

'MALIGNANT CATARRHAL FEVER - FIELD PROGRESS'

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INTRODUCTION

Malignant catarrhal fever (MCF) continues to be the most important disease of farmed deer in New Zealand. Laboratory diagnoses ranked MCF first or first equal in four out of the last five years (1979-1983).

Investigations into the field situation have continued since initially reported, Beatson and Hutton (pers comm.), (1). This paper provides an update of the field situation which supports earlier studies suggesting that the disease is associated with some sort of 'stress', being highly seasonal in nature (71% of all MCF deaths confirmed at Animal Health Division (AHD) Laboratories 1979 to 1983 occurring during the months July to September). The study includes information from deer farms in the Mid and South Canterbury area and the computerised records of cases seen at Animal Health Divisions (AHD) Laboratories in New Zealand and summarized in AHD Laboratory Information System (LIS) Disease Surveillance Information for deer 1979 to 1983.

DETAILED STUDY

Records showing all deer submissions to AHD Laboratories during the period 1 January 1979 to 31 December 1983 when collated underline the continued importance of this disease to the deer industry.

Table I

AHD Laboratory diagnoses for period 1 January 1979 to 31 December 1983.

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Total Diagnoses	348	600	549	401	517
Not Diagnosed	757	905	1388	1185	958
Total Cases	1105	1505	1937	1586	1475
MCF Diagnosed	73	219	137	80	95
% Total Cases	6.6	14.6	7.1	5.0	6.4
Ranking with all conditions	1st equal	1st	1st	1st	2nd

In the last four out of five years MCF ranked top or top equal, similar figures have been obtained from an annual survey of deer farms in the Mid and South Canterbury area. MCF has been ranked the top cause of deer deaths for the years 1980 to 1983.

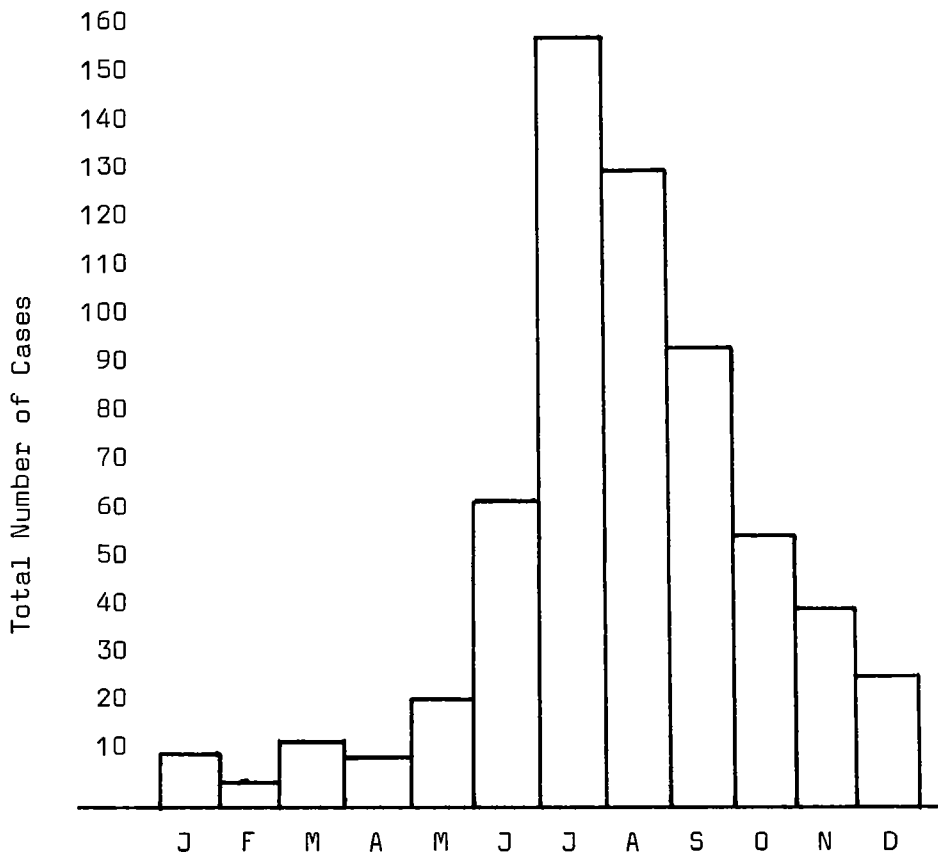
Table II

MCF cases 1980 to 1983 Mid and South Canterbury.

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
MCF Cases	102	145	143	89
Total Deaths	239	374	512	324
% MCF cases of total death	42.6	38.7	28.1	27.4
% MCF cases of total population	1.13	1.19	1.01	0.6

Seasonal Incidence - previous seasonal patterns reported in AHD Laboratory diagnosis 1975-1979 (2) and Beatson and Hutton (pers comm) were confirmed by a collation of Laboratory cases diagnosed 1979-1983. Of the 614 confirmed cases 439 (71%) occurred during the period June to September. The highest incidence was during July (157) and August (129) which accounted for 46.5% of all cases.

Table III



Malignant catarrhal fever cases diagnosed by month for 1979 to 1983 as confirmed by AHD Laboratories.

Sex and age effect - of the 586 cases where sex of the deer was recorded during period 1979-1983 307 (52.4%) were female and 279 (47.6%) were male. In the Mid and South Canterbury area during 1982 and 1983 there were similarities between the total cases seen in male and female animals, however when the percentage is taken over the whole population there are approximately twice as many males dying from MCF than females.

Table IV

Sex distribution MCF cases Mid and South Canterbury.

		<u>Male</u>	<u>Female</u>
1982	MCF cases	71	72
	Total deer	5288	8746
	%MCF cases	1.3	0.8
1983	MCF cases	45	44
	Total deer	5202	9210
	% MCF cases	0.8	0.4

For the 471 cases where the age was recorded there was an even spread over the three age groups 1-2 years 87 (18.4%), 2-3 years 105 (22%) and 3-4 years 102 (21.6%). Almost two thirds of all deaths (62%) occurring in these three age groups.

Table V

Age distribution of MCF 1979-1983 as confirmed by AHD Laboratories.

<u>Age (years)</u>	<u>No. Cases</u>	<u>% Total</u>
0-1	49	10.6
1-2	87	18.4
2-3	105	22.0
3-4	102	21.6
4-5	63	13.4
5 or more	65	14.0

New Zealand distribution - during the period 1979-1983 455 (75%) cases were diagnosed in the South Island (S.I.) with 149 (25%) in the North Island (N.I.). If deer are distributed 50/50 between N.I. and S.I. (1982 statistics North Island 58302 and South Island 50847) then there is a significant difference between the two Islands of New Zealand. This follows a similar pattern for bovine MCF.

MANAGEMENT FACTORS

Farm type - in 1981/82 a study was made looking at population and deaths according to farm type (3 categories) on 29 properties in the Mid and South Canterbury area.

TABLE VI

	<u>Intensive</u>	<u>Semi- Intensive</u>	<u>Extensive</u>	<u>Total</u>
Total Farms	17	35	15	67
MCF Farms	13	12	4	29
% MCF Farms Total	76.4	34.2	26.6	-
Total Deer	5657	4061	2507	12225
Deer on MCF Farms	5428	1910	355	7693
Total Deaths	216	121	43	380
% Total Population	3.82	2.98	1.71	3.1
MCF Deaths	111	30	4	145
%Total Population	1.96	0.74	0.16	1.1

CLINICAL HISTORY

An examination of the AHD Laboratory records for 1979-83 shows that there are two main symptoms seen by practitioners in the field. Sudden death is the most common finding being described in 44.3% of all cases, with diarrhoea/dysentery the second most frequently reported history 24.9%. Anorexia/depression/malaise was seen in only 14% of cases.

DISCUSSION

This study confirms the importance of the disease in New Zealand and in the South Island in particular.

The seasonal pattern highlights the possibility of a 'stress' factor/s being implicated. Some scientists consider that 'nutrition' is implicated and there is some practical experience to support this theory (Harbord and Fennessey pers comm). On a number of properties deaths have been reduced or even eliminated by improved winter nutrition. This situation applies particularly where there has been a multiple death situation and not so much where single deaths have occurred. As there are many factors involved it is difficult to conclusively demonstrate this change but this possibility should not be ignored when dealing with an M.C.F. outbreak.

The role of sheep as carriers of this condition is not clear. In Australia MCF in deer is seen in the sheep grazing areas and in the cattle grazing areas it is rare, MacKenzie (pers comm). Others suggested a deer/deer cycle maybe present or that some animals other than sheep may be the carrier (3).

ACKNOWLEDGEMENTS

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