CROSS-CANADA DISEASE REPORT

RAPPORT DES MALADIES DIAGNOSTIQUÉES AU CANADA

Atlantic Canada

Cold water winter lesions in Atlantic Salmon

Severe ulcerative, necrotizing bacterial dermatitis, panniculitis and myositis occurred in at least six Atlantic salmon cage sites in New Brunswick in 1990. Mortality was due to invasion by opportunistic bacteria, or osmotic failure due to excessive ulceration. Mortality up to 10% on individual cages occurred, compared to the normal rate of 0.53% in other cages and other environments during the same three-month period. Histological examination of lesions collected in early March, when water temperatures were 1°C and food consumption was 0.2% of body weight per day, showed no evidence of a healing response. Filamentous gram-negative rods were found in impression smears of all lesions, but referral laboratories were unable to culture the bacteria.

Requirement of ascorbic acid in the diet of salmonids is stated to be 100 mg/kg diet (1). This may well be adequate when fish are eating 1.3% of body weight in 10°C, but may not be adequate in water at 1°C when fish are swimming against the six-meter tides of the Bay of Fundy. In March, in an attempt to stimulate healing, the vitamin C content of the diet was increased from 600 mg/kg of feed to 3,000 mg/kg. Histological samples were collected periodically until April 30, 1990. Healing was not observed until April 30, but this also corresponded with water temperatures that rose above 4°C on April 30. Several nutrients other than vitamin C are involved in wound healing. Zinc plays an important role in wound healing of terrestrial animals, but preliminary work on previous outbreaks of cold water winter lesions did not reveal any zinc deficiency. Concentrations of other micronutrients involved in wound repair in various tissues of Atlantic salmon need to be examined.

Investigators in Norway are also working on possible reasons for delayed wound healing in Atlantic salmon, and are specifically investigating a possible carbohydrate overload that impairs healing at low water temperatures (I. Thomesen. Personal Communication, June 1990). Additional work is needed to discover factors that can economically prevent or treat these cold water winter lesions.

Reference

1. Anonymous. Nutrient Requirement of Cold Water Fishes. Washington: National Academy Press, 1983: 41.

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Quebec

Isolation of *Staphylococcus felis* from cases of external otitis in cats

A coagulase-negative *Staphylococcus* sp. was isolated in large numbers and in almost pure culture from two different cases of external otitis in cats. Both isolates were unpigmented and had very weak hemolytic activity on bovine blood agar media. They were urease, sucrose, mannose and trehalose positive, and maltose, mannitol and ribose negative. They did not grow on Mueller-Hinton agar containing 2 U of bacitracin/mL. These isolates were identified as *Staphylococcus felis*, a recently recognized species (1).

In cats, *S. felis* has been associated with a variety of infections such as external otitis, cystitis, abscesses, wounds, and other skin infections (1). This microorganism has not been found in other animal species. It can be differentiated from other novobiocin-susceptible *Staphylococcus* sp. by a relatively low number of biochemical tests, which include oxidase, alkaline phosphatase, urease, coagulase, sucrose, maltose, mannitol, mannose, trehalose, ribose, and susceptibility to 2 U of bacitracin/mL (1). The biochemical characteristics of *S. felis* are very similar to those of *S. simulans*, and bacitracin susceptibility is a useful property for distinguishing *S. felis* from this species. Also, production of acid from mannose seems