

## **AG REPORTER JERRY HAGSTROM INTERVIEWS UNDER SECRETARY WOTEKI**

**Dr. Catherine Woteki, USDA Chief Scientist, Under Secretary for Research, Education and Economics: End of earmarks means new way needed to fund research**

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By JERRY HAGSTROM, [www.hagstromreport.com](http://www.hagstromreport.com)

With the end of earmarks, the Agriculture Department may need to ask Congress for the kind of authority that the National Science Foundation has to initiate new research facilities on its own, Agriculture Undersecretary for Research, Education and Economics Catherine Woteki said in a wide-ranging interview with The Hagstrom Report.

Earmarks have been the system for congressional authorization of those facilities, and a new system needs to be found to replace it, Woteki said.

Noting that this is an exciting time for agricultural research because “there’s a recognition that the agricultural sciences are at the heart of the solutions to some of these big societal challenges,” she also said there is a worldwide need for research budgets large enough to address the question of how to feed a growing population in a period of climate change and scarcer water and land.

Woteki also discussed the reorganization of the research, education and economics mission area as mandated by the 2008 farm bill, the process for assuring that the foot-and-mouth-disease research facility at Kansas State University will be safe, and her views on research on biotechnology and organic crops. She noted that China is dramatically increasing its funding for agricultural research while other countries’ budgets are flat or declining.

As undersecretary, Woteki supervises three divisions of USDA that conduct research — the Agricultural Research Service, the Economic Research Service and the National Agricultural Statistics Service — and the National Institute for Food and Agriculture, which provides regular funding to the land grant colleges, and makes grants on a competitive basis to a broader range of institutions through

the Agriculture and Food Research Initiative.

Woteki has had a long career in government, academia and the private sector. Before joining USDA, she served as global director of scientific affairs for Mars, Inc. From 2002 to 2005 she was dean of agriculture and professor of human nutrition at Iowa State University, where she also headed the Agriculture Experiment Station.

Before serving as undersecretary for food safety in the Clinton administration. Woteki served in the White House Office of Science and Technology Policy as deputy associate director for science from 1994 to 1996.

She has also held positions in the National Center for Health Statistics of the U.S. Department of Health and Human Services, the Human Nutrition Information Service at USDA and was director of the Food and Nutrition Board of the Institute of Medicine at the National Academy of Sciences.

She received her master of science degree and doctorate in human nutrition from Virginia Polytechnic Institute and State University, and her bachelor of science degree in biology and chemistry from Mary Washington College (1969).

Following is an edited transcript of the August 30 interview:

HAGSTROM: You've worked in government, academia and the private sector. Do you have a philosophy of agricultural research?

WOTEKI: It starts with the premise that this is the most exciting time to be in agricultural research and the natural resources sciences.

We have these tools that we've never had before, coming out of molecular biology and genomics at the molecular level. At the landscape and global level, we have earth-observing satellites that are producing information that we've never been able to generate before.

We have high-powered computing that enables us to analyze very large datasets at the landscape level to be able to understand the dynamics that are occurring.

All of these tools are also at our disposal at a point in time when there's a recognition that the agricultural sciences are at the heart of the solutions to some of these big societal challenges.

Are we going to be able to produce enough food to feed the population that is projected to be at least 9 billion people by mid-century? Are we going to be able to do that in the face of increasingly variable weather conditions being driven by the changing climate, and are we going to be able to produce a food supply that is going to be safe to eat and that is going to maintain good health for the population? That is the context of why it's so exciting to be in this position at this point in time.

HAGSTROM: What about the various types of organizations that do research, government, universities, private sector? Do you see any divisions among them, or does everybody do everything?

WOTEKI: At a point in time where we're facing real budget challenges, everybody doesn't do everything.

What I've been trying to do in the time that I've been in this position is to examine how the specific expertise of the four agencies that are in this mission area can be brought to bear on addressing the research questions that are facing agriculture today, and to manage this as a portfolio as opposed to four separate agencies with four separate agendas.

One of the first steps that we took was to look at what was called the "road map" for the Research, Education, Economics mission area that was called for in the 2008 farm bill, and to do a broad consultation with the research community in academia, [and] in the private sector. And then also to talk with our sister agencies to try to frame up a much more specific set of research questions that we would be addressing, and then to define how we would use the skills and expertise of the intramural agencies--the Agricultural Research Service, the Economic Research Service, the National Agricultural Statistics Service--and how we would also use the extramural agency, the National Institute of Food and Agriculture, to fund research that would more appropriately be done in the university setting.

HAGSTROM: Have you reached conclusions about this? Several months ago, you spoke on Capitol Hill about this action plan that [Agriculture] Secretary [Tom] Vilsack had asked you for.

WOTEKI: We are close to having the next draft completed. I think about it as when one develops these types of plans, that they will be ones that we share with the public, but also recognize that they're going to change over time and change in response to our changing financial climate [and] in the very near future have the next iteration that we'll be making available.

HAGSTROM: Has there been a draft plan released?

WOTEKI: We've shared it widely, but it has not been released as a government publication.

HAGSTROM: Will it eventually be a formal plan that is released as a government publication?

WOTEKI: That is our plan. Given the kind of financial constraints and also given the new technologies that we have, it probably is going to remain available through our website as opposed to something that's in glossy print and that costs a lot to produce.

HAGSTROM: You have said that the budget cuts so far have caused "severe" difficulties with agricultural research. But we often hear these words tossed around. Could you give some examples of specific projects or areas that have been cut back in which research may be slowed down or just not done?

WOTEKI: The reference point for those comments was the 2011 continuing resolution [that funds the government through the end of the fiscal year on Sept. 30, 2011.] We took an approximately 10 percent cut under the 2011 CR.

The major impact was in the elimination of earmarks, particularly in the Agricultural Research Service and in the National Institute of Food and Agriculture.

In the Agricultural Research Service, one specific impact was to wipe out the

funds available for construction of research facilities. The end result was that there were 27 buildings that will not be built.

One of them is called a “Biosafety Level 3 Research Facility” that was to be built in Georgia to house the research activities of our poultry unit in Athens, Ga. The plan had been to consolidate that poultry infectious disease work that’s done in Michigan with the research unit that’s based in Georgia.

The loss of that facility means that we’ve got a major setback in our ability to do the kind of research to protect our flocks from infectious disease. In the way we do science these days, it’s very important that we have a critical mass of scientific talent. What ARS had been planning to do was to bring the researchers together into one well-designed, contemporary, and safe laboratory environment.

With elimination of earmarks, the Congress also eliminated the one way that we in the agricultural research community had to finance the construction of research facilities. Among the things that we’re thinking about for the future [is], do we need to have some new authority that would be similar, for example, to what the National Science Foundation has to competitively review and identify what new research facilities and equipment would be beneficial for the science as we move forward?

Similarly, in the National Institute of Food and Agriculture, there were a large number of projects that were earmarked in their budget as well that were not funded. Many of them were meritorious, had gone on for a long time, and had been started because a segment of the user community had identified a specific research that they needed to have conducted for them and had the support in Congress to get that work done. In both cases, there was a significant amount of meritorious research that was discontinued.

The National Agricultural Statistics Service and the Economic Research Service took some hits that have led both agencies to have to make some decisions about which of their programs that they would be continuing. ERS has supported for many years some research activities at universities, and they had to cut back on those activities.

NASS has been reviewing its publications and deciding, on the advice of their

external advisory committee, to change the periodicity with which they're doing some of their reports. All these reports that NASS does have a constituency that really relies on their data, so in changing the periodicity of doing different reports, they're going to be having some effects felt in that particular segment of agriculture.

HAGSTROM: There have always been executive branch officials who have criticized earmarks and have said it would be much better if they could make the decisions within the department. However, it appears that what has happened in this situation is along with ending the earmarks, Congress cut the money.

WOTEKI: Correct. That money did not get put into the competitive grants program.

HAGSTROM: Does NSF have some authority that you don't have in terms of building authority? Is the authority for these facilities vested in Congress? What might you need?

WOTEKI: The model that we're looking at is to have, as the National Science Foundation does, the statutory authority to use a competitive grants process to identify the highest priority research facilities. [The authority] also extends to specific types of equipment because research equipment can also be very expensive. Among the things that we're considering and having some discussions about is should we try to seek that type of authority?

HAGSTROM: If you're going to build an agricultural research facility, Congress has to approve it? Is that the way it works?

WOTEKI: It has been an earmark in the ARS budget.

HAGSTROM: I had no idea that you could not just decide that a facility was needed.

WOTEKI: We certainly do that assessment. For our intramural programs, we are actually putting together a long-term capital plan for the Agricultural Research Service that we are expecting will be finished later this fall.

We have over a hundred ARS locations. The age of facilities on these locations varies. Some of them [are] quite new. I had the opportunity about six weeks ago to visit the ARS vegetable lab in Charleston, S.C., a beautiful new facility.

Some of the facilities are very old. An example of that is Plum Island that was built in the mid 1950s.

The expected life for a biological research facility is 35 years, and the Plum Island facility is an example of one that is way beyond its expected life span. We're looking to our landlord who now owns that facility, the Department of Homeland Security, and the plans that they have to build a replacement facility.

HAGSTROM: This is the facility in Kansas, right? In this appropriations process, what happened with the replacement facility for Plum Island?

WOTEKI: That is in the Department of Homeland Security's budget. With the creation of that department post 9/11, the responsibility and the ownership of Plum Island was transferred from USDA to the Department of Homeland Security. Homeland Security has over the last several years run a competitive process. They secured proposals from several different states, and Kansas is the state whose proposal was deemed the most meritorious.

I was visiting there earlier this month, and I had also visited Plum Island last month, along with Dr. Tara O'Toole, who is my counterpart in the Department of Homeland Security, to get a sense of what the facility is like at Plum Island as well as to get an in depth briefing on the research programs there.

I followed up with a visit to Kansas State University, which is the site that was selected in the competitive process that Homeland Security ran, and had a tour of the site for which some preparations had been made. There is work ongoing on the electrical plant for what's called the NBAF, the National Bio [and] Agro Defense Facility.

HAGSTROM: Can work on this facility proceed?

WOTEKI: It is pending the continued funding in the Department of Homeland Security's appropriations.

HAGSTROM: USDA people work inside this DHS facility?

WOTEKI: That's correct. Both the Agricultural Research Service and APHIS [the Animal and Plant Health Inspection Service] have programs at Plum Island that would be transferred to the new facility once it is completed.

The Agricultural Research Service does research on foreign animal diseases and develops vaccines. It has a recent breakthrough in a new vaccine that uses recombinant DNA approaches for foot and mouth disease that has recently been approved for pilot testing on the mainland. Foot and mouth disease research is done there along with several other animal diseases that don't occur in the United States but do occur in other countries.

APHIS has its diagnostic labs at Plum Island. It also does training for veterinarians at Plum Island, so that they will be able to recognize the symptoms of these diseases should they occur in the United States. Work is also done there both by ARS as well as by APHIS in the development not only of vaccines but also of other countermeasures for treating or preventing these diseases, antiviral products and other new approaches towards preventing or treating these diseases. Homeland Security also has a program of research on these animal diseases as well that's conducted there.

HAGSTROM: You're comfortable with the transfer of this kind of work from Plum Island to Kansas?

WOTEKI: Certainly these high-level containment facilities can be safely operated. We know that from our own experience at Plum Island as well as at the National Animal Disease Center in Ames, Iowa. We know it as well from the experience with human pathogens that these Biosafety Level 3 and the higher level, Biosafety Level 4, that [is] the design for the NBAF facility to be built in Kansas.

To make sure that the design is appropriate, the Department of Homeland Security has done a site-specific risk assessment, and that risk assessment was reviewed by a committee established by the National Academy of Sciences.

Earlier this year, [the panel] made a number of recommendations about



additional safeguards to be included in the design of the NBAF, and as the design has proceeded, the Department of Homeland Security has been building into the design the specific features to respond to the committee's recommendations.

A new National Academy of Sciences committee is being convened to begin work on the second site-specific risk assessment that Homeland Security is currently completing on the NBAF design.

The final step is that foot and mouth disease research cannot be begun at that new facility until some future secretary of Agriculture is able to issue a permit for that research to be conducted. That permit is going to require that all of the tests that are done on the facility meet our requirements for safe operation.

HAGSTROM: You came to this agency at a time when the 2008 farm bill had been passed. There was a reorganization that was started by Rajiv Shah, your predecessor as undersecretary. What has the reorganization meant to the agency and how has it improved it?

WOTEK: To respond to your questions about the 2008 farm bill and what it meant, we actually have to go back to 1994 [when] the Congress enacted a law that really reorganized all of USDA.

At that time, this mission area, Research, Education, and Economics, was established. There were four agencies that were brought together. The [three] intramural agencies — the Agricultural Research Service, the Economic Research Service, and the National Agricultural Statistics Service — remained pretty much untouched.

In 2008 Congress, responding to many years of discussion in the academic community about the extramural agency, made and enacted several provisions that led to the reorganization that Dr. Shah and Dr. Roger Beachy, who was brought in as the first director of the National Institute of Food and Agriculture, got under way. I view some of the provisions [in the 2008 farm bill] that relate to my office as finishing off the reorganization that started in 1994 as it relates to the research agencies.

In addition to creating the National Institute of Food and Agriculture and the

competitive grants program, called the Agriculture and Food Research Initiative [or] AFRI, the 2008 farm bill also gave the title “chief scientist” to the undersecretary in REE and set out some specific tasks for the chief scientist to do.

Clearly, a major part of the role is to be making sure that as program and policy decisions are going forward they’re informed by the science, so that’s one role.

HAGSTROM: Is that within this mission area or in the whole agency?

WOTEKI: I think it means across the department, and it also means across government where the food and agricultural science should be brought to the table as part of the decision making that’s being done.

Another role is looking within the mission area and within the department to do the planning of the agenda of work to be undertaken. The 2008 farm bill established what they called “REE officers” — research, education and economics officers. We’ve included them in what we’ve called the “Office of the Chief Scientist.”

HAGSTROM: These are USDA employees?

WOTEKI: These are USDA employees. We’re also looking to have some people on details from other departments, but these REE officers are helping in putting together both the action plan that we were talking about earlier and also a series of what we’ve called “white papers” that are describing the research agenda that we’re undertaking. In the action plan, it’s just a very brief description with some key questions that we’re addressing. These white papers are much more detailed descriptions of the research agenda that’s being undertaken.

We’re working with the national program staff in each of the four agencies within the mission area and engaging each of the agencies in the development of these research plans, and then we’re also using the Office of the Chief Scientist and the REE officers as ways to interact more closely with other departments in the formulation of the research that we do in conjunction with or in collaboration with other departments.

One really good example of that is in the biofuels area and the research that we

have ongoing along with the Department of Energy in the development to feedstocks, the next generation of feedstocks for biofuels.

HAGSTROM: Why wouldn't the Department of Energy do all the research on biofuels?

WOTEKI: Because some of it is outside their expertise. The expertise that we bring is on germplasm for crops of importance to agriculture.

We have vast germplasm collections in the Agricultural Research Service, and we also have the skills and the know-how as it relates to cropping systems and agronomic practices. That's not expertise that the Department of Energy has, and they're paying attention to the areas in which they do have the expertise.

If we're going to have viable new sources of biofuels, we have to have a very coordinated research program that starts with what is the crop, and how can it be grown in the most sustainable manner, understand the logistics of getting the crop to what will be the point at which the processing will be done. It's at that point that the Department of Energy's expertise takes over into the financing of the research, how will that processing be done, and then how the handoff will be done to the private sector for the final developmental work to make it a commercial product.

That model and way of thinking about what is our appropriate role, what departments and agencies do we partner with, and how do we do the handoff to the private sector at the most appropriate point in time is one that we're taking to other areas in which we do research. When you think about any other aspect of the research that we do, we can apply that model. Whether it's food safety or some of our animal science research and other crops, it fits very well.

HAGSTROM: There's always been this competition between formula funds and competitive grants. Are the Hatch and Smith Lever funds and the competitive grants all under NIFA now?

WOTEKI: Yes.

HAGSTROM: What sort of mix do you see? What is necessary? There are always

people saying that you should just get rid of formula funds and just have competitive grants, and then there are the others who say then the big universities with the grant writing departments will get the money, but that doesn't mean the research will be done where it should be done.

WOTEKI: As a former dean, I do believe that "capacity funds," which is the new term for "formula funds," are really very, very important, but having said that, I do believe that the area of biggest growth for the future in our ag research funding should be in competitive grants.

Here I take a really long historical perspective. I believe that there are things that are unique about agriculture, that we have to take into account when we think about what's the most appropriate way to be funding research.

Next year, 2012, is going to be the 150th anniversary of the enactment of the Morrill Act that created the land grant university system. I have always thought that was an enormous amount of wisdom in that law in that it recognized that there are aspects of agriculture that are very site-specific. They're local and regional. The states have a role in helping to support the research and the extension activities that are going to address those local and state and even regional issues.

The wisdom of the Morrill Act was that in establishing the land grant university, it put education and research and then later the cooperative extension system together in an academic institution. The federal contribution to those activities — the states are required to match it, so it sets up a system that provides the infrastructure for addressing that very site specific nature of agricultural science. I see a continuing need to have that infrastructure today.

When you think about specific crops, citrus is grown predominantly in two states, many of the specialty crops are grown predominantly in just a few states in one region. I see that there needs to be a continued infrastructure in support of those.

Contemporary science [says] there are also a lot of questions that are more fundamental and that are more appropriately addressed through a grants making process in which you're really looking to identify where is the best science going to be brought to bear on these questions.

In many of the fields, the questions that we're facing on genomics, on human nutrition, on food safety [are] not ones that are tied to a specific local area or region. They're ones that are national in scope, and it's for those kinds of issues that I think the competitive grants process works very, very well.

HAGSTROM: The current budget situation raises questions about whether there is duplication. We have a land grant college in each state. You also have a lot of ARS facilities. Do you see either within the land grant system, which would be the extramural, or the ARS facilities, the intramural, opportunities for consolidation to create greater efficiency?

WOTEKI: First of all, I don't think there's that much duplication in the system to begin with. One of the things that we're trying to do with taking this portfolio approach towards the intramural and the extramural programs is to really sharpen up what the role of the intramural laboratories are and how we're going to use the competitive grants and the capacity funds in a way that essentially builds on their strengths.

For instance, the Agricultural Research Service maintains germplasm collections that are extremely important for crop breeding as well as applying the new genetic technologies to develop new crops with specific traits associated with them. That maintenance of a long, long, long-term resource is not something that lends itself to a competitive grant, so there is a uniquely federal responsibility for the maintenance of the germplasm collections.

Similarly, the Census of Agriculture that NASS does and all of the surveys that they do that are so important to commodity markets is also something that's uniquely federal. I don't see that a competitive grants process would be appropriate in that setting.

But there are very specific questions that arise in science that are very appropriate for the competitive process, particularly now with the innovation that Dr. Beachy began of having much larger grants and integrating the research with the undergraduate and graduate education and extension that are taking advantage of the infrastructure that exists in the university community.

HAGSTROM: You've lost both Dr. Beachy at NIFA, and you've lost Katherine Smith, the administrator at ERS. How is your search for new administrators of these agencies going?

WOTEKI: It's going very well. The Economic Research Service position was advertised earlier this summer. It is closing September 15, and every indication is we have some outstanding candidates who have applied for that position. We're looking to expedite the review and selection process and hope to have a new administrator named later this fall.

The NIFA director position is totally different. In the 2008 farm bill, it lays out the requirements. This is a six-year term of appointment. It is a presidential appointment, but it does not require Senate confirmation. Because it is a presidential appointment, we are working very closely with White House personnel in identifying outstanding scientists and are moving forward with interviews with some outstanding candidates.

I had asked for nominations from the scientific societies and many different organizations, and we do have just an amazing list of outstanding nominations. From my perspective, both of those are going very well.

HAGSTROM: When the new person takes over at NIFA, will it be the start of a new six-year appointment, or will it be just the remainder of the Beachy term?

WOTEKI: A new six-year appointment.

HAGSTROM: Like the country in so many other ways, agriculture seems split. The split I see is between the people who are in favor of organic and local production and the people who are in favor of conventional production, large-scale production, and the use of biotechnology. This must come up in your circles. I have been in conversations on both sides in which it's all or nothing, one way or the other. How do you handle these questions when people say why are you funding this or you shouldn't be funding that?

WOTEKI: Secretary Vilsack has given us, in his approach towards this question, really good guidance, and that is that he wants all three kinds of agriculture to be flourishing. The conventional, the organic, and those producers who choose to

use genetically engineered crops.

From my perspective on the science side, there are scientific questions that have to be answered in all three kinds of agriculture. We have specific programs on the organic side, organic research and sustainable agricultural research initiatives under NIFA, the National Institute of Food and Agriculture. The Agricultural Research Service has organic-related research priorities as well, and the number of acres in their research plots that are certified organic has also been increasing over the last several years.

ERS and NASS in their surveys and analyses that they conduct are also addressing questions of importance to all three different types of agricultural producers. From our perspective, we've got interesting questions that arise among all three communities. In many instances, the research that we're doing, particularly at the more fundamental levels to just try to understand the basic biology, is applicable across all three areas.

HAGSTROM: Jose Graziano da Silva, the incoming director general of the U.N. Food and Agriculture Organization, shocked some people in his first press conference by saying that he believed in biotechnology, but is critical of one company owning the rights to it. What's your view on that issue of one corporation holding the rights to a particular technology?

WOTEKI: I strongly believe there's a very important role for publicly funded agricultural science and particularly in this area as it relates to genomics and the application of the science.

There's a huge area of biological science that is in the precompetitive area in which I think it's extremely important that agricultural science continue to be operating.

It's very important that we retain the investment that this country has made historically to support agricultural science and the kind of work that we're doing in the germplasm area, the kind of work that we're doing in identifying traits that are important ones for conveying pest resistance and drought resistance, and as we continue to do, to publish, put those into the public domain, and to enter into appropriate licensing agreements where we believe it's in the best interest of

agriculture to have these transferred into a private company for further development.

HAGSTROM: I've had agriculture professors tell me that they are concerned that the medical schools are becoming dominant in the land grants, but they're overwhelming agriculture. Have you heard this also, and how do you view what seems to be a competition between agriculture and medicine for research dollars and for prominence?

WOTEKI: I don't know if your question is the right question. It was a concern of mine as dean of agriculture at Iowa State that the majority of the funding of research in our College of Agriculture was coming from the National Institutes of Health and the National Science Foundation, much more than from USDA. That's true across the country at the land grant universities.

The effect that that is having, the fact that our competitive grants program is so small, is that agricultural scientists in land grant universities are focusing their research more on questions that are more fundamental, which is the kind of thing that NSF would be funding, or more towards questions of interest to the National Institutes of Health, which also would tend to be more fundamental questions and ones that have some application in human health.

The end result is that the research programs in the land grant universities are going to follow the funding and are moving away from questions that are of more interest and more concern and more relevance to agricultural producers. That's what I see as being the major issue, and why I believe we really need to be seeing increases in funding for agricultural science is in the competitive grants area.

HAGSTROM: Why do you think there is so much more money in NIH and NSF than at USDA for research? Why is it so hard to get the money to come here?

WOTEKI: Part of the reason has been that agricultural science has been so successful.

I was born in the 1940s. In my lifetime, we have not had a food shortage in the United States. When I worked in the Clinton administration as undersecretary for food safety we — "we" meaning the Clinton administration — did an analysis of



critical infrastructure and forgot agriculture. We have had a farm economy that has been able to produce a wide, wide cornucopia of foods at very reasonable prices, and we've developed a complacency.

What I see now is that in order to meet the challenges that we're facing to feed our own population over the next 40 years as well as to maintain a vibrant agricultural sector in the United States, that we really need to increase the amount of research that we're doing to face challenges like we're facing with this variable weather, and how can we increase productivity both in crops as well as in livestock to be able to produce more food on the same amount of land or perhaps less, depending on how climate might change over the next 30 to 40 years.

I think we're at a daunting recognition in this country of the fact that food and the related water issues are likely to be as big a national security issue in our future as our concerns over the last 50 years on nuclear proliferation and terrorism.

HAGSTROM: What is your global perspective on what's happening with agricultural research. Does the United States have to be worried about competition? Are there opportunities for cooperation? Is there any particular field where there's not much going on that worries you?

WOTEKI: The U.S. has for the last 40, 50 years been the largest funder of the science of food and agriculture. Europe has largely reduced its funding over the years, as has Australia. There are countries like Brazil and India that have a substantial [research program] but at this point fairly flat level of investment, nowhere near what the U.S. investment is.

The one country that has dramatically increased its investment in the science of food and agriculture is China, which is fast approaching our level of investment. They very significantly have been focusing on genetics, genomics, and biotechnology.

The overall landscape of where the science is going to be coming from in the future is changing, and given the kind of challenges that we're facing, I am very much concerned about globally how we are planning to conduct this research as well as where is the funding for this going to be coming from.

There are many initiatives. The French, for example, are leading a new wheat research initiative — a very good idea, an important crop.

The New Zealanders a few years ago launched — and the U.S. has been very supportive of it — a global greenhouse gas alliance as it relates to agriculture. [It is focused on] what roles can our research play to reduce greenhouse gas emissions from agricultural production, and how can we through this alliance be sharing information about the research that we're planning to do as well as the results of that research.

There are a lot of these one-off initiatives. My concern is that we need to have a forum for discussing across the board the agricultural research agenda and how we're going to move this forward. The "Feed the Future" initiative that the Agency for International Development is leading for the U.S. is a way for us to, across all of the government science agencies, figure out how our research contributes to the global research agenda, and we're closely working with AID.

\* [[Research, Education and Economics](#)]

\* [["The Agricultural Research Agenda for the 21st Century:" Undersecretary Woteki's Keynote Address at Clemson University, August 23, 2011](#)]

\* [[Economic Research Service](#)]

\* [[National Agriculture Statistics Service](#)]

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\* [[National Institute of Food and Agriculture](#)]

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