PARASITOLOGICAL SURVEY AND THE ANTHELMINTIC EFFECT OF IVERMECTIN ON THE GASTROINTESTINAL NEMATODES IN CATTLE IN HOKKAIDO, JAPAN

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The modified Wisconsin sugar centrifugal-floatation technique (Ito, 1980) for faecal examination of gastrointestinal (GI) nematode eggs was evaluated and found to be excellent. The technique was modified by leaving the coverslip on the meniscus at the top of the test tube for more than 30 minutes and repeating the procedure. A higher number of infective larvae was recovered from the GI nematode eggs in the cattle faecal sample when agar plate rather than tile was used. Evaluation of 4 types of agar for the cultivation of infective larvae showed that Bacto-agar (DIFCO) and Agar Noble (DIFCO) gave a higher larval yield than Agar (Wako Junyaku Co.) or Gellan Gum (Sanei Kagaku Co.).

A parasitological survey by means of faecal and post-mortem examinations was conducted on cattle in Hokkaido. In post-mortem examination of the abomasum and the upper small intestine, GI nematodes were found in 56% of the 150 cattle examined. They were *Ostertagia ostertagi* (47%), *Mecistocirrus digitatus* (29%), *Haemonchus placei* (1%), *Namatodirus helvetianus* (1%), *Bunostomum phlebotomum* (1%), *Trichostrongylus axei* (3%), *Cooperia oncophora* (3%) and *C. punctata* (1%). In another investigation, eggs of GI nematodes were found in 74% of the 231 cattle faecal samples examined. The incidences of the various species were *Ostertagia* (62.7%), *Oesophagostomum* (23.2%), *Trichuris* (17.3%), *Mecistocirrus* (13.4%), *Nematodirus* (11.7%), *Bunostomum* (7.0%), *Strongyloides* (5.6%), *Capillaria* (3.9%), *Trichostrongylus* (3.5%) and *Cooperia* (1.2%). Eggs of *Moniezia* were detected in 1.7%, *Eimeria* oocysts in 59.7% and eggs of mites in 41.1% of faecal samples examined. However, no eggs of *Haemonchus* or larvae of *Dictyocaulus* were detected.

Efficacy of ivermectin against GI nematodes was evaluated in naturally infected cattle confirmed by faecal egg count. Forty-nine cattle were injected subcutaneously with a dose of 0.2mg/kg and 26 cattle served as control. Ivermectin was effective against *Ostertagia, Oesphagostomum, Mecistocirrus* and *Trichuris*. However, the efficacy of ivermectin against *Nematodirus* was not observed.