

GOVERNMENT OF INDIA
MINISTRY OF FISHERIES, ANIMAL HUSBANDRY AND DAIRYING
DEPARTMENT OF ANIMAL HUSBANDRY AND DAIRYING
LOK SABHA
UNSTARRED QUESTION NO. 337
TO BE ANSWERED ON 30TH NOVEMBER, 2021

SCHEMES FOR ANIMAL HUSBANDRY AND DAIRYING

337. SHRI ASHOK KUMAR RAWAT:

Will the Minister of FISHERIES, ANIMAL HUSBANDRY AND DAIRYING

मत्स्यपालन, पशुपालन और डेयरी मंत्री

be pleased to state:

- (a) the names of Central Schemes implemented for Animal Husbandry and Dairying particularly in backward and rural areas during the last three years as on date, State-wise;
- (b) the amount of funds provided by the Government separately for these schemes each year during the said period;
- (c) whether any new technology has been developed in these sectors by the Indian Council of Agricultural Research or any other such research institute;
- (d) if so, the details thereof; and
- (e) the efforts being made by the Government to check the consistent decline in the number of various animals?

ANSWER

THE MINISTER FOR FISHERIES, ANIMAL HUSBANDRY AND DAIRYING

(SHRI PARSHOTTAM RUPALA)

(a) The Government implements following central schemes for promotion and development of Animal Husbandry and Dairying all over the country including backward and rural areas:

- i. Rashtriya Gokul Mission(RGM)
- ii. National Programme for Dairy Development (NPDD)
- iii. Dairy Processing and Infrastructure Development Fund(DIDF)
- iv. Supporting Dairy Cooperatives and Farmer Producer Organizations engaged in dairy activities (SDC&FPO)
- v. National Livestock Mission(NLM)
- vi. Animal Husbandry Infrastructure Development Fund(AHIDF)
- vii. Livestock Health & Disease Control(LH&DC)
- viii. National Animal Disease Control Programme (NADCP)
- ix. Livestock Census and Integrated Sample Survey (LC & ISS)

(b) The details of funds provided by the Government separately for these schemes each year during the last three years is at Annexure I.

(c) & (d) In 2021, the Department has developed a software consisting of a web portal (iis.icar.gov.in) and a mobile application ('eLISS') to collect major livestock products data on computer mode in collaboration with ICAR-Indian Agricultural Statistics Research Institute. Further, new technologies developed by ICAR in the Animal Husbandry & Dairying sector is at Annexure II.

(e) As per the latest Livestock Census (i.e., 20th) conducted during 2019, the total livestock population in the country is 536.76 Million which is increased with a growth rate of 4.82% over the previous Livestock Census (i.e., 19th).

State-wise & year-wise funds released during last three years under RGM scheme**(Rs in lakh)**

SN	Name of the State/UTs	2018-19	2019-20	2020-21
1	Andhra Pradesh	1899.81	439.74	3181.38
2	Arunachal Pradesh	14.75	544.70	1240.80
3	Assam	4896.10	0.00	0.00
4	Bihar	4850.83	1230.95	7401.08
5	Chattisgarh	2640.42	1019.78	101.25
6	Goa	2.84	97.72	0.00
7	Gujarat	2080.10	942.88	101.25
8	Haryana	2505.14	205.44	96.39
9	Himachal Pradesh	1729.46	519.42	484.25
10	Jammu & Kashmir	1744.97	791.99	81.00
11	Jharkhand	3287.36	540.46	101.25
12	Karnataka	164.38	756.47	101.25
13	Kerala	2662.29	301.03	313.00
14	Madhya Pradesh	2852.32	2155.86	2113.44
15	Maharashtra	3314.57	1479.71	202.50
16	Manipur	547.60	730.74	500.64
17	Meghalaya	1025.53	0.00	2039.22
18	Mizoram	201.72	0.00	268.28
19	Nagaland	484.75	0.00	372.06
20	Orissa	2483.71	1090.33	0.00
21	Punjab	902.18	2849.33	714.13
22	Rajasthan	396.07	1386.15	405.00
23	Sikkim	56.07	677.98	0.00
24	Tamil Nadu	2613.83	536.08	2168.38
25	Telangana	2628.91	2522.60	202.50
26	Tripura	473.45	1066.58	0.00
27	Uttar Pradesh	3171.14	3334.94	1012.50
28	Uttarakhand	5007.18	508.77	3023.45
29	West Bengal	468.92	1026.06	202.50
	Total	55106.40	26755.71	26427.49
Union Territories				
1	A & N Lands	309.90	0.00	0.00
2	Chandigarh	3.18	0.00	0.00
3	Dadra & Nagar Haveli	1.38	0.00	0.00
4	Daman & Diu	0.12	0.00	0.00
5	Delhi	0.00	0.00	0.00
6	Ladakh			105.00
7	Lakshadweep	1.02	0.00	0.00
8	Pondicherry	0.00	0.00	0.00
	Total	315.60	0.00	105.00

State-wise & year-wise funds released during last three years under NPDD scheme

(Rs in lakh)

S. No.	Name of States/UTs	2018-19	2019-20	2020-21	Total
1	Andhra Pradesh	70.66	878.97	0.00	949.63
2	Arunachal Pradesh	0.00	511.19	0.00	511.19
3	Assam	0.00	85.00	0.00	85.00
4	Bihar	3793.47	1971.65	9966.15	15731.26
5	Chhattisgarh	0.00	464.88	250.95	715.83
6	Goa	0.00	42.50	0.00	42.50
7	Gujarat	4325.53	573.60	446.95	5346.08
8	Haryana	161.99	616.10	0.00	778.09
9	Himachal Pradesh	1262.91	655.93	61.55	1980.39
10	Jammu & Kashmir	1539.35	672.13	949.52	3161.00
11	Jharkhand	0.00	410.78	0.00	410.78
12	Karnataka	1011.00	2018.00	3564.00	6593.00
13	Kerala	2381.24	3096.60	705.38	6183.22
14	Madhya Pradesh	2085.27	1503.33	1013.48	4602.08
15	Maharashtra	184.12	1314.88	1693.29	3192.29
16	Manipur	51.09	575.76	514.62	1141.47
17	Meghalaya	427.77	628.10	821.98	1877.85
18	Mizoram	0.00	700.45	20.38	720.83
19	Nagaland	0.00	349.80	16.78	366.58
20	Odisha	839.71	804.88	292.50	1937.09
21	Puducherry	0.00	42.50	0.00	42.50
22	Punjab	368.83	1311.75	612.50	2293.08
23	Rajasthan	4290.27	2439.70	1750.22	8480.19
24	Sikkim	0.00	394.10	1047.25	1441.35
25	Tamil Nadu	759.62	1314.04	3859.76	5933.42
26	Telangana	0.00	957.09	919.75	1876.84
27	Tripura	1337.14	5.60	78.99	1421.73
28	Uttar Pradesh	2096.03	501.64	0.00	2597.67
29	Uttarakhand	0.00	1674.07	0.00	1674.07
30	West Bengal	0.00	101.79	0.00	101.79
	Total	26986.00	26616.80	28586.00	82188.80

State-wise financial progress under DIDF projects (as on 30.09.2021)

State	No of projects	(Rs in Crore)		
		Project Outlay	Loan	
			Sanctioned	Disbursed
NDDB				
Andhra Pradesh	1	97.75	78.20	34.73
Gujarat	4	1355.11	1050.40	190.88
Haryana	7	198.87	159.09	0.00
Karnataka	8	1626.39	914.91	709.34
Kerala	3	26.02	20.81	0.00

Maharashtra	4	488.92	282.88	131.03
Punjab	4	316.91	249.78	109.33
Rajasthan	1	79.33	59.77	17.12
Tamilnadu	4	379.30	303.43	0.00
Telangana	3	261.51	156.70	0.00
West Bengal	1	130.00	104.00	0.00
Bihar	1	113.27	78.80	0.00
NDDB Total	41	5084.87	3467.96	1198.75
NCDC				
Tamil Nadu	5	307.44	245.96	0.00
Madhya Pradesh	1	83.85	50.00	0.00
NCDC Total	6	391.29	295.96	0.00
Grand Total	47	5476.16	3763.92	1198.75

The State wise amount of interest subvention for 2020-21 disbursed under SDC&FPO :

(Rs in Crore)

No.	State	Interest subvention sanctioned		Interest subvention released		Total Interest subvention Disbursed
		No of Cooperatives	Sanctioned @ 2% p.a.	Regular Interest Subvention	Additional Interest Subvention	
1	Andhra Pradesh	3	2.46	1.12	1.12	2.23
2	Bihar	5	0.96	0.71	0.66	1.37
3	Gujarat	9	120.08	61.48	52.10	113.57
4	Haryana	2	0.63	0.35	0.00	0.35
5	Jammu & Kashmir	1	0.05	0.00	0.00	0.00
6	Jharkhand	1	0.06	0.04	0.00	0.04
7	Karnataka	12	9.81	4.89	4.87	9.77
8	Madhya Pradesh	2	0.62	0.10	0.00	0.10
9	Maharashtra	2	3.12	1.86	1.86	3.72
10	Punjab	1	9.21	5.11	5.11	10.23
11	Rajasthan	7	2.39	1.74	0.88	2.62
12	Tamil Nadu	4	0.67	0.34	0.34	0.68
13	Telangana	2	0.27	0.13	0.04	0.17
14	Uttar Pradesh	4	0.68	0.02	0.00	0.02
	Total	55	151.02	77.88	66.99	144.86

State-wise & year-wise funds released during last three years under NLM scheme**(Rs in Lakh)**

	State/UTs	2018-19	2019-20	2020-21
1.	Andhra Pradesh	1446.26	1242.60	1073.125
2	Bihar	944.31		
3	Chhattisgarh	0.00	36	1906.17
4	Goa			
5	Gujarat	200.00		
6	Haryana		1440	0
7	Himachal Pradesh	1787.81	1456.145	2483.47
8	Jammu & Kashmir	1899.13		
9	Jharkhand	0.00		
10	Karnataka	169.93	919.304	
11	Kerala	555.30	1000	663.00
12	Madhya Pradesh	1247.04		1089.665
13	Maharashtra	0.00	1855.2	992.072
14	Odisha	374.57	770	1032.76
15	Punjab	508.23	0	0
16	Rajasthan	200.27	565.94	0
17	Tamilnadu	0.00	3146.834	1552.16
18	Telangana		1123.96	1153.11
19	Uttar Pradesh	0.00	1752.65	0
20	Uttarakhand	878.63	877.2	1680.17
21	West Bengal		79.06	
22	Arunachal Pradesh	0.00	1374.64	2456.84
23	Assam	0.00	1442.18	1089.29
24	Manipur	531.24	959.66	1427.28
25	Meghalaya	420.87	2721.23	2995.31
26	Mizoram	210.18	1453.16	1132.52
27	Nagaland	545.43	960.18	850.3
28	Sikkim	236.94	139.5	1022.66
29	Tripura	0.00	500	1120.3
30	A & N Islands		22.45	13.07
31	Chandigarh			
32	Dadra & Nagar Haveli			
33	Daman & Diu			
34	Delhi			
35	Jammu and Kashmir			1747.16
36	Lakshadweep	76.71		59
37	Puducherry		40.812	
	NABARD	17500.00	13999	11260
	NSC			2750
	Grand total	29732.85	39877.71	41549.43

State-wise & year-wise funds released during last three years under AHIDF scheme**(Rs in lakh)**

State	2020-21	2021-22
Andhra Pradesh	1.34	0
Assam	0.00	14.41
Bihar	0.00	14.99
Chhattisgarh	0.00	37.5
Haryana	16.11	26.43
Himachal Pradesh	0.00	0
Karnataka	188.00	24.26
Madhya Pradesh	8.48	6.65
Maharashtra	3.14	2.09
Odisha	0.00	20.09
Punjab	11.50	1.16
Rajasthan	0.00	10
Tamil Nadu	0.00	7.01
Telangana	840.00	0.09
Uttar Pradesh	206.40	15.22
Uttarakhand	0.00	13.5
West Bengal	0.00	14.09
Total	1274.96	207.48

State-wise & year-wise funds released during last three years under LH&DC scheme**(Rs in Lakh)**

S. No	Name of States	2018-19	2019-20	2020-21
1	Andhra Pradesh	1860.25	2683.75	2368.61
2	Arunachal Pradesh	216.05	233.37	837.36
3	Assam	0.00	768.21	6.00
4	Bihar	1989.16	1919.09	0.00
5	Chhattisgarh	1611.17	319.60	486.25
6	Goa	19.14	2.51	0.00
7	Gujarat	2815.08	3022.94	55.6
8	Haryana	999.2	383.69	694.91
9	Himachal Pradesh	746.24	342.55	553.47
10	Jammu & Kashmir	1069.84	944.67	1858.69
11	Jharkhand	165.96	580.00	1144.75
12	Karnataka	1931.42	2977.34	2729.59
13	Kerala	750.83	105.50	0.00
14	Madhya Pradesh	2944.55	1754.76	0.00
15	Maharashtra	1686.36	2966.52	789.75
16	Manipur	429.83	586.47	1959.18
17	Meghalaya	296.89	284	102.00
18	Mizoram	397.65	330.09	63.35
19	Nagaland	112.2	233.15	19.34
20	Odisha	1995.55	1192.0	189.84
21	Punjab	1013.63	0.00	1657.26
22	Rajasthan	2640.41	1190.76	1054.72
23	Sikkim	71.43	7.70	3.96
24	Tamil Nadu	1300.3	1110.66	160.31

S. No	Name of States	2018-19	2019-20	2020-21
25	Telangana	1536.77	1823.66	22.24
26	Tripura	269.06	0.00	1108.8
27	Uttar Pradesh	4842.57	6540.32	6323.98
28	Uttarakhand	617.45	663.51	75.93
29	West Bengal	3079.39	417.68	471.11
30	A&N Islands	47.3	28.22	0.00
31	Chandigarh	4.04	5.19	0.00
32	D&N Haveli	9.80	0.00	0.00
33	Daman & Diu	0.80	0.00	0.00
34	Delhi	33.06	0.00	0.00
35	Lakshadweep	0.00	0.37	0.00
36	Ladakh	0.00	0.00	0.00
37	Puducherry	21.54	0.00	0.00
	TOTAL	37524.92	33418.28	24737.00

State-wise & year-wise funds released during last three years under NADCP scheme

(Rs. In lakh)

S. No.	States/UTs	2019-20	2020-21	2021-22 (as on date)
1	Andhra Pradesh	3110.99	4027.85	
2	Bihar	2933.84	1494.96	
3	Chhattisgarh	1939.32	785.21	119.64
4	Goa	22.6	64.1446	
5	Gujarat	2062.3	1154.04	
6	Haryana	774.11	1011.48	
7	Himachal Pradesh	437.32	491.92	36.3
8	Jharkhand	1500.51	1130.32	
9	Karnataka	1943.64	2306.95	188.48
10	Kerala	236.17	455.37	
11	Madhya Pradesh	4882.81	4186.07	
12	Maharashtra	2907.01	1082.02	80.50
13	Odisha	2153.66	1407.49	
14	Punjab	546.55	725.85	
15	Rajasthan	4075.65	1707.07	
16	Tamil Nadu	2203.03	1777.99	
17	Telangana	3024.92	522.18	
18	Uttar Pradesh	3952.7	6204.97	48.57
19	Uttrakhand	385.93	341.6	41.60
20	West Bengal	2827.38	1006.39	
22	Arunachal Pradesh	70.36	30.32	
23	Assam	1563.65	34.35	42.77
24	Manipur	55.45	19.31	65.8
25	Meghalaya	189.27	39.06	
26	Mizoram	37.75	5.56	47.66

S. No.	States/UTs	2019-20	2020-21	2021-22 (as on date)
27	Nagaland	49.01	14.89	47.66
28	Sikkim	19.79	10.26	29.02
29	Tripura	142.86	146.25	45.2
30	Puducherry	17.92	4.78	
31	Jammu & Kashmir	437.75	830.73	225.1
32	Delhi	25.47	49.1	
33	A & N Islands	10.77	2.8	6.32
34	Chandigarh	3.29	6.98	
35	Dadra & Nagar Haveli & Daman and Diu	4.37	2.25	
36	Ladakh	3.65	148.05	
38	Lakshadweep	2.83	18.06	19.33
GRAND TOTAL		44554.63	33246.62	866.96

New technologies developed during last three years (2018-2019 to 2020-21):**2018- 2019**

S. No.	Title of the technology
1.	Probiotic <i>Lactobacillus</i> strain LbS2 (MTCC 5953)
2.	Probiotic fermented mango whey drink
3.	Microprocessor based automated instrumentation system for pneumatic paneer hoop cum-press unit
4.	Equipment for mechanized production of rice based kheer
5.	Technology for the Preparation of Encapsulated Curcumin for its Applications in Dairy foods
6.	Technology for the Preparation of Caseinophosphopeptides Enriched Milk Protein Product
7.	Spore based kit for detection of antibiotic residues in milk
8.	Paper strip for detection of antibiotic residues in milk at dairy farm
9.	Paper strip for rapid detection of pesticide residues in milk
10.	Rapid detection of <i>Listeria monocytogenes</i> in milk
11.	Rapid test for detection of <i>E. coli</i> in milk
12.	Rapid test for detection of coliform in milk
13.	Two stage enzyme assay for detection of enterococci in milk
14.	Strip based test for detection of hydrogen peroxide in milk
15.	Indigenous Probiotic <i>Lactobacillus</i> strain LrhS3
16.	Indigenous Probiotic <i>Lactobacillus</i> strain Lre120
17.	Indigenous Probiotic <i>Lactobacillus</i> strain LbS4
18.	A strip for detection of sodium chloride in milk
19.	Process Technology for PaladaPayasam Mix Preparation by Dry Crystallization method in a Mechanical Unit
20.	“Indigenous Probiotic <i>Lactobacillus rhamnosus</i> NCDC 610”
21.	“Cholesterol binding indigenous Probiotic <i>Lactobacillus fermentum</i> NCDC 400 strain”
22.	Food colour measurement system Color Desk D1
23.	Development of Whey dewatering mechanism for Chhanna
24.	Development of automatic endo-exo thermal unit for Dahi
25.	Production of Milk Protein Concentrate 60 (MPC60), a high protein low lactose powder from buffalo milk.
26.	Process Optimization of Cow Milk Protein Concentrate 70 (MPC70) With Improved Functional Properties.
27.	Technology of Long Life Kheer Mohan
28.	Camel and goat milk paneer
29.	Camel milk ice cream
30.	Camel milk kheer
31.	Treatment of Pica in Camel

2019-2020

S. No.	Title of the technology
1.	Technology of High Protein Ice Cream
2.	Technology of fruit yoghurt
3.	Spray dried milk-malted millet beverage mix
4.	Hybrid baking oven

5.	Technology for Omega-3 fatty acid fortified curd and flavoured milk
6.	Green technology for texture modification of ghee
7.	Functional butter with hypocholesterolemic attributes
8.	Probiotic bacterial culture to augment neonatal health of calves
9.	DNA based method for differentiation of cow, buffalo, sheep, goat and camel Milk
10.	DNA based method for differentiation of cow, buffalo, sheep, goat and pig meat
11.	Technology for Omega-3 rich mixed fat table spread.
12.	A PCR based method for differentiating A1 & A2 Milk
13.	Technology for spreadable butter fortified with vegetarian source of omega-3 fatty acid
14.	Camel milk cheese (Cheddar type)
15.	“Janapriya” variety of chicken developed at ICAR-DPR, Hyderabad, Telangana. This variety of chicken lays around 130 eggs annually and attain 1.5 kg body weight at 12 weeks of age. This chicken variety is suitable for backyard poultry production.

2020- 2021

S. No.	Title of the technology
1.	Spore based strip for rapid detection of β -Lactum group in milk
2.	Technology of Extended Shelf-life sorghum lassi
3.	Lipid and Water soluble yellow natural colouring ingredients from bio-waste
4.	Technology for the preparation of encapsulated flaxseed oil for its application in foods
5.	Production of buffalo milk-based milk protein concentrate 60 (MPC 60) powder with improved solubility
6.	Buffalo Saliva Scope, an estrus identification kit
7.	Electrospun Smart Oxygen Indicating Tag
8.	Technology for preparation of milk based spray dried Nanoencapsulated curcumin formulation.
9.	Additive combination for improvement in quality of sugarcane tops silage
10.	Technology of Ricotta cheese from buffalo milk
11.	Technology of probiotic Ricotta cheese from buffalo milk
12.	Technology for preparation of cow milk protein powder based Sandesh
13.	Preparation of milk kefir/whey kefir drink
14.	Technology for the preparation of spray dried whey protein concentrate-iron (WPC-Fe) complex fortified biscuits.
15.	Strip based technology for Early Detection of Sub-Clinical and Clinical Mastitis.
16.	Spore based technology for rapid detection of antibiotic groups in milk and Aqua-products.
17.	Lateral flow assay-based method for rapid detection of presence of buffalo milk in cow milk.
18.	Trace mineral fortified Anionic mineral mixture for advanced pregnant cattle and buffaloes.
19.	Native vitamin B ₁₂ producing <i>Lactobacillus reuteri</i> NCDC 958/VTCC610B for production of vitamin B ₁₂ bio-fortified soy curd.
20.	High Immunoglobulin colostrum powder.
21.	Goat milk-based Spiced cheese rolls.
22.	Goat milk based probiotic yoghurt.
23.	<i>Giloy</i> -goat milk beverage
24.	Indigenous probiotic strain <i>Lactobacillus plantarum</i> Lp91 (MTCC 5690)
25.	Indigenous probiotic strain <i>Lactobacillus fermentum</i> Lf1 (MTCC 5689)
26.	Turmeric Camel Milk
27.	Neem based herbal formulation for treatment of Sarcoptic mange in camel

April 2021- till date

S. No.	Title of the technology
1.	Paper-based strip for the rapid detection of formalin in milk
2.	Technology for the preparation of low lactose Khoa
3.	PCR ready Template DNA preparation by Quick Bacterial Lysis solution
4.	Cation Based mineral supplement for lactating dairy animals
5.	PANI-PEC paper strip sensor for the detection of E. coli in milk
6.	PANI-PEC paper strip sensor for the detection of total bacterial count in milk
7.	Technology for the preparation of Indian artisanal cheese
8.	PaperStaph assay for visual detection on staphylococcus species in bovine milk
9.	Autochthonous calves-origin probiotic Lactobacillus reuteri BF-E7
10.	Anionic mineral mixture for reducing postpartum problems in cattle and buffaloes

List of Diagnostics and vaccines developed

2018-2019

1. Infectious Bursal Disease vaccine
2. IVRI-M PPRV antigen capture ELISA based kit
3. Competitive ELISA developed for detection of CSFV antibodies in pigs
4. Indirect ELISA kit for AI antibody detection
5. ELISA for diagnosis of glanders
6. ELISA for diagnosis of Equine Infectious Anemia
7. IgM ELISA for the sero-diagnosis of JE in pigs
8. LAMP assay based for rapid detection of PCV and PPV

2019-2020

1. Recombinant NS1 antigen based indirect IgM ELISA for sero-diagnosis of Japanese encephalitis (JE) in swine
2. Bluetongue sandwich ELISA Kit for detection of BTV antigen
3. c-ELISA for detection of Classical Swine Fever (CSF) antibodies
4. LAT (Latex Agglutination Test) for the serodiagnosis of Listeriosis for capro-bovine species.
5. Simplex, duplex and multiplex PCR assays for identification of tissues from cattle, buffalo and pig
6. LDH enzyme based assay for differentiation of fresh and frozen thawed meat from poultry and goat.
7. Equine Japanese Encephalitis Virus Antibody Test Kit, iELISA.
8. Monoclonal antibody based sandwich ELISA for detection of Equine Influenza antigen.
9. Development of monoclonal antibody-based competitive ELISA for the detection of *Brucella* antibodies in bovine.
10. Recombinant antigen based Latex agglutination test for serodiagnosis/surveillance of Bovine Leptospirosis

11. Indirect ELISA Kit for Serodiagnosis of Porcine Reproductive and Respiratory Syndrome (PRRS) in pigs
12. RT - PCR (reverse transcriptase PCR) for rapid diagnosis of Porcine Reproductive and Respiratory Syndrome (PRRS) from biological samples of Pig
13. Peptide based iELISA for early detection of Coenurosis in small ruminants and dogs

2020-21

1. *Brucella abortus* S19 DIVA compatible – **VACCINE**
2. FMD (2020-2021) - Highly sensitive blocking ELISA for detection of foot-and-mouth disease (FMD) (Released on 16th July, 2020)
3. Food Sp. Identification - Released on 09th December, 2020
4. SYBR green-based one-step real-time RT-PCR for detection of FMDV
5. Fluorogenic probe-based real-time PCR assays for FMDV
6. Strip based technology for Early Detection of Sub-Clinical and Clinical Mastitis.
7. Multiplex RTqPCR kit for simultaneous detection of Avian Influenza A typing and H5 and H9 subtyping
8. Indirect ELISA for detection of antibodies against *Trypanosoma evansi* in bovines.
Indirect ELISA for detection of antibodies against Classical Swine Fever in pigs using recombinant Erns protein.
