

DELIBERATE RELEASE

ENVIRONMENTALISTS CARP ABOUT PLANNED TEST

WASHINGTON, D.C.—Plans by researchers at Auburn University (Auburn, AL) to test genetically engineered carp in outdoor ponds will have “no significant impact on the quality of the human environment,” according to a U.S. Department of Agriculture (USDA) review. Critics disagree with the preliminary conclusions of this formal environmental assessment (EA), the first of its kind to be issued by USDA’s Cooperative State Research Service (CSRS). Thus, the tests initially proposed in early 1989 (*Bio/Technology* 7:424, May ’89), and reviewed and revised extensively since then (*Bio/Technology* 7:865, Sep. ’89) could well be facing further delays—possibly court-imposed.

The carp in question contain an engineered version of a trout growth hormone gene that makes the fish grow more rapidly than usual. The outdoor pond experiments will determine whether the gene affects the reproductive capacity of brood carp, whether offspring inherit the engineered gene, and how it affects their survival, growth rate, and behavior. The proposed experiment calls for

distributing a total of 50,000 fry (young carp at least 0.5 centimeter long) into 10 specially designed 0.1-acre ponds. The numbers of fish will eventually be reduced, with the remainder allowed to grow for about one year, until just before they reach sexual maturity.

Andrew Kimbrell of the Foundation on Economic Trends (Washington, DC) calls USDA’s environmental assessment “terrible.” He says the agency “did not consult ecologists about the impact of carp on streams in the area,” adding: “Carp are one of the most damaging of parasite fish, and are not even an important market fish in this country.” Although no lawsuit has yet been filed, Kimbrell says that his requests for further information about the proposed experiments “certainly” will lead to their delay because the EA “is inadequate under the law—even if the experiments did not involve genetic engineering.”

Jane Rissler of the National Wildlife Federation (Washington, DC) agrees in general with Kimbrell. “Although the EA is an improved effort

by USDA, there remain significant...technical and legal issues that pose problems,” she says. “[The EA] is not adequate, and we are dissatisfied with it. The proposed tests should be done indoors....The Auburn researchers are skipping the ‘greenhouse’ stage.”

Other critics refer to carp as a “weedy” species—fish that are likely to damage insects, plants, and other fish of any local freshwater habitat into which they swim. According to the EA, however, the proposed experiments include “adequate measures to prevent the release of experimental fish into the local environment...” Thus, these measures “mitigate any potentially significant adverse environmental impacts.”

Unless there is “an avalanche of criticism,” CSRS administrator John Patrick Jordan is “inclined to approve the experiment,” says Daniel Jones, deputy director of the USDA Office of Agricultural Biotechnology. In the past, says Jones, “...if parties disagree with the conclusions of an EA but the agency feels it can support them, the agency has gone ahead.”

—Jeffrey L. Fox

EDITORIAL OBSERVER

CAN THESE CORPORATE CULTURES COALESCE?

BASEL, Switzerland—The headquarters buildings of Hoffmann-La Roche are nestled along the swiftly-running headwaters of the Rhine in prosperous-looking surroundings—a far cry from the rough-and-tumble warehouse and small-factory district of South San Francisco that Genentech calls home. And, despite the recent Roche bid to acquire a majority stock holding in the California-nouvelle biotechnology company (*Bio/Technology* 8:178, Mar. ’90), officials who work for the privately held Swiss pharmaceutical giant seem little moved by the event. Perhaps their shrugs and studied reticence are just in character: The two enterprises now conjoined are part of vastly different cultures.

In some ways, at least by Roche standards, the Genentech bid may not be such a big deal. Hoffmann-La Roche easily dwarfs Genentech, which has 1,700 employees and revenues of a mere \$400 million. The California company seems just another duchy to be engulfed by an already sizable empire. The Swiss company employs some 6,000 researchers world-

wide and supports an R&D program that gobbles up more than \$800 million per year.

Although Roche is perhaps best known for its benzodiazepine products, particularly Valium, company officials point with pride and an air of accomplishment to their profitable line of antiinfective agents. Research on drugs for treating central nervous system disorders “ranks only fourth in importance—after infectious, inflammatory, and cardiovascular diseases—in terms of the number of employees working in preclinical R&D,” says director of pharmaceutical research Dieter Hinzen. “The search for antiinfective drugs may be seen as our first priority.”

Currently the most successful of the company’s products is the antibiotic ceftriaxone (Rocephin), whose worldwide sales exceeded \$571 million in 1988 and which, in 1989, became the top-selling drug of this class in the U.S., according to Hinzen and his colleague Michel Fernex. Several other cephalosporins, including one that is chemically combined with another antibiotic belonging to the

quinolone family, are beginning or are nearing clinical trials, says Rudolf Then, deputy head of infectious diseases preclinical research.

Since 1949, the company has launched 20 antiinfective products, used for treating bacterial or fungal infections, or malaria. Research on potential new products continues, as does an active research program for antiviral agents. Besides the traditional screening and medicinal chemistry approaches to identifying candidate products, company researchers are using the latest techniques of computer-aided modeling and molecular biology. One Roche group is trying to develop novel antiinfective products that bind to and inhibit specific DNA sequences of pathogens.

A biotechnology-minded optimist might look at Genentech and Roche and see a natural convergence. A cynical observer of the biotechnology corporate community, by contrast, might be wondering whether old-world gravity and new-world rambunctiousness can successfully mix. That may be the \$2.1 billion question.

—J L F