STATEMENT OF
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to the
U.S. SENATE COMMITTEE ON AGRICULTURE,
NUTRITION AND FORESTRY
at the hearing on
Investing in Our Nation's Future through Agricultural Research
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Good morning Mr. Chairman and Members of the Committee. Thank you for this opportunity to testify on agricultural research, education and extension investments and the 2007 Farm Bill. My name is Francis Thicke and I am a farmer from Fairfield in Southeast Iowa. My wife, Susan, and I own and operate an organic, grass-based dairy farm where we process our milk on the farm and market fluid milk, yogurt and cheese through local grocery stores and restaurants. The rotational grazing based farm is managed organically to improve soil life as well as plant and livestock diversity.

I hold an MS in soil science from the University of Minnesota and a PhD in agronomy from the University of Illinois and worked in Washington D.C. as the National Program Leader for soil science for the USDA-Extension Service before moving to Iowa to start the dairy farm. In addition, I have worked with the Midwest Organic and Sustainable Education Service, the Scientific Congress on Organic Agriculture Research, and the Iowa Food Policy Council. I am currently a member of the USDA's NRCS State Technical Committee for Iowa and the Iowa Environmental Protection Commission. I am a member of Practical Farmers of Iowa and serve on the Board of the Organic Farming Research Foundation. I was in Washington just a week ago as a reviewer on the technical review committee for USDA's Integrated Organic research program.

The research title of the farm bill is no doubt not the most talked about subject when Congress turns its attention to the renewal of basic farm legislation. But it is our research policies and our investment in research, education and extension programs that perhaps most profoundly, over the long term, help determine what kinds of farms and rural communities we will have in the future. If we want thriving, widely dispersed family farms and vibrant farm communities, research policy needs to explicitly serve that objective. Research policies and investments also help determine whether we solve today's pressing agro-environmental and rural economic problems or whether we fail to do so. Research policies and investments help determine whether we can create a sustainable system of agriculturally-based energy production and conservation, or whether our energy needs will lead to destructive agricultural practices. Research policies and investments help determine whether revitalized local and regional food systems that promote healthy farms, healthy food, and healthy communities will take hold or grow.

No doubt everyone testifying today agrees that food, agricultural and rural research must be placed much higher on the national agenda and that long-stagnated federal funding levels need a major shot in the arm. The rate of return to publicly supported agricultural research is very

high. If publicly supported research aligns itself with high ranking and widely supported public benefits - nutritional needs, environmental enhancement, new and increased farming opportunities, a growing rural economy and improving quality of life, contributions to slowing global warming, and so on - the future for increased public investment could be bright. In that light, I would like to address several key issues for the coming farm bill.

Initiative for Future Agriculture and Food Systems

The Agricultural Research, Extension and Education Reform Act of 1998 provided the USDA's Cooperative State Research Education and Extension Service (CSREES) with mandatory spending authority of $120 million a year for five years to establish an Initiative for Future Agriculture and Food Systems (IFAFS). IFAFS provided competitive grants to address numerous current and emerging farm and food issues, with a focus on family farm and ranch profitability, environmental performance of farming systems and natural resource management, and improvements in future food production systems including food safety, technology and human nutrition. Congress placed special emphasis on research to improve the viability and competitiveness of small- and medium-sized dairy, livestock, crop and other commodity operations. The 2002 Farm Bill increased IFAFS mandatory funding levels to $200 million and added rural economic and community development to the list of IFAFS program emphases.

The IFAFS program provided very significant additional competitive grant research funds to what was already available through the National Research Initiative, Sustainable Agriculture Research and Education Program, Integrated Pest Management, and other competitive programs. IFAFS has emphasized outcome-based research to focus on approaches and solutions to real world problems affecting farmers and ranchers, rural communities, and public health and food choices. Priority for funding was for those proposals that were multi-state, multi-institutional, or multi-disciplinary, or that integrated agricultural research, extension, and/or education.

Despite widespread support for IFAFS and despite its brief, but excellent track record for supporting cutting-edge applied research, Congress in recent years has greatly reduced IFAFS funding through legislative riders on the annual appropriations bill. The $35-45 million a year left remaining in the program has been shifted into the National Research Initiative (NRI) competitive grants program as an appropriated subset of NRI funding targeted specifically for outcome-based research that relate directly to the IFAFS objectives. This is a strained and strange way of legislating, but at least it has kept the program alive. The new farm bill provides an opportunity to revisit this issue, restore funding, and focus the program.

In my view, the farm bill should retain IFAFS and the $200 million a year funding baseline to provide new research, education and extension funding for integrated, inter-disciplinary, outcome-based research to:

? improve the competitiveness and viability of small and moderate-size family farms;
? renew the health and vitality of rural communities;
? enhance natural resource protection and ecological health; and
? create new farm and food system approaches to improved public health, food safety, and

human nutrition.

In addition to currently designated high priority mission areas for the program, including food safety, food technology, and human nutrition, new and alternative uses and production of agricultural commodities and products, natural resource and environmental management, farm efficiency and profitability, including the viability and competitiveness of small and medium-sized farms, the program should also pursue outcome-based research on:

? sustainable and renewable agriculturally-based energy production options and policies;
? public plant and animal breeding and genetic conservation;
? ecosystem services and outcome-based conservation programs and markets;
? climate change mitigation, including soil carbon management and sequestration and alternative livestock systems;
? farming and ranching opportunities and entry and transition options for new and beginning farmers and ranchers, including socially disadvantaged farmers and ranchers;
? agricultural and rural entrepreneurship and business and community development; and
? local and regional food systems, including mid-tier production, processing and marketing activities and networks.

To be clear, I am not making the case that there should not be increased investment in basic and fundamental research, nor am I making the case that the farm bill should start the process of making those new investments. I am, however, saying there is an equally strong need for a robust competitive grants program for integrated and applied research, education, and extension and that this Committee made the right decision in creating IFAFS in the first place and then increasing its mandate and funding in the last farm bill. I would strongly encourage you to continue in this vein, maintaining the program, restoring its funding for 2008 and 2009, and then keeping its funding intact for the years following. If an institute of some kind is created to invest more in basic research, in my mind, the two programs could stand proudly side-by-side, and, with a reasonable degree of coordination, could work quite well together.

Let me add one quick word about program design. I have had experience with technical and peer review in a number of research and extension programs. From that experience, I draw a number of important learnings. First, there is an important role for both merit and relevancy review. All competitive grants programs should include both facets and both should be rigorous. Second, stakeholder involvement, including farmer and other end-user involvement, is very helpful for more applied research programs and even sometimes for more basic research. Third, if a program emphasizes interdisciplinary research, it is critical for review panels to also collectively represent the views of a diversity of disciplines, including at least one member with expertise in technology assessment. Finally, between annual requests for proposals, it improves the programs and increases public interest in the research field if program priorities are open for public comment on an ongoing basis.

Organic Research, Education and Extension

Organic farming provides multiple benefits that contribute to U.S. strategic goals for agriculture including: a safe and secure food system; environmental protection; increased trade opportunities; improved human health and nutrition; and prosperous rural communities.

Organic agriculture markets have grown at a remarkable rate in the range of 15 to 20 percent every year over this last decade and it appears that growth is not going to slow down any time soon. Unfortunately consumer demand is far outpacing supply. We are beginning to lose markets to foreign competition because of our failure to promote organic agriculture as a matter of policy. We should set an ambitious goal -- to supply 15 percent or more of our nation's food supply from organic farms within ten years - and then develop good policy to help achieve it.

Federal agricultural research dollars dedicated to organics are disproportionately low in relation to the size of the organic industry. Only since 1998 has organic research been funded at all, and it currently receives far less than a proportionate share of federal agriculture research dollars. In FY 2004, USDA research and extension expenditures equaled $2.5 billion, but only about $10 million (0.4 percent) went to organic-specific research and extension.

Organic research programs should receive a fair share of USDA resources, one reflecting the growth and opportunities of the organic sector, which currently represents three percent of total U.S. retail food sales and continues to grow by nearly 20 percent a year. USDA should both expand programs explicitly targeted to organic agriculture and increase the specific attention given to organic farming and ranching systems across the full range of federal agricultural research and extension programs.

In 2004, the Agricultural Research Service spent about $3.5 million on organic-specific projects, or about 0.35 percent of ARS annual expenditures. A framework of "fair share" funding of organic agricultural research, based on the organic share of U.S. food sales, calls for at least a 9-fold increase in ARS resources explicitly allocated to organic. Moreover, if we are going to grow the organic sector and make better use of its ability to solve environmental problems and help moderate-scale family farms prosper, then we need to be working toward a much larger increase.

Last fall I participated in an ARS workshop to lay out research priorities for the next five years. It became clear during the planning workshop that ARS has many scientists with interest, expertise and motivation to do research on organic systems. What is lacking is funding to support those research objectives.

The Integrated Organic Program (IOP) is a competitive grants program managed under the Cooperative State Research, Education and Extension Service (CSREES) Plant and Animals Systems division. The IOP is comprised of the farm bill's Organic Research and Extension Initiative, funded with mandatory farm bill dollars ($3 million annually under the terms of the 2002 Farm Bill), and the Organic Transitions Program, funded with discretionary dollars through the annual appropriations process (currently about $2 million a year). Because of the high level of interest in this program, only about 10 percent of qualified applicants have been able to receive funding. Demand for this program is expected to grow rapidly as the sector as a whole continues to expand.

Recently I had the opportunity to review a number of grant projects from the USDA Integrated Organic Program (IOP). The quality of research and extension work being done under this program is impressive. Much progress has been made in understanding how natural ecosystems regulate soil fertility and provide protections against disease and pest infestations.

Innovative application of this new knowledge is helping researchers design integrated organic farming systems that preclude the need for the use of pesticides and synthetic fertilizers.

This integrated systems research fostered by the IOP would not likely have been undertaken in conventional agriculture research programs, which instead often focus on efficacies of pesticide and fertilizer use. However, research findings from the IOP are fully applicable to conventional agriculture and should help reduce loadings of pesticides and fertilizers to our natural resources.

Last week I served on the review panel assigned the task of recommending which of the 60 research proposals submitted to the IOP for FY07 should be funded. It was a difficult task because at least 30% of the proposals were truly outstanding and the IOP budget allowed funding for only about 10% of them.

The relative lack of capacity within Extension for organic services and technology transfer is also a limiting factor for organic conversion. As funding ramps up for the IOP, this barrier might begin to be lowered. Ideally, each state will commit to putting in place regional organic specialists, who in turn will work with the established organic education non-governmental organizations on the ground and with established organic farmers to develop state plans and outreach efforts to provide producers with the information they need to transition and become successful.

Here is a framework I would suggest the Committee think about for moving forward on organic research, education, economics and extension.

First, as you contemplate multiple proposals for major restructuring of USDA-REE agencies and federal funding for land grant and other universities, do not allow organic research to get lost in the shuffle. We need to maintain and build on the meager but important programs we currently have, not allow them to be absorbed and then redirected and forgotten about.

Second, I certainly hope the Committee will be moving forward with farm bill provisions for organic outside of the research title, with initiatives like organic certification cost share, organic conversion technical and financial assistance, improvements for organic crop insurance, and the like. Organic research activities should fit within an overall framework. Legislative policy should address the needs and opportunities of organic agriculture as a whole, taking an integrated approach to policy goals and funding levels. Appropriate configuration of agency roles, and objectives should follow logically from the overall integrated strategy.

Third, steps should be taken to provide organic food and farming with its fair share. Established trends will take organic "market share" to over 10% by FY 2012. Due in part to the dearth of research and development funding, U.S. producers will fall further behind the growing requirements for organic supplies, and the balance of trade in organic goods will continue to worsen. Given market share and market trends, it is entirely reasonable for the total federal investment in organic research and extension to average $120 million or more over the coming five years, even if total research funding remained stagnant.

That level of investment might not be possible to achieve overnight, but in the context of the

farm bill, I would suggest a major down payment be made by increasing the Integrated Organic Program from $3 million to $15 million per year and instituting a national program in organic at the Agriculture Research Service with at least $25 million in annual funding. Alternatively, a single $40 million competitive grants program could be created out of the IOP that would involve ARS and CSREES or whatever restructured REE agency might be created. With some additional discretionary funding and with some organic projects being funded under other competitive grants programs, a $40 million annual organic specific funding level in the farm bill would put us on the path toward a fair share.

Fourth, it's not all about funding, of course. We need to establish permanent scientific and administrative leadership positions to coordinate all REE agency activities in organic agriculture. There needs to be long-term core capacities within each region of USDA-ARS, including the National Agriculture Library. We need to provide capacity for state and multi-state organic extension services. Organic data collection program efforts have started, but the information flow continues to lag far behind the needs of the industry. I would hope the agencies are looking carefully at these needs and responding with accelerated and coordinated efforts.

Public Plant and Animal Breeding Research

The nation's agriculture is at a critical juncture, with our capacity to conserve and further develop publicly available crop and livestock varieties and breeds seriously limited. Research dollars for classical plant breeders have declined significantly. We desperately need to support the development of public varieties that meet the unique needs of organic and sustainable agriculture. Numerous organizations and academics have voiced concern about the erosion of the infrastructure and funding for public plant and animal breeding in the U.S. Many of these concerns are documented in a report entitled Reinvigorating Public Plant & Animal Breeding for a Sustainable Future (Dec. 2005) which was prepared by the Sustainable Agriculture Coalition (posted on the web at www.msawg.org/pdf1/Seeds&Breeds.pdf).

The 2007 Farm Bill provides an excellent opportunity to reinvigorate and improve our public crop and livestock breeding programs, contributing to our long term food security, increased economic opportunities for farmers and ranchers, and improved food quality. A starting point would be to include and expand on report language provided by the Senate Appropriations Committee in the FY2007 Agriculture Appropriations bill that directed USDA within the NRI " . . . to establish a specific category of grant application requests for classical plant and animal breeding to foster more diverse, energy efficient, and environmentally sustainable agricultural systems." The Farm Bill should clearly designate classical plant and animal breeding as a priority within the NRI, IFAFS, and any new competitive grants programs, and should provide for longer term grant periods for this work.

In addition, the 2007 Farm Bill should reauthorize the National Genetic Resource Program established in the 1990 Farm Bill and increase financial and personnel support for the collection, preservation and evaluation of germplasm collections and for increased public use of the rich sources of genetic diversity in the U.S. germplasm collections. The Agricultural Research Service plant and animal national programs should be directed to accelerate long-term research on plant and animal breeding, including the development of finished varieties. The aim

should be to foster more diverse, energy efficient, and environmentally sustainable agricultural systems.

In addition, through both ARS and CSREES, funding should be provided for partnerships with non-profit organizations and farmers and ranchers with a goal of increasing publicly available seeds and animal germplasm for sustainable and organic production systems, based on the models developed by the Farmer Cooperative Genome Project, the Public Seed Initiative funded by IFAFS, and the Organic Seed Partnership funded by the IOP. Some of these funded partnerships should provide incentive programs for farmers and farmer associations to participate in testing, selection, seed increase, and evaluation of plant varieties in germplasm repositories.

Sustainable Agriculture Research and Education (SARE) Program & The National Sustainable Agriculture Information Service (ATTRA)

USDA currently has two programs that generate and provide a wealth of research information for the nation's sustainable and organic farmers and ranchers. During my time with the Extension Service here in Washington as National Program Leader for Soils, I had the exciting privilege to help get both programs started, and now, from the vantage point of a farmer and end user of the research and information, I applaud them for the great things they have achieved in the intervening years.

The first is the Sustainable Agriculture Research and Education (SARE) program, which will celebrate its 20th birthday in 2008. The SARE Program, created by the 1985 and 1990 Farm Bills and administered by the Cooperative State Research, Education and Extension Service (CSREES), has been the flagship research program for sustainable agriculture at USDA. SARE has consistently won awards for being a model USDA program, with strong farmer participation, practical, outcome-oriented research results, a cost-effective regional delivery system, and great customer service and public outreach. SARE projects involve farmers and ranchers directly in research as the primary investigator in small producer grants or sometimes as cooperators in larger research and education grants.

In addition, SARE's Professional Development Program grants provide information and training on sustainable systems to a wide array of USDA and university personnel, extension agents, conservation professionals, and others who provide technical assistance to farmers and ranchers. I also note that with its experience in working with farmers to test and establish new sustainable agricultural systems, the SARE program is well-positioned to be a key player in the research and technical assistance needed to develop cellulosic feedstocks for bioenergy in sustainable perennial or rotational plant systems which can also provide forages and hay for livestock.

In the 1990 Farm Bill, Congress determined that SARE should be funded at no less than $60 million a year, consistent with recommendations a year earlier from the National Academy of Sciences. Yet, despite this acclaim, Congress has never provided more than $19 million annually for the program. Sadly, the current appropriation is several million dollars lower. I would strongly urge every member of this Committee to submit a $20 million or higher

appropriations request for the FY 2008 funding cycle. While this is still far below what the program should be receiving, it would nonetheless be fitting for the program to reach $20 million in its 20th year.

The SARE program does not require a reauthorization. I do want to note my support, however, for Senator Russ Feingold's farm bill proposal to focus attention on the one element of the original SARE authorization - a federal-state matching grant program to enhance sustainable agriculture research programs and centers at the state and university level. Senator Feingold's Rural Opportunities Act would provide direct farm bill resources to begin this long-delayed matching program. I applaud his efforts and encourage the Committee to seriously consider his proposal.

The National Sustainable Agriculture Information Service, also known as ATTRA, provides information and technical assistance to farmers, ranchers, extension agents, educators, and others involved in sustainable agriculture in the United States. ATTRA was authorized as part of the research title of the 1985 Farm Bill. ATTRA is a valuable complement to the SARE program and other USDA research programs through its provision of readily accessible sustainable and organic farming information to farmers and ranchers across the nation. More recently, ATTRA has also expanded resources for farm energy conservation and renewable energy production.

With a shoestring budget of only $2.5 million per year, the ATTRA project funds more than 20 agricultural specialists working in six locations around the country who answer farmers questions over a hotline and prepare ATTRA publications and customized research reports. Requests for ATTRA's reports and information have grown from 2,900 in 1987 to more than 35,000 in 2006. To keep pace with this increased public demand for ATTRA's services, I urge members of this the Committee to support an increase in funding for ATTRA to $3.0 million in FY 2008 in the funding requests to the Appropriations Committee.

Allow me to make a personal observation about the recent FY 2007 funding bill. Shockingly, a program authorized by the Farm Bill and funded by Congress in each of the past 20 years was, as you say in Washington, "zeroed out" as an "earmark". It is difficult for me to understand how it is possible for a national program, authorized by the Farm Bill, and funded consistently over two decades to suddenly come to be defined as an earmark. As the Committee of jurisdiction, I hope you will not sit by and allow this unfair and frankly mistaken attack to occur without a response. I encourage you to do whatever you can to help ensure that USDA funds the program in 2007, and then, as you work on the farm bill, would suggest that it might be time to revisit and reauthorize the program, providing it with a new home within sustainable agriculture at CSREES. You will need to talk with those much closer to the program than I am to determine just how that should be done, but as a farmer who uses ATTRA materials and regularly refers other farmers to them, I encourage you to find a workable solution.

In closing, my wish for the farm bill is a renewal and expansion of funding for the full scope of agricultural research, education and extension. Agricultural research programs should incorporate stakeholder participation at every step in the process, from setting priorities to accessing and assessing the results. We need a balanced federal portfolio, covering both basic and outcome-based research, with a strong emphasis on integrated activities and

interdisciplinary systems work. And we need to begin to level the playing field by increasing our investments in organic and sustainable agriculture research and extension. Thank you for the opportunity to testify. I would be happy to try to answer any questions you might have.