



FRIENDS OF AGRICULTURAL RESEARCH—BELTSVILLE (FAR—B)

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*Dedicated to Promoting the Research and Education Mission of the Henry A. Wallace
Beltsville Agricultural Research Center, Beltsville, Maryland*

**Testimony for the
Subcommittee on Agriculture, Rural Development and Related Agencies
Committee on Appropriations
United States Senate**

March 23, 2007

Mr. Chairman, and Members of the Subcommittee, thank you for this opportunity to present our statement regarding funding for the Department of Agriculture's Agricultural Research Service (ARS), and especially for the Agency's flagship research facility, the Henry A. Wallace **Beltsville Agricultural Research Center (BARC), in Maryland**. Our organization—**Friends of Agricultural Research--Beltsville**—promotes the Center's current and long-term agricultural research, outreach, and educational missions.

Our testimony will emphasize two main themes: **First**, we begin by adding our strongest endorsement for **high-value "new" research items** proposed in the President's FY08 budget. We provide additional support for each new research item in Part I.

Second, we recommend and urge continuing full support **for on-going research** that the Congress has **previously mandated** to be carried out at BARC. Support for these items is **essential to sustaining irreplaceable research momentum now and fundamental to the success of American agriculture in the future**. We will elaborate on the basis for our recommendations in Part II.

Part I. New Research Items Proposed in the FY08 Budget

Obesity Prevention Research, \$1,150,000: Obesity is a growing health menace in the United States. Today, an estimated 64 percent of all Americans are overweight or obese. Obesity has been linked to heart disease, stroke and cancer, and thus to spiraling health problems and rapidly rising health care costs. These funds would provide critical support for BARC and its collaborators to pursue vital clinical and translational research on the efficacy of the Dietary Guidelines and to develop improved strategies for preventing unhealthy weight gain in the diverse American population. **We urge support for this research.**

Food Safety, \$708,000: Maintaining consumer confidence in the safety of the U. S food supply is a primary goal for producers and marketing managers. Recent isolated food safety incidents highlight the need for research to identify points in the food chain where

food can become contaminated by chemical residues, pathogenic bacteria or toxins that are capable of causing severe illness, even death in worst case situations. These funds provide the resources to examine production systems and pre-harvest crop management practices thoroughly, especially for leafy vegetables and organic produce. **We endorse full funding for this work.**

Research to Support the Animal and Plant Health Inspection Service, APHIS, Citrus Canker and Ralstonia, \$850,000: APHIS needs effective diagnostic tools to identify emerging citrus and tree fruits diseases, to confirm infections in epidemiological studies, and to carry out regulatory programs. This research also strengthens the National Citrus Pathogen Collection, which is essential for effective citrus disease research. Some of this research may be directed to Ralstonia, a bacterial pathogen not known to occur in the United States. Ralstonia causes wilt in potatoes, tomatoes, peppers, eggplant, and other crop plants. APHIS and ARS need to design survey protocols to detect and track plant disease agents and to identify crop pathogen threats. **Research on diseases of citrus, tree fruits, and other crops is extremely under funded. We strongly urge support for strengthening plant disease research and for supporting the action mission of the Animal and Plant Health Inspection Service.**

Emerging Diseases and Animal Health, \$1,165,000: Globalization of trade and the growing movement of people and goods around the world steadily raise the threat of disease outbreaks in the United States. Diseases such as avian influenza, bovine diarrhea, transmissible spongiform encephalopathies, and porcine reproductive and respiratory disease are among many such disease threats. Effective control strategies require a more complete understanding of not only the basic biology of pathogens and their mode of transmission but also of the animal's immune system for resisting infections. BARC has one of the country's premiere groups of scientists engaged in livestock immunology research. This funding would strengthen their research effort to more fully unravel the complexity of the animal's immune system and protect the health of U.S. livestock. This research is vital to advancing our understanding of livestock immunology, and for protecting and improving animal health. **We support full funding for these studies.**

Emerging Diseases of Livestock, \$195,000: This research is vital to further understanding genetics and genomics methods to improve disease resistance in livestock. **We recommend full funding.**

Emerging Diseases in Crops, \$500,000: We confirm and support the proposal to develop diagnostics for rapid, practical, and specific identification of pathogens. **This is an under funded research area, and we recommend full support.**

Soybean and Wheat Stem Rust, \$300, 000: This goal here is to identify and incorporate diverse sources of genetic resistance into new grain and soybean varieties and germplasm. **We fully support this research.**

Plant Introduction Stations and the National Plant Germplasm System, \$500,000:

These funds are necessary for making germplasm and associated information more readily available to research programs and user stakeholders. These funds are needed to support the activities of the Germplasm Resources Information Network, or GRIN, which provides germplasm information about plants, animals, microbes and invertebrates. **We recommend full funding.**

Specialty Crops Genetic Resources, \$250,000: These funds will provide floral and nursery plant research to support the research mission of the U.S. National Arboretum. **Full funding is recommended.**

Part II. Now we turn to the urgent **need to continue support for specific research areas that the Congress has mandated at BARC in previous fiscal years.** These mandates address research that has enormous national impact. We list them here with brief descriptions and our recommendations for continued funding.

Dairy genetics: For over 75 years, the Animal Improvement Programs Laboratory has created statistical genetic predictions to aid the dairy industry in identifying the best bulls for dairy breeding. Genetic improvement in dairy cattle has steadily increased milk yield per cow and feed efficiency (milk produced per pound of feed) over many years. The result is lower milk prices for consumers and less animal waste to contaminate the environment because fewer cows are needed to produce the nation's milk supply. **We confirm that this mission critical research should continue.**

Barley health food benefits: Barley contains soluble fiber compounds, called beta-glucans, that are beneficial for health. Beta-glucans can lower cholesterol and improve control of insulin and blood sugar. These funds support human-volunteer studies designed to help us better understand how barley could be used in a healthful diet to reduce the incidence of chronic disease. **We recommend continued support.**

Biomineral soil amendments for control of nematodes: Plant nematodes are microscopic worms that feed on the roots of plants. Nematodes can cause substantial losses in crop yields. This research focuses on using such industrial byproducts as environmentally benign soil additives for controlling nematodes. **We recommend funding for these promising approaches.**

Foundry Sand byproducts utilization: Waste sands from the metal-casting industry currently are dumped in landfills. This project is working with industry on guidelines for beneficial uses of these sands. **We recommend continuation.**

Poultry disease (avian coccidiosis): Coccidiosis, a parasitic poultry disease, costs the industry \$2-3 billion per year. This research focuses on understanding the genetics of both the parasite and the host chicken to identify targets that will allow better disease control. **We recommend this funding.**

Biomedical materials in plants: Plants can be used as factories to manufacture vaccines and other pharmaceuticals for both animals and humans. This research focuses on development of tobacco as a crop with this beneficial use. **This research should continue.**

National Germplasm Resources Program: Sources of germplasm for all agricultural crops are maintained either as seed or live plant material at several locations across the country. Much of this germplasm is the result of plant exploration around the world. This group maintains the computer database that indexes all crop germplasm in our repositories with critical information as to where it was obtained, the specific scientific identification, and information on useful traits for plant breeding. **We strongly support continued funding for this mission-critical program.**

Bovine genetics: This research focuses on bovine functional genomics, especially for dairy cattle. Scientists are identifying specific genes for quality traits such as easier calving, higher milk production, and resistance to mastitis. **We recommend this funding.**

Minor-use pesticides (IR-4): “Minor-use” pesticides are those that are used on crops such as fruits and vegetables that are not one of the “big four” crops like corn, wheat, and soybeans, and cotton. Because markets are much smaller than for major crops, chemical manufacturers have little incentive to obtain all the safety data needed to obtain EPA registration for pesticides used on minor crops. Nevertheless, producers of minor crops find certain agrochemicals to be essential. This project produces the data needed for EPA registration of minor-use pesticides. **We recommend continued funding.**

National Nutrition Monitoring System: Scientists at BARC have the unique responsibility of carrying out the national surveys of food consumption by individuals. This is now done in collaboration with HHS’s health surveys. BARC scientists also maintain the National Nutrient Database, which includes information on 126 nutrients in thousands of foods. This work supports the school lunch program, WIC, Food Stamps, senior nutrition programs, food labeling, dietetic practices, and even the EPA. **We urge continuation of this funding.**

Coffee and Cocoa: Producers of chocolate candy are the single largest users of fluid milk, sugar, peanuts, and almonds in the United States. U.S. specialty coffee shop chains also are one of the major markets for fluid milk. Events that limit the availability of cocoa or coffee can have significant impacts on major U.S. commodity markets. Candy producers need a stable supply of cocoa, but smallholders in developing countries produce most cocoa. Several devastating diseases and insects threaten cocoa. This research is aimed at developing environmentally friendly ways to control pests and diseases. Some insects that threaten coffee are very similar to those that attack cacao, thus work on the two crops benefits from being together. **We recommend continuation of this funding.**

Johne's disease: Johne's disease is a contagious bacterial disease of the intestinal tract of ruminants. It occurs most often in dairy cattle, causing weight loss and diarrhea. Nearly one-fourth of dairy herds are infected. Producers lose \$54 million annually from reduced milk production. The disease is spread in manure. This research focuses on disease control. **We recommend continuation of this funding**

Food safety—listeria, E.coli, and salmonella: Food-borne illness annually costs \$3 billion in health-care costs, and annually costs the economy up to \$40 billion in lost productivity. This research focuses on diagnostics for food-borne pathogens, and on ways to control pathogens in fruits and vegetables. **We recommend continuation of this funding**

Weed management research: All farmers must contend with weeds. For organic farmers, weeds are the single biggest challenge to crop production. This research, in collaboration with the Rodale Institute and Pennsylvania State University, focuses on developing systems for controlling weeds in organic production systems. Organic crop production was valued at \$400 million per year in the 2002 Census of Agriculture. **These research funds will improve non-chemical weed control.**

Mr. Chairman, that concludes our statement. We again thank you for the opportunity to present our testimony and for your generous support.

Sincerely,

K. Darwin Murrell, Ph.D.
President