RESEARCH COMMUNICATION

An improved technique for the cryopreservation of Gaigeria pachyscelis (Sandveld hookworm)

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ABSTRACT

A technique for the cryopreservation of third-stage larvae of Gaigeria pachyscelis is described. It consists of incubating sheathed infective larvae at 37°C in 40% (v/v) ethylene glycol for 7 min, followed by 2 min at 0°C in 82.8% (v/v) cryoprotectant mixture, prior to transferring the larvae to liquid nitrogen. The survival rate obtained with this technique is consistently high: 69.1% as assessed by motility.

Keywords: Cryopreservation, sheathed third-stage larvae, Gaigeria pachyscelis, Sandveld hookworm

Recently Titoy & Schwan (1995), using a high concentration of ethylene glycol, successfully cryopreserved sheathed third-stage larvae of Gaigeria pachyscelis (Sandveld hookworm). The present study was conducted in order to improve the larval survival rate of stored G. pachyscelis larvae by preincubating sheathed third-stage larvae in 40% (v/v) ethylene glycol dissolved in 0.9% saline for 7 min at 37°C. Volumes of 0.24 ml were transferred to cryotubes containing 0.6 ml cryoprotectant mixture (30% ethylene glycol plus 70% DMSO) to give a final concentration of 82.8% (v/v) cryoprotectant (32.8% ethylene glycol, 50% DMSO, 17.1% saline). After incubation for 2 min at 0°C, each sample was plunged into liquid nitrogen in which it was also stored.

After 30 d, larvae were thawed, washed twice in tap water at 40°C and examined for motility. Judged by this criterion, the survival rate was 69.1%.

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REFERENCES