

Honorable XX
Office Building
Washington, D.C.

March 13, 2006

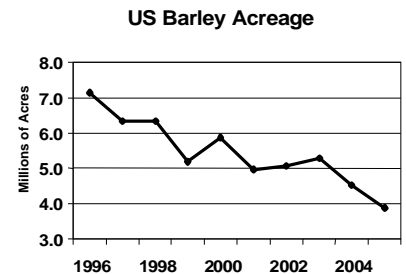
Dear Senator or Representative X:

The National Barley Improvement Committee (**Appendix A**), represents the entire US barley industry - growers, researchers, and end-users (e.g. malting, brewing, cereal food industries) and is pleased to have this opportunity to meet with you and/or your agricultural specialist to discuss federal funding of barley research and other issues.

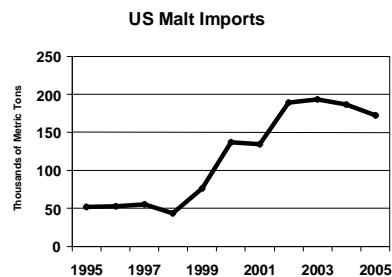
Why is federal investment in barley research needed? Barley is primarily a public sector crop. Most barley variety development and research is conducted at state universities and USDA Agricultural Research Service (ARS) facilities. The private sector has limited interest in barley research and variety development because of its limited acreage and seed sale potential.

Barley production and the manufacture and sale of value-added barley products (malt, beer, food, livestock) have a significant impact on the US economy, supporting millions of jobs and generating billions of dollars in business activity and tax revenue for the US and state governments (**page 8**). The economic and tax revenue payback from modest federal investments in barley research exceeds by many orders of magnitude the expenditures.

Federal investment in barley research is needed to keep barley a crop option for US growers and to maintain and enhance value-added job generating enterprises including livestock, malting, brewing, food, and ethanol production in the US. US barley acreage has declined significantly in recent years due to a variety of factors, including those that can be addressed through federal investment in research to develop improved barley varieties that are more tolerant to drought, diseases, insect pests, and that have expanded uses due to improved quality.



We should not concede domestic and world markets for barley and its value-added products to



our competitors in Australia, Canada, and Europe. This will have a substantial negative impact on the US economy and federal, state, and local tax revenue.

We recognize that federal resources are limited. **However, continued investment by the federal government is required to realize continued improvements in crop productivity and quality, provide food security to the US, contribute to a healthy environment, and foster enhanced economic activity.** With reductions of federal support to producers, it is even more important to enhance our nation's investment in research to maintain a healthy agricultural economy and competitiveness in world markets.

Congress has been very responsive in addressing the needs of the national public sector small grains research infrastructure and economy, by providing funding for critical USDA small grains research projects above those requested by the Administration. **We are pleased that the President’s FY2007 budget recognizes the value of some of these unrequested programs, and is asking Congress to “redirect” the following small grains projects to high priority Administration initiatives.** We support these redirections if they will not result in changes in how the funding is currently being utilized.

FY2007 ADMINISTRATION PROPOSED
USDA AGRICULTURAL RESEARCH SERVICE (ARS)
RESEARCH PROGRAM REDIRECTIONS

KANSAS, Manhattan - Grain Marketing Production Research Center

<i>National Wheat & Barley Scab Initiative</i> into <u>Emerging Diseases – Crops</u>	\$ 96,994
<i>Regional Molecular Genotyping</i> into <u>Genomics – Plants</u>	175,731
<i>Wheat Quality Research</i> into <u>Genomics – Plants</u>	<u>420,028</u>
	\$692,753

NORTH CAROLINA, Raleigh - Plant Science Research Unit

<i>National Wheat & Barley Scab Initiative</i> into <u>Emerging Diseases – Crops</u>	\$ 96,994
<i>Regional Grain Genotyping Research</i> into <u>Genomics – Plants</u>	<u>692,645</u>
	\$789,639

NORTH DAKOTA, Fargo - Cereal Crops Research Unit

<i>Regional Molecular Genotyping</i> into <u>Genomics – Plants</u>	\$ 175,731
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WASHINGTON, Pullman - Genetics, Quality, Physiology, and Disease Research Unit

<i>Regional Molecular Genotyping (Club wheat)</i> – into <u>Emerging Diseases – Crops</u>	\$ 251,020
<i>Root Diseases in Wheat & Barley</i> – into <u>Emerging Diseases – Crops</u>	<u>\$ 72,552</u>
	\$ 323,572

TOTAL \$1,981,695

The Administration is proposing cuts totaling \$10.2 Million to USDA-ARS small grains programs (barley, wheat, and oats) which will critically undermine the national public sector small grains research infrastructure, harming the domestic agricultural economy, reducing our competitiveness in world markets, and limiting our effectiveness in maintaining food security. **The proposed reductions are not based on the productivity or need for these research programs.**

(1) We ask Congress to maintain the following programs of critical importance to small grains. **Maintaining these small grains programs is the number one priority of the National Barley Improvement Committee for the ARS Program Budget.**

FY2007 ADMINISTRATION PROPOSED
USDA AGRICULTURAL RESEARCH SERVICE (ARS)
RESEARCH PROGRAM TERMINATIONS

IDAHO, Aberdeen - National Small Grains Germplasm Research Facility

<i>Aquaculture</i>	\$ 628,843
<i>Sustainable aquaculture feeds</i>	99,000
<i>National Plant Germplasm</i>	96,994
<i>Rainbow Trout</i>	<u>1,093,728</u>
	\$1,918,565

KANSAS, Manhattan - Grain Marketing Production Research Center

<i>Grain research</i>	\$ 486,029
<i>Karnal Bunt</i>	<u>545,010</u>
	\$1,031,038

MARYLAND, Beltsville - Beltsville Agricultural Research Center

<i>Barley Foods Health Benefits</i>	\$ 477,009
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MINNESOTA, St. Paul - Cereal Disease Laboratory

<i>Cereal Diseases</i>	\$ 310,971
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MONTANA, Sidney - Northern Plains Agricultural Research Laboratory

<i>Northern Great Plains Ecosystems</i>	\$ 775,952
<i>Northern Plains Agricultural Research Lab</i>	864,447
<i>Biological Weed Control</i>	<u>118,800</u>
	\$1,759,199

NORTH DAKOTA, Fargo - Cereal Crops Research Unit

<i>Cereal Crops</i>	\$1,725,189
<i>National Wheat & Barley Scab Initiative</i>	96,994
<i>Wheat Quality Research</i>	<u>193,989</u>
	\$2,016,172

OKLAHOMA, Stillwater - Wheat, Peanut and Other Field Crops Research Unit

<i>Invasive Aphid Research</i>	\$ 219,665
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WASHINGTON, Pullman - Genetics, Quality, Physiology, and Disease Research Unit

<i>Wheat Quality/Western Wheat</i>	\$ 484,456
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WISCONSIN, Madison - Cereal Crops Research Unit

<i>Cereal Crops Research</i>	\$ 902,338
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NATIONAL - ARS Headquarters

<i>National Wheat & Barley Scab Initiative</i>	\$1,065,188
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TOTAL \$10,184,601

NEW & CONTINUING PROGRAMS FOR FY2007

The NBIC is supportive of basic, competitive plant science grant programs, such as the **USDA Cooperative State Research, Education, and Extension Service (CSREES) National Research Initiative (NRI)**, which provides valuable supplemental support to barley and other crop scientists. **We support an increase for NRI, but not at the expense of the important directed research programs that we are asking Congress to maintain or provide with new funding.** The NBIC feels that competitive grant programs must be balanced with adequate support for the USDA-ARS and CSREES directed research programs that are responsive to the immediate needs of the US agricultural economy. **The NBIC does not support the Administration proposed redirection of base Hatch funds to competitive national programs.** These funds provide critical base support to land grant university agricultural research programs.

WE ARE REQUESTING THE ASSISTANCE AND SUPPORT OF YOUR OFFICE TO HELP MEET THE FOLLOWING OBJECTIVES, RANKED IN ORDER OF PRIORITY WITHIN EACH BUDGET CATEGORY:

USDA AGRICULTURAL RESEARCH SERVICE (ARS) PROGRAM BUDGET

(2) Regional Small Grains Molecular Genotyping Laboratories (page xx) - Fits President's Plant Genomics Initiative The National Barley Improvement Committees thanks Congress for providing funding to establish four Regional Small Grains Molecular Genotyping Laboratories and for fully funding the ones in Fargo, ND (North Central) and Raleigh, NC (East). We are requesting increased funding to bring the other two up to their full funding level of \$750,000 per laboratory so that they can meet their important mission.

	<u>FY2006 Request</u>
Manhattan, KS (Central/South Central)	\$ 70,000
Pullman, WA (West)	<u>\$395,000</u>
	\$465,000 TOTAL

The laboratories will facilitate application of genomics information and DNA molecular marker information to plant improvement in wheat, barley and oat breeding programs. **Small grains research programs in at least 36 states may be served** (AK, AR, AZ, CA, CO, FL, GA, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MT, NC, ND, NE, NM, NY, OH, OK, OR, PA, SC, SD, TX, UT, VA, WA, WI, WY).

(3) Funding of \$5 Million for a Cereal Rust Disease Initiative (page xx) - Fits President's Emerging Diseases Initiative Highly virulent and aggressive new races of stem, leaf, and stripe rust have appeared in the world, threatening the entire US production of barley, oats, and wheat. A new race of stem rust, 'Pgt-TTKS' (isolate Ug99) appeared in Africa in 1999. With long-distance travel of rust spores by wind and on clothing, it is only a matter of time before it reaches the US. All commercial barley varieties grown in the US and nearly all wheat varieties are highly susceptible to this race, with potential losses of \$4 billion and \$500 million at the farm gate, for wheat and barley, respectively. The impact on their value added worth would be even more substantial. **A nationally coordinated Initiative to Reduce US Vulnerability to Cereal Rust Diseases is needed with annual funding of \$5 million to support cooperative USDA-ARS and Land-Grant university cereal research efforts in 29 states where personnel, expertise, and facilities are already established** (AR, CA, CO, FL, GA, ID, IL, IN, KS, KY, LA, MD, MI, MN, MO, MT, NE, NC, ND, OH, OK, OR, SC, SD, TX, UT, VA, WA, WI). **The Administration recognizes the need to take action, and the President's budget proposes \$1.9 million in increased funding for a Wheat Stem Rust Initiative** (funding only at ARS locations in ID, KS, MN, NC, WA). This funding will help, but it is not enough to address this serious threat since it does not provide the funding needed for the cooperative research required at Land-Grant universities that should be partners in this effort.

(4) A \$250,000 Increase in funding for the Cereal Crops Research Unit (CCRU), Madison, WI (page xx) *Fits President's New Products/Product & Quality/Value Added Focus* The National Barley Improvement Committee thanks Congress for approving funding of \$11.4 million to enable the construction of a new CCRU on the campus of the University of Wisconsin, Madison. The new CCRU is scheduled to be completed in July, 2006. Current funding is insufficient to meet a substantial increase in operating costs for the new building and maintain programs for eight scientists assigned to the CCRU (one of these positions cannot be filled due to insufficient funding). The existing 60 year old facility is 16,000 gross square feet (GSF). The new CCRU will be 38,000 GSF and it is estimated that maintenance costs, utilities, and the salaries of building maintenance personnel and clerical staff will increase substantially. Congress recognized this situation and was able to provide \$247,500 of the \$500,000 requested in FY2006, which was greatly appreciated. We are requesting that Congress provide an increase of \$250,000 in FY2007 to provide the remaining funding needed.

(5) Funding of \$500,000 for Small Grains Germplasm Enhancement at the National Small Grains Germplasm Research Facility, Aberdeen, ID (page xx) - *Fits President's Plant Genomics Initiative* Funding is requested for the establishment of a research geneticist position that will be divided equally between barley, oat, and wheat germplasm enhancement. A portion of the funds (\$100,000) will go to support cooperative enhancement and evaluation efforts by university researchers under Specific Cooperative Agreements with USDA-ARS. Enhancement of the germplasm pools of important field crops is a responsibility of the ARS because it addresses national, long-term plant improvement goals. This new research initiative will speed the transfer of novel genes for a diversity of agronomic and quality traits from the National Small Grains Collection into varieties in producer's fields.

(6) A \$125,000 Increase in funding for Small Grains Production Research at the Northern Plains Agricultural Research Laboratory (NPARL), Sidney, MT (page xx) *Fits President's Crop Production & Environmental Stewardship Focus* The NPARL is leading the way in research to improve agricultural practices for small grains production in the western states of Montana, North Dakota, as well as integrated research that impacts Idaho and Wyoming. The increase in permanent base funding would be used for the addition of a post-doctoral position to enhance small grains production research. The post-doctoral scientist would conduct research into nitrogen and water management to maximize small grain production, grain protein, and industry acceptance of grain. Water management research will focus on the efficient use of irrigation water to maximize grain production. The research would also aid in the development of measures to reduce chemical usage in small grain cropping systems.

(7) Funding of \$600,000 to Develop Barley as a Feedstock for Fuel Ethanol, Eastern Regional Research Center, Wyndmoor, PA (page xx) - *Fits President's National Energy Policy & Initiative on Biofuels* The growing need for domestic energy independence, the rising costs of imported crude oil, and the new Renewable Fuel Standard (RFS) has led to a major expansion of domestic fuel ethanol production. Most fuel ethanol is made today from corn, however, a projected need to double ethanol production in the next few years will put stresses on corn supplies. While biomass is touted as the answer to the ethanol feedstock question, this technology is still at least 6 years away. In the interim, what is needed is an additional grain feedstock that producers from non-corn belt states can grow in order to increase farm income, relieve tensions on corn supplies, and to become less reliant on Federal subsidies and farm payments. Farmers on the East Coast, the upper Midwest, the Northwest, and in numerous other parts of the country can grow barley, another crop that has potential for fuel ethanol production. A multidisciplinary research effort is needed so that barley can become a major U. S. ethanol feedstock in corn-deficient, barley producing states.

(8) Funding of \$350,00 for Barley and other Crop Genomics Databases (Bioinformatics) at the Corn, Insects & Crop Genetics Research Unit, Ames, IA (page xx) - *Fits President's Plant Genomics Initiative* Two critical data bases are based at this location, PLEXdb (Plant Expression Database; <http://plexdb.org/>), a multi-crop, comparative gene expression data base (barley, wheat, rice, corn, grape, soybean, forage legumes, sugarcane, citrus, cotton, vegetables), and soon to be established *Hordeum* Toolbox

(THT), the genes and trait database central to the new national USDA-CSREES Barley Coordinated Agricultural Project (CAP). Both of these were initiated with peer-reviewed competitive grant funding, which will expire soon. It is our goal for these genomics initiatives to become permanent projects. Highly leveraged by bioinformatics expertise in Ames, IA, these databases can be enhanced and expanded, and will build up the needed capacity for the addition of other crop databases. This can be accomplished with a lead scientist, computer support staff, with stable base funding of \$350,000, and will make possible long-term continuity with the national crop improvement research community.

USDA-ARS BUILDINGS & FACILITIES BUDGET

(1) Installment Towards \$26.2 Million Remaining Construction Cost for the Plant Biosciences Center, Pullman, WA (page xx) We greatly appreciate the action that Congress has taken to date, approving \$3.96 million for planning/design and \$6.6 million for construction. We are respectfully requesting approval of another installment in FY2007 towards the total required for construction. The plant science research effort at the Pullman location is currently staffed with 30 ARS Category 1 and 4 scientists, including cereal chemists, physiologists, geneticists, botanists, molecular biologists, plant pathologists, agricultural engineers, and soil scientists, as well as about 50 full and part-time federal technical staff. In addition to the federal staff approximately 150 Washington State University (WSU) students and cooperative scientists conduct collaborative research using Federal equipment and supplies. At the present time there is no room for additional scientific staff to be housed in Johnson Hall (built in 1960). The new genotyping effort is being accommodated in the laboratory of an existing scientist. Additional facilities are essential to the continued expansion and enhancement of existing modern technology-based genomic, molecular biology, genetics, chemistry, and pest management research programs of national importance in wheat, barley, and grain legumes. A new laboratory and office building is needed to provide space for the scientists conducting fundamental and mission-linked research at this location.

(2) Funding of \$3.7 Million for Planning & Design for Facility Needs at the Red River Valley Agricultural Research Center (RRVARC), Fargo, ND (page xx) The RRVARC is currently staffed with 41 ARS scientists, including entomologists, chemists, physiologists, geneticists, botanists, molecular biologists, and food technologists, and 88 federal research support personnel. Additional and/or improved facilities will assist the continued expansion and enhancement of existing modern technology-based research programs of national importance in wheat, barley, oat, sunflower, sugarbeet and potato. Accordingly, **Congress directed ARS to conduct a facilities study in FY2004** which shows a need for renovation of 57,200 sq ft of laboratory and office space, a new 30,000 sq ft laboratory and office building with an accompanying 12,000 sq ft greenhouse/headhouse complex. At an estimated construction cost of \$37.6 million, \$3.7 million for planning and design is requested for FY2007.

USDA COOPERATIVE STATE RESEARCH, EDUCATION & EXTENSION SERVICE (CSREES) Special Research Grants

(1) Continued and increased funding for the Regional Barley Gene Mapping Project Special Research Grant *Funding of \$1.5 million is requested (page xx)* This special grant is funding the very productive project known as the U.S. Barley Genome Project (USBGP). Our long-term goal is to enhance the profitability and sustainability of U.S. agriculture by achieving a complete understanding of the gene networks that determine economically important traits. The USBGP is an inter-disciplinary, multi-institutional endeavor comprised of integrated projects conducted in State Experiment Stations and Federal labs throughout the U.S. Through a competitive funding process, projects are selected each year that have the potential to make a major impact on U.S. barley production, that promise to make a significant contribution to genetics, and that have the potential to leverage funding from other agencies. Nineteen research projects will be supported in ten states in FY2006. All USBGP germplasm, data, and molecular tools are in the public domain. The \$760,000 in funding provided by Congress for FY2003 has declined to \$675,180 in FY2006, which is inadequate to meet

national barley genomic research needs. Over the past 10 years, the USBGP has supported projects in 15 different states (CA, CO, ID, IA, MD, MN, MT, ND, NY, OR, SC, UT, VA, WA, and WI).

(2) Funding of \$750,000 for the Barley for Rural Development Special Research Grant (page xx) The goal of *Barley for Rural Development* is the development of new malt, feed and food barley varieties adapted to the West. We thank Congress for providing funding of \$727,650 for this special grant in FY2006, offset with funding from its successor (*Feed Barley for Rangeland Cattle*). Fusarium head blight (scab) continues to impact production of malting barley in the Dakotas and Minnesota, encouraging the western expanding malting industry to look to Montana, Idaho, and other western states for malting barley supplies. Malting barley provides a great opportunity for growth in farm revenues in the Northwest states, garnering a greater return than feed barley and bread wheat. The US industry expanded its malting capacity in Idaho and Montana, requiring additional malting barley from the area to meet its needs. Opportunities also exist for expanded barley utilization in the west for feed, food, and other specialty applications that leverage growers marketing capabilities. **New varieties that reliably produce quality barley in US western arid environments are needed so that US and not Canadian growers fill the needs of these expanding value-added barley markets.**

USDA Export Market Development Programs

Changing federal farm policies and market forces have made US farmers more dependent upon exports of grains and value-added grain products to maintain and expand their income, and more vulnerable to shifting conditions in international markets. Adequate funding for the **Market Access Program (MAP) and the Foreign Market (Cooperator) Development (FMD) Program** must be maintained to help support a viable US agricultural economy. **The NBIC supports adequate funding for both of these programs.**

USDA National Agricultural Statistics Service

Statistical reports generated by the USDA National Agricultural Statistics Service (NASS) are of critical importance to barley producers, researchers, and end-users. Prior to FY2004, NASS's core survey and estimation program had not received an increase in funding since 1990, leading to a reduction in the quality of survey data on which NASS estimates are based. **The NBIC supports the Administration's FY2007 proposal for an increase of \$3.9 million to continue NASS's efforts to restore quality and modernization of the basic USDA agricultural estimates program that supports the US agricultural market system.** This will build on FY2004 – FY2006 increases approved to meet this goal, covering most agricultural commodities produced in the US, including barley.

Additional information on barley and these topics are included in this folder. Your consideration and assistance in meeting these objectives will be greatly appreciated.

Sincerely,

Kurt Carstens
Chair

Richard Horsley
Vice Chair

Michael P. Davis
Executive Secretary