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FISH AND WILDLIFE SERVICE

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FORMALIN PROVED A SAFE, EFFECTIVE CURE FOR COMMON FISH DISEASES

The U.S. Fish and Wildlife Service has cleared the way for the lawful use of formalin in fish culture after nine years of intensive research that proves the compound can be used without harm to fish, consumers, or the environment.

"Fish culturists agree that it's almost impossible to raise important food and sport species such as catfish and trout without formalin to control external parasites and fungal infections," said Robert A. Jantzen, the Interior agency's director. "Thus, our efforts to get this chemical registered have represented one of the Service's primary fishery research responsibilities for nearly a decade."

"This is a major accomplishment for the Service. Now that we have satisfied the stringent requirements of the Food and Drug Administration, formalin can be used for fish disease control by Federal and State hatcheries, as well as by the growing U.S. fish farming industry."

Formalin has been known to fishery experts since 1909, when it was used to control parasites on rainbow trout. In time, the compound became the most widely used chemical in the treatment of fish disease because of its versatility and effectiveness. Use of the drug was lawful until the Federal Food, Drug and Cosmetic Act was amended in 1972, to require registration of all drugs and chemicals used on food animals. After receiving a permit for experimental use, the Service undertook the necessary research to register formalin for fishery use. Now, formalin can be lawfully used by Federal, State, and private fish culturists to control parasites of trout, catfish, salmon, largemouth bass, and bluegills; and to control fungus on salmon, trout, and pike eggs.

"The Service's investment of $500,000 in formalin research is money well spent," said Jantzen. "Federal and State hatcheries annually produce fish with a market value of $7-$10 million and $17 million, respectively. In addition, fish farmers did almost $400 million dollars' worth of business in 1981 as they helped meet the increasing demand for fish by nutrition-conscious Americans."

The most common external parasite that plagues fish is Ichthyophthirius, commonly known as "ich." Formalin can cure "ich," which can infect all freshwater species including home aquarium species--a $60 million industry. All fish are more prone to disease after being handled, as their natural protective coating of slime is gone. Then disease can spread rapidly; for example, Saprolegnia fungi can infect and kill virtually all fish or eggs in an enclosure within 24 hours. Both Saprolegnia and Ichtyobodo ("costia"), which infects fish gills, can be successfully treated with formalin.

Formalin is a liquid formaldehyde solution which is heavily diluted for fish culture use. The standard concentrate is 37 percent formaldehyde, and it is further weakened to a fraction of its original strength before it is used on fish or eggs. The Service investigated possible hazards to fishery workers in the course of its research and found no problems when proper precautions were taken. Jantzen pointed out that recent concerns about urea formaldehyde insulation--which has been banned by the U.S. Consumer Product Safety Commission--do not apply to formalin since the liquid produces practically no vapor to be inhaled.

The Service's formalin-related research has been guided by the agency's National Fishery Research Laboratory at La Crosse, Wisconsin. Studies were designed to answer a broad range of questions about the possible drawbacks of its use. Potential side effects on fish that were ruled out included birth defects, cancer, and chromosomal damage that could cause mutants. Other research measured the amount of residue in treated fish, the compound's effects on plants, and chemical interactions with pollutants and other products in the water. According to Jantzen, no test ever showed that formalin was unsafe or ineffective when used as directed. As part of its efforts to get formalin registered as a fish disease control, the Service drafted instructions for its use for manufacturers to include as package inserts.

Since the Fish and Wildlife Service does not manufacture or sell formalin, qualified companies wishing to market the product for fishery use must file a New Animal Drug Application (NADA) with the FDA. However, interested firms will not be required to do any research and testing since they can refer to the FWS master file now on record at the FDA.

Formalin is the 34th compound to be made available to fish culturists for disease control, anesthesia, and other purposes. Sixteen compounds are currently being developed and pursued by Fish and Wildlife Service for registration.

"Most Service research for registration of compounds for fish culture is supported by limited Federal funds, so our emphasis must remain on a few high priority compounds that are directly related to the needs of fish hatchery managers and commercial culturists," said Jantzen. "In recent years the need for fish disease controls has led to cooperative agreements between the Service and other Federal and State agencies, and with the chemical and drug industry, to share the workload and costs involved in registration."

The FDA published an official notice in the April 9, 1982, Federal Register that registration requirements for formalin had been satisfied by the Fish and Wildlife Service.

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