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USE OF TERRAMYCIN IN THE CONTROL OF SULFA-RESISTANT FURUNCULOSIS

By

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During the summer of 1952, brown trout at Grayling and brown and brook trout at Wolf Lake hatcheries developed furunculosis that was resistant to sulfamerazine and sulfaguanadine. Since tests made by Dr. Snieszko at Leetown using terramycin in treatment of furunculosis had been promising, this antibiotic was procured for tests on the sulfa-resistant furunculosis in brown trout here. The first two pounds of terramycin were provided free of charge by Chas. Pfizer & Co., Inc., Brooklyn, New York, makers of the drug. This material was used in preliminary tests at Grayling hatchery. A new product, Terracon 180, which contains 180 grams of terramycin per pound, was used for subsequent tests.

The first test at Grayling, using 22 milligrams of terramycin per pound of fish, was made on two ponds of fish, with one of the ponds serving as a control. Daily loss among the treated fish dropped from 8 percent to 3 percent within one week, whereas daily loss among the fish in the control pond dropped from 8 percent to 7 percent. On the basis of this test, enough of the antibiotic was ordered to continue treatment at Grayling and for a 21-day treatment of the affected fish at Wolf Lake.

The Chas. Pfizer Company advised that a new product, Terracon 180, was available and that it was recommended for poultry and stock. This

product is less refined and contains only 180 grams of terramycin per pound, or two and one-half times less than one pound of pure terramycin. Accordingly, the dose for treatments with Terracon 180 was adjusted from 22 grams to 55 grams per 100 pounds of fish.

Losses during the 21-day treatment with 55 milligrams Terracon 180 per pound of fish at Wolf Lake hatchery were as follows:

BROOK TROUT FINGERLING

400 lbs. fish (18,050 fish)

No. 2 hatchery cement tanks

BROWN TROUT SUB-LEGALS

1,500 lbs. fish (15,137 fish)

No. 1 raceway, Almena

	Losses				Losses
August	No.1	No.2	No.5	No.6	
1	33	42	102	51	288
2	30	24	312	45	276
3	63	15	293	30	225
4	81	12	220	48	260
5	101	18	322	42	230
6	66	6	300	57	250
7	84	9	258	45	210
8	93	0	289	36	190
9	72	0	286	27	195
10	99	3	283	39	231
11	75	0	241	21	210
12	26	3	265	39	195
13	66	3	141	42	175
14	102	0	81	48	200
15	81	0	87	24	200
16	123	0	66	39	165
17	105	0	90	57	182
18	99	0	78	99	190
19	69	0	54	45	175
20	72	3	60	48	180
21	60	1	40	32	160
Totals:	1,600	139	3,868	914	4,387

Total Loss: 6,521

Losses over the three-week period, in the experiments at the Wolf Lake Hatchery, did not reflect the sharp reduction which is obtained with sulfamerazine when used for normal cases of furunculosis. Terracon 180 may have suppressed the bacteria and prevented increased losses, but it did not significantly reduce losses. No control groups were set up at Wolf Lake because the loss was high and it was desirable to save as many fish as possible. Results of the treatment, therefore, cannot be properly assessed.

Terracon 180 is priced at $45.00 per pound and the treatment at Wolf Lake cost $146.25. Had the treatment been effective, it would have saved almost 8,000 fish and thus have been justified. Increased dosage might prove to be efficacious but the cost would be prohibitive. These tests indicate that Terracon 180 is not effective in the dosage used for control of furunculosis and would not be economically feasible in larger doses.

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