

– Research Areas of Interest for 2009 and Beyond –

We are committed to the current research projects that we have traditionally funded, however, here are some additional research areas of interest for 2009 and beyond.

Breeding:

- Enhanced development of High Yield Spring Wheat Genetics
- Develop a Winter Wheat breeding program for MN and ND
- Increase screening capacity for our breeding programs in yield limiting areas such as tolerance to heat, tolerance to water, resistance to diseases and nitrogen efficiency.
- Evaluate varieties/lines from other areas in the U.S. and around the world. Can other classes/varieties of wheat be grown successfully in Minnesota?

Biotechnology:

- Develop educational and communication opportunities that can help growers and consumers understand how biotech wheat can be handled in the marketing system. Specific traits that biotech could help develop:
 - Identify winter hardy gene in rye and insert it into winter wheat
 - Encourage consumer acceptance
 - Heat tolerant
 - Nitrogen fixing
 - Water tolerant
 - Perennial wheat

Productivity, Disease and Pest Management:

- Research winter wheat production in Minnesota.
- Disease management practices for root diseases as well as all other economically significant diseases.
- Educational material on managing wheat stem maggot.
- Provide educational material and opportunities that focus on how growers can choose wheat varieties to fit the unique characteristics of each individual field.

Tillage, Soil Fertility and Residue Management:

- Develop an on-farm demonstration site for new tillage and planting technology along with educational events at the site.
- Summarize previous research on costs associated with removing residue from the fields. Both from a nutrient stand point as well as organic material. Recommend additional research that may be needed.
 - Research ways to use fertilizer more efficiently in wheat production. i.e. in-season applications and slow release.
 - Research on the benefits of removing residue to help diseases in common rotations.
 - Review previous research on how wheat and other crops respond to additional sulfur.
 - Provide educational material on previous research and on which soils are mostly to respond. Potentially work with local farmers who seem to be getting a yield response to sulfur.

Rotational Research:

- Develop a cropping systems approach and specific practices for common rotations in Minnesota that can help achieve lower cost and higher productivity over the long run.
- Review research and provide educational material and educational opportunities on what crops are our regions preferred rotational crops.

Market Development:

- Identify local/regional markets for ultra high yielding wheat lines that do not meet traditional quality targets.
- Research and develop appropriate segregation systems for Biotech and other special wheat.
- Advance the commercialization of Biotechnology wheat.

Conservation:

- Identify conservation/environmental benefits of growing spring wheat and winter wheat.
- Fund efforts to get conservation incentive payments for planting wheat.

Other Research:

- Any Research that can help growers improve profitability
 - Lower Cost
 - Higher Yields
 - Higher Value