

tive grants to support mostly basic research, and urges a thorough shake-up of the ARS. No fundamental change in the structure of the system is contemplated, however.

The use of block grants to fund state-level agricultural research goes back to the Hatch Act of 1887. The funds are distributed among the states according to a formula based in part on the size of each state's rural population. They are supposed to provide a stable core of support, which is at least matched by state funds. Since these grants come without many strings, they are cherished by the experiment stations and state governments and enjoy strong support in Congress. In the omnibus farm bill approved last year, for example, Congress decreed that at least 25 percent of USDA's research funds should be in the form of block grants. (The proportion is now about 23 percent.)

The Winrock participants chose not to take this system on. "The political reality is that the formula funds won't be reduced, and that you start from there," says panel member Perry Adkisson, deputy chancellor for agriculture at Texas A & M. Indeed, the report notes that the block grants can constitute a valuable source of funds and should provide a basis for federal-state dialogues on research priorities and directions. The problem, however, is that the dialogue at present revolves around the bureaucratic details of administering the grants, and scientific discussion gets lost, the report claims. It therefore recommends that the block grants be passed on with the minimum of bureaucracy at the federal level.

As for the ARS, the report notes that "political interests have been responsible for the establishment and retention of a large number of field sites and major facilities, many not justifiable in terms of research need or efficient allocation of resources." It therefore recommends that USDA should thoroughly evaluate each facility and choose one of four options: retain as an ARS facility, turn over to the host state and phase out federal support, sell to private industry or to a university, or close. A central problem with any attempt to prune facilities, however, is that members of Congress tend to balk when institutions in their states are threatened, and pork-barrel politics takes over. (Indeed, about half of USDA's research facilities were established by congressional initiative.) The report thus politely asks Congress to let ARS determine the fate of facilities according to their merits.

In addition, the report recommends that ARS should concentrate on basic

research and that its programs should be subjected to rigorous peer review.

Like every other group that has examined the agricultural research system, the Winrock participants have urged that a growing proportion of USDA's research funds be in the form of competitive, peer-reviewed grants. All real growth, above inflation, should come in this area, the report says. What happens, however, if there is no real growth? Should funds be shifted from other programs to expand competitive grants? "We ducked that one," says one participant.

USDA does have a competitive grants program, but it receives only about \$16 million a year, a miniscule fraction of the department's research total. In part, the paucity of funds is the fault of Congress, which has failed to appropriate requested money. Congressional resistance reflects concern that the competitive grants program will eat into support of other USDA research, particularly block grants. The Winrock group's reluctance to tackle the problem of redistribution is therefore understandable.

Other groups have made similar criticisms and recommendations before, but this time, a combination of factors may ensure that changes are made. First, the report meshes with the Reagan Administration's proclaimed policy of freeing funds for innovative research by pruning dead wood from existing programs. "We are going to use the report as the basis for policy decisions we will be promoting," says OSTP assistant director Denis J. Prager, who convened the Winrock panel. Second, there is new leadership in USDA research programs. Bentley has just been appointed, and Kinney, who has been head of ARS for only 2 years, is regarded as receptive to proposals for reform. And third, the agricultural power block on Capitol Hill, which has resisted change in the past, is not as powerful as it once was. Representative George Brown (D-Calif.), a member of the Winrock panel, plans to hold hearings on the system next year with his agricultural research subcommittee, and is said to be willing to devote a lot of time to the issues.

But rapid and fundamental change should not be expected. "Do I think the USDA is going to close down all its field stations and become a National Institute of Agricultural Research? It's not going to happen soon," says panel member James B. Kendrick, Jr., vice president for agriculture and university services at the University of California. But, he adds, "I happen to think that's the way things should go."—COLIN NORMAN

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## Science Board Nominations

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President Reagan has nominated three academic scientists and one industrial scientist to serve on the National Science Board. They are: Charles Hess, dean of the college of agricultural and environmental sciences at the University of California, Davis; John Moore, an associate director of the Hoover Institution; Norman Rasmussen, chairman of the department of nuclear engineering at the Massachusetts Institute of Technology; and Roland Schmitt, a vice president for research and development at the General Electric Co.

Four vacancies remain on the 24-member board. The nominees are subject to Senate approval and serve for 6 years.—**R. Jeffrey Smith**

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## A New Pot of Money for Plant Sciences

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The McKnight Foundation, a wealthy philanthropic organization based in Minneapolis, is about to launch a major program to support basic research and graduate education in plant biology. The program, which will channel about \$2 million a year into university research, has been developed at least in part because of concerns that the Department of Agriculture (USDA) is paying insufficient attention to basic science (see p. 1227).

Richard S. Caldecott, dean of biological sciences at the University of Minnesota, who has been helping the McKnight Foundation put the program together, says that "NIH [the National Institutes of Health] has brought about advances in animal science by paying attention to basic biology. USDA hasn't done that in the plant sciences, and they are seriously lagging behind." The McKnight Foundation is committed to supporting the program for 10 years, says the foundation's executive director, Russell Ewald.

The McKnight Foundation, which has assets of \$350 million from the family estate of William McKnight, the longtime head of the 3M Corporation, is planning to support about half a dozen interdisciplinary research groups with grants of up to \$300,000 a