NATIONAL COALITION FOR FOOD AND AGRICULTURAL RESEARCH

July 27, 2011-via E-mail to mike.dunlap@mail.house.gov

The Honorable Timothy V. Johnson, Chair
The Honorable Jim Costa, Ranking Member
Subcommittee on Rural Development, Research, Biotechnology and Foreign Agriculture
Committee on Agriculture
U.S. House of Representatives
Washington, DC 20515

RE: Comments on USDA Research Programs

Dear Chairman Johnson and Ranking Member Costa:

On behalf of the National Coalition for Food and Agricultural Research (National C-FAR), I am pleased to submit these comments for the July 28 hearing record, "Agricultural Program Audit: Examination of USDA Research Programs." National C-FAR is pleased that the Subcommittee is holding this hearing learn how the 2008 Farm Bill research title provisions are being implemented, while looking ahead to the 2012 Farm Bill reauthorization.

National C-FAR is a nonprofit, nonpartisan, consensus-based and *customer-led* coalition that brings food, agriculture, nutrition, conservation and natural resource stakeholders together with the food and agriculture research and extension community, serving as a forum and a unified voice in support of sustaining and increasing public investment at the national level in food and agricultural research, extension and education.

Entire Farm Bill Dependent on Successful Research Title—The Research Title of the Farm Bill represents the nation's signature federal investment in the future of the food and agricultural sector. Other Farm Bill titles depend heavily upon the Research Title for tools to help achieve their stated objectives. Public investment in food and agricultural research, extension and education today and in the future must simultaneously satisfy multiple needs, including food quality and quantity, nutrition, food safety, resource preservation and producer profitability.

Scientific outcomes and tools realized through USDA's research, education and economics (REE) mission are needed to help achieve safer, more nutritious, convenient and affordable foods delivered to sustain a well nourished, healthy population; more efficient and environmentally friendly food, fiber and forest production; improved water quality, land conservation, wildlife and other environmental conditions; less dependence on non-renewable sources of energy; expanded global markets and improved balance of trade ; and more jobs and sustainable rural economic development.

Societal demands and expectations placed upon the food and agricultural system are ever-changing and growing. Examples of current and future needs include—strengthened bio-security; food-linked health costs; environment and conservation; farm income and rural revitalization; biofuels and climate change; the world demand for food and natural fiber and improved diets; and biotechnology and genetic resources research and public oversight.

Unsustainable Research Funding Deficit Threatens Future of U.S. Agriculture— At the risk of oversimplification, funding is the fuel for the USDA REE mission engine that determines how effectively the action plan will be implemented. National C-FAR believes the nation has a serious food and agricultural science deficit, just as the nation has a budget deficit. This food and agricultural science funding deficit is serious, long running and unsustainable. Failure to address this research deficit will have real negative consequences, not just to the agriculture and food system but to the entire nation and U.S. economy. If USDA's research mission continues to be starved for funds, any action plan is destined to fall short of not only its potential but of leading to the outcomes this nation needs from the food and agricultural system.

National C-FAR's support for funding encompasses the entire USDA REE mission—both inter- and intra-mural programs—including the National Institute of Food and Agriculture (NIFA), the Agricultural Research Service (ARS), the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS), as well as the Forest Service research program.

National C-FAR's strong support for a NIFA and other reforms in the Research Title of the 2008 Farm Bill was motivated by the belief that such reforms would result in increased funding for food and ag research. Unfortunately, that has not been the case.

By any measure, federal funding for food and agricultural REE has failed to keep pace with identified priority needs. Federal investment in research and development at the USDA has declined by about one-fourth since FY 2003. A continuing deficit in terms of a commitment to federal funding for agricultural research will have detrimental effects on human and animal health and the nation's economy.

Recent fundamental changes in the budget process have exacerbated the deficit. Agricultural research has historically been more heavily 'earmarked' than other spending accounts. With the elimination of congressionally directed spending from the budget process and failure to recapture the funds involved, the critical USDA REE mission has been disproportionately impacted.

Unless sufficient funding is achieved, the best concepts about how to organize and conduct research won't be able to deliver the results needed by the nation. With the nation and world seeking solutions for climate change, sustainable fuel production, ecosystem health, food security and nutrition challenges, now is the time to grow investment in our nation's agricultural research enterprise.

Research <u>Business</u> Plan Needed—This quest starts with articulating a compelling case to fund unmet needs. National C-FAR recommends that this Subcommittee and USDA make it a priority to identify current and future challenges to the food and agricultural sector and the REE needs and resource requirements to respond to those challenges in the coming years in a timely and effective manner.

USDA has involved stakeholders in the development of a new REE Action Plan. Consistent with our stated mission, National C-FAR's input focused on how the plan articulates the case for addressing the longstanding REE funding deficit and helps lay the groundwork for necessary increases in federal investment.

National C-FAR recommended that the REE Action Plan include a thoughtful and credible "*Research Business Plan,*" either as part of the Action Plan, or as a necessary complement. The REE Action Plan is a hollow shell unless the resources needed to accomplish stated goals are identified and articulated, with a business/action plan to secure the necessary resources.

Such a "Research Business Plan" should make the best case possible for how much funding is needed to achieve the goals and REE programs intended to meet those goals, as well as the likely consequences of not providing sufficient funding. For example, an evaluation of performance and needs should address the following—

- What is the best estimate of funding needed to accomplish stated desired outcomes?
- What is the appropriate food and agricultural science role of the public sector vs. the private sector? Publicly financed REE is a *necessary complement to private sector research*, focusing in areas where the private sector does not have an incentive to invest, when 1) the pay-off is over a long term; 2) the potential market is more speculative; 3) the effort is during the pre-technology stage; and 4) where the benefits are widely diffused.
- How will the Action Plan (and outcomes) be impacted by different funding levels—for example, current funding, 2X funding, funding at a level identified as needed to accomplish all stated goals, 0.5X funding?
- How will priorities change based on different funding levels? How will outcomes be affected? What priority needs will not be addressed due to insufficient funding? Will outcomes still be timely to meet identified challenges, like closing the productivity gap in time to feed 9 billion people?

Those responsible for making difficult decisions about shaping the 2012 Farm Bill and future budgets in Congress and the Administration arguably don't have even the basic information needed to make informed decisions about REE funding levels with the information currently available. Those who read the USDA Action Plan should also come away with an appreciation of what will and won't be addressed at different resource levels.

- While studies touting the high returns on public investment are helpful, that doesn't appear to be compelling enough to attract additional funding, especially when the trend is to during these challenging budget times is to cut spending, not increase it.
- National C-FAR recommends that USDA's REE Action Plan—and its implementation—should emphasize the current leadership's commitment to focusing resources to make a difference rather than spreading limited funds a mile wide and an inch deep.

- The Action Plan should articulate choices on what will and will not be done [and done well] at different resource scenario levels.

Invest in Research Business Plan—USDA and the Administration should base annual budget requests for the REE mission on such a needs assessment. The crafting of the research component of the 2012 Farm Bill should be shaped around meeting future challenges and needs.

If "Research Business Plan" answers aren't available, then it is time to invest additional resources in developing defensible answers—even if just through a building block approach, improving the quality of information provided to budget decision makers a step at a time so they can better understand the rationale of budget requests and likely consequences of funding decisions. This is a shared responsibility—of USDA, Congress and REE stakeholders—those who authorize and fund the programs, those who manage the programs and those who need the outcomes.

For example, a "productivity gap" has been identified in tracking what will be needed to produce enough food to feed 9 billion people.

- What is the commensurate "research gap" in developing the science and tools to close the productivity gap?
- What are defensible estimates of how much will be needed—and when (lead times)?
- What is the appropriate and/or necessary portion/role of public sector REE investment?
- How much can leveraging contribute to closing the "research gap?"
- What are the consequences of not committing to adequate public investment?

To the credit of the USDA Economic Research Service, a peer-reviewed, new report, "*Public Agriculture Research Spending and Future U.S. Agricultural Productivity Growth: Scenarios for 2010-2050,*" (Heisey, Wang and Fuglie, Economic Report No. EB-17, July 2011, http://www.ers.usda.gov/publications/eb17) has just been released that provides timely analysis and perspective on the vital linkage between investments in research and productivity. In brief:

> "By 2050, global agricultural demand is projected to grow by 70-100 percent due to population growth, energy demands, and higher incomes in developing countries. Meeting this demand from existing agricultural resources will require raising global agricultural total factor productivity (TFP) by a similar level. The rate of TFP growth of U.S. agriculture has averaged about 1.5 percent annually over the past 50 years, but stagnant (inflation-adjusted) funding for public agricultural research since the 1980s may be causing agricultural TFP growth to slow down. ERS simulations indicate that if U.S. public agricultural R&D spending remains constant (in nominal terms) until 2050, the annual rate of agricultural TFP growth will fall to under 0.75 percent and U.S. agricultural output will increase by only 40 percent by 2050. Under this scenario, raising output beyond this level would require bringing more land, labor, capital, materials, and other resources into production."

National C-FAR recommends utilizing this analysis and related new information as a reference point in evaluating USDA's research program and moving forward.

In "*Investing in a Better Future through Public Agricultural Research*," a Commentary released on March 14, 2011 by the Council for Agricultural Science and Technology (CAST Commentary QTA2011-1), the authors make a number of salient observations that National C-FAR believes are germane to the funding debate and the future viability of USDA's research program—

- The benefits of past public investments in ag research are measurable on multiple fronts. For example, farm productivity has increased, and the share of U.S. household income spent on food has declined to less than 10%.
- Numerous studies find rates of return on public ag research investments of 20 to 80%. Huffman and Evenson (2006) estimate a marginal rate of return of approximately 50%. This level is approached by few other public sector investments.
- Publicly funded food and ag research in the U.S. has been essentially flat over the past two decades, while funding of other research fields has increased significantly. Public funding of agricultural research in the rest of the world during the same time period has outpaced investment in the U.S.
- Advances in new science and technologies involve long gestation periods, with later advances built on earlier successes. Time lags between publicly funded ag research and benefits are long, with a delay before any benefits are realized.
- There is an important and necessary role for public research because the private sector faces weak incentives to undertake research in numerous areas of national interest. Most research in general, basic and pre-invention sciences occurs in public and private universities. Applied research is shared among universities, government institutions and private firms.
- Funding for both inter- and intra-mural research is important, as is formula funding, given the "placed-based" nature of agricultural science.
- World population continues to grow. Demand for food will be much greater, and limited new land is available.
- Agricultural research is a low-cost source of future agricultural productivity and output increases, but advances in the frontiers of science are difficult and uncertain, translating into long lags, typically 15-20 years. Productivity cannot be easily jump-started after a long period of stagnant investment in public agricultural research.
- With agricultural research funding delays, productivity increases are expected to slow, and world food prices will rise more rapidly than otherwise projected during the next 40 years.

Other touchstone issues in evaluating USDA's research program include:

- The role of the private vs. public sector in committing to investments.
- How does our nation invest in the science needed to do our part in helping feed a global population that is projected to grow to 9 billion people in the not too distant future?
- How do we develop the science needed to achieve other goals expected and demanded of the food and agriculture sector, like biofuels, conservation, nutrition, food safety and environmental protection?
- How do we develop the science needed to sustain the natural resource base upon which agriculture depends while achieving all the other goals?
- What are the top priorities of USDA's research program? While USDA's research Action Plan presents a list, it is not clear what is most important and how resources are being allocated.

National C-FAR believes it is imperative to lay the groundwork now to respond to the many challenges and promising opportunities ahead through federal policies and programs needed to promote the long-term health and vitality of food and agriculture for the benefit of both consumers and producers. Stronger public investment in food and agricultural REE is essential in producing research outcomes needed to help deliver beneficial and timely solutions on a sustainable basis. The potential payoff is enormous for Americans' health, rural America and agriculture and the nation's economy, and world food security. It is equally sobering to reflect on the likely negative consequences of not making the necessary investments.

National C-FAR and others in the stakeholder community bear a commensurate responsibility in articulating needs and making the case for increased funding. It is incumbent on USDA, stakeholders in the REE and "customer" communities, and the Congress to find the will and a way to increase investments in this vital mission area and turn our shared hope into an operational reality.

Thank you for the opportunity to share our views.

Sincerely,

R. Thomas Van Arsdall

R. Thomas Van Arsdall, Executive Director