

Achievement

College of Agriculture and Life Sciences

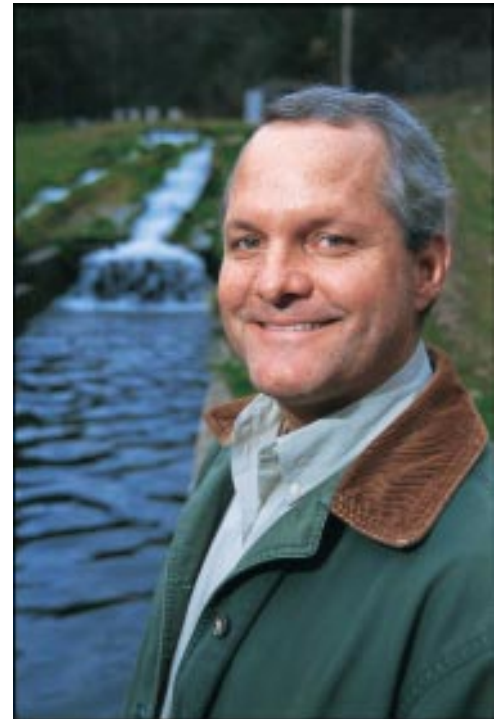
Reeling in a devastating trout disease

A bacterial disease that troubled North Carolina's \$14 million-a-year rainbow trout industry for nearly three decades has been reeled in, thanks in large part to the College of Agriculture and Life Sciences. In 1996, enteric redmouth was considered the North Carolina trout industry's No. 1 disease, causing losses of 14 to 20 percent. The traditional recommendation for protecting trout from ERM was to immerse fingerlings in a solution of a killed bacteria. However, scientists found that injecting salmon with vaccine provided better protection, so Dr. Jeff Hinshaw, a zoologist stationed at the Mountain Horticultural Research and Extension Center in Fletcher, began experimenting with injection vaccination of North Carolina trout. The results were remarkable: Immersion provided only six months of protection for 80 percent of the fish. And the 20 percent that were not affected are the ones most vulnerable to the disease. Injection, on the other hand, protected for the life of the fish, and it protected nearly 100 percent of the fish.

Just as remarkable as the research results were the demonstration efforts that led the industry to adopt injection vaccination. As Hinshaw put it, "Convincing the industry to give shots to 5 million small fish each year was no easy task." The injection process is laborious, and it costs more than the immersion vaccine — but far less than the after-the-fact antibiotics that growers had relied upon to treat the fish that immersion didn't protect.

Skip Thompson, an area specialized agent based in North Carolina Cooperative Extension's Haywood County Center, started demonstration efforts with those growers he considered influential. At Tellico Trout Farms and other operations that participated in the demonstration project, growers had the chance to see injected fish side-by-side with uninjected fish. And information was posted to a university trout Web site — <http://www.ces.ncsu.edu/copubs/ag/aqua/trout/> — that gets more than 300,000 hits a year.

From there, word-of-mouth took over, and by 2002, about 50 percent of the trout raised in North Carolina were injection vaccinated. Losses to ERM dropped to less than 1 percent, and growers cut their use of antibiotics by 84 percent. Tom Ort, Tellico's manager, said the demonstration program's impact "has been huge." "Enteric redmouth disease has gone from being viewed as something that would wipe out the industry in North Carolina to being viewed as something that's manageable," he said. "One-third of my customers, I don't think they'd be in business without the support network that Skip, Jeff Hinshaw and others provide."



North Carolina Cooperative Extension Agent Skip Thompson

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