Research and Technology Committee

IV-A Research

IV-A-1 NAWG supports continued funding for research of Fusarium Head Blight. (Oct 2007)

IV-A-2 NAWG supports continued funding of the wheat genome mapping and international triticeae mapping initiatives. (Oct 2007)

IV-A-3 NAWG supports continued funding for research of direct and no-till seeding. (Oct 2007)

IV-A-4 NAWG supports continued funding for research on root diseases in cereal grain crops. (Oct 2007)

IV-A-5 NAWG supports continued funding for the wheat pasture research project at Oklahoma State University. (Oct 2007)

IV-A-6 NAWG supports the National Wheat Improvement Committee research initiatives and encourages a stable funding mechanism for long term research. (Mar 2008)

IV-A-7 NAWG supports the NAWG/USW Joint Committee on Biotechnology's goals and policy statement. (Mar 2008)

IV-A-8 NAWG supports scientific study of biotech traits out-crossing into crops and weeds. (Oct 2007)

IV-A-9 NAWG supports federal funding of biotechnology research and science-based education. (Feb. 2008)

IV-A-10 NAWG supports the Sun Grant Initiative. (Oct 2007)

IV-A-11 NAWG supports a federal research and extension initiative entitled: "Managing Invasive Weeds in Wheat" to focus on winter annual grasses in wheat (goatgrass, ryegrass and feral rye). (Feb 2009 - Committee)

IV-A-12 NAWG supports educating legislators about the importance of bio-tech research for agriculture. (Feb 2008 - WA)

IV-A-13 NAWG supports the construction, remodeling and expansion of all ARS wheat research facilities. (Feb 2008 - Committee)

IV-A-14 NAWG supports maintaining the funding for the Hatch Act and McIntire Stennis Cooperative Forestry Animal Health and Disease (Sec. 1433) of the federal budget. (Feb 2008 - SD)

IV-A-15 NAWG supports research and education to study the components in wheat that will have benefits for human nutrition. (Feb 2009 – Kansas)

IV-A-16 NAWG supports ARS bioenergy research priorities to include: 1) develop annual and perennial dedicated biomass crops adapted to a variety of growing regions, 2) determine the best management practices for the establishment, maintenance, harvesting, and transportation of biomass energy crops, 3) determine the potential impact of proposed biorefineries on water quality and water quantity, and 4) research alternative processing technologies that would allow the farmer to convert his biomass crop into energy at the farm level. (Oct 2007)

IV-A-17 NAWG supports continued funding for research on insect pests in cereal grain crops. (Montana Mar 2008)

IV-A-18 NAWG recognizes Ug99 as a major threat to national and global wheat production and strongly supports additional funding for rust research and resistant variety development (Committee Mar 2008).

IV-A-19 NAWG supports the protection of intellectual property, including education about the importance of complying with PVP or seed contract and stewardship provisions and enforcement of those provisions when necessary. (Feb 2009, Committee)

IV-B Grain Quality

IV-B-1 NAWG supports federally approved grain quality tests that are accurate, consistent, repeatable, simple, fast, inexpensive, can be implemented by grain elevator operators and which objectively describes end use quality. (Oct 2007)

IV-B-2 NAWG supports continuation of the current classes of wheat and believes that any objective test should be designed to preserve the integrity of these classes. (Oct 2007)

IV-B-3 NAWG supports changing the marketing system so that wheat is marketed on a dry matter basis. (Oct 2007)

Research & Technology Goals

Short Term Goals (Mar 2010)

- Invite and encourage industry participation in committee meetings to report on specific research systems for wheat and dedicated energy crops.
- Identify needs and secure public funding for:
  - Appropriations for ARS, NIFA programs and facilities
  - DOE and USDA loan guarantee programs for cellulosic ethanol facilities
- Maintain progress reports for this committee on the following projects:

Project	Contact	Date of last report	Date distributed to committee
Oklahoma State University Wheat Pasture Research Project	Gerald Horn, Oklahoma State University gerald.horn@okstate.edu	2/17/09 report	Mar 27, 2009
National Wheat Improvement Committee research priorities	To be determined	Jan 23, 2010	
Managing Invasive Weeds in Wheat			
Sun Grant Initiative	Kevin Kephart, SD State University Kevin.Kephart@sdstate.edu		Mar 5, 2009
North American Barley Genome Mapping Project	Patrick Hayes, Oregon State University http://barleyworld.org/northamericanbarley.php	Oct 2008 report	March 27, 2009
U.S. Wheat & Barley Scab Initiative	David Van Sanford, University of Kentucky (co-chair), Art Brandli (co-chair), Sue Canty, Michigan State University (coordinator) www.scabusa.org	Jan 23, 2010 by Bob Bahm	Oct 21, 2009

Note: the project *West Central Great Plains Special Grant Initiative for Viable Dryland Cropping Systems* was removed from this list August 25, 2009. The project contact, Dr. Gary Peterson from Colorado State University, reported that this project had been proposed to Congress for three consecutive years but never funded. Therefore, there has been no work.

Other research projects can be added as needed.

Long Term Goals

- Support research efforts in breeding and management that will increase profitability of wheat and dedicated energy crop producers. (Oct 2007)
- Continue to monitor consumer needs that drive development of wheat products for new uses. (Oct 2007)
- Continue to unify the industry on commercialization of biotechnology (Oct 2007).
- Utilize information on new wheat technologies. (Oct 2007)
- Identify beneficial biotechnology traits for consumers with USW and WFC and other industry partners. (Feb 2009 moved to Long Term Goals)

Strategic Initiative #1: Encourage Investment and Innovation in US Wheat

Objective: Increase Yields for US Wheat Growers 20% by 2018
Assigned to: NAWG Research and Technology Committee
Staff Lead: Dana Peterson
Last Updated: March 2010

Action Step	Specific Tasks	Resources Required	Who	Timeline/Status
Educate producers about the need to invest in new seed every year (curtail saved seed) so that others will invest in our industry	Continue membership in Farmers Yield Initiative	$500-1000/yr	Dana	Complete ☑
Promote the need for genetic development / improvement through both public and private sector investment	• Support Molecular Assisted Breeding • Coordinate discussions with universities, industry allies and seed companies • Staff support for NWIC research visits to Washington • Follow up on ARS and NIFA appropriations,	Staff or volunteer to carry it out		Ongoing

	stakeholder input opportunities, peer reviews and advisory committees			
Advance Biotechnology *Note: Biotechnology specific items were deferred to the Joint Biotechnology Committee's plan*	Request updates from the Joint Biotechnology Committee on progress.			Ongoing
Success will be determined by:	• National wheat yields grow 20% in 10 years (2018) • Improved relationships and communications with public and private sector • Maintain more than one tech provider engaged in biotech trait development for wheat.			

Joint Biotechnology Committee
Biotechnology Position Statement
Adopted by USW, NAWG and WETEC February 2006

Biotechnological research holds great promise for the future, and the U.S. wheat industry recognizes these advancements. In preparation for the future commercialization of biotechnologically-derived wheat, we take the following positions:

1. We support and will work to ensure the ability of wheat producers to make planting and marketing choices based on economic, agronomic, and market factors.

2. We support the ability of our wheat customers to make purchases on the basis of specific traits. We commit ourselves to the principle that our customers' needs are vitally important.

3. We support and will assist in the development by all segments of the industry of an orderly marketing system to assure delivery of non-transgenic wheat within reasonable tolerances to markets that require it.

4. We urge the adoption of a nationally and internationally accepted definition of biotechnologically-derived products.* We also urge international harmonization of scientific standards and trade rules.

5. We support voluntary labeling of food products, provided it is consistent with U.S. law and international trade agreements and is truthful and not misleading. We oppose government-mandated labeling of wheat products in both the U.S. and international markets based upon the presence or absence of biotechnologically-derived traits that do not differ significantly from their conventional counterpart.

6. We support the establishment of a reasonable threshold level for adventitious or accidental inclusion of biotechnologically-derived traits in bulk wheat or wheat food products in both U.S. and international markets.

7. We are confident that biotechnology will deliver significant consumer and producer benefits and we support continued biotechnology research, and product and market development. We invite valued and interested customers to join with us in a working partnership to explore the emerging biotechnology industry.

*U.S. Wheat Industry Definition: Biotechnologically-Derived (Genetically Modified Organisms)

"Genetically modified organisms (commonly referred to as "transgenic") are organisms derived from somatic cell fusion or direct insertion of a gene construct, typically but not necessarily from a sexually-incompatible species, using recombinant DNA techniques and any genetic transformation technology (e.g., bacterial vectors, particle bombardment, electroporation)."

Biotechnology Principles for Commercialization
Adopted by NAWG & USW November 2008

The U.S. wheat industry recognizes the benefits and value which could be created within the wheat chain through the prudent application of modern biotechnology. U.S. wheat producers will support commercialization of transgenic wheat traits after thorough review and development of a commercialization plan that facilitates commercialization with minimal market disruption. We support the ability of our customers to make purchases based on their preferences for specific traits, classes, qualities, and characteristics. We will work diligently to assure that commercially achievable customer preferences are met.

The U.S. wheat industry will support commercialization of transgenic wheat traits when:

1. The technology provider initiates an informative dialogue with the USW/NAWG Joint Biotechnology Committee (JBC) prior to submitting for regulatory approvals in the U.S. This dialogue will allow our organizations to initiate education and outreach activities to both domestic and international customers, and to provide the technology provider with practical information intended to facilitate commercialization with minimal or no market disruption.

2. Regulatory approvals for food and feed use must be secured in major wheat export markets that will be affected where a functioning regulatory system exists. Major export markets are defined as those which represent at least five percent of the normal export volume of U.S. wheat, based on a five year moving average at the time a provider begins the regulatory process in the United States. In countries where there is no viable regulatory approval system, technology providers will make regulatory submissions promptly when those systems become functional.

3. Commercialization of the trait must not impair the ability of non-transgenic wheat to meet commercially recognized thresholds for the low-level presence of transgenic traits. Appropriate international tolerances for transgenic wheat in non-transgenic shipments must be established and accepted in major export markets. Anticipated thresholds range from 0.9% to 5.0%.

4. An accurate, economical and timely trait detection test must be provided by the trait developer prior to commercialization.

5. The primary responsibility for education and outreach for new traits will remain with the technology provider. USW and NAWG will actively help seek buyer acceptance and will provide guidance, assistance and resources.

6. The technology provider must demonstrate stewardship of the technology, including education and outreach to growers to assure compliance with agronomic and grower stewardship practices specific to the trait.

7. We have examined both certified seed and point-of-delivery value capture models. While there are advantages and disadvantages of either approach, we believe the certified seed model will be most acceptable to the value chain and is the preferred approach. Investment in agricultural technology by private parties requires a return on that investment. We support the protection of intellectual property, including education about the importance of complying with seed and stewardship contract provisions and enforcement of those provisions when necessary. Technology traits should be encouraged for adaption into public wheat varieties.

Resolution of Support for Syngenta's Fusarium tolerance trait
Adopted by NAWG, USW and WETEC February 2006

"USW/NAWG/WETEC support continued research and development of Syngenta's fusarium tolerance transgenic trait in wheat and will work proactively with stakeholders in the food system for the benefit of customers and consumers worldwide, U.S. wheat producers and the whole U.S. wheat industry."

Resolution regarding Public-Private Partnerships
Adopted by NAWG, USW January 2010

"USW/NAWG support the 'Principles for Collaboration in Wheat Breeding and Biotechnology' as also supported by the National Wheat Improvement Committee and adopted by the Public Breeder Subcommittee of the Hard Winter Wheat Improvement Committee, and strongly urge state wheat commissions/wheat breeders/universities with public wheat breeding programs to use and further develop these Principles to guide their collaborations and agreements with private industry."

Wheat Biotechnology Commercialization
Statement of Canadian, American and Australian Wheat Organizations May 14, 2009

In the interest of expressing support for more efficient, sustainable and profitable production of wheat around the world, the undersigned organizations have approved the following joint statement concerning commercialization of biotechnology in wheat:

1. Wheat is a vital food to all peoples of the world and we believe that by developing higher yielding better quality wheat varieties we can better supply the world with wheat food products.
2. One important tool to help feed the world into the future is biotechnology. Basic agronomic improvements to wheat like strengthening disease and insect resistance, enhancing wheat's use of soil nutrients and water, increasing its tolerance to weather extremes like drought and frost, are all possible with biotechnology. Another critical area for biotechnology is to improve the nutritional aspects of wheat to facilitate healthier living for people all over the world. Biotechnology is not the only answer to these questions, but it will be a significant component in solutions.
3. In many of our production areas, wheat production is under pressure from competing crops which, through the application of biotechnology, have

achieved higher productivity, reduced input use, and other benefits not available in wheat. As a result, the historic area of wheat production has declined in many areas and economics are driving producers away from wheat and into other crops if they have alternatives. If wheat continues on a non-biotech course, then farmers will continue to devote a greater share of their acreage to biotech crops, where profitability is relatively greater, resulting in lower world wheat production than would otherwise be the case.

4. In general, wheat yields are on a very slow growth trend in comparison with competing crops, and the longer it takes to increase the growth rate the bigger will be the hole from which the industry must climb.
5. Biotechnology is a proven technique to deploy traits of interest with a high degree of precision in agricultural crops. Crops derived through biotechnology are subjected to strict regulatory scrutiny before commercialization. Over 10 years of global experience with biotechnology has demonstrated a convincing record of safety and environmental benefits as well as quality and productivity gains.
6. Lack of private and public investment in wheat research has left wheat development behind the advances in competing commodity crops, and has also led to a shortage of scientific expertise in wheat research generally. By providing an opportunity for private companies, the level of activity in wheat research will expand and attract a new generation of scientists into the field.

In light of these resolutions, we will work toward the goal of synchronized commercialization of biotech traits in our wheat crops. While none of us hold a veto over the actions of others, we believe it is in all of our best interests to introduce biotech wheat varieties in a coordinated fashion to minimize market disruptions and shorten the period of adjustment. We are also committed to working with other stakeholders to address their needs and concerns as we travel the road to commercialization.

National Association of Wheat Growers
U.S. Wheat Associates
North American Millers' Association

Grain Growers of Canada
Western Canadian Wheat Growers Association
Alberta Winter Wheat Producers Commission

Grains Council of Australia
Grain Growers Association
Pastoralists and Graziers Association of Western Australia (Inc.)