

U.S. RESEARCH POLICY

Agricultural Science Gets More Money, New Faces

After decades of flat funding, agricultural research seems to have caught the attention of U.S. policymakers. Last week, Congress gave a 30% boost to the main competitive grants program of the U.S. Department of Agriculture (USDA), raising it to \$262 million for 2010. Two new research chiefs at the department also hope to parlay an administrative reorganization into greater visibility for the field. Research advocates are cautiously upbeat that their labors are finally paying off. “There’s fresh energy and optimism,” says Thomas Van Arsdall of the National Coalition for Food and Agricultural Research in Fredericksburg, Virginia.

Many are expecting a lot from Rajiv Shah, the young and energetic deputy undersecretary for research who joined USDA in June from the Gates Foundation. Speaking with *Science* last week, Shah described his plans to shake up the massive department, which employs 2300 scientists and has a research budget of \$2.8 billion. Lobbyists are also thrilled with this week’s arrival of plant scientist Roger Beachy as head of the National Institute of Food and Agriculture (NIFA), the new home for USDA’s extramural funding.

“Shah’s a really smart guy. He’s surrounding himself with smart people; he’s got a big agenda and wants to do really big things,” says Ferd Hoefner of the National Sustainable Agriculture Coalition in Washington, D.C. “He’s got the personality and credibility to try to put that all together.”

Advocates have been trying for years to raise the profile—and funding—of agricultural research. They applauded last year’s passage of an agriculture bill that will provide \$426 million over 4 years in new competitive research funding for bioenergy, organic farming, and vegetables and other so-called specialty crops (*Science*, 23 May 2008, p. 998). The bill also gives Shah the title of chief scientist as part of a broader move to improve how USDA manages research.

Shah, 36, was an unusual pick for the position. Not only is he far younger than previous undersecretaries, he’s not a scientist. Trained as a physician and also holding a business degree,

Shah worked on child immunization at the Gates Foundation before switching to agricultural development. Now he’s applying those skills to a department whose research budget has remained essentially flat for decades. USDA is also seen by many as a bit player among federal science agencies, a status that was reinforced earlier this year when USDA received no research funds from the \$787 billion American Recovery and Reinvestment Act while the National Institutes of Health (NIH), the National Science Foundation (NSF), and the Department of Energy’s science programs each received billions. “I think that was the ultimate wake-up call,” Shah says.



Seeding change. Rajiv Shah (*left*) and Roger Beachy hope to make USDA a bigger player in federal research.

Shah plans to raise the department’s visibility by focusing research on five broad areas that align with Administration priorities: climate change, bioenergy, food safety, obesity, and overseas hunger. He wants to focus on core problems—such as the development of drought-tolerant crops and perennial grasses for biofuels—and leverage USDA’s investments by partnering with other agencies. “Frankly, we’ve done too many discrete projects that are too small in scope.” Similarly, Shah hopes to give out fewer but larger grants for work that fosters multidisciplinary collaborations. He plans to hold program managers accountable by asking them to set goals for two, five, and 10 years.

Extramural research is also being reorganized. In the farm bill, Congress directed USDA to convert its Cooperative State Research, Education, and Extension Service—which

distributes extramural grants to individual scientists and so-called formula funding to land-grant universities—into NIFA and to appoint a distinguished scientist to head it.

Beachy, 65, qualifies by any measure. A member of the National Academy of Sciences, Beachy did important work on engineering virus resistance in plants and in 1998 became the founding president of the Donald Danforth Plant Science Center in St. Louis, Missouri. “My major goal is to improve the perception of the agency and gain the same level of respect as NSF and NIH,” Beachy says. Karl Glasener, who directs science policy for the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America in Madison, says “Beachy’s status as a star in the science community should help with image building.”

One crucial measure of success, of course, will be the size of NIFA’s budget. William Leshner, the director of Global Harvest Initiative in Washington, D.C., an agribusiness campaign to increase research on crop productivity, is optimistic that congressional appropriators will be receptive to requests from the Obama Administration to spend more. “If they propose larger budgets, it will really have a significant positive impact,” Leshner says.

A coalition of research advocates, including Glasener and Hoefner, has been lobbying for a \$300 million budget for competitive grants at USDA in fiscal year 2011. (The program is authorized at \$700 million but received only \$201 million in the 2009 fiscal year that ended last week.) Shah won’t comment specifically on what the agency will request, a figure that is vetted by the White House before it’s released in February as part of the president’s overall budget submission to Congress. But he emphasizes that the Administration is serious about doing what it takes. “In order to get the breakthroughs we want, we have to invest at a certain level of scale and partner with others to do it well,” he says. “That’s what is coming.”

—ERIK STOKSTAD