Whatever happened to food research?

At the World Food Conference last November in Rome, Secretary of State Henry Kissinger pledged that, by 1980, the United States would triple its contribution to the eight international food research laboratories, to agricultural research in developing countries, and to U.S. institutions working on food problems related to developing countries (SN: 11/9/74, p. 292). To meet that goal would require increasing funding for these three areas by nearly 25 percent each year for the next five years. But in the analysis of next year's budget published by the Federal Council for Science and Technology (FCST), funding in these catagories shows instead a 9.5 percent *decrease*.

(The FCST is chaired by Presidential Science Adviser H. Guyford Stever. Its analysis of Government-wide R&D funding is based on data supplied by the Office of Management and Budget and individual agencies.)

According to this analysis, the State Department will increase outlays for the international agricultural research laboratories from $12.2 million in 1975 to $14 million in 1976. Funds would also be increased for projects in U.S. universities aimed at helping food production abroad, from $8.8 million in 1975 to $10.6 million in 1976. But this thrust would be counteracted by a 35 percent decline in food research aid given directly to developing countries, down from $21.8 million in 1975 to $14.1 million proposed for 1976. Thus, in the three research areas singled out by Kissinger for massive increases, the net effect of next year's budget would be to lower funding 9.5 percent, from $42.8 million to $38.7 million.

SCIENCE NEWS contacted State Department officials for clarification and was told that research figures for 1976 had not yet been finalized, that the Secretary's stated goals would hopefully still be met, and that the department was "trying to get a new Congressional mandate for research." Congressional sources usually informed in these matters said they knew of no such initiative and expressed skepticism over Administration commitment to Kissinger's goals, outside the State Department.

(Later, Robert J. Morris of the State Department called SCIENCE NEWS to say that an error had been discovered in the figures given to FCST, and that funds for the international research laboratories would go from $11 million in 1975 to $15 million in 1976. This correction would mean that the decrease in total State Department funds for food research would be 4.6 percent.)

Meanwhile Government-wide research on food will barely keep up with inflation, increasing about 11 percent overall. And, of the total $367 million to be spent next year by all Government agencies on food research, only 35 percent is dedicated to increasing production at home and abroad, according to the FCST report. An additional 12 percent of the funds go to environmental protection projects; research on international food subjects constitutes roughly 9 percent.

The Department of Agriculture spends the largest portion of the food research budget, with $238 million proposed for next year. The department's projects in this area range from developing new plants with superior genetic characteristics to conservation of soil resources. The National Science Foundation is asking for $37 million to support food-related basic research, including study of the fundamental relationships between organisms and their environment, and mathematical modeling of agricultural systems. AID funds would go, in part, to improvement of legume crops and study of the nutritional needs of people under stress. The Departments of Commerce, Defense, and Health, Education and Welfare each have smaller food research programs.

Though subject to later modification, the figures presented by the FCST report indicate that Government-wide spending on food research has not yet begun to take seriously the urgency expressed in the recent National Academy of Sciences report on agricultural productivity (SN: 1/18/75, p. 36), warning that massive new funding was needed in food-related research, with "the future well-being of mankind" at stake. □

THC: An aid in morphine withdrawal?

It hasn't been too many years since marijuana was considered an addictive narcotic. It is somewhat ironic, therefore, that a new report credits one of marijuana's psychoactive ingredients, tetrahydrocannibinol (THC), with helping test animals through the agony of morphine withdrawal.

Several narcotic antagonists such as naloxone, cyclazocine and methadone have been developed in recent years, and some persons felt they promised an answer to narcotics addiction. But many antagonists are themselves addictive and have not been totally satisfactory. Noting that THC exhibits some drug properties antagonistic to morphine but that it is probably not physically addictive in man, a team from New York University School of Medicine decided to test the effects of THC on morphine withdrawal. Bromfield Hine, Eitan Friedman, Marina Torrelio and Samuel Gershon of that school's neuropsychopharmacology unit report their results in the Feb. 7 SCIENCE.

They addicted rats by implanting morphine pellets under their skin. After 72 hours, when morphine dependence is at its highest level, they induced rapid withdrawal with naloxone. They had injected the rats with THC an hour before the onset of withdrawal. THC significantly reduced the intensity of the withdrawal symptoms. The effects were dose-related—the higher the THC level, the greater the effect on withdrawal symptoms. At the two highest dose levels, certain symptoms were blocked completely.

In some rats, they injected another marijuana component, cannabidiol, instead of THC. This nonpsychoactive drug did not modify the withdrawal, suggesting that marijuana's psychoactive components block the symptoms.

The team would like eventually to see clinical studies using THC with or without other antagonists, to help narcotics users over withdrawal. But, Hine says, many questions also must be answered through animal research. For example, although morphine is similar to heroin and other narcotics, the differences might effect the THC system and must be studied. Also, some researchers say that exposure to marijuana for long periods of time can be physiologically harmful. Hine says short periods of acute administration would likely be used in a clinic and therefore should not induce damage, but this, too, must be studied. □

Rating cereals

Scientific studies conducted by Consumers' Union and reported in the February CONSUMER REPORTS have shown that Maypo 30-Second Oatmeal with Maple Flavor, Cheerios and Special "K" are "far and away the most nutritious" of all the cereals tested.

Groups of weaned rats were fed one of each kind of test cereal and nothing else. Three control groups of weaned rats were fed a standard laboratory diet, eggs only or milk only. How did the cereals compare as the only food? Three—Maypo, Cheerios and Special "K"—did well. Twenty were of significantly lower nutritional quality than the top three. They included Sun Country Granola-Regular, Quaker 100 percent Natural Cereal, Total, Post Grape-Nut Flakes. Twenty-one were found of sufficiently low nutritional value to be considered deficient. They included Sugar Frosted Flakes, Kellogg's Corn Flakes, Product 19, Rice Krispies and Sugar Pops. □