RESEARCH COMMUNICATION

Cryopreservation of sheathed third-stage larvae of *Oesophagostomum radiatum* (nodular worm of cattle)

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ABSTRACT

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Sheathed infective larvae of *Oesophagostomum radiatum* were successfully cryopreserved by the use of a procedure developed for hookworms. The survival rate, as assessed by motility, was 57,9% after 42 d of cryopreservation.

Keywords: Cryopreservation, *Oesophagostomun radiatum*, sheathed third-stage larvae

Recently Titoy (1995) and Titoy & Malan (1996), using a cryoprotectant mixture that was added in two steps, successfully cryopreserved sheathed infective larvae of *Gaigeria pachyscelis*, *Ancylostoma caninum* and *Ancylostoma tubaeforme*. The present experiment was conducted in order to evaluate the application of the same technique to *O. radiatum* and the infectivity of cryopreserved larvae with the use of a *percutaneous* route of infection.

After 42 d, larvae were thawed and the percentage of motile larvae was determined. This was 57,9%.

A worm-free 7-month-old male Bonsmara calf was infected percutaneously on the right rump with 3 000 motile cryopreserved third-stage larvae. A faecal-worm egg count of 600 eggs per g was recorded after 56 d.

Faecal cultures were prepared according to Whitlock (1956). The calf was treated with levamisole (Ripercol-L, Janssen) and the experiment was terminated.

The larvae were identified by use of the key described by Keith (1953) and Hansen & Shivnani (1956).

This study demonstrated that sheathed third-stage larvae of *O. radiatum* can be cryopreserved and that they are able to infest cattle percutaneously.

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