

USDA Suspends License for Engineered Vaccine

The U.S. Department of Agriculture (USDA) has temporarily suspended a company's license to market an animal vaccine made by recombinant DNA methods. The suspension follows charges by activist Jeremy Rifkin that the department did not properly review data on the vaccine, which is made from a live virus, before the license was originally approved. His assertions have prompted two House subcommittees to schedule a joint hearing for 29 April to discuss the matter.

The vaccine, a virus with one gene deleted, became the first virus modified by recombinant DNA techniques to be released into the environment when it was approved by USDA in January. It protects against pseudorabies, a widespread disease among livestock, especially swine.

Rifkin petitioned USDA on 3 April to revoke the license to market the vaccine. He charged that the department did not follow the correct procedures for reviewing a genetically engineered product and that it did not conduct a proper assessment of the potential consequences of releasing the virus into the environment (*Science*, 18 April, p. 316). Shortly afterwards, the department suspended the license and halted sale of the vaccine for 2 weeks, from 9 to 22 April.

But Bert W. Hawkins, administrator of the regulatory branch of USDA, denied that the safety review was faulty and asserted that USDA's analysis was scientifically sound. Hawkins said that the department will use the suspension period to "document our procedures more fully with respect to the environmental assessment of the vaccine's use" to assure the public that no environmental hazards exist. The suspension "in no way suggests any lack of confidence by USDA in the safety and efficacy of this product or in the adequacy of the measures we have taken . . .," Hawkins said in a letter to Rifkin.

Rifkin has asserted that the license application should have been evaluated by the department's biotechnology committee, but Hawkins said in an interview that data on the vaccine would not be submitted to the committee. He said that USDA officials initially determined that the application was exempt from the panel's review because the vaccine's safety was established by company test data and experience with similar live pseudorabies vaccines already on the market. An in-depth evaluation by the committee at this point "would be expensive [and] time con-

suming, and [is] not required," he asserted.

Thomas Bevard, an official at Biologics Inc. of Omaha, Nebraska, which produces the vaccine, said a 2-week suspension will not significantly hurt sales, but any further delay could be damaging. Bevard said that the additional review by USDA "isn't necessary, but if that is what it takes to clear up questions about the vaccine, let's do it." Bevard added that Rifkin's charges and the ensuing publicity "caught us totally by surprise."

Although press reports have said that USDA had quietly approved the license application, Bevard noted that the vaccine had been widely discussed among veterinarians and livestock growers for some time. And after the vaccine was approved, "we sent out all kinds of publicity, but no one paid any attention."

Rifkin's attack on USDA's review process comes at a time when federal agencies are in the final stages of formulating a policy on how to regulate biotechnology. A broad proposal was circulated a year and a half ago and is expected to be released in its final form in about a month. ■ MARJORIE SUN

Laser Fusion Program Burdened by Overclassification

The National Academy of Sciences' forthcoming assessment of inertial confinement fusion (ICF) research is expected to call for declassifying many aspects of the program. The ICF review committee concludes that the present classification system is obstructing the flow of information among scientists and slowing development of the technology. The long-awaited report—which is itself classified and has not yet been published in an unrestricted form—recommends keeping under wraps only those portions of the program directly related to weapons design, say government and university officials who have had access to the report.

The report faults the Reagan Administration's plan to fund inertial fusion work through the Department of Energy's (DOE) research, development, testing, and evaluation program budget, and recommends maintaining the program as a distinct entity within DOE. Supporters of the fusion program have feared that generic energy production aspects of ICF research would suffer if the program is loosely mixed with DOE weapons activities that could overshadow it.

The Academy's National Research Council, which performed the review under a contract

from the Office of Science and Technology Policy (*Science*, 6 September, 1985, p. 950), first made its position known to the Administration in a 15 July letter to George A. Keyworth, then science advisor to President Reagan. William Happer, the committee chairman and a professor of physics at Princeton University, noted then that "there are serious problems with including the ICF program in the RDT&E portion of the DOE weapons program."

An edited version of this classified interim report was not made public until 17 March, however. The summary was released in response to a freedom-of-information request filed by Stephen O. Dean, president of Fusion Power Associates, the industry trade organization. Since Happer reported to OSTP in July, the review committee has conducted more research, but, the key findings enunciated by Happer 9 months ago are fundamentally the same, according to knowledgeable government and university officials.

While the laser technology is likely to be used first to create controlled, miniature thermonuclear reactions for modeling nuclear weapons, DOE also has supported the program because of the technology's potential application in a fusion reactor to produce electricity. In recent years, however, the Administration has sought to phase down the research program and to concentrate on military applications. Congress in 1986 rebuffed White House efforts to cut this research, and provided \$155 million in funding. Unable to ignore deficit reduction pressures, the House Armed Services Committee may allow DOE support to drop to \$23.8 million in 1987. But it still is expected to insist that a separate line item for the program be maintained.

In his July report, Happer said the line-item budget provision is needed to sustain research efforts at smaller research establishments such as the Naval Research Laboratory and the University of Rochester. Although the largest research lasers are located at Livermore, Sandia, and Los Alamos national laboratories, Happer notes that the research conducted by smaller institutions may be critical to designing laser drivers hot enough to produce a thermonuclear burn.

Although the ICF committee finds that significant headway has been achieved toward a sustained burn of a laboratory pellet, Happer says a decision whether to proceed with the research could be delayed without "steady, rational funding of the program over the next few years." In testimony before the House Armed Services Committee in February, Happer indicated that if current research efforts are completed, program administrators will have adequate data to decide whether to proceed with further research. In the judgment of the review committee, expensive up-

grades of laser and particle-beam drivers will be needed to achieve ignition of a deuterium-tritium pellet. And entirely new research programs may be necessary to augment existing efforts. In particular, the ICF committee identified a "gap" between efforts at the NOVA laser and the Particle Beam Fusion Accelerator, and the Halite-Centurion program, which is highly classified and related to target research. Consequently, DOE declined to elaborate on the alleged research void. ■

MARK CRAWFORD

Smithsonian Photobiology Lab to Close

The Smithsonian Institution is closing down its venerable plant photobiology research laboratory next fall, much to the dismay of some plant physiologists.

The Smithsonian Environmental Research Center, budgeted this year at \$2.15 million, used to be located at the Smithsonian's main building in Washington, DC, but was moved to suburban Rockville, Maryland, in 1975. There was talk of building it a new facility at the Smithsonian's Chesapeake Bay research center after the current lease runs out in 1990, but priorities shifted after the advent of the new Smithsonian secretary, Robert McC. Adams, last year.

The laboratory, founded in 1929, conducts basic research on such things as photosynthetic mechanisms and how plants tell time. Its director, William Klein, acknowledges that the lab does "not have much in common with the rest of the institution"—it is the only Washington-area branch of the institution that does not have exhibits—but believes that "we had a unique organization" with a rare combination of disciplines including biophysics, agricultural engineering, anthropology, ecology, and genetics.

Lab officials are somewhat miffed at the way the decision came about, saying that it was not preceded by consultation with them or an on-site inspection. The decision to close, relayed last Valentine's Day, was originally supposed to take effect in late 1987 but has been moved up to next November.

Steven Britz, who does research on photobiology at the Agricultural Research Service (part of the U.S. Department of Agriculture), says the lab's demise is unfortunate in view of the fact that "plant physiology as a field is not well supported." He cites in particular the lab's work on the physiology of flowering, which is central to the subject

of crop yields. There is "hardly any work on this going on at USDA," he says.

Winslow Briggs, director of the Carnegie Institution of Washington's plant biology department at Stanford University, says he is very unhappy about the loss of the lab. "I don't know of any other lab group that represents quite the range of photobiology that they do there." While they are not trained in "fashionable biotechnology," says Briggs, their work in some areas, such as how algae harvest light, is "in my opinion the best in the world."

According to David Challinor, the Smithsonian's assistant secretary for science, the lab is being dropped because its lease is running out, a new building is "impossible under the present fiscal climate," and its physical isolation and lack of academic surroundings make it difficult to get first-rate graduate students. He says the lab has been subjected to two external reviews, in 1979 and 1983. The lab does good science and is "to some degree unique," says Challinor, but there are other distinguished centers doing photobiology—namely, the Carnegie Institution and the Boyce Thompson Institute for Plant Research, now at Cornell University.

Challinor says the Smithsonian, which is aiming for a \$750,000 increase in its fiscal year 1987 research budget, wants to focus on strengthening other areas in biology, such as genetics, microbial evolution, and tropical biology.

The closing appears to reflect a larger trend within biology, de-emphasizing work at the cellular level in favor of molecular biology and biotechnology. ■

CONSTANCE HOLDEN

European Commission Proposes Shift in Joint Research

Brussels

The research ministers of the 12 member countries of the European Economic Community were asked at a meeting in mid-April to approve a major shift in the emphasis of their \$600-million-a-year joint research programs, financed through the Brussels-based EEC Commission. The proposal was discussed but action on it was deferred to a later meeting.

The commission has proposed that the member states significantly reduce the high priority given in the past to fields such as energy research. For example, it is suggesting the virtual elimination of joint funding

for demonstration projects in solar and wind energy. In contrast, it wants to shift the main focus of its support toward research directly related to industrial technologies, in particular microelectronics, telecommunications, and biotechnology. It is also proposing that new joint research programs be established in the fields of marine technology and transportation.

The proposals are contained in a "framework program" for the 5 years 1987–1991 setting out priorities and budget limits which must now be adopted unanimously by all member states before individual research programs can be funded. According to Paolo Fasella, head of the Commission's science, research, and technology directorate, the shift in emphasis reflects an increasing political awareness in Europe of the importance of research on advanced technologies "prompted in part by the U.S. invitation to participate in the research phase of the Strategic Defense Initiative."

The financial targets set out by the Commission are ambitious and not likely to be fully met. It suggests that member states double their joint spending on research, to reach a total of almost \$10 billion over the next 5 years. Achieving this would mean raising from 2 to 5 percent the proportion of the commission's budget spent on research.

More significant, perhaps, is the proposed balance in funding. The Commission wants 60 percent of its research funds in the 5 years 1987–1991 to be spent on "enhancing Europe's industrial competitiveness," including expansion of current research programs such as ESPRIT (in information technologies) and RACE (on telecommunications). At present, these absorb 28 percent of the joint research funding. In contrast, the proportion spent on energy research would fall from 47 to 21 percent. The overall growth being recommended would allow these efforts, which include a major commitment to the funding of fusion research, to be maintained at their current levels. Failure to secure this increase, however, could lead to significant reductions in several areas of energy research.

What will happen in practice also depends on how effective a new, streamlined decision making procedure turns out to be. Under the new procedure, once the 5-year framework program has been passed, specific projects will only require approval by a "qualified majority" of member states: in the past unanimous endorsement was required.

With the EEC member governments keen to keep the Commission's spending down, reaching consensus on the framework program is not expected to be straightforward. ■ DAVID DICKSON