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### Tuberculosis

Tuberculosis (Tb) caused by Mycobacteria bovis was first diagnosed in New Zealand farmed red deer in 1978. At the recent New Zealand Deer Farmers' Association (NZDFA) Meeting in Napier and at a subsequent regional meeting in mid-Canterbury, Tb proved to be a highly emotive, important issue for deer farmers. The disease manifests itself in deer by emaciation and occasionally by abscesses under the skin. Tb lesions are of the abscess type and are most frequently found in lymph nodes particularly in the head. In generalised cases lesions are present in the lungs, liver, spleen and other organs.

Tb testing commenced in N.Z. in August 1978 using the standard method of detecting of bovine Tb in cattle. This method suffers from two types of error namely "false negatives" i.e. infected deer fail to respond to the test and "false positives" i.e. non-infected deer which do respond to the test.

Testing of deer is best carried out in small 3m x 2m darkened pens; 3-4 deer at one time. Fractious deer are best handled in a crush. Adult stags are not tested during the rut (March-May) nor during velvet growth (September-December). Hinds in the latter stages of pregnancy and during lactation are not tested. A small region of the mid-neck area is clipped of hair with curved scissors and 2mg/ml of PPD (protein purified derivative) tuberculin is injected. Seventy-two hours later the injection site is observed, palpated and any swelling or change in skin thickness is detected and is recorded as a reactor. All reactors are slaughtered under the supervision of Animal Health Division (of the Ministry of Agriculture and Fisheries, M.A.F.) staff.

At present testing of deer is solely on a voluntary basis and is carried out by veterinarians in private practice, although 2 mg/ml tuberculin is supplied free of charge by M.A.F., on condition a copy of results is supplied. If, on testing of a herd a deer, reactors are found then a Disease Control Place (DCP) notice is served on that whole property. This prevents the movement of deer and cattle from that property, except for immediate slaughter unless any animal gives a negative result to a test applied within 30 days of the proposed movement, for a period of 12 months after the removal of the last reactor. The longer period (12 months v 3 months) for deer movement control than cattle is at the request of the N.Z.D.F.A. who wish to ensure that deer from infected properties continue to be tested, even after sale. The purchaser of any deer from infected properties, despite certificates to prove negative reaction of individuals to the Tb test, is advised to re-test these deer on arrival at their properties. During the 12 month period of the DCP notice the whole herd must be tested free of reactors at least twice at a minimum

interval of 60 days. Assuming the herd is negative to the Tb tests, the DCP notice is revoked after the 12 months have elapsed, otherwise further notices are served until the herd is clear. DCP notices are also served on properties if infected deer appear for slaughter at Deer Slaughtering Premises.

Controversy has centred round the initial testing; the N.Z.D.F.A. wished testing to be compulsory and to be carried out by Animal Health Division staff. Some "hard liners" wished that only deer from herds negative to the test could be offered for sale. The present situation is a compromise between practicality and the goal of rapid eradication. At present scales of compensation for slaughtered reactors paid by the Government for red deer, wapiti and wapiti crosses are as follows (correct until September 30th 1982).

|                              |       |
|------------------------------|-------|
| Females 1 year old and more  | \$700 |
| Females less than 1 year old | \$450 |
| Males 2 years old and more   | \$400 |
| Males 1 to 2 years old       | \$224 |
| Males less than 1 year old   | \$150 |

Rates applied for other species of deer are one third the above.

At present 30,000 Tb tests have been carried out, which is about 15-20% of the national farmed deer herd, of these, 388 reactors have been slaughtered i.e. about 1% of tests are apparent positives. Reactors have been found on 87 properties or about 6% of all deer farms. Post mortem studies on 56 properties with reactors to the test have confirmed Tb in 33 or 57%.

As Tb is zoonosis, human infection is a real occupational hazard. Adequate care must be taken by all people involved with the handling of infected deer or disposal of infected carcasses.

Tb is likely to remain a hazard for deer farmers for a long time to come and only a responsible attitude to testing and sale from infected herds is likely to control the disease.

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