US agricultural research

Mission-agency seeks relief from Congress

Washington

THE Agricultural Research Service (ARS), the US Department of Agriculture's sprawling intramural research agency, is emerging from three years of austerity (some self-imposed) and reorganization with a mixed success in its efforts to polish its tarnished image with the scientific community.

ARS's administrator, Dr Terry Kinney, has scored one major success by reducing administrative overheads by $12 million out of the agency's $487 million annual budget. Less successful have been Kinney's attempts to challenge Congress's insatiable appetite for building new laboratories that for the most part serve only parochial interests.

And the most long-standing criticism of ARS — that it is not keeping pace with new developments in basic research, especially molecular genetics — persists, in spite of one notable ARS initiative, the creation last year of a plant gene-expression centre in conjunction with the University of California.

That criticism was reiterated most recently by a National Academy of Sciences panel which scrutinized ARS's research programmes at the request of ARS itself. The panel's report again emphasized the need to concentrate on developing basic understanding of plant physiology and development, insect neurobiology, immune responses in animals and other fundamental molecular processes in domestic plants and animals as well as pests.

Standing in contrast to the panel's recommendations is ARS's own 1984 annual report of its research achievements, which highlights applications almost exclusively — a new rotary disk for harvesting soya beans, a pelletized guayule seed that improves germination, a pilot plant for automatic tanning of cattle hides, a new kind of spaghetti made with 10 per cent bran.

The academy panel, chaired by Ralph Hardy, recently head of life sciences at DuPont and now president of BioTechnica, also recommended some drastic steps for ARS if it is to create the proper "climate" for good research. For example, the panel said ARS needs to be a lot tougher about offering permanent positions to scientists.

At present, the panel said, virtually all ARS scientists who are reviewed at the end of a one-year probationary period are promoted to permanent staff positions; the probationary period should be extended to five years and candidates should be evaluated by an outside group of experts.

The panel also suggested a substantial increase in ARS's postdoctoral programme; instead of 25 postdocs (actually, ARS officials say, the true figure is closer to 275), there should be at least 750. And instead of devoting 90 per cent of research budgets to salaries — as at some of the ARS's 147 laboratories and research centres — salaries should be at most 75 per cent, and in some cases as low as 60 per cent, the remainder going towards properly equipping the laboratories.

The 147 laboratories are a problem in themselves. The panel noted, as have many others before, that that is simply too many. Research groups are fragmented, preventing the formation of a "critical mass" of scientists needed to make progress.

ARS officials say that they have already dealt with many of these complaints, but that their hands are tied on the others. Federal personnel rules, for example, prohibit use of outside consultants in hiring and promotion decisions. But ARS is now negotiating with the federal Office of Personnel Management to lengthen the current one-year probationary period to three years.

Congress has been the greatest obstacle to ARS's attempts to shut down centres and laboratories that have outlived their usefulness, or which fragment the research effort. ARS did succeed in transferring the staff of the fire-ant research laboratory in Gulf Port, Mississippi, to its Gainesville, Florida, insect research centre. It hopes to consolidate several other laboratories this year.

But Congress has effectively turned down a request to rescind funds appropriated in fiscal years 1984 and 1985 for construction at eight facilities (including a Forage Seed Production and Research Center and the National Soil Tilth Center). Congress has also continued to create new facilities, such as a national centre for leptospirosis in Ames, Iowa, and a Children's Nutrition Research Center in Houston, Texas.

One way that ARS hopes to avoid being saddled with still more laboratories in the future is by writing new language into the farm bill, which is up for renewal this year. As things stand, the only way for a state to obtain federal money for a research facility is by having ARS build and operate it. The new language would open an escape valve, allowing Congress to appropriate matching funds for states to build their own facilities when they consider this necessary.

Dr Mary Carter, ARS's associate director, says that the agency has already taken steps to meet the panel's criticism of high personnel costs, and that many laboratories are already down to 65 or 70 per cent. Some laboratories where the figure is deemed too high have been ordered not to fill vacancies to correct the problem.

Carter also said that ARS is committed to expanding its programmes of postdoctoral research. Besides the 50 positions that are being created directly by the administrator's office, the research laboratories themselves hire some 250 or so postdocs.

But ARS, always under pressure from Congress — particularly Representative Jamie Whitten (Democrat, Mississippi), chairman of the Appropriations Committee — to "do something for the farmer", is drawing the line at any major tilt in favour of basic research. "We're a mission-oriented agency," Carter said, emphasizing the new ARS party line that biotechnology is merely a group of "methodologies" that can be put to use at all of its laboratories. ARS has explicitly rejected the notion of establishing biotechnology or basic research centres.

Stephen Budiansky

Land bows out from Polaroid

EDWIN Land, the 76-year-old founder of the Polaroid Corporation, has broken his last tie with the company. Last week, Land announced he would sell his remaining shares, which account for 8.3 per cent of Polaroid stock, and turn over a sizeable portion of the proceeds to the non-profit Rowland Institute for Science, a vaguely utopian haven for basic research that Land set up in 1981 by selling off $38 million worth of stock.

Land's remaining stock has an estimated market value of $71 million, $28 million of which is to go to the Rowland Institute.

Land resigned as chairman of Polaroid in 1982 (see *Nature* 298, 701; 1982) during a rough period for the company. The company's Polavision instant movie film, which hit the market in 1977, just as home video equipment was becoming available, proved a colossal flop, costing the company a reported $68 million. Although Polaroid's earnings began to recover from that setback in 1983, the company hit rough times again in the third quarter of last year.

The Rowland Institute, along with the Rowland Foundation that Land established in 1960 to support research and education, has increasingly been his consuming interest in recent years.

The institute, with a staff of about 80 and a new building on the Charles River in Cambridge, Massachusetts, was described by Land at the time of its founding as a place where scientists could return to "an older way of doing science", without large research teams or big machines.

Stephen Budiansky