	1	-	2	-

ACTIVITIES IN SALMONELLA LAB FOR THE YEAR 2014:

Salmonellosis is now a days a hot topic over the world. It's not only an important pathogen for livestock & poultry but an important entity as zoonotic agent. World over major chunk of food poisoning comes from this pathogen and is now converting into resistance towards antibiotics and these resistant strains of salmonella are now a major threat to livestock & human population. The important feature of this organism demands a special consideration. This center has started developing detailed diagnostic facilities to conduct research as well as to develop a reference lab in the days to come.

Annual Progress Report VR&DIC Abbottabad Year 2014

Samples received in Salmonella Laboratory and positive or negative:

Months	No of Samples	Positive	Negative
January	04	0	04
February	08	-	08
March	08	01	07
April	09	01	08
May	17	02	15
June	12	0	12
July	08	01	07
August	03	0	03
September	12	01	11
October	06	0	06
November	03	0	03
December	04	01	03

Animal Biochemistry & Animal nutrition Section

The following description and table show the work completed in **Animal Nutrition Laboratory** during the Year 2014.

A. Chemical Analysis of Water:

Months	No of water samples	Positive	Negative
January	06	01	05
February	02	00	02
March	22	13	09
April	21	15	06
May	18	14	04
June	28	16	12
July	14	09	05
August	34	18	16
September	16	08	08
October	23	14	09
November	18	08	10

December	10	04	06
Total	212	120	92

Total of 196 Water Samples were analyzed for following parameters.

Parameters	Range mg/liter	No of samples	Parameters	Positive	Negative
pH	6.0-6.99	137	Nitrite(NO2)	75	121
	7.0-7.99	35	Nitrate (NO3)	33	63
	8.0-8.50	23	Phosphate (PO4)	33	163
	Above 8.5	01	Calcium (Ca)	178	18
Chlorite (range 250mg/liter)	10-59	82	Turbidity	Clear	Turbid
	60-89	84		162	34
	90-130	30			
Total Hardness (range 500mg/liter)	17-60	05			
	60-120	08			
	120-180	24			
	180-299	30			
	300-399	51			
	400-500	44			
	Above 500	34			
Total Dissolve Solids(Range 500mg /liter)	Nil	17			
	200-399	65			
	400-500	84			
	Above 500	30			

Majority of water samples were found in normal range, while 39-35 samples were exceeding the Hardness and TDS limits.

C. Proximate Analysis of Poultry Feed:

To test the quality of feed, 17 broiler farmers were requested to test their feed samples for proximate analysis and Aflatoxin. Crude protein was found in range, and Aflatoxin was between 19-56.

D. Research facility:

Research work of MPhil Scholars and BS (Hons) of Hazara University Mansehra and COMSAT University Abbottabad was carried out in Nutrition Laboratory, which is tabulated as under.

NO.	NAME OF RESEARCHER	TOPIC	THESIS
1.	Muhammad Numan	Comparative analysis of CP in Buffalo, Cow and Tetra pack Milk	BS(Hons) Biochemistry
2.	Mehwish Syed	Assessing the Health and Hygiene condition of children under prevailing Water and Sanitation in Jhuggian area of Abbottabad	MS Environmental Science Comsat
3.	Javeria Malik and Aamina Azim	Photochemical analysis and antimicrobial activity of Spinacia Oleracea	BS(Hons) Microbiology
4.	Wali Ullah	Physiochemical Characteristics & Nutritional values of Yogurt of Buffalo, Cow and Goat of Hazara Division	M.Phil Biochemistry
5.	Mah Noor	Evaluation of Poultry Drinking Water quality of District Mansehra	M.Phil Microbiology
6.	Ikramullah	Isolation & Characterization Of Salmonella (Typhimurium & Enteritidis) From Market Chicken Meat	M.Phil Microbiology
7.	Ms Wajeeah Murtaza	Sero Evidence of Salmonella Enteritidis in Commercial Poultry of Hazara Region.	M.Phil Microbiology

Internship students DVM & BS Biotechnology & Microbiology

S/No	Name of student	Duration	Institute
1	Farhad	08-10-14 to 30-03-15	University of poonch
2	Syed Zawar Shah	15-07-14 to 15-08-14	C&BM University Of Peshawar
3	Samreen Baig	15-05-14 to 16-07-14	USTAD education Sys Atd
4	Taqwa Khan	15-05-14 to 16-07-14	USTAD education Sys Atd
5	Syed Amir Ali Shah	15-05-14 to 16-07-14	USTAD education Sys Atd
6	Saleem Muhammad	15-05-14 to 16-07-14	USTAD education Sys Atd

152

Following Projects are submitted for approval.

SNo	Name of Project submitted for ADP	Scheme
01	Establishment of "Computer Technology Linked (Serum Biochemistry, Enzymology, Molecular, Hematology, & milk somatic cell counting) diagnostic facilities" at Veterinary Research & Disease Investigation Center Abbottabad.	ADP 2015-16
02	Strengthening of Feed Analytical Laboratory at Veterinary Research and Disease Investigation Centre Abbottabad.	ADP 2015-16
03	Mycotoxin Detection in Poultry/Animal Feed	ADP 2015-16
04	Establishment of Laboratory Facilities for Surveillance and Monitoring of Zoonotic diseases.	ADP 2015-16

Training/ Workshop/ Seminar Conducted

Name of Officer & Designation	Name of Training	Duration	Organization/Institute
Dr Pervez	02 days training Course on Cash book & other Accounts related matters for DDO etc.	02 Days	Staff Training Institute Peshawar.
	Training workshop Khyberpakhtunkhwa procurement of Goods works & Services rule 2014.	02 Days	Audit & Accounts Training Center Peshawar
	Workshop on Livestock Business Investment opportunities	01	Agriculture University Peshawar
Dr. Ishtiaq Ahmad	Harmonization of Laboratory diagnosis of Avian Influenza H9N2	(03 days)	NRLPD, NARC Islamabad

3	Dr Zubair Ali	Field Epidemiology & Disease Outbreak Response against major Emerging Zoonotic diseases in Pakistan.	05 days	NARC Islamabad
		One Week Training Course on Writing Technical Proposals for Grants at NARC	05days	NARC Islamabad

Field Epidemiology Livestock Project Sample Detail

- 120 serum samples had sent to National Zoonosis Surveillance and Research Unit Islamabad for estimation of Brucellosis. 07 serum samples were declared positive through RBPT and ELISA for Brucellosis.
- 2500 serum samples from poultry of Hazara Region had send to NARC for surveillance of Newcastle Disease & Avian Influenza. Out of these 21 samples were found positive for New castle disease and 16 were found positive for Avian Influenza.

GROSS REVENUE GENERATION

S.No	Activities	Amount Rs
1	Chit fee	57200/-
2	Auto vaccine	6050/-
3	Culture & Sensitivity	14,400/-
4	Antibody titer	3110/
5	Faecal samples	5160/-
6	Water samples	41000/-
7	Feed analysis	4800/
8	Milk samples	1140/-
9	Hematology	300/
10	Urine RE	350/
	TOTAL	133510/-

CONSTRAINS & SUGGESSTIONS

- Human resource development is direly needed for technical officials.
- Establishment, development and innovation of specialized sections for quality research and accurate, efficient and in time diagnosis.
- Training and up gradation of technical section officers.
- Arrangement for purchase of new machinery and equipment for different sections.

Annual Progress Report VR&DIC Abbottabad Year 2014

- Feedback should be delivered from the planning division on submission of Different projects and also point out the reasons/ basis of rejections for any submitted projects. So the concerned should rectify and improve those lapses.
- Procurement problem for quality Antigens, Biologics, Media, and laboratory grade Chemicals through traditional tender policy.
- Higher-ups are requested for creating "scholarships program" in analogy to university faculty development program.