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CONTRASTING PRE-INTERVENTION BULK MILK BVD ANTIBODY TITRES FROM DAIRY HERDS IN KALMAR, SWEDEN (1992) AND NORTHERN SCOTLAND (1996)

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In 1993 Sweden commenced a bvd erradication programme, but except in Shetland, there has been no concerted attempt to erradicate this disease in Scotland. This poster compares bvd antibody levels (optical density values) for bulk milk samples collected in the Kalmar region of Southern Sweden during July 1992, prior to any control intervention, with those for samples collected in Northern Scotland in July 1996. Samples were analysed using the same test, indirect ELISA, and the same operators which permitted direct comparison. The Scottish o.d. distribution varies markedly from that normally encountered prior to intervention in Sweden. The authors relate these differences to different demographic and management factors and discuss these in relation to the potential for control.

INTRODUCTION

Endemic bovine viral diarrhoea virus infection is considered to be a major potential cause of economic loss to the dairy industries in both Scotland and Sweden. The Swedish dairy industry is attempting to eradicate this disease, having started in 1993. However, there has been no concerted eradication programme in Scotland, except for the Shetland Islands. During 1996 bulk milk samples from all the herds in the North of Scotland were screened using the Swedish indirect ELISA test. One objective was to give some idea for the potential for control in Scotland. Pre-intervention bulk milk BVD antibody titres from dairy herds in Sweden were available for comparison and the distributions were interesting because they were so obviously different. This presentation discusses the potential reasons for such differences.

MATERIALS AND METHODS

Bulk milk samples were collected from all the dairy herds in the North of Scotland (excluding Shetland) during July 1996. The samples were tested for BVD antibody at the National Veterinary Institute in Uppsala using the Swedish indirect ELISA test (SVANOVA Biotech, Uppsala, Sweden). Optical density (o.d.) results were compared with the o.d. results for bulk milk samples collected in the Kalmar region of Southern Sweden during July 1992, prior to any control intervention. These had been analysed using the same test by the same operators which permited direct comparison.

RESULTS

There were 318 bulk samples tested from Kalmar with a mean o.d. of 0.898 (SD 0.535) and 276 tested from the North of Scotland with a mean o.d. of 0.534 (SD 0.226). Statistics are illustrated in Table 1. The Swedish programme classifies herds by antibody level using four 'scores': class 0 = undetectable, class 1= low, class 2 = moderate, class 3 = high. Percentages of herds in each category are illustrated in Table I.

Table I
Comparison of optical density results between Kalmar, Sweden and Northern Scotland

Region	Min	Med	Max	Class 0 (%)	Class 1 (%)	Class 2 (%)	Class 3 (%)
Kalmar	0	0.97	2.17	10	8	9	73
Scotland	0.02	0.54	1.15	1	13	41	45

DISCUSSION

The Kalmar region of Southern Sweden has a similar number of herds to the North of Scotland. The regions lie at a similar latitude, close to the coast, and therefore management of dairy cattle might be expected to be similar. However the Scottish o.d. distribution varies from those normally encountered prior to intervention in Sweden. The authors interpret these results in relation to the different demographic and management factors prevailing in each country. They relate their results to the dynamics of infections and attempt to relate them to the potential for control.

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