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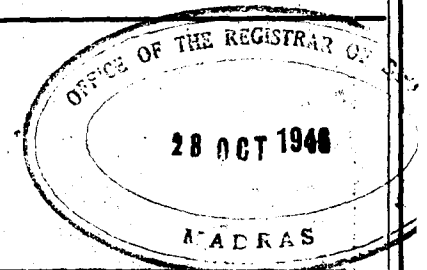
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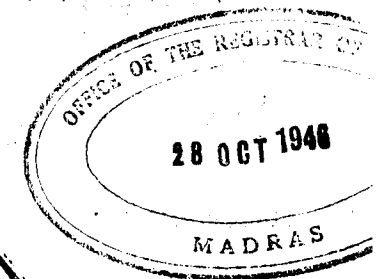
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(The Journal of the All-India Veterinary Association)



Editor:

P. SRINIVASA RAO, G.M.V.C.

Veterinary Surgeon, Madras.

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NOTICE

The Indian Veterinary Journal

A Bi-monthly Record of Veterinary Medicine and Surgery
Devoted to the Cause of Veterinary Profession.

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EDITOR :

P. SRINIVASA RAO, G.M.V.O.

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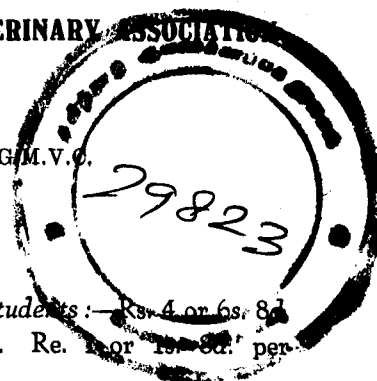
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SEPTEMBER, 1946

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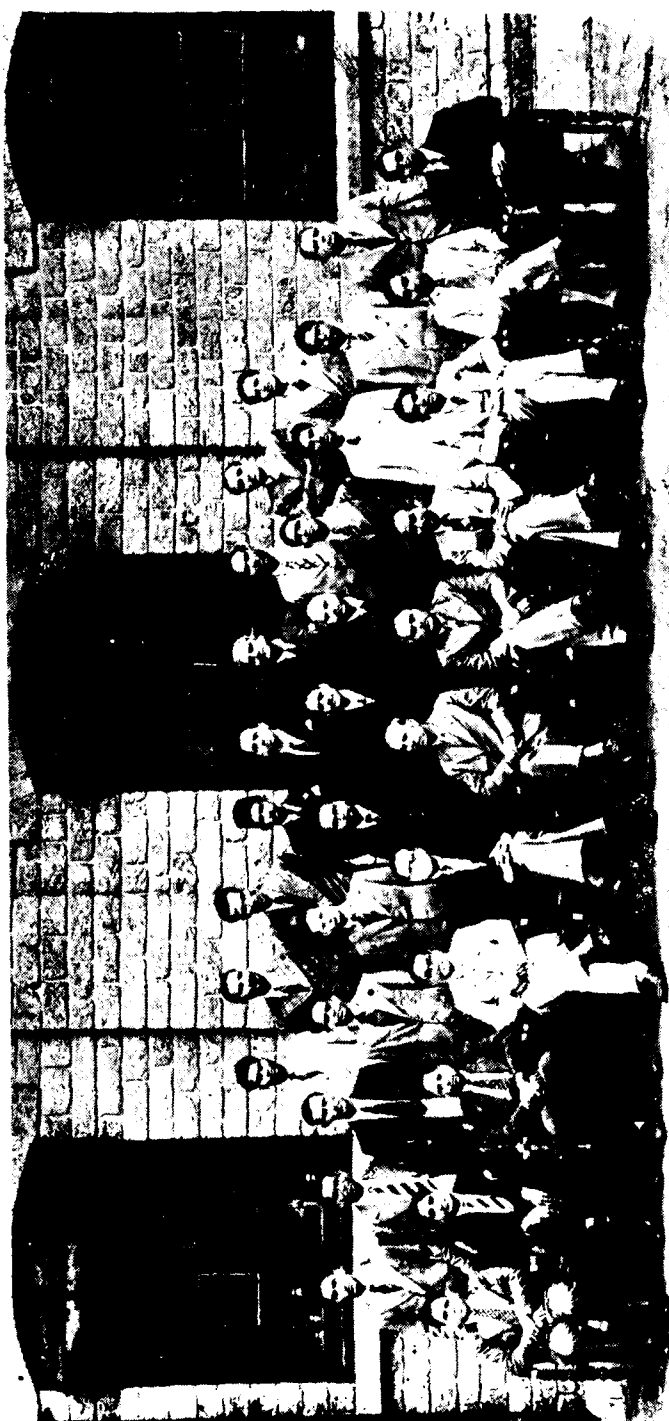
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No. 2

General Articles.

COMPARATIVE DIFFERENTIAL LEUCOCYTIC COUNTS IN TUBERCULIN POSITIVE ANIMALS AND CLINICAL CASES OF TUBERCULOSIS*

BY

H. K. LALL, B.Sc., M.R.C.V.S.,
AND

KARNAIL SINGH, L.V.P.,
Government Livestock Farm, Hissar

It is generally recognised that leucocytic counts are of significant diagnostic importance in a variety of pathological conditions, specially so when considered in relation with the total leucocytic counts. As some tuberculin positive and clinical cases of tuberculosis were available at Hissar farm differential leucocytic counts were performed in them to find out the variation between the normal and the diseased animals, if any. Some cases of traumatic pericarditis, Johnes disease and general emaciation were also observed in which counts were also performed for the sake of comparison. The investigation remained incomplete as no facilities for total red blood cells or leucocytic counts were available, at the time of the experiment.

As no reliable data of differential leucocytic counts was available in Haryana breed of cattle, the breed at Hissar, counts were made on normal animal's blood in different types of stock (cows, bullocks, bulls, young stock) for finding out variations amongst them, and for having a standard for comparison. Particular care was taken to exclude animals suffering from any skin

*This brief note is a record of some work done on differential counts at Hissar Farm, which due to various unavoidable circumstances, remained incomplete.

disease or helminthic infection to avoid the possible occurrence of eosinophilia. Each group consisted of 8 to 10 animals. The blood smears were made from the ear vein and were stained with Leishman stain. Counts were made on 300 cells. The age in case of cows varied from 4½ years to 11 years, in case of the bullocks from 5 to 8 years, while the young stock were bull calves below 2 years of age. Counts were also made from 5 bulls between 2 to 5 years old and from some calves below 6 months. All the counts, except in the case of bulls and young calves, were statistically analysed and their significance was confirmed by "t" test.

Shankar Narain (1937) has done these counts on some of the Indian breeds and for purpose of comparison averages stated by him for various cell types (in which monocytes and lymphocytes are named as mono-nucleors) have been included in table I.

Table I

Type of animal	Poly-morphs	Eosino-philes	Lympho-cytes	Mono-cytes	Basophiles
Indian Cattle (S. Narain) ...	26.7	10%	64% (Mono-nucleors)	...	...
Cows ...	20.7	10.6	21.8	46.9	0
Bullocks ...	23.6	15.0	14.1	47.3	0
Young stock ...	20.8	2.1	26.2	50.2	0.7
Bulls ...	27.4	6.6	50.6	15.4	0
Calves (below 6 months) ...	18.5	10.1	14.3	66.1	0

Variation in number of leucocytes in different types of stock

From the above table it is observed that there are variations in all types of cells in different types of stock but the difference is more noticeable in case of eosinophiles which are very few in young stock. It probably indicates that the number of these cells increases with age. (See appendix I for statistical analysis).

As there is leucocytosis after eating of fodder (digestive leucocytosis) and after work, all these smears were prepared at a constant hour in the morning before animals had gone to work or done any grazing. In one

instance, however, smears were made from one batch of cows in the morning as well as in the evening to observe the variation if any. Except for the lymphocytes, the evening counts showed increase in number of monocytes and decrease in the case of polymorphs and eosinophiles. The variation can be considered significant if the probability is less than 0.05 (See table II).

Table II

Type of cell	Degree of Freedom	Probability
Polymorphs	$\frac{M \quad E}{t-3 \quad (28.0-19.3)} \\ 78.16=29.14$	0.01
Eosinophiles	$\frac{M \quad E}{t-3 \quad (11.1-6.6)} \\ 40.33=2.599$	0.02
Monocytes	$\frac{M \quad E}{t-3 \quad (41.3-55.7)} \\ 235.62=2.814$	0.02
Lymphocytes	$\frac{M \quad E}{t-2 \quad (19.6-18.4)} \\ 248.08=2.814$	0.02

M = Morning count ; E = Evening count.

Comparison of Tuberculin negative and positive Animals

Comparison was made between tuberculin positive and negative animals, separately in the case of cows, bullocks and young stock, because of the variation amongst them in normal condition. In the cows there was no significant change in the number of leucocytes except in the case of polymorphs which showed an increase in positive animals. In positive bullocks there was decrease in number of monocytes and increase in lymphocytes at 10% significance level (See appendix II a and b). In the tuberculin positive young stock, there was considerable increase in the number of eosinophiles. It was noticed that the numerical changes occurred in monocytes and lymphocytes in the case of adults, in eosinophiles in the case of young stock. It is usually believed that their number increases in parasitic infection but all the calves taken were free from parasites both external and internal. Presumption of freedom from internal parasite was based on the fact that Hissar is a very dry area and whenever post mortems were made on animals dying due to various causes, no parasites worth the mention had been noticed except for an occasional *Settaria* sp. (See appendix II (c)).

Comparison in Clinical cases

In human pathology various workers have stated that blood picture is of unquestionable practical importance in determining the prognosis of the case because of its dependence on the clinical and biological reactions that occur in the course of the disease and it has been pointed out that lymphocytosis and eosinophilia are of good prognostic importance while neutrophilia hyperleucocytosis are unfavourable in prognosis. These counts are of course useful only after the diagnosis of the disease has been established because then the various blood cells give a picture of what may be happening inside the body. Various leucocytic types participate in tuberculous lesions at different stages of the pathological process; the neutrophils predominate in face of abscess formation, cavitation and ulceration, the lymphocytes are chief cells in healing tuberculous lesions, the monocytes participate predominantly in formation of monocytic tubercles and in early reparation process following caseation and as the cells would pass through the blood before reaching the lesions, the blood picture will give a representative idea.

In the clinical cases studied, the cell picture closely corresponded to that seen in the human beings. Lack of eosinophiles was a sign of deterioration and in the cases which eventually died, eosinophiles were almost absent. Neutrophilia was observed in cases which had exudative and cavernous lesions. In cows when the counts in clinical cases were compared with those in negative animals, it was found that there was increase in the number of polymorphs and decrease in the monocytes. This definitely indicated a bad prognosis and all these cases died within a few days of the count being made, of advanced pulmonary tuberculosis (See appendix III (a). In the case of two bullocks serial counts were done up to the time of death (See appendix IV (a) and (b)). In one of these cases the counts were done by one of us (K. S.) in 1940. In both cases the eosinophiles were absent in the end stages, while in one case there was also increase in number of polymorphs. In this particular case post mortem showed badly affected lungs, the right lung showing small phthisical cavities. Acid fast organisms were observed in the blood of this animal two days before death, but none were present one day before death. There was probably a transient bacillæmia which is only rarely detected.

No comparison was made in the case of the young stock as there were no clinical cases available.

In passing we may mention that comparison of counts was done in a few cases of traumatic pericarditis (average of 3 cases), Johnes disease (4 cases) and cases of general emaciation (3 cases) (See appendix V a, b, c). In the case of traumatic pericarditis (comparison was done in bullocks only) as one would expect there was increase in number of polymorphs and decrease in number of eosinophiles. In the cows suffering from Johnes

disease the same was observed, while in the bullocks suffering from the same the eosinophiles showed a definite decline in number.

In the emaciated animals there was decrease in the number of eosinophiles and monocytes and reverse was the case as regards polymorphs and lymphocytes. From these results it is seen that eosinophiles decreased in all animals especially so in males, in all conditions leading to degeneration of health in one way or other due to disease or old age, while it is known that eosinophiles increase in number in diseased states such as parasitic infestations, allergy, skin diseases and leukaemia. This probably shows that they play perhaps more important part in animal pathology than the one, we might attribute to them.

We may also mention parenthetically that some azurophilic granules were observed in the cytoplasm of monocytes, as well as in the scanty cytoplasm of lymphocytes. Their size was about that of the staphylococci, but in some cases they could be easily mistaken for rickettsial bodies. These were found in all types of stock irrespective of the fact whether they were tuberculin, negative or positive. Similar granules have been seen by Zargar and Abdussalam (personal communication) in buffaloes. Their significance is not clear and no mention seems to have been made in commonly used text books of veterinary or human haematology. These were found in more than 75% of the animals. In majority, these were present both in the monocytes and lymphocytes, but rarely in monocytes alone. Percentage of cells containing these granules varied a lot (See table III). These granules were more in older animals than in young ones. Smears made from superficial lymph glands were negative for any protozoan infection.

Table III

Type of animal	Type of cell	Average % of cells containing granules	Standard deviation	Co-efficient of variation
Cows ...	(a) Monocytes	8.1%	5.143	63.48
	(b) Lymphocytes	15.4%	11.451	74.36
Bullocks ...	(a) Monocytes	9.63%	8.19	85.35
	(b) Lymphocytes	17.86%	13.67	76.55
Young Stock...	(a) Monocytes	5.08%	4.2	82.6
	(b) Lymphocytes	8.07%	7.02	87.4

Conclusions

1. There was variation in number of various white cells in young stock, cows and bullocks.
2. Some variation in number of different type of white cells in all classes of stock in normal and tuberculin positive animals was noticed.
3. There was marked decrease in number of eosinophiles in all cases where there was degeneration of health.

Acknowledgements

We wish to thank Rai Bahadur P. N. Nanda, M.R.C.V.S., Superintendent, Government Cattle Farm, Hissar for his keen interest in the work, and Mr. N. P. Natu, Statistical Assistant for doing statistical calculations.

APPENDIX I.

(a) Statistical table showing the variation in the number of leucocytes in normal bullocks and cows.

Bullocks and cows	Degrees of freedom = 18	Probability.
Polymorphs	$t = \frac{23.6-20.7}{7.7929} = 0.927$	0.367
Eosinophiles	$t = \frac{15.0-10.6}{6.7565} = 1.6929$	0.108
Monocytes	$t = \frac{47.3-46.9}{65.8032} = 0.049$	0.961
Lymphocytes	$t = \frac{14.1-21.8}{69.2308} = 0.925$	0.368

(b) Statistical table showing the variation in the number of leucocytes in normal bullocks and calves.

Bullocks and Calves	Degrees of freedom = 19	Probability.
Polymorphs	$t = \frac{23.6-20.8}{12.9155} = 0.779$	0.446
Eosinophiles	$t = \frac{15.0-2.1}{2.0656} = 8.976$	0.000
Monocytes	$t = \frac{47.3-50.2}{93.2339} = -0.300$	0.767
Lymphocytes	$t = \frac{14.1-25.2}{86.3731} = 1.302$	0.209

APPENDIX II (a)

Statistical table showing the variation between tuberculin negative and positive cows.

	Degrees of freedom = 17	Probability
	$\begin{matrix} + & - \end{matrix}$	
Polymorphs	$t = \frac{28.0-20.7}{11.1268} = 2.188$	0.043
Eosinophiles	$t = \frac{11.1-10.6}{8.67915} = 0.170$	0.867
Monocytes	$t = \frac{41.3-46.9}{29.641} = -1.028$	0.319
Lymphocytes	$t = \frac{19.6-21.8}{30.9719} = -0.395$	0.698

APPENDIX II (b)

Statistical table showing the variation between tuberculin negative and positive bullocks.

	Degree of freedom = 18	Probability.
	$\begin{matrix} - & + \end{matrix}$	
Polymorphs	$t = \frac{23.64-22.79}{3.37} = 0.252$	P = 0.804
Eosinophiles	$t = \frac{15.00-13.56}{9.43} = 0.153$	P = 0.880
Monocytes	$t = \frac{47.18-30.89}{8.47} = 1.922$	P = 0.071
Lymphocytes	$t = \frac{14.1832-6.7}{8.91} = 2.077$	P = .052

APPENDIX II (c).

Statistical table showing the variation between negative and positive calves.

Young stock	Degree of freedom = 15	Probability
	$\begin{matrix} + & - \end{matrix}$	
Polymorphs	$t = \frac{17.3-20.8}{17.476} = -0.838$	0.416
Eosinophiles	$t = \frac{7.6-2.1}{1.0461} = 5.377$	0.0001
Monocytes	$t = \frac{48.3-50.2}{98.5843} = -0.191$	0.851

Lymphocytes $t = \frac{26.9-26.2}{67.7492} = 0.085$ 0.933

- = Negative animals

+ = Positive animals.

APPENDIX III.

Comparison of tuberculin negative animals with clinical cases of tuberculosis

(a) Cows :

	Degrees of freedom		Probability
	C —		
Polymorphs	$t = \frac{46.0 - 20.7}{41.7273} = 3.9167$		0.004
Eosinophiles	$t = \frac{2.0 - 10.6}{28.6543} = 1.607$		0.143
Monocytes	$t = \frac{18.5 - 46.9}{105.3412} = 2.767$		0.022
Lymphocytes	$t = \frac{33.5 - 21.8}{88.6828} = 1.242$		0.246

(b) Bullocks :—

Polymorphs	$t = \frac{39.0 - 23.6}{44.7235} = 2.303$		0.042
Eosinophiles	$t = \frac{10. - 15.0}{10.0992} = 4.405$		0.001
Monocytes	$t = \frac{48.0 - 47.3}{239.8114} = 0.045$		0.965
Lymphocytes	$t = \frac{11.5 - 14.1}{239.8114} = 0.155$		0.880

C = Average in clinical cases

- = Average in negative animals.

APPENDIX IV

Case No. 1

Serial differential leucocytic counts in bullocks diagnosed to be open cases of tuberculosis.

Date	Mono-cytes	Poly-morphs	Lympho-cytes	Basophiles	Eosinophiles
15-10-43	58%	29%	10%	0%	3%
16-10-43	66%	18%	15%	0%	1%
17-10-43	51%	28%	20%	0%	1%
18-10-43	65%	22%	11%	0%	2%
19-10-43	39%	20%	41%	0%	0%
20-10-43	57%	31%	11%	0%	1%
21-10-43	54%	30%	16%	0%	0%
22-10-43	72%	21%	7%	0%	0%
23-10-43	43%	47%	10%	0%	0%

Case No. 2

21-1-40	41%	53%	3%	2%	1%
13-1-40	56%	32%	10%	2%	0%
14-1-40	64%	24%	12%	0%	0%
15-1-40	68%	28%	4%	0%	0%
16-1-40	49%	48%	3%	0%	0%
17-1-40	44%	51%	5%	0%	0%
18-1-40	39%	50%	11%	0%	0%
19-1-40	Died				

APPENDIX V

Table showing comparison in the number of white cells in normal animals and in cases of (a) traumatic pericarditis (b) johne's disease and (c) emaciation.

(a) Traumatic pericarditis (Bullocks)

	Degree of freedom		Probability
	T —		
Polymorphs	$t = \frac{61.0 - 23.6}{59.4050} = 4.852$		0.0008
Eosinophiles	$t = \frac{1.0 - 15.0}{20.5091} = 3.091$		0.0114
Monocytes	$t = \frac{11 - 47.3}{473.038} = 1.669$		0.1264
Lymphocytes	$t = \frac{27 - 14.1}{570.2095} = 0.540$		0.6014

(b) Johne's Disease

(i) Cows	Degree of freedom = 10	Probability
	$J -$	
Polymorphs	$t = \frac{31.5 - 20.7}{28.0092} = 2.0407$	0.072
Eosinophiles	$t = \frac{0.5 - 10.6}{28.1450} = 1.904$	0.090
Monocytes	$t = \frac{52 - 46.9}{10.2283} = 0.500$	0.629
Lymphocytes	$t = \frac{16.0 - 21.8}{66.1056} = -0.713$	0.494

(ii) Bullocks

	Degree of freedom = 10	Probability.
	$T -$	
Polymorphs	$t = \frac{37 - 23.6}{59.4050} = 1.739$	0.1128
Eosinophiles	$t = \frac{1 - 15.0}{20.5091} = -3.091$	0.0114
Monocytes	$t = \frac{56 - 47.3}{473.038} = 0.400$	0.6976
Lymphocytes	$t = \frac{6 - 14.1}{5570.2096} = 0.339$	0.742

(c) (Emaciation)
Cows

	Degrees of freedom = 10	Probability
	$E -$	
Polymorphs	$t = \frac{47.7 - 20.7}{60.4741} = 3.472$	0.006
Eosinophiles	$t = \frac{3.0 - 10.6}{19.5556} = -1.718$	0.117
Monocytes	$t = \frac{4.3 - 46.9}{70.3247} = -5.062$	0.0006
Lymphocytes	$t = \frac{45.0 - 21.8}{69.1160} = 2.863$	0.017

T = Average in cases of Traumatic Pericarditis

J = Average in cases of Johne's Disease.

E = Average in cases of Emaciated animals.

- = Average in cases of Normal animals.

RINDERPEST IN RAJPUTANA

BY

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Rajputana comprises 23 States and Chiefships, with the small British province of Ajmer-Merwara lying in its centre. The veterinary department in most of the States, has been organized only recently, and either no record of disease outbreaks has been maintained or these have been frequently labelled on the authority of the village *Patwaree* or *Chawkidar*. A careful scrutiny of the available records and information gathered during visits to the principal States has, however, revealed that the incidence of rinderpest in Rajputana has been negligible in the past six to eight years. The disease is reported to have been widespread in the years immediately preceding this period. This is supported by statistics from the British Province of Ajmer-Merwara, which are reasonably reliable and may be taken as more or less representative of Rajputana.

Table showing rinderpest prevalence in Ajmer-Merwara, 1929-45.

Year	No. of rinderpest outbreaks in bovines	Number attacked	Number died.
1929-30	19	1511	647
1930-31	3	238	157
1931-32	2	356	80
1932-33	24	1849	687
1933-34	15	1737	455
1934-35	21	1041	432
1935-36	48	2112	687
1936-37	58	1721	686
1937-38	12	358	148
1938-39	11	283	21
1939-40	2	33	13
1940-41	1	8	6
1941-42	—	—	—
1942-43	—	—	—
1943-44	—	—	—
1944-45	—	—	—

Two possible hypothesis explain the absence of rinderpest from Rajputana:—(1) The widespread epidemic of rinderpest in Rajputana, which exhausted itself in and about the year 1939, left in its wake a comparatively

resistant cattle population. (2) Difficulties in transport during the war years and the restrictions imposed on the export of livestock in many States, curtailed the movements of livestock, thereby reducing chances of the spread of the disease.

With the termination of war, restrictions on the movement of livestock are being relaxed, so that this factor will not remain operative for long. The freedom from rinderpest, for the past six to eight years has also prevented the present cattle population from developing resistance against it. Further, the number of animals protected against rinderpest in Rajputana by vaccination is negligible. The total number vaccinated during the years 1941-45 is 13299. In the adjoining province of U.P., the number vaccinated during the same period is 671475. This may lead to unduly heavy losses if and when the disease does make an appearance and is allowed to establish a foothold.

Introduction and spread of rinderpest.

Rajputana is a surplus area for livestock and normally the movement of cattle is from Rajputana outwards into the neighbouring areas. There is, therefore, little danger of a carry-through type of infection spreading from adjoining areas. The infection is essentially of the seepage type due to the local movement of animals along the borders.

Rajputana has on its western border the great *Thar* or Indian desert, which extends from the Indian ocean upwards traversing the States of Marwar, Jaisalmer and Bikaner. There is very little movement of stock from beyond this desert into Rajputana. The cattle population on this border is sparse and consequently, there is little danger of the disease spreading in from this border. On the northern border between Rajputana and Punjab there is no appreciable migration of cattle into Rajputana either for trade or for grazing. There is, therefore, little possibility of the spread of disease from this quarter also. It is the south-east border of Rajputana where a constant ebb and flow of livestock movement is maintained and which is responsible for the introduction of disease. The infection is essentially of the seepage type which may be considered the usual method of the introduction of rinderpest in Rajputana. Widespread infection of a carry-through type may, however, occur during famine years. Three-fifth of Rajputana comprising the States of Bikaner, Marwar, Jaisalmer, Sirohi and Shaikhawati Nizamat of Jaipur are sandy and arid. Cattle here depend mainly upon grazing and successive years of low rainfall result in acute famine conditions. In such years a large number of livestock move out to adjoining areas in Central India and the United Provinces in search of grazing. These animals during their long treks contract rinderpest and while returning back spread it all along their route in Rajputana. The following are the main routes followed by cattle in search of grazing :—

Rajputana—Malwa :

(1) Jodhpur—Desuri pass in Aravalli hills to Kua Khera and Sahapura areas near Chittorgarh in Mewar, where animals may stay for grazing or pass on to Malwa and Khandesh.

(2) Jodhpur—Nasirabad in Ajmer—Gulabpura in Mewar to Chittorgarh or Malwa.

(3) Jodhpur and Ajmer—Kekri—Bundi into Kotah where animals may stay for grazing or pass on to Malwa.

Rajputana—U. P. :—

(1) Jodhpur, Bikaner and Sheikawati—Jaipur—Bharatpur—Muttra or Agra on to grazing areas in U.P. across the river Jumna.

(2) Bikaner, Shaikhawati—Alwar—Naagaon out to Jumna.

The movement of animals for trade also follows certain well defined routes. This movement starts from within Rajputana and there is no danger of disease spreading on these routes when Rajputana is free from rinderpest. When it is prevailing, the trade routes also become the routes of disease-spread. The following are the main trade routes :—

(1) *Rajputana—Bombay* :—Animals from different parts of Marwar and its neighbourhood move south-wards along the B.B. & C.I.R. and go to Bombay via Ahmedabad. Some animals also come along the northern border of the Sirohi State and join the B.B. & C.I.R. route in the Palanpur State. Movements of work cattle usually terminate in Gujrat, while those of slaughter stock and milkers end at Bombay and to some extent, Ahmedabad.

(2) *Rajputana—U. P.* :—Animals from the central and eastern parts of Rajputana go to the United Provinces mainly through Agra and Muttra districts. Work cattle get distributed in and around the Doab Districts, while the slaughter-stock is marketed at Agra and Muttra slaughter-houses, and they may even be consigned to other cities like Cawnpore and Lucknow.

(3) *Rajputana—Delhi* :—Animals from Jaipur, Alwar, and Bharatpur States either go to Delhi straight in a northerly direction or via Muttra. This movement is particularly important for sheep and goats intended for slaughter at Delhi.

(4) *Rajputana—Punjab* :—Some animals from the northern parts of Rajputana go to the adjoining districts of the Punjab and cross the inter-district boundaries at various places. These movements mainly comprise of draft bullocks like Nagores.

Cattle fairs also serve as centres of indiscriminate association of diseased and healthy stock, and may serve as the means of spreading disease far and wide. The number of fairs and markets in Rajputana is, however, not large. At present 4 fairs are held in Ajmer, 6 in Bharatpur, 7 in Kotah, 3 in Jodhpur, 2 in Dholpur, 1 in Karauli, 1 in Bundi, 5 in Jhalawar and 2 in Bikaner. This makes a total of 31 livestock fairs in Rajputana as compared with 190 in the neighbouring province of U. P. Some of these fairs handle very large number of livestock e. g., Parbatsar and Tilwara fairs in Jodhpur which handle about 43,000 and 35,000 livestock respectively. Very few cattle from outside of Rajputana are, however, brought in at these fairs, so that if Rajputana is free from rinderpest, there is no fear of disease spreading from these fairs. If the disease is prevailing, cattle fairs become important centres of disease dissemination. The following are the more important fairs:—

Important livestock fairs of Rajputana

S. No.	Name of the fair	Month of occurrence	Duration	Number of livestock assembled
1.	Pushkar	November	7 days	21,000
2.	Bharatpur	October	10 days	26,000
3.	Diğ	August	6 days	20,000
4.	Sarad	October	one month	22,000
5.	Parbatsar	Aug—Sept.	17 days	43,000
6.	Tilwara	April	15 days	35,000
7.	Nagaur	February	8 days	15,000
8.	Sanğod	June	12 days	11,000

Prevention and Control of rinderpest

The greater part of Rajputana is, at the moment, free from rinderpest. There are important factors which help in keeping it free, such as, the absence of any large scale movement of livestock into Rajputana, the small number of cattle fairs and the fact that most of these receive no animals from outside, and the presence of a natural barrier on the western and a part of the northern border. A co-ordinated and sustained effort to keep it free has, therefore, every possibility of achieving success. The chief handicap is the absence of a unified veterinary service. The professional personnell engaged by the 23 States is further very inadequate. The total number of veterinarians is sixty-nine. The number of bovines alone in Rajputana is 1,10,72,350. This works out at 1,60,469 bovines, apart from other livestock to each veterinarian. This is a serious limitation but the need to surmount it is obvious.

A Conference of veterinary officers of Rajputana States was, therefore, called at Ajmer on the 13th and 14th of February, 1946. The Animal Husbandry Commissioner with the Government of India presided. The recommendations made in respect of the different aspects of the problem of rinderpest control are given below:—

Subject No 1:—The collection and collation of information regarding movement of livestock in Rajputana, and the routes of spread of rinderpest

The Conference endorsed the view, that it is essential to have detailed and exact information about the routes of livestock movement in Rajputana, to effectively check the spread of rinderpest. The Conference recommended that the Veterinary (Disease) Investigation Officer, Rajputana, should be allowed to undertake a survey for this purpose, and Rajputana States be approached to give necessary facilities for this work.

Subject No 2:—The feasibility of establishment of quarantine and vaccination stations to prevent the ingress of rinderpest in Rajputana on the lines of the Central Provinces.

The Conference agreed that, rinderpest infection in Rajputana is of the seepage type due to the ebb and flow of livestock movement along the border, and the foci of infection are mainly on the south-eastern borders. The Conference recommended block immunization on a ten miles belt along this border from Bharatpur to Palanpur, both the States inclusive. The Conference did not consider that quarantine stations on the lines of the Central Provinces would be useful and recommended that bovines moving out of a State for grazing should be vaccinated against rinderpest by that State.

Subject No 3:—The establishment of one or more Goat Virus Vaccine production centres in Rajputana.

The Conference agreed that vaccination of bovines with the Goat Virus Vaccine was a cheap, safe and effective method of rinderpest control. The Conference recommended the establishment of production centres for this vaccine at Ajmer, Jodhpur and Udaipur. The zone of vaccine distribution for each centre should be as follows:—

Jodhpur Centre:—Marwar, Sirohi, Jaisalmer and Bikaner.

Udaipur Centre:—Mewar, Dungarpur, Banswara and Partabgarh.

Ajmer Centre:—Ajmer-Merwara and rest of the Rajputana States.

The Conference recommended that the vaccine production centres in Rajputana should get fresh virus for seed material from the Imperial Veterinary Research Institute, Mukteswar, every three months.

Subject No 4:—The setting up of vaccination units for undertaking large scale vaccination against rinderpest.

In order to control disease effectively, the conference considered it essential to increase the staff of Veterinary Departments in the States. It was agreed that the attention of the States authorities should be drawn to the recommendation of the Royal Commission of Agriculture, that there should be one veterinarian to 25,000 large animals. The Conference recommended the employment of specially trained units, exclusively for Rinderpest vaccination work, in the ten miles belt on the eastern border. It was agreed that a vaccination unit should usually consist of one veterinarian and four stockmen. The number of vaccinators needed by each State for vaccinating, in one year, all bovines in the belt, was worked out at the rate of 18,000 animals per vaccinator, as follows:—Bharatpur 11, Dholpur 9, Karauli 4, Jaipur 2, Kotah 20, Jhalawar 9, Partabgarh 4, Banswara 5, Dungarpur 4, Palanpur 5, Idar 4, and Udaipur 4. For areas out of this belt, the Conference recommended training of selected stock-men and veterinary assistant surgeons. In the event of an outbreak, such trained personnel should be assembled into emergency units, to 'ring out' the outbreak by mass vaccination.

Subject No 5:—The feasibility of introducing legislation for compulsory vaccination or alternative suggestions, to make large scale vaccination possible.

The Conference considered it desirable to secure legal power for compulsory vaccination of stock in areas threatened by rinderpest, in order to create a productive immune belt by mass vaccination. The Conference recommended that steps should be taken to introduce enabling acts in all Rajputana States. The Conference agreed that compensation may be paid at the discretion of the State authorities for animals which may die as a result of vaccination. The compensation should be up to a maximum of Rs. 50 for cattle and Rs. 100 for a buffalo, such payment to be made by the State Veterinary Officers out of his departmental budget, without any delay. The Conference requested the Animal Husbandry Commissioner to append an explanatory note regarding compensation for the guidance of the State authorities.

Subject No. 6:—Methods to bring greater co-operation amongst Rajputana States, in stamping out outbreaks of rinderpest and in checking its spread.

The Conference considered it essential to avoid unnecessary and inordinate delay in the reporting of disease outbreaks. The following measures were recommended to ensure prompt reporting:—

(1) The *Patwarees* should be made responsible for promptly reporting disease outbreaks in livestock direct to the veterinary assistant surgeon of

their area. They should be encouraged by special rewards if they do this duty satisfactorily, and should be punished in the event of neglecting it.

(2) The printed post-cards system followed in the Punjab and other areas, should be introduced in Rajputana States, for reporting outbreaks.

The Conference recommended prompt interchange of information regarding outbreaks in adjoining areas of neighbouring States. In order to achieve this, veterinary assistant surgeons working on border areas should be allowed to correspond direct regarding disease outbreaks. Copies of such direct reports should be sent to their respective officers for their information.

The Conference recommended that all disease outbreaks should be notified to the Veterinary (Disease) Investigation Officer, Rajputana, Ajmer.

APPENDIX I.

Note on the Grant of Compensation for Animals which may Die as a Result of Rinderpest Vaccination.

The reaction to rinderpest vaccination is usually mild in plain cattle and a little more severe in buffaloes. There was no loss or severe reaction in about 900 cattle and buffaloes vaccinated by the Veterinary (Disease) Investigation Officer in certain parts of Rajputana. It is not possible to generalise from this limited experience and as the reaction is not uniform in different localities, a certain number of animals may die as a result of the Vaccinations in some areas. It is impossible to assess such losses with any degree of accuracy until results of vaccinations in the field are available from all the States. Meanwhile, it is suggested that as a working hypothesis the death risk may tentatively be accepted at 0.2 per cent of all animals vaccinated.

The following table shows the amount that will be needed for the payment of compensation by the States in the ten miles belt on the south eastern border of Rajputana. (See table on next page.)

The decision to grant compensation rests with the local administration as it depends on a number of factors such as the finances of the State, the degree of co-operation of live-stock owners, and the extent of losses. If it is found necessary to grant compensation, and the State is not prepared to bear the burden, it is suggested, that an insurance premium of annas 4 for cattle and annas three for a buffalo may be charged for each vaccination. The proceeds will be enough to pay compensation, for animals which may die as a result of vaccination, if the mortality is at the rate of 0.2 percent.

State	Total area in sq. miles	Estimated area in the 10 miles belt in sq. miles	Total bovine population		Estimated bovine population in 10 miles belt		Estimated loss at 0.2% mortality after vaccination		Compensation at the rate of Rs. 50 for Cattle and Rs. 100 for Buffaloes		
			Cattle	Buffaloes	Cattle	Buffaloes	Cattle	Buffaloes	for Cattle	for Buffaloes	Total
Dholpur ...	1173	700	161460	118834	96352	70915	192	141	Rs. 9,600	Rs. 14,100	Rs. 23,700
Bharatpur ...	1978	800	326380	179890	132004	72756	264	145	13,200	14,500	27,700
Karauli ...	1227	450	143017	59652	52451	21877	104	43	5,200	4,300	9,500
Jaipur ...	15610	250	1409017	451358	22565	7229	45	14	2,250	1,400	3,650
Kotah ...	5714	1800	960298	233078	302508	73423	605	146	30,250	14,600	44,850
Jhalawar ...	1227	1227	132374	33024	132374	33024	264	66	13,200	6,600	19,80
Tonk ...	2200	160	345177	80418	23534	5483	47	10	2,350	1,000	3,350
Partabgarh...	873	500	83250	21704	47680	12430	95	24	4,750	2,400	7,150
Banswara ...	1606	500	21743	72065	67572	22436	135	44	6,750	4,400	11,150
Dungarpur...	1460	300	262008	101066	53837	20766	107	41	5,350	4,100	9,450
Palanpur ...	1794	600	170368	81031	56915	27100	113	54	5,650	5,400	11,050
Idar ...	900	500	94722	49050	52623	27250	105	54	5,250	5,400	10,650
Udaipur ...	nearly 13170	1200	1483388	514369	46867	13521	93	27	4,650	2,700	7,350

HAIRY SHEEP OF INDIA

BY

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Indian sheep can be classified into two distinct types, viz., woolly and hairy. Sheep of the former type yield fleece that possesses wool fibres, fine or coarse, and are mostly raised in the north and north-Western parts such as the Punjab, Baluchistan and Rajputana. They are bred for their wool and mutton. Hairy sheep, on the other hand, are thick-set with short hair and there is hardly any vestige of wool on their body. They are found in Peninsular India and are reared primarily for manurial purposes, the production of mutton being of secondary importance. The urine and droppings of sheep and goats, being rich in nitrogen and phosphorus, constitute a ready available form of manure. Shepherds, therefore, graze their flocks (during the day) and pen them (at night) on arable land for manurial purposes, for which they are paid by cultivators in cash or kind according to local customs. It may be mentioned that the system of folding sheep and goats for manurial purposes is a very popular method of increasing the fertility of soil in Central and Southern India.

Habitat And Population

The largest number of hairy sheep (9,805,000 heads) is found in the Madras Province, where these animals account for nearly 68 per cent of the total sheep population. The entire population in the districts of Nellore, Cuddappah, East Godavari, Vizagapatam, Madras, Chingelpet, Tanjore, Ramnad, Tinnevely, Nilgiris, Malabar and South Kanara comprises hairy sheep. In other districts, the proportion of such sheep varies from 25 per cent (e.g. in Bellary and Anantapur) to 70 per cent (e.g., in Trichinopoly and Madura). In the Nizam's Dominions, hairy sheep account for about 14 per cent (844,000 heads) of the total sheep population. They are particularly concentrated in parts like Nalgonda and Amarabad, and along the banks of Krishna and Tungabhadra rivers. They are also seen in the northern districts of the State. In Orissa, all sheep (366,000 heads) are of hairy type, though the quality of theirs is slightly different from that of the Madras sheep. In the Mysore State, hairy sheep are found scattered all over, and form about 5 per cent (153,000 heads) of the total sheep in that State. Besides these areas, hairy sheep (239,000 heads) are also found in the Madras States, viz. Pudukkottai, Banganapalle, Sundur and Cochin in varying numbers. In the Central Provinces, hairy sheep are found only in the Chanda district (25,000 heads), while in Travancore, their number is very small (not known).

Adding up the figures referred to above, it may be stated that the total number of hairy sheep in this country is approximately 114.3 lakhs.

Breeds or Types

The hairy seep of Madras belong to the Nellore breed. They are tall and well built animals having a coat densely covered with short hair. In the northern districts of this province, sheep are usually white or white with black or fawn markings on head, belly, legs, etc. Animals having light fawn, white with fawn coloured markings on their back and thighs or light red colour are also met with. In the southern parts animals are comparatively small in size and have mostly light brown or red coat, though red coat with white patches under the abdomen and on the thighs is also seen. The average live weight of a Nellore sheep is 80 lb. The quality of mutton is good while that of skins is definitely superior to that of woolly sheep. The sheep abounding in the Mysore State belong to the Mandya breed. They produce rather better quality hair than Madras sheep and are a little smaller in size, the average live-weight of an animal being 65 lb. They respond to feeding quickly and, the quality of mutton being good, are in great demand by butchers. They also provide good quality skins. The Orissa sheep are similar to the Nellore type, excepting that they are shorter in size and yield slightly longer and finer hair. The average live-weight of an animal of the Ganjam breed found in and around the Ganjam district is 65 lb., the mutton being of an average quality. Skins of these animals are of a good quality. The hairy sheep found in the southern parts of the Nizam's Dominions are akin to those of Nellore, while those in the northern districts as well as in the Chanda district of the Central Provinces belong to the Godavari or Dhormundi breed. They are white or reddish brown in colour and possess tall and well-developed body the average live-weight of an animal being 80 lb. They produce average quality mutton and the skins are of a superior texture.

Present-Day Utility

Hairy sheep are raised primarily for manurial purposes, the production, of mutton being of a secondary importance. Since they fatten well and their meat is of a fairly good quality, all surplus are killed for mutton production. Their skins being superior to those from woolly sheep the slaughter of hairy sheep is profitable from the point of view of skin sales. As regards hair, these sheep, as a rule, are not clipped in any part, except the Mysore State, where Mandya sheep are shorn and their hair marketed after admixture with finer qualities of wool available in the State. In tanneries at Madras, sheep hair of $\frac{1}{2}$ -2 in. staple are removed from skins for export to Bangalore, where the woollen mills are said to utilize them in the preparation of articles like coarse blankets. Hair below $\frac{1}{2}$ in. length is not collected but thrown out as lime waste, which is sometimes employed as manure. These sheep are not important for milk production.

Future Improvement

Since hairy sheep produce a fairly good quality of meat and respond to fattening quickly, their future lies in breeding them for mutton. This will not in any way affect their usefulness for manurial purposes. Efforts to cross them with the object of improving their fleece are likely to be laborious and costly, besides involving long-term breeding policies without any certainty of success. The most promising line of improvement appears to be the formation of mutton sheep breeders' cooperative credit and sale societies. This organisation will solve three important problems confronting shepherds generally. First, they will throw open to breeders sheep and favourable avenues of credit for purchasing and maintaining their sheep. Secondly, they will bring home to breeders better methods of husbanding sheep by providing them with efficient sires and supplying information regarding opportune times for flushing and mating, the composition of suitable but cheap fattening feeds, the best age for castration, prophylactic and disease control measures, etc. in collaboration with the local veterinary departments. Thirdly they will enable breeders to market their sheep in a more profitable way by keeping them in touch with markets and their tendencies. These societies should preferably be organized in areas where grazing facilities are available. Wherever it is not possible to organize such societies, veterinary or animal husbandry departments should start ordinary breeding societies like these in the Punjab. In areas where it is not possible to organize co-operative societies at all, possibilities of organising butchers, associations for financing sheep breeding operations in rural areas should be explored.

Excepting the Mysore State, hairy sheep are not clipped in any other part. This is largely the result of (a) belief that sheep die if clipped, e. g. in Orissa and (b) ancestral tradition of leaving such sheep unclipped, mainly because an effective demand for their hair does not exist. Consequently, there is an annual loss of about 85.7* lakh lb. of sheep hair. It is worthwhile therefore to carry out propaganda (by the local development departments) that hairy sheep do not die of clipping and that their hair should be regularly clipped. Simultaneously, the local veterinary departments should find out if there is any truth in the shepherds' belief, as there is a possibility of sheep dying of chill or infection if they remain unprotected after clipping or proper care is not taken to use clean scissors. Regarding the utilisation of hair, departments of industries should organize cottage industries for the consumption of sheep hair. Wherever possible, they should open purchasing depots and utilize this material in the institutes working under their control. Sheep hair can profitably be utilized for making coarser type of rugs, mats, blankets, up-holstery, linings, etc. Attractive durries of multi-colour pattern are likely to fetch more than ordinary type of rough blankets. Sterilized sheep hair can also be utilised for stuffing pillows and mattresses.

* Calculated at a flat rate of $\frac{1}{2}$ lb. of hair per sheep, as it has been ascertained that if hairy sheep were clipped the annual yield of hair would vary from $\frac{1}{2}$ to 1 lb. per sheep per annum.

AUGMENTING MILK PRODUCTION.

BY

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The percapita consumption of milk in India has been one of the lowest in the world, being estimated at below 8 oz. even in normal times. On a moderate estimate, the minimum nutritional requirements suggest at least a pint of milk per head per day. Perhaps this may not be adequate in the case of the Indian people whose diet is deficient in animal proteins. The significance of animal proteins in human diet is an established fact. But in the case of the vegetarians in India, the only source of animal proteins is milk and milk products. Therefore milk deserves a prominent place in the diet of an average Indian.

The present position regarding the production of milk compared to the demand is far from satisfactory, if not desperate. The population of the towns and cities have increased with a consequent increase in the demand for milk in such areas. The general tendency of inflation in the country, is having its natural effect on the consumption of more milk by way of more tea and more coffee. Thus the demand for milk has increased considerably and this is likely to continue for some time. On the production side, it is quite likely that it has remained stationary, if not gone down. Many cows and buffaloes of milk yielding age have been slaughtered which ultimately led the Central and Provincial Governments to take legislative measure to check the same. Cattle in India graze mostly on waste lands but this has been reduced considerably as a result of the "Grow More Food" Campaign. The price of concentrates has gone up considerably and very often they are not available to the villager due to transport difficulties. Owing to the high price of skin, hide and meat, the price of cattle has also gone up very much. This together with the maintenance difficulties, tempts the ryots to sell the cattle at the first opportunity. But when they want to buy one, they realise that the price is far above their purchasing power. Thus the milk position has deteriorated and is still deteriorating progressively. Men are likely to take some tea and coffee from hotels but there is no such chance for women and children who stay at home for most of the time. And these are the people who require more milk and milk products, in the absence of which the maternal and infant mortality rates go up. The short expectation of the life of an average Indian is also mainly attributed to malnutrition.

India's estimated milk production is about 23 million tons which works out to about 7 ozs. of milk per head per day. If the daily per Capita consumption of milk is to be increased to a pint the total production of milk has to be increased at least three fold. The average lactational yield of th

present day dairy animals in India is 650 lbs. There are only two ways of increasing the total production of milk, (1) by increasing the total number of animals and (2) by stepping up the average lactational yield per cow. Already the cattle population of India is too big for the country to maintain and therefore increasing it any further is neither wise, nor is it feasible to do so in a short time. Therefore, the only alternative is to step up the yield of the existing animals.

Feeding.

It is a well known fact, that, in India cattle don't get the necessary care and attention at the hands of the stock owners. The main reasons for this are poverty and ignorance. The cattle remain half starved for most part of the year except perhaps during the monsoon season, when there is plenty of green grass available. Even then, the grass alone cannot enable a cow to produce the maximum amount of milk which it can produce on a liberal supply of concentrates, well balanced in protein and fat. In summer, cattle do not get any green fodder at all not even enough dry fodder or even enough water to drink. Thus the Indian cattle remain half starved all through the year and this affects the yield of the cattle adversely from generation to generation. Thus the first step in the production of more milk, is, to increase the fodder resources.

The usual cattle feeds used in India are wheat or rice bhusa, the various grasses grown locally, the oil cakes, rice or wheat bran and gram husk. Since most of these are products or by-products of agriculture, their production is entirely dependant upon agriculture. Thus when agricultural production is increased in the interests of man, it is quite natural that the fodder resources of the cattle also would be increased. But, bringing all waste land under the plough will affect cattle adversely, since, most of them graze on these. Therefore the best way of increasing the production, will be, to resort to intensive cultivation which will help both man and cattle. This could be achieved only by practicing all the scientific advances made in agriculture on a countrywide scale. Apart from making use of the precious cattleyard manure, that is being wasted as fuel at present, artificial manure also has to be made popular. Both these require adequate propaganda among the villagers. Increased production of rice or wheat is bound to increase the supply of bhusa to our cattle as also the supply of bran which is one of the main constituents of the common concentrate mixture.

At the present time, our grazing grounds provide grass only during the monsoon period and for the rest of the time they serve only as parade grounds for the cattle. Systematic cultivation of perennial grasses like guinea, napier etc., on these lands will certainly increase the yield of grass per acre. Again much grass is being wasted in our forests. These could be cut at the proper stage of growth and preserved as silage or made into hay and distributed

among the stock owners. Silage making has to be encouraged by suitable Propaganda. Alternative sources of silage could be found in certain localities. In places where sugar cane is cultivated on a large scale much of the sugar cane tops is being wasted at present. From some of the experiments conducted at this institute it is clear that fairly good quality silage could be made out of sugar cane tops mixed with molasses or with a mixture of farm grasses like guinea, napier etc. Both sugar cane tops and molasses are by-products and hence could be made available at a cheap rate. From the bagasse and molasses also suitable cattle feed could be prepared at a cheap rate. These might relieve the fodder shortage considerably in sugar cane producing areas.

Another similar by-product is the hay obtained after the extraction of the oil in the lemon grass oil industry. Lemon grass is extensively cultivated on the west coast and the hay left, after the extraction of the oil is at present allowed to decompose into manure. This could be converted into silage and profitably fed to cattle thereby reducing the acute shortage of roughage in such localities. Again paddy husk, groundnut husk etc, which are at present wasted may be converted into suitable roughage by partial softening and digestion with alkali.

Although roughage is the natural food for cattle, it has been found, that a well balanced concentrate ration, increases the production of milk considerably. The importance of concentrates in the production of milk is a well established fact and no dairy herd is maintained in any part of the world on a concentrate free ration. But in some of the remote villages of India the ryots have not realised the significance of this. Even if it were known, India does not produce enough concentrates to feed all her cattle. The production of oil seeds which form the main source of protein in the concentrate mixture is itself quite inadequate. In spite of that, considerable amount of oil seeds and oil cakes are exported. This export trade has to be completely stopped in the larger interests of the country. Production of more oil seeds by extensive cultivation may not be possible but intensive cultivation could go a great way to solve this problem. Similarly the increased production of grain, cow pea etc. also increases the fodder resources of the country. If by intensive cultivation the country could be made self sufficient with regard to its food supplies for the man, naturally the supply of bran etc. to the cattle will also improve.

There are even other sources of concentrates which have not been tapped by the orthodox Indian farmer so far. A few examples of these are ghee residue, molasses and yeast from molasses all of which have good food value for cattle. Ghee residue is a valuable by-product of the ghee industry which is being wasted at the ghee heating centres at present. This may profitably be fed to cattle along with concentrates; particularly to heifers. The value of molasses as cattle feed is undisputed, but it is not known to

many people in the country. By a country-wide propaganda this may be made popular at least in the sugar cane growing districts. An alternative method of utilising molasses will be to grow yeast out of it. Yeast is known to be very rich in proteins and vitamins and hence it is a valuable food for both man as well as cattle.

Apart from the difficulty of procuring cattle food at present, the price of these has gone up to such an extent that it is not within the purchasing power of the small stock owner. The main reasons for this are, the real shortage of the stuff as a whole, aggravated by local shortages caused by lack of transport facilities. The railways should give priorities and concession rates for the transport of cattle food. The distribution of these at fixed prices may be arranged through co-operative stores. Unless the fodder is sold at controlled rates, no body can expect the dairy-man to make a living by selling good milk at controlled rates. If the government and the public insist on good quality of milk at a controlled price the dairy man can naturally expect to get his cattle food at controlled rates and it is high time that something is done in this line.

Management

Next to proper feeding, proper management of the herd is the most important factor contributing towards an increase in the milk yield of the herd. Just as in the case of food, the Indian cattle are left to themselves with regard to management also. The cows are seldom given proper sheds to protect themselves from the wind and weather, nor are they supplied with enough water even to drink. Another common defect in the present day management of cows is the long, dry period sometimes extending over an year. Keeping a dry cow is a tough problem particularly in towns - and hence they naturally find their way to the butcheries. By skilled management it is, quite possible to reduce the dry period to about 3 months. If, by the time the cow goes dry, it is pregnant, no dairy man will neglect to feed it properly or will not send it to the slaughter house. The root causes of the long dry period are, the dearth of stud bulls and the semi-starved condition of the cows. Free distribution of bulls in the villages or giving grants towards the maintenance of good quality bulls in every village and town, will certainly reduce the long dry period of our cows. To breed sufficient number of bulls for this purpose it may take a long time. Therefore popularising artificial insemination centres attached to every veterinary hospital and dispensary may be the right thing to do, to obtain quick results. Once the dry period is reduced the cows will be looked after better with the consequent improvement in their health and life-time production. Weaning of calves at birth and bringing them up on approved calf-starters also, will help to make more milk available for human consumption. Calves could be started on grain and hay at a very early stage. The whole milk period

could be shortened considerably by calf meals, All this means more milk for human consumption.

Disease Control

Epidemics among cattle is a very common occurrence in India. The main reason for this, is the very poor state of health of the cows. Malnutrition is a very common defect with our cattle and that reduces the vitality and hence the animals are easily affected by any disease. Contagious diseases like rinderpest, foot and mouth, and various parasitic infections affect the milk production considerably, apart from the mortality, each one of them causes. Modern methods of prevention and cure of diseases are unknown in villages. The use of sera and vaccines has to be popularised. This could be achieved only by expanding the veterinary service and making it more mobile than it is at present. Mobile veterinary dispensaries alone, can give the necessary veterinary aid to villages which are scattered all through the countryside.

Marketing.

The present day complaint of dairy-men is, that they do not get an adequate return from their trade. The lack of properly organised marketing system for the dairy produce is the main reason for this. At present the dairy trade is in the hands of middlemen who take for themselves most of the profit and the poor dairy man thinks that his business is not a profitable one, for which he can find many reasons. The price of cattle has gone up very much due to the high price of skin, hide and meat. This discourages the ryots to buy good cows. Transport difficulties stand in the way of getting cows from a distant place. Price of fodder and concentrates has gone up, thereby making the maintenance of cows very difficult and costly. All this means that the cost of production has increased very much. The price of milk has also gone up considerably, particularly in cities and villages nearby, where there is a great demand for milk. But in villages far away from towns, the demand for milk is the same as before and hence the price is also not much different from what it was previously. Hence the profit of the ryots who keep cows for sale of dairy produce is negligible. In towns most of the profit is taken away by middlemen. Therefore there is no encouragement for the production of milk. Only a guaranteed price with a reasonable margin of profit can induce the dairy-men to produce more milk. To safeguard the interests of both the producers as well as the consumers Co-operative milk unions have to be established wherever there is sufficient demand for milk. The same organisation can undertake the distribution of fodder at reasonable rates. The transport of milk from villages to towns have to be organised on more scientific lines running refrigerated vans on the trains and giving concession rates for the transport of dairy produce and empty cans may reduce the transport charges and thus ensure good quality

milk at cheap rate. Lorries may be fitted up with necessary equipment to collect milk from villages and process them then and there, and transport them in good condition to the consuming centres. Where these are not possible, village creameries may be started to deal with the milk. Reduction in the cost of production as well as an assured margin of profit are in themselves sufficient inducements to the dairy man to produce more milk. He may be further encouraged by giving a bonus for whatever milk he produces over and above the average normal yield of his cow.

Proper feeding, management and disease control will naturally increase the production of milk in every herd. Distribution of cattle food through co-operative agencies at controlled rates will reduce the cost of production of milk. Organised methods of collection, processing, transport and distribution will reduce the cost of establishment and bring more profit to the dairy men as also ensure a regular supply of good quality milk to the consumers at reasonable prices. Proper feeding, careful management and efficient disease control coupled with sufficient propaganda are enough to increase the production of milk in India by 50-60 percent in a very short period.

RINDERPEST CONTROL—IMPRESSIONS OF A FIELD WORKER

BY

D. VIRARAGHAVAN, G.M.V.C.

Veterinary Assistant Surgeon incharge Propaganda Unit, Madras.

"Rinderpest has more or less become a permanent disease and is causing great havoc in this Presidency (Madras)... Much still remains to be done to bring the disease more effectively under control."

Report of the Special Rinderpest Officer, Madras (1934).

The Enormity of the Problem:—The complete eradication of the disease from the rural areas is a colossal task, and at least for some time to come, could only be an ideal to be aimed at. Circumstances as at present existing, bring down the problem to one of effectively arresting the spread of infection. On a closer analysis this procedure resolves roughly under two aspects.

1. The Scientific aspect, dealing with Epidemiology, Etiology, Phrenology and Immunology of the disease.
2. The Practical aspect where the knowledge acquired by the above study is utilised in actual field-work.

Consideration of the first is in the able hands of eminent workers at Mukteswar, in the Provinces and States. Much valuable work has been

done and there is no doubt that it would continue to be done with utmost vigour till this thorny problem is solved, and a safe, simple and permanent solution is evolved. But even then, the field-worker has to clear many hurdles peculiar to him, because he is the person who would be able, in conjunction with the Laboratory-worker, to make the country safe for our cattle. And in this, by no means simple task, the experiences of every one who has had anything to do with the subject, should be made available to take stock of the situation and to chalk out a future programme. This, in turn would open up avenues of thought whereby it would be possible to advance towards the cherished goal viz., a country-side free from Rinderpest. It has been done in other countries *** and it should not be impossible in India.

I recently had an opportunity to be in charge of a Motorised Mobile Unit sent to combat Rinderpest in Tanjore District, and I give below my experiences.

The Veterinary Surgeon engaged in Anti-Rinderpest work has to face difficulties that may be classified under three broad heads.

I. Reporting of the disease

(a) *Delayed Detection and Report.*—The first few attacks of Rinderpest in a village are diagnosed and treated for many an ailment except Rinderpest before the truth gleams on the cattle-owners and the village quacks consisting of a few professionals and many amateurs. By this time a week or fortnight elapses and great harm has already been done. There is demand for the quack here, there, and everywhere and suddenly he becomes a man much-sought-after. In the initial scare and rush, it is very few that think of a qualified Veterinary Surgeon. In many cases it is only by accident that the Headman of the village gets appraised of something being wrong with the village cattle e.g. the number of carcasses that are taken out. It is then that a report is sent either to the Tahsildar or to the Veterinary Surgeon. Promptness in this is found only when the Headman happens to be enlightened or when there is sufficient pressure brought on him by the sufferers. There are, of course, instances where Village Munsiffs report promptly or where owners themselves have run up to the Veterinary Surgeon.

(b) *Complete absence of Segregation, etc.*—A villager who segregates the sick, knowing that they are ailing from Rinderpest, is rare. He ties them up in one corner of the cattle-shed if he has one, or a little away from other animals if he has none. This of course is not segregation. Then there is the other question of the disposal of the dead animal—the big

*** In the Summer of 1932 the Phillipine Islands were declared free from Rinderpest.—The Practice of Veterinary Medicine—D. H. UDALL.

question in a campaign against any contagious disease. As a rule carcasses are cut open in areas easily accessible to the village herd and in many cases in close proximity to tanks, channels, etc. And very little effort, if any, is taken to either properly dispose of the excreta, fodder, ropes etc., of the sick or dead cattle, or to disinfect the ground. Added to all this, the sale of in-contacts in nearby villages or shandies by a scared owner is quite common. No wonder the disease has spread, and spread widely, between the time of the first attack and the arrival of the Veterinary Surgeon.

II. Reaching the spot

(a) A large jurisdiction with the consequent demand for his presence at different places scattered in different parts of his area—and all equally pressing—this is a very great handicap. And this is intensified by—

(b) *The Transport difficulty.*—This is a major obstacle. Many villages are not reachable either by rail or bus. In many instances one has to negotiate the distance by means of rail, bus, jutka or bullock-cart, cycle and, more often than not, one's own legs, to reach an interior village. Having finished the work here, the same tedious process in various degrees and combinations has to be repeated to reach headquarters or another camp. This mode of travel involves loss of much valuable time. Such delays also cause preventable spread of the disease.

III. *At the spot:*—The apathy of the people is the foremost thing to tackle at the spot. It is only rarely that full co-operation is forthcoming from the ryots.

(a) *Apathy.*—To successfully get at correct figures of attacks and deaths, to carry out segregation, disinfection etc., and to get all the cattle inoculated—these require a good deal of tact and understanding. Different methods require to be adopted in different villages and with different people as well. The common pleas to evade inoculations are, that inoculation would (i) incapacitate the animal for work (ii) dry up the milch cow or buffalo (iii) bring about debility (iv) in no case save the animal if it was destined to die etc. Such instances would be more visible in and around places where a few deaths had occurred from among the inoculated.

It is not uncommon to find, in an affected village with, say, 500 animals, that 20 have already died, 50 to 60 are ailing and a few more have recovered from an attack. If the number of very young, old, and highly debilitated animals are added to these, then there remain only about 50 per cent that could be inoculated.

(b) *The fragility of Goat-virus.*—The Goat-virus (blood), after it leaves the source of manufacture, has to travel long distances by train, bus,

etc., before it reaches the Veterinary Surgeon. It has to pass through the various modes of conveyances described in a previous paragraph to reach the village. Hence, there are very many chances for the virus to deteriorate in potency, with the consequent unsatisfactory prophylactic value of the inoculation.

(c) *Difficulties in carrying out inoculations under sterile conditions.*—Present day conditions being what they are, it is not practicable for the field-worker to conduct inoculations under strictly laboratory conditions. The ryot could spare only certain periods of the day for this work, and a scrupulous "laboratory technique" would result in the inoculation of only very few animals—not more than 160 a day. This would require several days' work in a village and this will in turn delay the work in other equally urgent areas. The inoculations have necessarily to be done in real field conditions, in the open with dust and dirt all around.

Some Suggestions to meet the above difficulties

1. **Early detection and reporting:**—This could be achieved by educating the ryots, village Headman and others concerned about the importance and urgency of correct early diagnosis and report. At least an elementary knowledge of cattle-diseases should be inculcated to school-children and adults. A few lessons on these and on Animal Husbandry subjects should compulsorily be introduced in the syllabus of all rural schools. Another set of people that require particular care and attention in this respect are the village 'quacks' and the 'chamars'. If properly educated and handled, these would prove of immense help to the Veterinary Surgeon in satisfactorily combating epidemics of cattle-disease.

2. **Ignorance and apathy of the ryots:**—Education and propaganda on the lines indicated above. Instead of distributing leaflets, small books on Veterinary and Animal Husbandry subjects would really interest the ryots and fill in a long-felt want. These books in the local languages should freely be distributed in the place of leaflets.

3. **Large jurisdiction and transport difficulty:**—The employment of Stockmen Compounders, one or more for each firka would go a long way in preventing delay in detection, report and attendance of outbreaks. Incidentally it would also take away much of the routine work from the Veterinary Surgeon's hands and allow him to devote more attention to important items of work. To meet the transport difficulty, a Motorised Unit would be a God-send. With the travel problem solved, more villages could be visited in a shorter time and foci of infection nipped at their inception. Further the enthusiasm and interest of the ryot increases manyfold when a real Motor Dispensary reaches his village to protect his cattle. The Motor Mobile Unit deserves to be given extensive trials, more so in areas where epidemics are

widely prevalent. The Special Rinderpest Officer in his Report (1934) states "In a campaign against Rinderpest the most important thing is prompt and effective ringing of the first outbreak or the first few outbreaks in a Taluk". The employment of Stockmen-Compounders and a Mobile Unit would admirably answer the purpose.

Further, a Mobile Dispensary would solve many of the other difficulties such as paucity of field-workers, deterioration of the Virus, inoculations under non-sterile conditions, etc. One motorised Unit could successfully tackle the area now covered by 3 or even 4 Veterinary Surgeons. A Frigidaire, Steriliser and other such equipment could easily be fitted up in the Van, ensuring maximum possible Laboratory conditions.

4. **Other suggestions**—Temporary Virus-producing centres may be established in severely affected areas as the situation demands. It should be possible to control movement of cattle by the application of Rinderpest Act. And this again should be within the powers of the local Veterinary Officer. The proper disposal of carcasses can also be enforced by applying the Act.

Conclusion:—The potentialities of utilising Mobile Motor Inoculation Units for combating Rinderpest in large areas are high, and the experiences of one small such Unit in a District has been very encouraging. With a wider and wider adaptation of this mode of disease control it should be possible to bring down the incidence of Rinderpest to a great extent.

The following resume of the work done by a single Mobile Inoculation Unit in Tanjore District would be found interesting :—

1.	Number of days on tour.	...	123
2.	" miles travelled.	...	2600
3.	" Villages visited.	...	124
4.	" Villages in which inoculations done.	...	54
5.	" of Taluks covered.	...	8
6.	" of outbreaks attended.	...	31
7.	" of inoculations done.	...	11,986

Acknowledgement:—I am extremely indebted to Sri S. Ramaswami, District Veterinary Officer, Tanjore, for valuable help and advice given at the time of the tours in Tanjore District, and to Sri K. P. Doraiswami, District Veterinary Officer, Madras, for his invaluable help and guidance in the preparation of this article.



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THE INDIAN VETERINARY JOURNAL

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Editorial

The Dawn

"India, this old and dear land of ours, is finding herself again through travail and suffering. She is youthful again with the bright eyes of adventure, and with faith in herself and her mission. For long years she had been narrowly confined and had lost herself in brooding. But now she looks out on the wide world and holds out her hands in friendship to the other peoples of the world even though that world may still be full of conflict and thoughts of war."

PANDIT JAWAHARLAL NEHRU.

"The door to Purna Swaraj has at last been opened. The whole of India had waited, watched and suffered for years for this day". In these words, Mahatma Gandhi has given expression to the Dawn of the New Era in this country. The formation of a provisional National Government by Pandit Jawaharlal Nehru is an occasion of great historic interest and significance and we wish God speed to the Panditji and his brilliant team of top ranking patriots. May our country soon achieve her objective—the complete and full independence of India—is our earnest prayer.

Formidable problems are awaiting solution at the hands of the National Government. The foremost of them is the feeding of the four hundred millions of people, nearly third of whom have been on starvation level for a long number of years.

This is by no means an easy task. Food production must therefore be stepped up immediately so that the country may become self-sufficient in regard to her requirements of food. There should not be any more repetition of the sorry spectacle we had this year of our administration going about frantically to other countries for supplies of food. Agriculture must be intensified by a simultaneous development of the livestock wealth of the country, bearing in mind that the prosperity of the ryot is indissolubly linked with the prosperity of his livestock. Who could be of greater help for this purpose than the Veterinary Surgeon? As the Doctor of the Farm, he is the one person who could be relied upon to advise the ryots on all problems of Animal Husbandry. We, therefore, look forward to a re-orientation in the policy of the Government and a greater appreciation of the potentialities of the Veterinary profession for the rural rehabilitation of this dear, old India of ours.

The Old Practice Continues !

We invite the attention of the popular Ministry at Bombay and of the Interim Government at New Delhi to the following advertisement which appears in our English contemporary, the '*Veterinary Record*', in its issue dated 11th May 1946:

"Applications are invited for the post of Director of Veterinary Services, Government of Bombay. Candidates must be M.R.C.V.S. preferably with a University degree in Veterinary Science or Diploma of Tropical Veterinary Medicine, and possess good administrative ability and experience. Candidates with experience of research and tropical Veterinary conditions preferred.

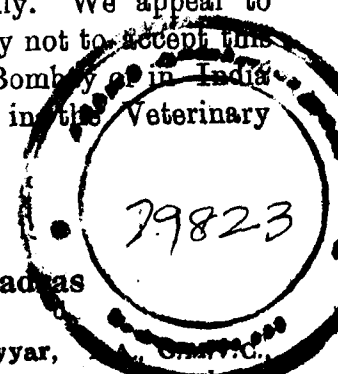
Appointment on contract for five years in first instance, with six months' probation. Pay Rs. 1,450 per month (£ 1,305 p. a.) rising by annual increments of Rs. 100 per month (£ 90 p. a.) to Rs. 1,850 per month (£ 1,665 p. a.) plus for an appointee of Non-Asiatic domicile £ 13.6 s. 8 d. per month Overseas pay. Higher pay would be considered for a very well qualified candidate".

Is Bombay so bereft of local talent after so many years of the existence of the Civil Veterinary Department there, as to

be not able to find a suitable person to fill up this responsible post? We refuse to believe it. If not, in Bombay, cannot suitable persons from other Provinces in India be either recruited or got transferred? We mean only persons of proved ability and qualification to be the head of a Department. If that be so, that itself is an argument against continuing the old practice of recruiting from abroad, men who have not been helpful in encouraging local talent. Such men have been mainly responsible for the present state of affairs. Many of them have proved costly failures. They neither have the imagination needed for an oriental country nor the *urge* to serve the poor Indian ryot fully and well. They pursue a policy of inaction and do not care to have their hands full with multiple problems. A study of the history of such directly recruited men in Veterinary Service does not inspire us with confidence. We are for officers of approved merit, honesty and sincerity of purpose within the Department or country, to fill up such responsible posts. We know where we are with men of proved ability and vast administrative experience. It is such men who will make a success of scientific Departments. Bombay needs one very badly. We appeal to the present National Government at Bombay not to accept the implied bankruptcy of local talent either in Bombay or in India in the matter of filling up vacancies even in the Veterinary Department.

Notable Retirements in Madras

Rao Bahadur Sri R. Swaminatha Ayyar, and Rao Sahib Sri T. Vinayaka Mudaliar, G.M.V.S., retired recently from the Madras Veterinary Service after a long and distinguished record of public service. Both were classmates at the Madras Veterinary College and passed out of that great institution in December 1913. They entered service in 1914 as Touring Veterinary Assistants and served for over 32 years in various capacities at different stations in the Presidency and finally rose to positions of responsibility and honour by sheer dint of their merit. We sketch below their individual



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career and our only regret is that their worth was recognised so late in their service.

Rao Bahadur R. Swaminatha Ayyar hails from the village of Komal in Mayavaram Taluk of Tanjore District. He entered the Madras Veterinary College after passing his old F.A., Examination. Soon after qualifying himself as a Veterinary Surgeon, he completed his B.A., through private study and got his degree in 1915. From the very beginning he proved himself to be a successful Veterinary Practitioner and was popular wherever he was. He worked at such important Veterinary Hospitals as those at Erode and Ootacamund. It was in the latter place that he made his name as a great Veterinary Surgeon and was held in high esteem by the Indian and European clientele. He stayed in that Queen of the hill stations for a little over 12 years and was personally known to some of the Governors of the Province. He was promoted to the Gazetted rank in 1935 and held charge of the office of the District Veterinary Officer at Nellore, Bellary, Trichinopoly, etc. But his place was certainly at the Madras Veterinary College and he was rightly selected for the post of Lecturer in Surgery in 1938 where he was much respected and liked by the staff and students alike. Through his good work he earned the Coronation Medal in 1937. In July 1945 he became the Principal of his own *Alma-Mater* in a leave vacancy, a distinction which he well merited. Though late the Government recognised his worth and conferred on him the title of Rao Bahadur in January 1946.

Rao Bahadur Ayyar retired from service in August 1946 and we need hardly say that the good wishes of the profession go to him for a long and peaceful retired life! We will be guilty of a gross omission if we fail to acknowledge the great help rendered by him to this *Journal* in more ways than one and we only hope we will be fortunate enough continue to receive the same help, in greater measure even, now that he is free from the trials and tribulations of Government Service.



RAO SAHIB T. VINAYAKA MUDALIYAR, G.M.V.C.
Livestock Development Officer, Madras,
who retired in July, 1946.



RAO BAHADUR R. SWAMINATHA AYYAR, B.A., G.M.V.C.
Acting Principal, Madras Veterinary College,
who retired in August, 1946.



KHAN BAHADUR ABDUL HAMID KHAN G.B.V.C., P.G. (Edin.)
Professor of Anatomy, Bombay Veterinary College,
who retired on 12-10-46.



SRI V. JANAKIRAMIER, G.M.V.C.
District Veterinary Officer, C.V.D. Madras,
who retired in July 1946.

Rao Sahib T. Vinayaka Mudaliyar, comes from the village of Vilapakkam in North Arcot District and belongs to that great agricultural community of Thuluva-Vellalas ordinarily known as Arcot Mudaliyars. He is an old Matriculate of the Madras University having had his education at the St. Joseph's College, Bangalore. He joined the Madras Veterinary College in 1911 and passed out of it in December 1913. From his very early days, he showed a great aptitude for Veterinary work and his career was throughout marked by a high sense of duty and responsibility. He was a great favourite with the public wherever he was and held charge of such important hospitals as those at Ootacamund, Saidapet, Cuddalore, etc. He succeeded his class-mate and friend, Mr. R. Swaminatha Ayyar at Ootacamund and though he stayed there only for one year, when he was gazetted and sent as a District Veterinary Officer, he made his mark there as a successful Veterinary Surgeon and was very popular with the clientele. In recognition of his sustained good work, he was awarded the Silver Jubilee Medal of King George V in 1935. Later on he was selected by the Government for Livestock work and was given training in Animal Husbandry and Dairying at the Imperial Dairy Institute, Bangalore. He was a District Veterinary Officer in charge of several circles in the Presidency and was subsequently posted as Superintendent of the Livestock Research Station, Hosur, where he maintained a high level of efficiency.

When Mr. R. W. Littlewood, I.A.S., retired, Mr. Mudaliyar succeeded him and held that responsible post of the Livestock Development Officer, Madras, with great distinction for nearly 3½ years during the difficult days of the war. He was the first Veterinarian to be appointed to the post. As head of the Livestock Section, he was very popular both with the public and the

He was responsible for planning and piloting several check schemes and in recognition of his good work, the Government again honoured him by conferring on him the title Sahib on the New Year's day in 1946.

Perhaps Mr. Mudaliyar is better known to the Veterinary profession in India through his activities in connection with the

All-India Veterinary Association. He was one of the Founders of the Madras Branch and his lecture at its inaugural ceremony on "Our needs" caused quite a storm in those days and was responsible for many a reform within the profession. He was a familiar figure at several of the All-India Veterinary Conferences in early days and his strong pleadings at the Second All-India Veterinary Conference at Lucknow in 1924 contributed not a little for founding this *Journal* and on behalf of the Madras Branch, he accepted the great responsibility of running this *Journal* from Madras. In company with a devoted band of workers he virtually founded this *Journal* and none can be more conscious than we are of the great services rendered by Mr. Mudaliyar both to this *Journal* and the profession. With his vast and varied experience, we feel sure, Rao Sahib Mudaliyar will continue to serve the profession and the country, even in his retired life.

We wish him a long and peaceful retired life!

Sri V. Janakiramier, G.M.V.C., is yet another prominent member of the Madras Veterinary Service who has retired after a distinguished service of nearly 32 years in the Civil Veterinary Department, Madras. He also belongs to the pioneers of the Veterinary profession in Madras.

Sri Janakiramier had his early education in the famous Board High School, Tiruvarur, Tanjore District and the St. Joseph's College at Cuddalore and then moved to Madras in 1910 to join the Madras Veterinary College. He took his Diploma in December 1912 and immediately joined the Civil Veterinary Department, Madras. He served in a number of stations with great credit and distinction and soon made a mark for himself. He was then drafted to the Madras Veterinary College where for nearly fifteen years he was a very popular figure at the out-patient clinic. When an X-ray unit was added to the Madras Veterinary College, Sri Janakiramier was placed incharge of it, after a course of training at the Barnard Institute of Radiology. This additional equipment added to his

popularity and he earned a name as a great clinician. While at the height of popularity, he was transferred to the mofussil as a District Veterinary Officer in which capacity he served in quite a good number of stations in the presidency. He acted also for sometime as Inspector of Livestock. Subsequently he was brought back to the Madras Veterinary College as a Lecturer, but only for a short time. He was transferred again as a District Veterinary Officer from which post he retired on superannuation. Fortunately, his ripe experience was not allowed to be wasted and he was re-employed after retirement as an Additional Lecturer for a year at the Madras Veterinary College before he finally retired in July 1946.

Very upright and conscientious and possessed of a very high sense of duty, and intense love for the profession, Sri Janakiramier proved himself a success wherever he was posted. He was one of those who could have risen to higher ranks in service but for denied opportunities. In a quiet and unostentatious way, he served the Madras Branch of the All-India Veterinary Association from its very inception and was for a long number of years its Treasurer. He has also been of great help to us. Now that he has retired from Government service, we hope he will continue to give of his best to the profession and to the Association which we loves so much.

We wish him a long and peaceful retired life.

Babu Hemanta Kumar Roy, G.B.V.C., P.G., (Mad).

Assistant Director of Veterinary Services, Bihar.

Babu Hemanta Kumar Roy, Assistant Director of Veterinary Services, Bihar, retired on 14-11-45 after serving the Government for a period of nearly 35 years.

Mr. Roy joined the Bengal Veterinary College in the year 1908 as a stipendiary of the District Board, Muzaffarpur, Bihar, and took his Diploma in March 1911 topping the list of stipendiaries sent from Bihar and securing distinction in soundness.

He joined the Civil Veterinary Department, Bihar on the 1st of April 1911 as Touring Veterinary Assistant Surgeon and remained as such till 1921 when he was appointed as staff Veterinary Assistant Surgeon. In the beginning of 1926, he was promoted as an Inspector. The very next year *i.e.* in 1927 he was sent to Madras Veterinary College to undergo P.G. training, where too he stood first in the list of candidates sent from Bihar. He officiated as Assistant Director of Veterinary Services for three months in 1940 and was promoted substantially to this post in March 1943, where he continued till his retirement. He also officiated as Deputy Director for a couple of months during this period. In the course of his service he investigated into the origin of Bachhams breed of cattle—a fine draught quality in Bihar—and gave a valuable report to the Government. He was selected to give visual instructions to the rural folk in connection with mass literary campaign and his successful and arduous labour was rewarded by an award of medal by the Government of Bihar.

In view of his vast experience, he was deputed to Nagpur, (C.P.) to study the War Exhibition and the plan and estimate submitted by him were responsible for the success of the exhibition staged in Bihar.

We wish him all health and long years of usefulness in his period of retirement.

Clinical Articles

AN UNDIAGNOSED DISEASE AMONG PONIES IN THE NILGIRIS DISTRICT

BY

G. R. VISWANATHAN, G.M.V.C., P.G., (EDIN. MUKT.),
*Veterinary Investigation Officer, Madras.**

Introduction.—This is a very peculiar disease occurring among ponies in the villages of some of the Taluks of the Nilgiri District namely, Ootacamund and Coonoor. From the information available, the disease has been in existence for a long time. The disease occurs among ponies which are kept under exposed and natural wild conditions and left for grazing throughout day and night in the open. Animals kept in stables under domesticated conditions do not suffer.

Local Names.—The disease is called "Allai Novu" locally by the villagers there. The word "Allai Novu" has been derived from the word "Allai"—Flank and "Novu"—Disease. Hence this name was given, since the most prominent and characteristic symptom of the disease is the heaving and flapping of the flanks. This is also called as "Allai Adi"

Places affected.—Shandy Nallah, Korakonda Estate, Kandal and Kallati of Ootacamund Taluk, Yellaikombi and Sholur Mattam in Coonoor Taluk.

Species of affected animals.—Only indigenous, local bred ponies are noticed to be affected. Foreign imported animals have not been known to suffer from this disease.

Seasonal Incidence.—The disease occurs in a sporadic manner; hence in many instances, the services of the Veterinary Assistant Surgeons are not requisitioned. The course of the disease is also stated to be a prolonged one.

The Etiology.—The etiology of the disease has not been definitely established so far. Materials from affected cases have been sent to the Principal, Madras Veterinary College by the Veterinary Assistant Surgeons in charge of the Veterinary Hospital, Ootacamund, but no definite etiological factor could be identified.

The Symptoms of the Disease.—The affected animal shows slight rise in temperature with a thick stringy mucous discharge from both the

nostrills. It coughs and often blows. Respiration is abnormal and dyspnoea is present and the animal does not lie down at all. The appetite is not at all impaired to the last. The affected animals generally die in 8 to 10 days though some have lived for over a month.

Post-mortem lesions.—No opportunity was available to conduct and record the post-mortem lesions, but it was stated that in some cases, pneumonic lesions are seen.

Mortality.—All the affected ponies die.

Diagnosis.—Glanders was eliminated by Mallein test. No definite diagnosis was made.

Treatment.—The disease had so far defied all treatment. Noarsenobillon (May and Baker) was therefore given a trial and it has given encouraging results. Of the three ponies that were treated two have recovered and the third has shown a marked improvement. The drug was given intravenously in 0.3 gram. doses at an interval of 12 days. Two injections effected a cure in the two cases. The third case also has recovered.

SULPHANILAMIDE IN BOVINE PRACTICE

BY

R. VEERAMONEY IYER, G.M.V.C.,

Veterinary Assistant Surgeon, i/c City Calf Subsidy Scheme, Madras.

Sulphanilamide is a safe, cheap and effective drug that can be used both externally and internally in bovine practice. The toxic effects so commonly attributed to this drug can easily be overcome by judicious combination with Sodii Bicarbonas and Calci Lactas. During the last four years of my practice, I have used this drug successfully in the conditions described below.

External uses.

Fresh wounds.—After arresting the bleeding, Sulphanilamide powder is applied on the surface of the wound. Care should be taken to thoroughly dry the surface before the application of the dressing, by means of Spiritus Rectificatus. Healing invariably takes place within a week.

Septic wounds.—The wound is carefully cleaned and dried as stated above. A paste made up of Sulphanilamide and Coconut oil is then applied daily. The wound heals without any complications in about 4 to 6 days.

Sinuses and post-operative wounds infected or deep.—The sinus or the wound as the case may be, is cleaned and dried by means of Rectified spirit. A few Sulphanilamide tablets are then deposited inside and attention

sutures used, if necessary. This brings about repair and healing in a remarkably short period. No other treatment excepting cleansing of the surface daily with Rectified Spirit and application of the paste externally is necessary.

Dystokia and Retention of Placenta in Cows.—After the removal of the foetus or the placenta, the genital tract is well cleaned and dried with sterile gauze. Sulphanilamide tablets (6 to 12) are then introduced into the uterus.

Internally the following is administered :—

Sulphanilamide	20 to 50 tablets	on the first day.
"	20 to 40	" second day.
"	15 to 30	" third day.

with Soda Bicarb 2 drachms and Cal. Lactas 1 oz. every 4 hours daily

This combined external and internal treatment effects an uneventful recovery. Daily douching is avoided. The external parts alone are cleansed and fomentation applied to the loins. The above method has been successfully employed by me in over 150 cases of Dystokia and Retention of Placenta.

Fevers.—In septic fevers, Sulphanilamide tablet in doses described above is administered for three days with successful results.

Mammitis.—Oral administration of Sulphanilamide as above stated, together with hot fomentation and applications of Acetic Acid and Chalk paste at intervals of 12 hours (twice daily) has been very effective. The udder should be emptied at very frequent intervals. Feeding and nursing should be done carefully.

Rinderpest.—In the initial as well as in the later stages, a judicious administration of Sulphanilamide internally brings about recovery. In severe cases intravenous injections of Calci Gluconate are useful aids. Special attention should throughout the treatment be given to proper nursing and diet. Gruel and Palmyrah Jaggery given in plenty is of immense value as a sustaining food.

Haemorrhagic Septicaemia.—In three cases of haemorrhagic Septicaemia (confirmed microscopically), Sulphanilamide in varying doses was found to be remarkably effective.

Note: When Sulphanilamide is used internally all other drugs should be avoided forty eight hours prior to and forty eight hours after the commencement of treatment. Food rich in nitrogenous material should not be given. In suspected cases of toxicity due to overdose of Sulphanilamide, the administration of Sod. Bicarb and Cal. Lactas in fairly large doses acts effectively.

CASES OF HYPOCALCAEMIA (?)

BY

M. J. JOHN, G.M.V.C.,
Veterinary Assistant Surgeon, Madanapallee.

Subject I.—A big-sized brown bullock was walked to the hospital with great difficulty for treatment late in the evening of 20-3-44. After entering the hospital compound, the animal was not able to stand, fell down and remained in a recumbent position.

History.—The animal came to the town in the morning from a distance of 6 miles drawing a double bullock bandy. In the noon it was found drowsy and did not take its food. Its pair was found normal.

Symptoms.—The temperature was sub-normal, pulse weak, respiration rather shallow and slow, staring coat, pupils were dilated. It was lying on its chest and occasionally looking at the flank, giving a picture of a cow in Milk Fever.

Treatment.—Injected intravenously one drachm of Calcium Chloride at 6 P.M. Orally an electuary of tonic powder and shark liver oil was given. The animal was kept comfortable and warm. Next morning, the animal was found normal, standing and ruminating. For two days the electuary was continued and the animal was discharged cured.

Subject II.—A small-sized cross-bred bitch which littered about 4 days previously attended the hospital for a small ulcer on one of its teats on 28-6-44. The udders were well developed and it was suckling 6 puppies. The ulcer was washed, examined and sent home. Next day the animal was unable either to walk or stand and so was 'carried' to the hospital. On examination, the pupils were found dilated and the temperature was sub normal. It was having a staring coat with anxious look.

Treatment.—20 c.c. of a 10 per cent solution of Calcium Gluconate was injected subcutaneously. A thick coating of alum was applied to her udders, the paste being made out in her own milk. The patient was sent away with instructions not to allow the puppies to suck. The next day the bitch came to the hospital walking and was found normal.

Remarks.—Cases of Hypocalcaemia or milk fever are generally common among the female sex and especially in cows. The occurrence of the disease in a bullock and in a canine is rare and hence is reported.

INCIDENCE OF BABESIA *Motasi* IN A LAMB.

BY

M. J. JOHN, G.M.V.C.,
Veterinary Assistant Surgeon, Madanapalle.

On 7-11-44, late in the evening, a lamb ten days old was brought to the hospital for treatment with the history that it was not suckling its mother since the previous day. The lamb looked weak, very dull and was not able to stand properly. While the temperature was being taken, the animal micturated and the urine was found to have the colour of a weak decoction of coffee. The temperature was only 103.2° F. Blood smears were taken and sent to the Madras Veterinary College. A stimulant mixture was given to the patient and it was sent away with instructions to keep it comfortable during the night and bring it the next day. It however died during the night.

The examination of the blood smear revealed a heavy infection with *Babesia Motasi*.

The lamb belonged to a butcher and, as it died rather suddenly, its mother also was slaughtered after a few days. This prevented me from taking smears from its mother. There were no other incontacts.

The Point worthy of note in this case is the incidence of the infection in a lamb aged only 10 days.

URO-LITHIASIS IN A BULLOCK.

BY

M. H. NAGAMIA, G.B.V.C.,
Veterinary Assistant Surgeon, Bardoli, Surat Dt.

Subject.—Bullock, seven years old.

History and Symptoms.—Struggling hard for passing urine, bowels not moved for three days, off feed. Oedematous swelling over entire length of the sheath. On exploration per rectum found only hard pellets of dung mixed with mucus, Bladder full and tense. On careful palpation of the penis small hard substance could be felt at the meatus urinarius.

Treatment.—It was possible to draw the penis out of the sheath due to the oedematous condition. The meatus urinarius was slightly enlarged and an oval-shaped golden coloured calculus which was firmly imbedded therein was removed by the aid of forceps. Immediately a few drops of urine was passed with a jerk. On subsequent probing of the urethra, urine flowed in a

stream much to the relief of the animal. The subsequent treatment consisted in keeping the part clean. With urinary antiseptics and application of stimulating liniment externally the animal made uneventful recovery. The opening made in the meats urinarius was not sutured but allowed to close by itself.

CASTRATION OF PIGS.

BY

K. HUSSAIN,

Assistant Veterinary Surgeon, Jalna, Deccan.

Introduction—During the present war, Jalna had become Military station and Depot for the Indian Pioneer Corps. Attached to it there was a Poultry Farm and Piggery with about 150 local-bred pigs. 32 piglings about 2½ months old were castrated on 2-3-45 and 25-3-45.

Operative technique.—The pigs were fixed in the dorsal position on a table with all the legs well secured by an assistant. Neither general nor local anaesthetics were employed.

The hairs of the perineum and the scrotum were clipped and site of the operation painted with tincture of Iodine.

A single incision of about 1½ inches long was made along the raphe. This was deepened laterally on both sides and the connective tissue covering the testicle severed. With manipulation and gentle traction, the testicles were delivered into the wound and all envelopes of the testicles cut through with the castrating knife. The gland was thus free for removal.

Each testicle was in turn grasped with the right hand and by applying gentle traction and twisting, was cut off just above the level of the epididymis. Only slight haemorrhage was observed. The stump of the cord was painted with Tincture of Iodine. The operation was completed under 2 minutes.

Post-operative treatment.—The scrotal wound was not sutured but left open. It was painted with Iodine daily for the first 3 or 4 days. Afterwards the animals were left alone and healing was complete in a fortnight. No complications occurred by the use of this method and all the piglings made uneventful recoveries.

I am grateful to Lt. Col. C. W. Robinson, I. P. C., Jalna, who kindly rendered me every possible help in these castrations.

MALICIOUS POISONING OF CATTLE BY CALOTROPIS GIGENTA.

BY

N. G. SAHASRABUDHE, G. B. V. C.,

Veterinary Assistant Surgeon, Jamner, E. Khandesh.

Introduction.—Owing to the tremendous increase in the prices of hides during the last few years, malicious poisoning of cattle by persons interested in the hides trade has become widespread in these parts.

The poison very commonly used is *Calotropis gigantea*, vernacular names of which are:—Ak, Akond (Hin), Akda, Ruvi (Mah.) Akanda (Ben.) Jilledu, Arkamu, (Tel.) Erukku, Badabadam, Yercum (Tam.), Erikka (Mal.), Ekkamale (Can.). *Calotropis gigantea* is a perennial bush plant growing in waste lands in warmer parts of India.

During the year 1944, I came across a number of cases of malicious poisoning of cattle with this plant and I wish to relate my experiences in this respect as the mode of administration of the poison adopted in these cases does not appear to have been put on record.

Case No. 1.—In the beginning of January 1944, animals were dying at Jamner without any appreciable illness. The victims were mostly working bullocks. These cases could not be seen by me before or after death of the animal as I happened to be away from head same quarters and came to know of them only long after. As cases showing the set of symptoms were occurring one after another, some contagious disease was suspected.

I however had an opportunity of examining a case on 6-1-44. The history of the case was that the animal returned early that morning from a long distance and was then quite normal. It was sent out for grazing; soon after, the animal was noticed to be uneasy and straining. There was a slight prolapse of the rectum. The owner of the animal immediately brought it to the dispensary.

As the prolapse of the rectum had occurred suddenly and the animal was straining, injury to the mucous membrane of the rectum or presence of a foreign body in the rectum was suspected. On examination per rectum, I felt a foreign body—something like a piece of cloth—at some distance from the anus; the mucous membrane of the rectum was hot and congested and was eroded at some places. The foreign body was gently removed. It was found to be a piece of cloth made four-fold. In the folds of this cloth some sticky white material was seen.

Treatment.—The rectum was irrigated with Pot. Permanganate solution. Internally, 4 ounces of Mag Sulph was given and the animal was kept comfortable and quiet. The treatment was repeated the next day and the animal was cured.

It was obvious that the piece of cloth with the sticky white material in it could not have found its way to the rectum unless it was placed there by somebody evidently with malicious intention. The people of the village were informed of the mischief which appeared to be the cause of the recent cases of mortality in the locality. The mischief mongers also must have learnt that their mischief had come to light as no more of such cases occurred in the village.

Case No. II.—In August 1944, I was requested to proceed to Takli a village near Jamner—to conduct post-mortem examination on a bullock which had died after a short illness.

The symptoms observed by the owner were as follows :—

The bullock had returned to its shed the previous evening after a full day's work in the fields. At night the bullock was seen to be uneasy, there was straining, abdominal pain and bloating. The animal was disinclined to move and when made to walk, the gait was stiff; there was great prostration; the animal lay down with the head turned to one side, was moaning for sometime, then became unconscious and died 12 hours after it was noticed to be ill.

Postmortem appearances.—As the case was suspected to be one of malicious poisoning and having had an idea of the method of administration of poison in the previous case, the rectum was explored. No foreign body was found in the rectum, but at some distance from the anus anteriorly, a lacerated wound with perforation of the rectum was detected. When the body was opened, about 6' from this perforation anteriorly a folded piece of cloth was found lodged in the peritoneal cavity. The tissues in contact with the piece of cloth viz the peritoneum and the outer coat of the large intestines were eroded and there was extensive peritonitis with copious exudation from the eroded and inflamed tissues.

Case No. III.—Another bullock of the same owner had taken ill the same night with similar symptoms and died some time after the first bullock. Post-mortem examination of this second bullock also revealed lesions similar to those of Case No. II.

As the cases had come through the Police authorities and as malicious poisoning was suspected, the viscera of this bullock and the pieces of cloth removed from the peritoneal sacs of both the bullocks were subsequently sent

to the Chemical Analyst to the Government of Bombay for examination and he reported that "*Calotropis giganta*" was found in both the cases.

Case No. IV.—In December 1944, I was called upon to perform post-mortem examination on a she-buffalo that had died under suspicious circumstances.

Post-mortem examination.—On opening the body, a thin bamboo stick about 2 feet in length was found lodged in the rectum and abdomen. One end of this stick was at some distance from the anus and the other end which was pointed was in the peritoneal cavity. To the end in the peritoneal cavity, a piece of cloth was found wrapped. The other post-mortem appearances were similar to those of the two other cases already described.

This last case is important as it gives the exact idea of the administration of the poison. The bamboo stick appears to have remained in the rectum after the cloth was introduced, probably because the culprit was a novice in the art or because he had to do the mischief in a hurry.

Conclusion

From the above four cases, the following conclusions can be drawn :—

1. *Calotropis Giganta* is widely used in this part of this Presidency for malicious poisoning of cattle.
2. The mode of administration of the poison is as follows :—The milky juice from the plant is spread over a piece of thick cloth. The cloth then folded and wrapped round the pointed end of a bamboo stick about two feet long. It is then introduced into the rectum and is thrust far inside, with or without perforation of the rectum. The bamboo stick is then withdrawn. If attempt to puncture the rectum is unsuccessful, the cloth remains in the rectum.
3. The symptoms exhibited by the animal vary according to the situation of the piece of cloth. Thus if the cloth is in the rectum, severe straining and prolapse of the rectum are noted. If on the other hand the cloth had been successfully introduced in the peritoneal cavity, symptoms of peritonitis are observed.
4. Treatment is of no avail if the rectum is perforated and the poisoned cloth finds its way to the peritoneum.
5. There is a chance of cure only if the cloth is in the rectum and the case is noticed early. The treatment then consists in removing the cloth with the irritant spread on it, irrigating the rectum with a mild antiseptic lotion and administering laxatives such as Mag. Sulph in moderate doses.

6. The death in these cases appeared to be due to shock resulting from the extensive peritonitis and rupture of the rectum.

I am thankful to the Director of Veterinary Services, Bombay Province, Poona and to the Assistant Director of Veterinary Services, Bombay Province, Poona, for their valuable guidance in writing the above article.

Association News

THE ALL-INDIA VETERINARY ASSOCIATION

Office :—149, Margosa Avenue, Malleswaram, P.O., (Bangalore City)

18th September, 1946.

AN APPEAL

THE MEMBERS of the Veterinary Profession in this country will be glad to know, from the proceedings of the Meeting of the Diamond Jubilee Celebrations Committee of the Bombay Veterinary College, published in the last issue of this *Journal* that two days have been allotted for holding the All-India Veterinary Association Conference during the Diamond Jubilee Celebrations of the above College, coming off in the ensuing Christmas week in Bombay. I express my grateful thanks to the Diamond Jubilee Celebrations Committee for their having kindly consented to my request to allot two days for this Conference.

It is very unfortunate that no Conference could be held for the last ten years due to various causes and we are glad indeed that Bombay has once again come forward and invited the Sessions this time also to be held there. We are living in a momentous period of the history of this country. Very many important problems affecting the welfare of the country from the point of view of the Veterinary profession have to be considered. The gathering this time in Bombay will be an important one. The various branches of the All-India Veterinary Association in the several Indian Provinces and States are hereby requested to send a number of Delegates to this Conference and intimate the names of the Delegates to the General Secretary at the above address to reach him before the 15th December, 1946. The exact dates of the Diamond Jubilee Celebrations and of the Conference will be duly announced through this *journal* and otherwise. Papers on professional subjects will be read during the Jubilee Celebrations. These papers may be sent to Dr. R. N. Naik, Hon. Secretary, the Diamond Jubilee Celebrations, Bombay Veterinary College, Parel, Bombay 12, to reach him on or before the 26th October 1946 to enable the Committee to print them in advance.

Rules and Regulations of the All-India Veterinary Association 141

The important subject of the Formation of a Veterinary Council in India is proposed to be taken up for discussion and necessary action in the Conference. The Post-war Reconstruction plans so far as they relate to Veterinary and Animal Husbandry Schemes in various parts of the country will come for discussion at the Conference. Matters relating to the welfare of the Members of the profession will also be considered at this Conference.

The members of the Profession in general and the various Veterinary Associations in particular are therefore requested to communicate their views on these important matters to reach the General Secretary on or before the 30th of November 1946.

M. S. SASTRY, G.B.V.C.

General Secretary.

RULES AND REGULATIONS OF THE ALL-INDIA VETERINARY ASSOCIATION.

[Approved and Passed at the Ninth All-India Veterinary Conference, 1936.
P. 238, I. V. J. Vol. XIII]

1. This Association shall be called the All-India Veterinary Association and shall be hereinafter referred to as "THE ASSOCIATION".
2. The Managing and Executive Body to which is entrusted the management and internal control of the Association by these rules shall be termed the 'Council'.
3. The aims and objects of the Association shall be :—
 - (a) To provide means for the advancement of Veterinary Science and Art.
 - (b) To endeavour to raise and uplift the status of the Veterinary Profession.
 - (c) To safeguard the rights and interests of the Members of the Profession, and to improve the present conditions.
 - (d) To prove and demonstrate the need and importance of the Profession in the country.
 - (e) To create *esprit-de-corps* among its Members.
 - (f) To endeavour for the establishment of Associations in all Provinces and States.
 - (g) And generally to take all possible efforts for the advancement and well-being of Veterinary Profession.
4. Any Diplomat of a recognised Veterinary College or School may become a Member, provided there is no affiliated Association in the Province or State of which he can become a Member

5. Members of the affiliated Associations are *ipso-facto* Members of this Association.
6. Members of the teaching staff of a Veterinary College who are not Diplomates can be elected as Honorary Members.
7. Gentlemen who have rendered meritorious services to the Profession can be elected as Honorary Members on the recommendation of the Managing Committee.
8. The Honorary Members are not allowed to vote.
9. No person can claim admission as a matter of right and it shall be competent to the Council to reject any application for Membership without assigning any reasons therefor.
10. Every Member admitted under Rule-4 shall pay Re. 1 as admission fee and Rs. 2 as annual subscription payable in advance.
11. Provincial Associations shall contribute towards the Central Association at the rate of Re. $\frac{1}{2}$ per Member.
12. Every Provincial Association shall pay the contribution to the Association only as and when the actual collection is made from each Member.
13. The Office of the Association shall be located at the Head-quarters of any Province in India as may be decided by resolution of the General Body at its annual Conference and such place shall be the Office for at least a term of two years, which may be increased for further periods at the option of the General Body.
14. The Association shall serve the Provinces of British India and Native States and Burma.
15. In view of the aims and objects of the Association distinguished and prominent gentlemen may be appointed as Patrons.
16. A Member who pays Rs. 100 shall become a Life Member.
17. An application for Membership shall be made in a prescribed form and signed and verified and declared by the applicant. Every application shall be disposed off by a meeting of the Council.
18. Any member who is in arrears of subscription for a period of over three years shall *ipso facto* cease to be a Member, subject however to reinstatement on the payment of the arrears in full.

19. A Member shall cease to be such on his being convicted of an offence involving moral turpitude or if removed by a vote of at least half of the Members on the roll in a General Body Meeting specially convened for the purpose or at the Annual Conference.
20. The Conference shall be held annually in the month of December which shall be the Chief General Body Meeting at such place as the previous Conference may determine by vote. The date and other details shall be decided by the Council and the date and agenda shall be intimated by the Council to all Members on the roll.
21. The council may also of its own motion or at the request of at least 25 per cent. of the Members, convene a General Body Meeting of the Association for considering any specified subject or subjects and in such cases not less than 3 days notice shall be given to each Member.
22. Wherever notice to Members is contemplated or provided for in these rules, it shall be deemed to be a proper and valid notice if tendered in person to such Member or sent by ordinary post to the address mentioned, in the Members' Register.
23. The President of the Conference or of the General Body Meeting shall be elected at the Conference or Meeting itself.
24. The quorum of the General Body Meeting or Conference shall be 10.
25. The proceedings of each Meeting or Conference shall be recorded in a Minutes Book to be maintained for that purpose by the Secretary and signed by the Chairman of the Meeting and shall be published in the earliest possible issue of the *journal*.
26. The Association shall correspond or be corresponded with or sue or be sued or otherwise dealt with in the name of the Association through the Secretary and all documents required to be executed by the Association shall be signed by the Secretary.
27. The affairs of the Association shall be managed by the President the Secretary, the Joint Secretary and Treasurer and the Managing Committee.
28. The President and in his absence any Member elected by the Members present, shall preside at the Meetings of the Association or of the Committee.
29. In all matters and at all Meetings both of the General Body and of the Managing Committee the majority of those present and voting shall prevail; and in cases of equality of votes, the Chairman shall have a second or casting vote.

30. The Secretary shall, subject to the control of the Council,
- (a) be the custodian of the properties of the Association, an inventory of which must be maintained in his Office;
 - (b) look after all business of the Association;
 - (c) convene all meetings of the General Body or of the Committee by circulating a notice thereof with an agenda of the meeting sufficiently early to enable the Members to attend the Meetings without any inconvenience;
 - (d) submit an annual report of the Association incorporating the balance sheet of the Treasurer, during the Conference.
 - (e) carry out the rules, bye-laws and resolutions of the Association and of the Committee;
 - (f) The Secretary shall maintain a register of Members showing the name, address and date of admission, which shall be always brought up-to-date (and every Member shall be entitled to a free copy of such a list once a year).
 - (g) The Secretary shall also maintain a correct and up-to-date copy of the Rules and such other accounts as shall be deemed necessary.
 - (h) Such Members' Register and the account books and other Registers shall be always kept and maintained at the Office of the Association, and shall be open to inspection by any Member at the Office of the Association during the Office Hours of the Association on any working day, at such time as the Council may prescribe on giving three days' notice in writing to the Secretary.
 - (i) and do all other acts conducive to the attainment of the objects of the Association with the consent of the Council.
31. The Treasurer shall,
- (a) help the Secretary in all his duties;
 - (b) keep a day book showing receipts and disbursements of cash from day to day and also an account of assets and liabilities.
 - (c) open an account in the Postal Savings Bank in the name of the Association and deposit all sums received to be drawn only when necessary and as provided for in the bye-laws.
 - (d) Circulate a statement of accounts in detail every quarter among the Members of the Managing Committee and present a Balance Sheet at the Meetings of the Managing Committee and of the General Body.

32. The rules may be amended, varied or rescinded only at a meeting of the General Body of Members at the Annual Meeting or at a Meeting specially convened for that purpose, provided that not less than two weeks' notice is given of the proposed variation, amendment or rescission to the Members.

33. The funds of the Association shall be in the custody of the Treasurer or such Officer or Officers as may be deputed in this behalf by the Council of which any sum less than Rs. 10 may be in the custody of such person and the balance shall be deposited in a Current Account or Savings Bank Account of such Bank as the Council may determine in that behalf in the name of Treasurer and not in his name in personal capacity.

34. The funds of the Association shall not be invested in any other manner than in Government Securities.

35. Accounts shall be maintained by the Treasurer or such Officer as shall be deputed in this behalf by the Council of all collections and disbursements, assets and liabilities and shall be closed on 31st December of each year and the abstract of such accounts shall be made available in the form of brief statements and exhibited in the office of the Association not later than the end of March of the next year, and also published in the next possible issue of the *journal*.

36. The Official year of the Association shall be the calendar year.

37. The accounts shall be audited annually by such person or persons and on such terms as the Council may determine.

38. The council shall consist of one President, one Secretary and one Treasurer, who shall be elected at the Annual Conference and a further body consisting of 2 members to be sent from the head-quarter province, one from each of the other Provincial Associations and not more than 2 others to be co-opted by the aforesaid members. The Council shall have power to fill up interim vacancies.

39. The Council shall form within itself by election, Committees of not more than 3 for the management and conduct and control of any specific branch of its activity and one such Committee shall be constituted for the running of the Official Organ and *Journal* of the Association entitled "THE ALL-INDIA VETRINARY JOURNAL".

40. The Council shall be the body in whom the entire management and administration of the Association shall vest and they may frame rules appropriately for convening Meeting among themselves or for their Committees.

41. The Council shall be jointly responsible for the administration of the Association, Finance, Accounts and executive working of the Association.

42. The Council shall also be responsible to entertain, investigate and determine any dispute or reference or matter that may be brought to its notice by any Member.

43. The accounts and Report of work and progress of the Association for every year shall be prepared and submitted by the Council to the Annual Conference as the first item in the Agenda and published in the *Indian Veterinary Journal*.

44. The Council shall also be responsible generally to do all acts, deeds and things in furtherance of the objects of the Association and the welfare and dignity of the Members of the Association and the interests of the Profession.

KHAN SAHIB N. D. DHAKMARVALA,
G.B.V.O., B.V.S., (Retd.)
President.

PUNJAB SUBORDINATE VETERINARY SERVICE ASSOCIATION.

Proceedings of the extraordinary general meeting held on 1st June 1946 in the Barkat Ali Hall, Lahore.

The extraordinary general meeting of the Punjab Subordinate Veterinary Service Association was held on 1st June 1946 at 10 A.M. in the Barkat Ali Hall, Lahore. Dr. Bishember Dass Bahl, L.V.P., was in the chair. The meeting was very well attended and the members assembled from every nook and corner of the province.

The following programme was gone through in the meeting:—

1. Minutes of the last annual general meeting were read by the General Secretary, which were unanimously approved by the house.

2. The report regarding the efforts of the special sub-committee in connection with the furtherance of resolution No. 1 passed on 26-12-'46 was also read by the General Secretary. In this report it was stated that the special sub-committee met at Lahore twice on the 1st January and the 9th January 1946, and the committee waited upon the Director, Veterinary Services, Punjab, the Secretary, Revision of Pay committee, the Secretary Finance Department, Punjab, who gave them a very patient hearing. A copy of the memorandum was left with each of them. The Hon'ble Minister of Finance was also approached, but he could not give them time as he was extremely busy. His personal Assistant was however very kind to attend to them. A copy of the memorandum was also left with him to be placed before the Hon'ble Minister of Finance. The Sub-committee was very hopeful after these interviews, but the decision of the Punjab Government is very

regrettable. The joint meeting of the managing committee, the special sub-committee and the Divisional Secretaries was again held on the 6th April 1946, in the staff-room of the Punjab Veterinary College Lahore to reconsider the case in the light of the Government's notification and a comprehensive resolution was passed to be placed before the inaugural meeting of the Punjab Subordinate Services Federation held on 20-4-1946. Earlier in that meeting a resolution was passed requesting the Punjab Subordinate Services Federation to affiliate our association.

Our two delegates Dr. Ram Lal Gulati and Dr. Gurbaksh Singh and two members Dr. D. D. Khoranna and Dr. Sadhu Singh attended that meeting of the Federation. Our resolutions could not be moved there, but were handed over to the secretary of the Federation. The Federation passed two general resolutions regarding the insufficiency of revised grades and the fixation of pay according to the length of service.

The report was concluded with the remarks that it was for the house to finally decide whether the Association should be got affiliated with the Federation in the light of the constitution of the Federation.

Resolutions

1. Resolved to approve the following resolution passed by the Managing Committee, Special Sub-committee and Divisional Secretaries of the Punjab Subordinate Veterinary Service Association in the joint meeting held on 6-4-1946:—

"The Managing Committee highly appreciated the spirit of the Punjab Subordinate Services Federation and the noble work the Federation had taken on behalf of all the oppressed subordinates in the province. In the light of the above it was resolved to get the association affiliated with the Federation and to empower the President to fill up, sign and forward the affiliation form."

In the course of discussion, the General Secretary pointed out rules No. iii and iv "under membership" of the Federation which were worth consideration. He also pointed out that our association is recognised while the Federation is registered only. The General Secretary of the Federation "who was specially invited" clarified the position of the Federation regarding the suspicions of the members and assured the house that the Federation is to strengthen all such associations.

Dr. Ram Lal Gulati, L.V.P. was unanimously elected as representative of the association in the council of the Federation.

2. Resolved that the Punjab Subordinate Veterinary Service Association very much regrets to find the revision of scales of pay of the Subordinate

Veterinary Services, by the Punjab Government in their letter No. 564-F, D-46/4088 dated the 23rd February 1946 has been wholly unsatisfactory and very much below the expectations of the members. In the case of Veterinary Assistant Surgeons the old grade of Rs. 100-10-300 which was sanctioned in 1924 has been restored instead of present grade of Rs. 80-7-225. In the case of Veterinary Assistants there has been absolutely no enhancement and the old grade of Rs. 60, Rs. 75, and Rs. 90 have been converted into a time scale of Rs. 60-5-90 which does not mean any improvement in the grade. The case of L.V.P.'s working as 3rd. grade Veterinary Assistants has been sadly neglected and totally ignored.

This has caused a tremendous amount of heart burning and discontentment amongst the already low paid and over-worked subordinate staff of the Civil Veterinary Department, which is the backbone of the agricultural industry. The feelings of the staff, if not redressed within a reasonable time are likely to grow in intensity, resulting into some undesirable measures in the form of suspending the work or later if need be to go on strike if and when approved by the Punjab Subordinate Services Federation.

Under these circumstances it is proposed that :—

(i) In view of the great injustice done to the L.V.P.'s working as 3rd grade Veterinary Assistants by not giving them the grade of Veterinary Assistant Surgeons when their contemporaries in the Agricultural Department were all given the "A" grade of Agricultural Assistants, en mass, and even now this long standing grievance has not been redressed with the revision of the scales of the subordinate establishment, thus adding an insult to the injury, it is requested that all such L.V.P.'s working as third grade Veterinary Assistants be absorbed as Veterinary Assistant Surgeons. This indiscrimination between the two groups holding exactly the same qualifications and performing the same duties is absolutely unreasonable and unjustified and is causing a tremendous amount of heart-burning and discontentment amongst the batch of young graduates.

(ii) All G.P.V.C's working as Veterinary Assistant Surgeons be given the grade of Veterinary Assistant Surgeons because they are performing the same duties. The G.P.V.C's have put in many years of service and have built the department with their blood. If some new time scale is proposed for them it will not help them much since they will all retire in the near future without getting the benefit of the maximum of that scale. It is only the initial fixation of pay in a better scale which gives them some relief and for that purpose the grant of the grade of the Veterinary Assistant Surgeon for them would be only appropriate and just.

(iii) The grade of Veterinary Assistant Surgeons be improved to the grade of 150-10-250-15-400 as the present grade of 100-10-300 was sanctioned

in 1924 when the economic conditions and cost of living was very easy as compared with the present day hard conditions when the prices of the necessities of life have been enhanced to 500%.

(iv) In any scheme of revision of scales of pay to be acceptable to the staff of the Punjab Subordinate Veterinary Services, pay in each individual case should be fixed at a stage corresponding to the stage of pay drawn by each individual in his existing scale of pay. This due consideration to the length of service is absolutely essential in the case of the subordinate establishment of this department. Since some members of the staff had been working at a ridiculous pay of Rs. 51/- p.m. for a long time and the way in which the fixation of pay has been affected in the present revision, does not help them much if the period of length of service is not taken into consideration.

After this the following sub-committee was constituted to pursue this resolution :—

1. Dr. Bishambar Dass Behal L.V.P. (President)
2. Dr. Hameed Hussain Shah L.V.P. (Joint Secretary)
3. Dr. Ram Lal Gulati L.V.P.
4. Dr. Kapil Raj Suri L.V.P.
5. Dr. Ghulam Mohyud Din G.P.V.C.

Note.—Dr. Hameed Hussain Shah was also elected as Secretary of this sub-committee.

Then the house decided to postpone the consideration of the resolutions received from Dr. Nazir Ahmad L.V.P., Dr. Niaz Mohd G.P.V.C., Dr. Karan Singh L.V.P., Dr. Abdul Rahim Khan L.V.P., Dr. S. Zahur Ahmad Shah L.V.P., Dr. Mohan Lal Malhotra L.V.P., Dr. M. Asghar L.V.P., Dr. Jagdishwar Singh L.V.P., and Dr. Raghu Nath Rai L.V.P. in view of the utmost importance of the resolutions passed.

The President in his concluding remarks thanked the General Secretary of the Federation for the trouble taken by him in attending the meeting and impressed upon the members to maintain discipline in order to achieve success. The meeting was then adjourned sine die.

Ikramullah Khan,
Honorary General Secretary, Pb. Sub. Vety. S. Assn.
C/o Civil Veterinary Hospital Pasrur, Distt., Sialkot.

AN APPEAL.

The members are requested to please clear off their dues as early as possible. The members of the staff who have not joined the association so far are earnestly requested to join now by remitting Rs. 1/- as admission fee and Rs. 2/- as annual subscription and thus strengthen their own cause. Members are also requested to remit Rs. 1/- as Membership fee of the Punjab Subordinate services Federation.

Ikramullah Khan,
Honorary General Secretary, Pb. Sub. Vety. S. Assn.,
C/o Veterinary Hospital Pasrur, Distt. Sialkot.

College News

**BOMBAY VETERINARY COLLEGE,
Diamond Jubilee Celebrations, 1946.**

The following subscriptions and donations have been gratefully acknowledged :—

	Rs.	A.
Amount previously acknowledged Vol. XXIII, No. 1 of this journal	1,016	8
Dr. Alisherkhan, V. A. S. Udaipur	10	0
" D. C. Bhambure, Vety. Asstt. Surgeon, Dharwar	20	0
Mr. P. L. Kulkarni, Stockman, Dharwar	3	0
Dr. R. C. Nathani, Dy. Suptd., Bombay City and Harb. Vety. Deptt.	50	0
Dr. P. Shrinivasrao, Editor, Ind. Vety. Journal, Madras	10	0
" K. Kailasmier, Retd., Principal, Madras Vety. College	25	0
" V. B. Kanitkar, Vety. Asstt. Surgeon, Baramani	15	0
" V. V. Ganu, do. Karjat	10	0
" N. R. Adkar, do. Parner	8	0
" S. R. Chadha, Principal, Veterinary College, Bombay	100	0
" R. N. Naik, Bacteriologist, Bombay Vety. College	75	0
" T. N. Kulkarni, Vety. Asstt. Surgeon, Bagewadi	15	0
" H. R. Iraddi, do. Sindgi	8	0
Mr. L. K. Sardesai, Stockman, Ron.	3	0
Dr. M. M. Mahantshetti, Vety. Asstt. Surgeon, Hungund	10	0
" S. P. Belunki, do. Bijapur	15	0
Mr. S. K. Attar, Stockman, Muddebihal	3	0
Dr. G. B. Jadgouda, Vety. Asstt. Surgeon, Kumta	8	0
" R. J. Badgandi, do. Mundargi	10	0
" K. L. Shiggaon, do. Halyal	8	0
" W. A. Joshi, do. Islampur	10	0
" S. S. Banhatti, do. Bailhongal	15	0

	Rs.	A.
Dr. L. V. Jahaḡirdar, Vety. Asstt. Surgeon, Mhaswad	10	0
" A. M. Mansabdar, do. Wai	10	0
Mr. V. H. Phadke, Stockman, Khanapur	5	0
Dr. N. C. Buch, Vety. Asstt. Surgeon, Rustampura	8	0
" H. K. Gad, do. Vada	8	0
" H. A. Chhaya, do. Ahmedabad	20	0
" M. D. Vaishnav, Divisional Vety. Officer, Surat	25	0
" G. C. Shaikh, Vety. Asstt. Surgeon, Matar	8	0
" M. S. Mehta, do. Broach	8	0
Mr. S. P. Vyas, Stockman, Olpad	3	0
Dr. G. K. Khasḡiwala, Vety. Asstt. Surgeon, Jamner (Poona)	15	0
" K. R. Patel, Vety. Asstt. Surgeon, Amreli (Kathiawar)	10	0
" N. R. Desai, do. Borsad	6	0
" Lt. R. C. Khare, Sargoda, Punjab	50	0
" A. V. Shete, Vety. Asstt. Surgeon, Sinnar	2	0
" M. S. Vyas, do. Jambusar	6	0
" N. R. Patel, do. Vadnagar	10	0
" P. B. Umachgi, do. Pathardi	8	0
" A. C. Patel, do. Palghar	20	0
" Barḡol, Navaḡarh, C. P.	9	8
" N. Sheshadri	10	0
" M. H. Naḡamia, Vety. Asstt. Surgeon, Bardoli	9	8
" B. N. Sangli, do. Sangola	10	0
" B. K. Salunke, do.	9	14
" C. P. Vyas, do. Bulsar	14	0
" C. A. Shah, do. Vagra	5	0
" J. M. Desai, do. Kapadvanj	9	0
" B. D. Desai, do. Ankleshwar	8	0
" P. R. Dhake, do. Savda	10	0
" D. R. Gokhale, do. Satana	8	0
" B. K. Kharate, do. Shirpur	8	0
" Modilal, do. Udaipur	15	0
" Lt. S. K. Balakrishnan, Madras	3	0
" C. Venkataswamy, Asstt. D. I. O., Poultry, Bangalore	2	0
" R. M. Kalapesi, Vety. Inspector, Bombay City & Harb	10	0
" S. P. Kaduskar, Vety. Surgeon, Naḡpur	10	0
" Daulat Singh, Mewar State	15	0
" S. P. Parmer, Vety. Surgeon, Navanaḡar State	17	8
" Lt. M. R. Lakshman Rao of Gwalior	10	0
" V. R. Rajaḡopalan, Research Officer, Bacteriology, Mukteswar	2	0
" P. G. Pande, Research Officer and Pathologist Izatnaḡar	5	0
" M. R. Dhanda, Officer I/C. Anaerobes Research, Mukteswar	5	0
" C. Sitaraman, Asstt. Research Officer, Mukteswar	3	0
" S. W. H. Rizwi, do.	10	0
Lt. (Dr.) G. V. Narsu, Research Asstt. Mukteswar	3	0
Dr. F. C. Minett, Director, Imperial Vety. Research Institute, Mukteswar	20	0
Dr. S. L. Manjrekar, Asstt. Disease Investigation Officer (Sheep & Goats), Bombay	22	0
Total	Rs. 1,942	14 0

Donations offered for founding medals

	Rs.	A.
1. Donation received actually for founding medal in the name of Mr. J. C. Batliwala, G. B. V. C., late Asstt. Principal, Vety. College, Rangoon	...	500 0

Donations offered but not actually received

1. Khan Saheb N. D. Dhakmarwala, G. B. V. C., Retired Professor, Bombay Veterinary College	...	500 0
2. Rao Bahadur V. R. Phadke, G. B. V. C., Retired Principal, Bombay Veterinary College and Director of Vety. Services, Bombay & Sind	...	500 0
3. Dr. Y. N. Marathe, G. B. V. C., Retd. Dy. Director of Veterinary Services, Bombay	...	500 0

R. N. NAIK,
Hon. Secretary.

ANNOUNCEMENT

I have to announce that due to unavoidable circumstances the Diamond Jubilee Celebrations contemplated on the proposed Grand scale cannot be held during the Christmas week this year. It is, therefore under consideration when and in what manner the celebrations should be held. Due to this development it is now possible to extend the period of receiving the professional papers. All past graduates who are contemplating sending articles for being read in the Jubilee Session are informed that their papers may be sent by the 15th November 1946. It is proposed to publish a Diamond Jubilee Commemoration Volume 1886-1946. Original articles from experts in India on every branch of animal science and departments will appear in this volume. All past graduates who wish to publish original research articles and their reminiscences of the College are hereby requested to send in their communications as early as possible.

The All-India Veterinary Conference proposed to be held along with the Diamond Jubilee Celebrations has also been adjourned.

PAREL, BOMBAY 12. }
24th September, 1946. }

R. N. NAIK,
Honorary Secretary.

Extracts

THE FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS*

M. S. RANDHAWA

Secretary, Imperial Council of Agricultural Research, New Delhi

The Conference on the Food and Agriculture Organization of the United Nations, which met at Quebec City on October 16, and concluded its proceedings on November 1, 1945, marks an important mile-stone in the march of humanity towards world co-operation and progress. An organization was created at Quebec to deal with the basic industry of humanity and its problems. The Conference was held in Chateau Frontenac, the famous hotel which has already achieved historical importance on account of the two Churchill-Roosevelt meetings which took place in it during the progress of World War II. In this famous building which was once the Chateau of the French ruler of Quebec, were made plans which ultimately resulted in the victory of the Allies. Very fittingly, this hotel has seen the birth of an organization, the main purpose of which is to consolidate peace by fostering food production, by bringing scientific technique into the service of mankind and by serving the people in the war-devastated areas and other countries whose economy has suffered a serious jolt on account of the repercussions of the War.

The Preliminary Meeting.—The preliminary meeting of the Conference was held on October 16. Mr. L. B. Pearson, the Canadian ambassador to the United States and Chairman of the Interim Commission on Food and Agriculture, presided. Representatives of 30 countries, viz. Australia, Belgium, Canada, China, Czechoslovakia, Denmark, Dominican Republic, Egypt, France, Greece, Guatemala, Haiti, Honduras, Iceland, India, Iraq, Liberia, Luxembourg, Mexico, Netherlands, New Zealand, Nicaragua, Norway, Panama, Peru, Phillipine Commonwealth, Union of South Africa, United Kingdom, U.S.A., and Venezuela, signed the constitution. Representatives of Brazil, Colombia, Cuba, Poland, Yugoslavia, Syria and Lebanon signed the constitution on a later date. The only important country, which did not sign the constitution is the Soviet Union as their Government felt that the organization forces of FAO required further study and they had to consult some of their constituent Republics, which are large producers of agricultural products and raw materials. However, the representatives of the Soviet Union took part in the proceedings of the Committees and panels of the Conference and attended as observers.

The Conference opened in the ball room of Chateau Frontenac. On the dias were arranged the flags of the United Nations. Mr. Ernest Bertrand, Post-Master General, Canada, welcomed the delegates from the different countries on behalf of the Government of Canada. The ball room was brilliantly illuminated and flashes occurred from time to time as the press photographers photographed the various events of the meeting. Sir Girja

* Indian Farming, Vol. VII, No. 1.

Shankar Bajpai, Member for India and the Chairman of the India Delegation, and the Leader of the Delegation from France, thanked the Government of Canada for their hospitality and complimented Mr. Pearson for the good work which he had done as Chairman of the Interim Commission.

Plenary Meetings.—At the seven plenary meetings the members from the various countries read statements detailing special features of the agricultural economics of their respective countries, their food situation and the type of organization they expected FAO to develop in tackling their special problems. At the eighth plenary meeting held on October 22, Sir John Boyd Orr, the eminent Scottish nutritionist, scholar and legislator, was appointed as the first Director General of FAO. Sir John renounced his nationality and became the first world citizen on accepting the post of Director General. In his address, Sir John outlined the task of FAO and stated that the signatory nations had not only accepted responsibility to provide, as far as possible, food and health standards for all the people they govern, but they had also agreed to co-operate in a great World Food Scheme which will bring freedom from want of food to all men irrespective of race or colour. He also mentioned that the time has come when tanks are turned into tractors and the factories which manufactured explosives are converted to produce fertilizers and humanity enters an era of Peace and Plenty.

The Delegates.—Most of the delegates had arrived at Quebec by air. Some of them had come from distant countries and continents like China, India, Africa and Europe. Journeys which used to take 30 to 40 days were completed in 3 or 4 days, and there was a practical realization that we are living in a different world—a world which has shrunk to one-tenth of its size, and it was no longer possible for nations to live in isolation. The proceedings of the Conference were conducted in a spirit of good will and harmony and an atmosphere of cordial co-operation prevailed throughout the deliberations of the Conference. The Conference had met at the conclusion of a bloody war, which had caused unparalleled destruction of human lives and property and had left a legacy of devastated areas, with ruined agriculture and industry, all over the surface of the globe. It was also realized that this long protracted conflict had terminated suddenly by the use of a new weapon and a new source of power, viz. atomic fission, which, unless controlled and used in the service of mankind might destroy humanity itself. The challenge which the new scientific discovery had thrown to the social and economic structure of the present-day world was too serious to be ignored. The alternative before humanity is to plan, co-operate or perish. It was also realized that unemployment, poverty and hunger are the basic causes of war, and as Mr. Wilson, member for New Zealand, put it 'Neither political alliances nor military commitments nor atomic bombs, nor regional organizations can guarantee security for life in a world that is afflicted with poverty, pestilence and famine'. Nearly all the delegates felt that another slump in the prices of agricultural commodities, similar to that which paralysed agriculture and ultimately industry in 1930, must be prevented and the producer of agricultural commodities must be guaranteed a fair and equitable price. The general trend seemed to be in favour of Economy of Plenty and full employment policy with scientific technique harnessed to the needs of mankind rather than the continuation of the Economy of Scarcity and Starvation under which farmers are paid subsidies not to produce more food, and the so-called food surpluses are destroyed.

The delegates from India placed the particular needs of their country in a forceful manner before the Conference. While we do not expect FAO to work miracles for us, the main task of liquidating the vast and ancient rural slum extending over our four lakhs of villages is entirely our own; we are in need of technical assistance in the form of expert advice and machinery from countries which are in a position to give us this help. We realize that the problem of mass poverty in India can be solved in India alone by harnessing the entire resources of the country and by making their fullest possible use through the application of modern scientific technique. But in our transitional stage, it is necessary that we should be able to make use of the accumulated experience of the more advanced countries.

A World Food Plan.—The main object of the Conference was to create a Food and Agriculture Organization of the United Nations. In this task, the Conference has succeeded. Through the compiling of scientific knowledge and technique, by assembling and analysing basic information and fostering co-operative action, FAO can play an important role in ushering in the Age of Plenty. One objective of FAO is to undertake a complete world survey of production, consumption and international trade in the major agricultural products as contrasted with world needs for improved nutrition in view of the consumption goals set up by Governments of different countries so that information about agricultural surpluses is made available and international trade in agricultural produce is regulated. FAO will also undertake comparative studies of the world food needs, methods and costs and the measures which have been adopted to achieve vital food distribution and assembling and analysing periodical reports on price support and income stabilization policies. Special arrangements will be made for diverting surpluses on special terms to low income areas which are suffering from nutritional deficiencies. A world census for 1950 is proposed with the object of collecting data on the world food and agriculture conditions and thus preparing a World Food Plan.

FAO will not be a centralized body like the League of Nations, which had a tenuous link with member countries through publicity officers only. FAO will have regional offices through whose agency it will maintain an intimate contact with the people and problems of different countries. It is likely that India too will have a regional office. It is a standing grievance of many countries that the staff of the League of Nations was overwhelmingly European in origin. It has been decided that the personnel of FAO will be truly international in character and representative of the various geographical regions. Vacancies will be widely advertised and selection will be made by the Director General on a competitive basis. It has also been decided that the seat of FAO should be located in the same place as the headquarters of the United Nations Organization. As headquarters of the United Nations Organization has not been determined, the seat of FAO will be provisionally in Washington.

A Dynamic Organization.—It will be seen that FAO will not be merely a fact-collecting agency like the International Institute of Agriculture at Rome, but a dynamic organization with a bold and constructive programme. The results of scientific research will be compiled and made available to member countries through a bibliographic service, whose function will be that of assembling, compiling and abstracting scientific and technical information. Through the agency of FAO, plant and animal material for breeding

will be made available to member countries. This will be particularly valuable to plant and animal breeders in India. Organization plays as important a role as ideas in scientific discovery, and hence the benefits which agricultural research institutes in India can derive cannot be over-estimated. The gulf between scientific discovery and its application in India is to be bridged. Extension work in India is still in a rudimentary condition. FAO would assemble, summarize and distribute to member Governments pamphlets, charts, posters, radio discs and films. All this material will be highly valuable to extension workers in India. FAO has already emphasized equitable distribution of agricultural machinery and fertilizers on a quota basis. In cooperation with the International Bank of Reconstruction and Development, FAO proposes to render help to less developed countries in the field of credit.

FAO will also maintain panels of experts and will send missions of technical experts to countries which would desire their services. This technical aid will be of value to India.

INTERNATIONAL VETERINARY AND LIVESTOCK SECRETARIAT FOR THE FAR EAST.*

It is obvious that the rehabilitation of war-ravaged countries must include the restoration of their livestock industries. Livestock are essential, not only for supply of food, but equally for clothing, transport and agriculture.

In many countries in the Far East, the livestock population has been greatly reduced as the result of the war, general rehabilitation must be seriously handicapped. The restoration of the livestock industries will, however, be greatly retarded if further losses are caused by enzootic diseases, by diseases introduced from other countries, and no loss by malnutrition or inefficient breeding practices.

With these facts in mind, a meeting of the Council of U. N. R. R. A. for the Far East, held at Lapstone, N. S. W., Australia, in February 1945, resolved:

"That draft proposals for the establishment of a Veterinary Consultative Body for the Far East be submitted immediately to Member Governments for their consideration and in the event of their agreement to the principle, steps be taken by U.N.R.R.A., to have a detailed convention drafted for adoption by Member Governments broadly comparable with that suggested by the panel of Veterinary services of the Technical Sub-Committee on Agriculture for Europe."

(C. C. F. E. Sydney 2, Appendix 5, Para 85).

Pursuant to the above resolution, the office of the U.N.R.R.A. for the South West Pacific area convened a conference of Veterinary representatives of Far Eastern Member Governments at Sydney, Australia, from December 14th to 17th, 1945.

* Aus. Vet. J. Vol. 22, 1,

Prior to the Conference, an advisory group of veterinarians met in Sydney to draw up a tentative agenda for the Conference, members of this Committee being: Dr. I. Clunies Ross, Dr. Lionel B. Bull, Mr. R. N. Wardle, Dr. D. T. Oser and Mr. Max. Henry.

The following is a list of countries represented at the Conference, together with the names of their representatives:

Chairman: Geoffrey C. Remington, Acting Director, U. N. R. R. A., South-West Pacific Area. *Executive Member:* Major William Granger, B. V. Sc., Acting Chief Agricultural Rehabilitation Officer, U. N. R. R. A., South-West Pacific Area.

Representatives of Member Governments.

Australia: R. N. Wardle, B. V. Sc., Director of Veterinary Hygiene;

China: C. C. Chen, B. S., D. V. M., Technical Expert of the Ministry of Agriculture and Forestry, China.

India: F. C. Minett, D. Sc., Director, Imperial Veterinary Research Institute, Mukteswar, India.

Netherlands East Indies: A. Luytjes, B. Ag., Sc., Department of Economic Affairs, Batavia.

New Zealand: D. A. Gill, M. R. C. V. S., D. V. S. M., Formerly Department of Agriculture, New Zealand. Consultant: E. J. Fawcett, Director-General of Agriculture, New Zealand.

Philippines: Vicente Forriols, D. V. M., Chief, Division of Animal Disease Control, and Pedro Sales, D. V. M., Chief, Division of Animal Husbandry, Bureau of Animal Industry, Philippines.

United States of America: H. E. Furgeson, D. V. M. Formerly Deputy State Veterinarian for Montana.

France, United Kingdom and U. S. S. R. were not represented.

Representatives of Military Commands: S. A. C. S. E. A.: Lt. Col. J. B. Girling, South-East Asia Command Liaison Mission.

A. F. P. A. C.: Col. R. T. Seymour, D. V. M., Veterinary Corps.

The Conference was under the chairmanship of Mr. G. C. Remington, Acting Director of U. N. R. R. A., S. W. P. A.

The Conference asked that the U. N. R. R. A. S. W. P. A. International Veterinary and Livestock Secretariat undertake functions which may be summarized as follows:—

(1) The preparation by arrangements with member countries of check lists of communicable diseases of livestock of economic importance of virus, bacterial, protozoal and metazoal origin, such lists to include indications of the prevalence and distribution of the diseases listed, and the dissemination of such information to member countries.

(2) The publication by the Secretariat for distribution to member countries of monthly statistical bulletins similar to those published before the war by the Office International des Epizootics, incorporating information on the incidence of infectious diseases obtained from member countries, and that copies of this information be sent to the other International des Epizootics in Paris; the form in which the statistics are presented to be modelled on the practice of the Office International des Epizootics in order to co-ordinate the form of publications of the Secretariat with that of publications of the Office International des Epizootics.

(3) The arrangement for notification by cable of the occurrence for the first time in a member country of scheduled diseases, or of any major extension of these diseases into areas previously unaffected.

(4) The preparation by the Secretariat of a suitable standard form to be used by member countries in transmitting the disease information agreed upon, and of suitable map forms, the latter being used to show the extent and distribution of the diseases notified.

(5) The collection from and dissemination to member nations of information as to the nature of veterinary organizations in force, the qualifications and types of training undergone by veterinary personnel and the number of Veterinary personnel as contrasted with the number of humans and animal population in each of the member countries. In addition, the measures adopted within the territories of each for the control of specific infectious diseases occurring therein.

(6) The provision of a general information service to member countries on any aspect of livestock industries to those countries including in addition to disease matters, those in relation to breeding and feeding of livestock.

(7) Ascertaining from member countries those diseases in respect of which health certification must be provided from imported livestock and arranging in collaboration with the Office International des Epizootics for the drawing up of standard health certification for this purpose; in this connection the Secretariat to draw the attention of Governments to the desirability of extending the scope of certification of livestock intended for import to include, for stud animals, such examination for genital soundness as may appear to the importing country to be desirable; and to request exporting countries to make available, in relation to livestock for export, such information on type and performance as may be sought.

(8) The preparation for dissemination to member countries of a list of biologicals prepared by, and the methods of manufacture, standards and control within each member country, and the provision for regular exchange of information on items and quantities obtainable for export.

(9) The collection and dissemination of information on:—

(a) facilities available in exporting countries for quarantine, inoculation and testing of livestock, and

(b) requirements of importing countries in respect of quarantine, inoculation and testing of livestock, and facilities available for these in the country of import.

(10) The dissemination among member countries of information on methods of inspection and certification in member countries of meat, meat products, and of animal products such as dairy products, eggs, hides and skins, hair and wool, intended for export or import; the Secretariat to bring to the notice of member countries the desirability, where this is not already done, of placing inspection and control of meat and meat products, skins, hides and wool, and raw milk under veterinary supervision.

(11) Facilitating exchanges of administrative research and other veterinary and livestock workers between member countries and to provide for post-graduate educational facilities in member countries for such workers.

(12) To ascertain whether member countries would, in cases of emergency due to serious outbreaks of epizootic diseases, favourably consider accepting the loan, the services of veterinarians from other member countries and whether, under such circumstances, member countries would be prepared to make veterinarians available on loan.

(13) The arranging of reports on any temporary veterinary or livestock missions, or permanent missions, working in member countries, whether sponsored by Governments or by private enterprise.

(14) The assessment of livestock requirements of member countries, and the available resources of potential exporting countries in respect of these needs; and the resources in personnel, equipment, and fodder needed to use and care for imported livestock in recipient countries.

(15) Establishing liaison with the office International des Epizootics with a view to obtaining recognition of the Secretariat as an organization which might develop in due course into a Far Eastern Pacific Branch of a comprehensive world organisation under the control of United Nations.

(16) Inviting the co-operation in, and the support of, the work of the Secretariat of those nations which, although not members of U.N.R.R.A.S.W.P.A., have territories bordering on the Pacific area.

The proposed organization and functions of the Secretariat will provide a valuable service in all veterinary and livestock matters to Far Eastern and Pacific countries and will serve to supplement the work of the Office International des Epizootics in Paris which, before the war, was not adequately represented in the Far East.

Major William Granger B.V. Sc., was appointed Executive Officer, and the Office of the Secretariat has been opened at U.N.R.R.A.S.W.P.A., 52, William Street, Sydney, New South Wales, Australia.

UNITED NATIONS' FOOD COUNCIL

"India Will be the Greatest Test"

SIR J. P. SRIVASTAVA'S ADDRESS

Copenhagen, September, 4-1946.

Sir Jwala Prasad Srivastava, chief of the Indian delegation, addressing the Food Conference in Copenhagen to-day, said: "The poet has written of the sad fate of the man who tried to hustle the East. But I speak for an

eastern country that is in a hurry, a desperate hurry that wishes above all things—I will not say to hustle the Food and Agricultural Organisation, for it is in no need of that—but to move forward with it at the smartest possible pace, both giving and receiving the fullest help along the way towards its declared objective, which is also the objective of India.

"The opening of this Conference coincides with a day of great significance for my country," Sir Jwala Prasad continued. "On Monday, there assumed office the first Indian Cabinet to which, I am sure, you wish well.

"This is the first international occasion in which India has taken part under the auspices of our new Government, whose foremost and continuing care must be the food of our people and the prosperity of our innumerable small farmers, a point which the head of the new Government, Pandit Jawaharlal Nehru, has emphasised in his statement on assuming office.

"Be sure, therefore that India, on the threshold of a new era, will watch the proceedings of this Conference with the closest interest and will take special note of the compliment paid to my country by electing me as Vice-Chairman of the Conference.

"We Indians are aware that we must save ourselves by our own exertions, but we know too that the improvement of the lot of our 400 millions, a matter of life and death to us on a gigantic scale, must also be a matter of grave concern to the whole world. I do not disregard the needs and difficulties of others when I declare before this Conference my conviction that India will provide the first and probably the greatest test of the F. A. O.

"A measure of our success has been that in three years since the great Bengal famine in which a million and a half perished, though conditions have been hardly less apt for famine, we have, by the narrowest of margins and with gratefully acknowledged help that the United Nations could bring us so far, avoided the extremity of disaster.

India Government's Policy

"Out of our travail in the past and the need for development in the future, there emerged two important documents. One was the report of the Bengal Famine Enquiry Commission and the other a memorandum of our Imperial Council of Agricultural Research. These two were brought together in a statement of policy published by the Government of India last January which, in its main feature, closely corresponds with the recommendations adopted both by the first Conference of this organisation and the emergency Conference of last May.

"This statement of Indian food and agriculture policy defines the objectives, indicates, outlines the programme and prescribes the priorities. It is of course, in general and familiar terms, but it contains one new and striking feature—acceptance by the Government of responsibility for providing enough food for all—the 400 million of our people—and food of the right kind. Our Government's aim will be not only to remove the threat of famine, but also increase the prosperity of the cultivators, raise the levels of consumption, provide balanced diets and create a healthy and vigorous population.

India's policy provides the framework for a plan, not the plan only but many plans, which must be co-ordinated and translated into balanced efforts. The plans must not remain paper plans. We know that our plans must immediately become measures which will produce, in the shortest possible time an increase of cereal resources amounting to six million tons a year and of other foodstuffs aggregating nearly 90 million tons. In certain respects, for instance in milk production, our own targets go far beyond these which have been suggested for us in the document circulated as would food survey, for we cannot accept that our scale of nutritional requirements is lower than that of any other nation. If you say that the targets are not practical, I reply that we intend to achieve them and that nothing is impossible for 400 million people determined and organised to achieve their goal. Our targets are the minimum required for our present population.

Emigration of Indians

"This Conference will readily appreciate that if poverty and pressure on land were to continue on the present scale in India, the only alternative to achieving our production target would be large-scale emigration. In the interests of food economy of the whole world, we look for help of the United Nations in one or the other alternative.

"The course before us is, therefore, formidable. But we are not still waiting at the post. We have set off to a flying start in emergency measures already taken during the war, among which are many which fell under each of the ten heads of priority that we have selected, namely; supply and conservation of water; conservation of soil and proper use of land; increased production of manures; distribution of improved seed; protection of crops and stored grain; control of malaria; development of fisheries; increase of milk production; establishment of demonstration and distribution centres and training of workers.

"These are not all. The scope even of the priority schemes we have embarked on is tremendous. Clearly, we could not hope to accomplish our task without help from outside. Already that help has certainly not been lacking. For our Damodar Valley scheme, which is to be our counter-part of the Tennessee Valley Authority, we have received valuable advice and assistance from eminent American engineers. Similarly, in our need for agricultural machinery and in the designing of big fertiliser factories, we have had great help from Britain and America. Our greatest needs are for machinery, manures and technical man-power—and possibly the greatest of these is the last.

"We cannot therefore, easily spare many of our experts to work exclusively for F. A. O. but we should like to feel that our technical men while working for India, are at the same time working for United Nations and that their experience is always at the disposal of the F. A. O.

"Hindu"

5-9-46.

STABILISING FOOD PRICES

Need for World Agency

SIR JOHN BOYD ORR'S WARNING.

Copenhagen, Sept. 5, 1946

Sir John Boyd Orr, the Director-General of the F. A. O., addressing the Food Conference yesterday at Copenhagen, warned the delegates that the danger of a sudden collapse of world food prices "looms in the near future" and said that measures to prevent it must be taken without delay.

Presenting his proposals for a World Food Board drawn upon the instructions of the Washington Conference on urgent food problems last May, Sir John said that their long term problems were interlocked with the problems of trade and finance.

"The world food policy must fit into the general economic policy" he said. "The food policy which would bring health and life to that half of the world's population, who suffered from hunger and malnutrition is of such overwhelming importance to mankind that economic measures must be shaped to attain these ends.

"We must remember that more than half of the world's workers are if not most of them, at present with little purchasing power."

"By making this great mass of people more prosperous, trade would be based on principles which are both morally right and economically sound and would bring benefit to all countries and harm to none."

"In normal times half of the population suffers diverse physical disabilities and premature death owing to lack of food. But we have the knowledge and natural resources to begin now to take steps to provide abundant food for all mankind and so end this human misery which is a standing disgrace to civilisation.

"The agricultural problem is one of finding a constant market at a remunerative price. Farmers fear that unless something is done to stabilise prices, agriculture will follow the same disastrous course as after the first world war, bringing ruin to farmers and contributing to another world economic crisis.

"Hunger and increasing power of production should cancel each other out. But they can cancel out only through an international agency which can deal with world food problems as a whole. The World Food Board will be such an agency designed to solve these twin problems."

"As food problems are so closely connected with international trade and finance, the Board should include representatives of the Economic and Social Council, the International Bank, the International Trade Organisation (when formed) and any other United Nations organisation concerned with production, distribution and consumption of food. The Board would stabilise prices on the international market. This should be possible because only a relatively small proportion of the food produced in the world, in most cases from five to ten per cent, comes on the international market.

World Reserve Must be Built Up

"The Board would build up a world reserve of food and so level out good and bad harvests. When prices fell below a certain level, it would take the food off the market at a pre-determined price. In times of scarcity owing to failure of harvests, food could be released from the reserves to prevent any rise beyond a certain price. The price at which the Board would take food off the world market should be generous enough to call forth all food which can be disposed of.

"Difficulties might arise in running the world reserve of food. For example, owing to a succession of exceptionally good harvests the reservoir might become too full and embarrass the Board. This might be prevented by manipulation of the prices offered, or the surplus might be disposed of at special prices, or on deferred payment to countries which are most in need of it.

"I have dealt first with this function of the Board in stabilising prices because the danger of a sudden collapse with its economic consequences looms in the near future and measures to prevent it must be taken without delay. Taking a long view, the most important function of the Board will be to promote measures which would bring about increased food production in under-developed countries where hunger and mal-nutrition are worst. The technical assistance of the F.A.O. is of little avail unless countries can get agricultural equipment, fertilisers and other industrial products needed. During the war, the nations created credits for providing weapons of destruction. It should be as easy to create credits for production of real wealth."

"Crisis in Civilisation"

"We have reached a crisis in our civilisation," he went on. "In the last few years, science has let loose great physical powers. These powers must be harnessed to save mankind or they will break loose in a riot of destruction and another war. Science has made the world so small and brought nations into such close relations with each other that it is now a question of one world or no world. World unity cannot be brought about by discussions of political and other questions which tend to separate nations. Nor can it be brought about by merely negative measures to prevent war.

"These proposals offer an opportunity to begin to co-operate on food, the fundamental need of men of all countries, and on agriculture, the basic industry of the world. If we can get agreement on a world food plan, then specialised agencies of the United Nations can be brought together and go into action for a real common objective and so begin to build a new world from the bottom upward. From this historic building, there can go a message of hope to a thousand million under-nourished people of the world that the nations are going to co-operate to lift them out of their poverty and misery."

"There are some people in the world who have begun to dread that we are drifting into a third world war. To these, this conference can send a message that the nations represented here are determined to co-operate in a vast enterprise which will review some of the causes of war and lead to world unity."

Mr. Morris E. Dodd, chief of the United States Delegation said that the United States favoured the general principles set out by Sir John Boyd Orr and would like to see an F.A.O. Commission established to work out details.

Need for Planned Economy

Mr. John Strachey, British Minister of Food, said: "The plans of the world Food Board are an attempt to protect the incomes and purchasing power of the masses and have the full support, in principle, of the British Government. The root cause of the trouble is the inherent tendency of the unplanned economic system to keep the masses down as near subsistence-level as it can. The British delegation believe that it is possible to devise an economic machinery which will bring the hunger of the world into effective contact with the skill of the farmer and the bounty of the soil."

A reason for the difficulties was under-consumption, not over-production. Therefore, it was the blind bias of the existing economic system holding down the purchasing power of the masses that must be interfered with.

The Conference adjourned and, on resumption, chairmen and vice-chairmen were elected to the Technical and Organisational Committees set up on the recommendation of the General Committee.

The Canadian delegation suggested the setting up of a committee to study the proposals which would make a report as soon as possible to the executive committee for transmission to the Economic and Social Council of the United Nations, the report emphasising the importance of ensuring that administrative personnel should have adequate knowledge and technical experience.

Indian Delegates Meet Mr. La Guardia

Copenhagen, Sept. 4.

The two Indian delegates to the Food and Agricultural Organisation's Conference here, Mr. N. G. Ranga and Mr. G. Parameswaran Pillai, had separate interviews with the Director-General of UNRRA, Mr. Fiorello La Guardia, and explained the acute shortage of foodgrains in India. Mr. Ranga referred to famine conditions prevailing in parts of India, and Mr. Pillai informed the F.A.O. delegates of the extreme gravity of the rice situation in India and the urgent need for relief.

Mr. Ranga also met the British Minister of agriculture, Mr. Tom Williams, and stressed India's need for more and immediate food imports. Mr. Ranga asked him and his colleagues to use their influence to obtain greater imports from surplus-producing countries.—Reuter.

"Hindu"

6-9-46.

WORLD FOOD BOARD SET UP

U. N. Conference's Decision

MR. LA GUARDIA'S SUGGESTIONS

Copenhagen, Sept. 6.

The United Nations' Food and Agricultural Organisation Conference, in its plenary session this morning, approved the proposal to establish a committee to deal with the world food situation and the World Food Board unanimously elected Mr. Morris E. Dodd, U. S. Under-Secretary for Agriculture, as Chairman of the Committee.

The Chinese Vice-Minister for Agriculture, Mr. T. H. Chien, and Prof. A. Mork of Norway were elected Vice-Chairmen.

Suggestions for the World Food Board that would eliminate exchange gambling in prices were made by Mr. Fiorello La Guardia, Secretary-General of UNRRA, at the Conference of the Food and Agricultural Organisation on Thursday. Mr. Fiorello La Guardia described the F. A. O. as the "hope of the world."

He made the following suggestions; (1) The Board should be empowered to purchase surpluses above the needs of producing countries co-operating to control the export of these surpluses. (2) The elimination of price fluctuations which he said, would put exchanges in Chicago, Winnipeg, Liverpool or wherever they are, out of business.

On behalf of UNRRA, he presented a resolution recommending the F. A. O. to consider special problems of liberated countries with a view to providing maximum technical assistance for them to rehabilitate their agriculture as speedily as possible.

"We must stabilise prices by fixing them with a fair return for the producer and by putting speculation of grain exchanges out of business." Mr. La Guardia declared, when dealing with that part of Sir John Boyd Orr's plan for a World Food Board which calls for price stabilisation.

Mr. La Guardia urged that Argentina, "to whom we are grateful for the wheat supplies delivered," should become a member of the F. A. O. Ukraine and the Soviet Union should also be partners.

"It would be funny would it not," he added smilingly "if the F. A. O. got the system working as outlined and the USSR stayed outside sticking to the old system under which food is produced for profit?"

Mr. La Guardia ended his one-hour speech with an appeal for action and not just agreement in principle. It was food shortage which was creating boundary difficulties, he declared, adding, "if the F. A. O. fails, the Security Council will get something to do." A crowded audience warmly applauded him at the conclusion.

Mr. La Guardia Meets Mr. Attlee

London Sept 5.

Mr. Fiorello La Guardia, Director-General of UNRRA, who arrived in London by air from Copenhagen, to-day saw the British Prime Minister, Mr. Clement Attlee, before taking off for New York this evening. They talked about UNRRA and his recent tours.

On the general food prospect, Mr. La Guardia said: "It will take some time before the world food shortage is solved but after the crop of 1947, I should say there will be enough food to prevent any considerable degree of hardship".

"Hindu"
7-9-46.

PANDIT NEHRU'S BROADCAST

Free India's Role in world Affairs

Greetings to U. S. and Soviet

WORK OF CONSTITUENT ASSEMBLY

Invitation to League

New Delhi Sept. 7.

In his first broadcast as Vice-President of the Interim Provisional Government, Pandit Jawaharlal Nehru to-night said he would not speak of high policy or Programme but would thank his listeners for the love and affection they had sent to the Government in abundant measure. India, he said, looked out on the wide world and held out her hands in friendship to the other peoples of the world, even though that world might still be full of conflict and thoughts of war.

Pandit Nehru said:

"We shall take full part in international conferences as a free nation with our own policy and not merely as a satellite of another nation. We hope to develop close and direct contacts with other nations and to co-operate with them in the furtherance of world peace and freedom. We propose as far as possible to keep away from the power politics of groups, aligned against one another.

"There has been much heated argument about sections and groupings in the Constituent Assembly. We are perfectly prepared to and have accepted the position of sitting in sections which will consider the question of formation of groups. I would like to make it clear on behalf of my colleagues and myself, that we do not look upon the Constituent Assembly as an arena for conflict or for the forcible imposition of one viewpoint over another."

Text of Broadcast.

Following is the text of the broadcast:

Friends and Comrades—Jai Hind:

Six days ago, my colleagues and I sat on the chairs of high office in the Government of India. A new Government came into being in this ancient land, the Interim or Provisional Government we called it, the stepping stone to the full independence of India. Many thousands of messages of greetings and of good wishes came to us from all parts of the world and from every nook and corner of India. And we asked for no celebration of this historic event and even restrained our people's enthusiasm. For we wanted them to realise that we were yet on the march and the goal had still to be reached. There were many difficulties and obstacles on the way and our journey's end might not be so near as people thought. Any weakness now, any complacency would be fatal to our cause.

Our hearts were heavy also with the terrible tragedy of Calcutta and because of the insensate strife of brother against brother. The freedom we had envisaged and for which we had laboured, through generations of toil and suffering, was for all the people of India and not for one group or class or the followers of one religion. We aimed at a Co-operative Commonwealth in which all would be equal sharers in opportunity and in all things that give meaning and value to life. Why then this strife, this fear and suspicion of each other?

Call for Co-operation

I speak to you to-day not much of high policy or our programme for the future—that will have to wait a while—but to thank you for the love and affection which you have sent us in such abundant measure. That affection and spirit of co-operation are always welcome but they will be needed more than ever in the difficult days ahead of us. A friend sent me the following message: "May you weather every storm, first pilot of the ship of State! Bon voyage." A cheering message but there are many storms ahead and our ship of State is old and battered and slow-moving and unsuited to this age of swift change: it will have to be scrapped and give place to another. But however old the ship and however old the pilot, there are so many millions of willing hearts and hands to help, we can brave the high seas and face the future with confidence.

That future is already taking shape and India, this old and dear land of ours, is finding herself again through travail and suffering. She is youthful again with the bright eyes of adventure, and faith in herself and her mission. For long years she had been narrowly confined and had lost herself in brooding. But now she looks out on the wide world and holds out her hands in friendship to the other peoples of the world even though that world may still be full of conflict and thoughts of war.

"Propose to Function as Free Nation"

The Interim National Government is part of a larger scheme which includes the Constituent Assembly which will meet soon to give shape to the constitution of a free and independent India. It is because of this expectation of an early realisation of full independence that we have entered this Government, and we propose to function so as progressively to achieve that independence in action both in our domestic affairs and our foreign relations. We shall take full part in international conferences as a free nation with our own policy and not merely as a satellite of another nation. We hope to develop close and direct contacts with other nations and to co-operate with them in the furtherance of world peace and freedom.

We propose, as far as possible, to keep away from the power politics of groups, aligned against one another, which have led in the past to world wars and which may again lead to disasters on an even vaster scale. We believe that peace and freedom are indivisible and the denial of freedom anywhere must endanger freedom elsewhere and lead to conflict and war. We are particularly interested in the emancipation of colonial and dependent countries and peoples, and in the recognition in theory and practice of equal opportunities for all peoples. We repudiate utterly the Nazi doctrine of racialism, wherever and in whatever form it may be practised. We seek no dominion over others and we claim no privileged position over other peoples. But we do claim equal and honourable treatment for our people wherever they may go, and we cannot accept any discrimination against them.

The world, in spite of its rivalries and hatreds and inner conflicts, moves inevitably towards closer co-operation and the building up of a World Commonwealth. It is for this one world that Free India will work, a world in which there is the free co-operation of free peoples and no class or group exploits another.

In spite of our past history of conflict we hope that an independent India will have friendly and co-operative relations with England and the countries of the British Commonwealth. But it is well to remember what is happening in one part of the Commonwealth to-day. In South Africa racialism is the State doctrine and our people are putting up a heroic struggle against the tyranny of a racial minority. If this racial doctrine is going to be tolerated, it must inevitably lead to vast conflicts and world disaster.

We send our greetings to the people of the United States of America to whom destiny has given a major role in international affairs. We trust that this tremendous responsibility will be utilised for the furtherance of peace and human freedom everywhere. To that other great nation of the modern world, the Soviet Union, which also carries a vast responsibility for shaping world events, we send greetings. They are our neighbours in Asia and inevitably we shall have to undertake many common tasks and have much to do with each other.

We are of Asia and the peoples of Asia are nearer and closer to us than others. India is so situated that she is the pivot of Western, Southern and South-East Asia. In the past her culture flowed to all these countries. They came to her in many ways. Those contacts are being renewed and the future is bound to see a closer union between India and South-East Asia on the one side, and Afghanistan, Iran and the Arab world on the West. To the furtherance of that close association of free countries we must devote ourselves. India has followed with anxious interest the struggle of the Indonesians for freedom and to them we send our good wishes.

China, that mighty country, with a mighty past, our neighbour has been our friend through the ages and that friendship will endure and grow. We earnestly hope that her present troubles will end soon and a united and democratic China will emerge, playing a great part in the furtherance of world peace and progress.

Relief to the People

I have not said anything about our domestic policy, nor at this stage do I wish to do so. But that policy will inevitably have to be governed by the principles by which we have stood all these years. We shall look to the common and forgotten man in India and seek to bring him relief and raise his standard of living. We shall continue our fight against the curse of untouchability and other forms of enforced inequality, and shall especially try to help those who are economically or otherwise backward. To day millions lack food and clothing and houses, and many are on the verge of starvation. To meet this immediate need is an urgent and difficult task and we hope other countries will help us by sending foodgrains.

An equally urgent and vital task for us is to conquer the spirit of discord that is abroad in India. Out of mutual conflict we shall never build the house of India's freedom of which we have dreamt so long. All of us in this land have to live and work together, whatever political developments might take place. Hatred and violence will not alter this basic fact; nor will they stop the changes that are taking place in India.

"Constituent Assembly not an Arena for Conflict"

There has been much heated argument about sections and groupings in the Constituent Assembly. We are perfectly prepared to, and have accepted the position of sitting in sections, which will consider the question of formation of groups. I should like to make it clear on behalf of my colleagues and myself, that we do not look upon the Constituent Assembly as an arena for conflict or for the forcible imposition of one viewpoint over another. That would not be the way to build up a contented and united India. We seek agreed and integrated solutions with the largest measure of goodwill behind them. We shall go to the Constituent Assembly with the fixed determination of finding a common basis for agreement on all controversial issues. And so, in spite of all that has happened and the hard words that have been said, we have kept the path of co-operation open, and we invite even those who differ from us to enter the Constituent Assembly as equals and partners with us with no binding commitments. It may well be that when we meet and face common tasks our present difficulties will fade away.

India is on the move and the old order passes. Too long have we been passive spectators of events, the play things of others. The initiative comes to our people now and we shall make the history of our choice. Let us all join in this mighty task and make of India the pride of our heart, great among nations, foremost in the arts of peace and progress. The door is open and destiny beckons to all. There is no question of who wins and who loses, for we have to go forward and together as comrades and either all of us win or all go down together. But there is going to be no failure. We go forward to success, to Independence and to the freedom and well-being of the four hundred millions of India—Jai Hind.—A.P.I.

"Hindu"
8-9-46.

Review

Manual of Veterinary Clinical Pathology.—By David L. Coffin, V. M. D., School of Veterinary Medicine, University of Pennsylvania, U.S.A. Comstock Publishing House Inc., Ithaca, N. Y. 1945. Price \$ 4.00. [Copies in India can be had from the Editor I. V. J.]

The long-felt want for a handy and concise source of information on the most practical and faultless up-to-date procedures in use for the diagnosis of the various ailments of animals met with in the routine work of Veterinarians has been fulfilled by this publication. To the student of Veterinary Science this interesting, useful and handy book will go a long way in facilitating the study of Laboratory Diagnosis. It will be helpful to the Veterinary Practitioners who find it advisable and necessary to use Laboratory tests as a routine for the diagnosis of diseases. This manual would have also served as a guide to the Laboratory diagnostician and the research students as well, if some more details of Laboratory techniques concerned with parasitic, bacterial and virus diseases had been given. It is a pity that there is very little information in this volume about Schistosomes, Trypanosomes, Rhinosporidium, B. gibsoni, R. Canis, H. Canis, Spirocerca and Pseudo Fowl-pest, which are met with fairly frequently by practitioners in this country though these may be rare or even absent in America. It is to be hoped that these omissions would be made good in future editions.

Diagnostic procedures of parasitic, bacterial and virus diseases, Haematology, urine analysis, etc., are dealt with exhaustively in an 'Take it easy' manner. The tables correlating the diagnosis with the history, clinical symptoms and the laboratory findings on parasitic and bacterial diseases and the chapters on Bovine Trichomoniasis and Fertility examination on which much attention of the Veterinarians as well as the public is focussed quite recently are the high light of this volume and the information should induce the Veterinarians of our country to evince more lively interest in those problems.

The print and set up of this manual of 263 pages with two colour plates and 66 illustrations are of the usual high American standard.

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