

Minnesota Wheat Research and Promotion Council

RESEARCH PROPOSAL GRANT APPLICATION

(2-pages maximum)

Project Title: Southern Minnesota Small Grains Research & Outreach Project

Importance of this project to the profitability of wheat producers: In the past we have worked closely with farmers, crop consultants, industry, and researchers to develop research data that is relevant and meaningful to small grain producers in central and southern Minnesota. My project supports a consistent core audience that continues to grow throughout central and southern Minnesota, with a continued increase in demand for information related to small grain production. My project continues to support not only small grain producers in making management decisions but have also worked with numerous private industries in developing local demand for small grain products, including millers, bakers, maltsters, and brewers. My project had continued support and appreciation from local seed and input companies and have assisted small grain producers in adopting improved management practices related to genetic selection, input management, and pest management. Small grain producers and private industry have expressed their desire for our work to continue in these regions of Minnesota to support the growth and development of the small grain industry in this region. This grant submittal is to support the continued research and education for small grain producers in central and southern Minnesota to increase production, quality, and profitability of small grain production. This grant funds the research and extension activities related to spring and winter wheat production while other grants and projects support research activities for rye, barley, and oats.

Procedures: We propose the establishment of variety performance trials for HRSW, HRWW, barley, rye, and oats in central and southern Minnesota for the 2022 growing season. Proposed trial locations include Benson, Becker, Le Center, and Rochester (Table 1). The loss of the WCROC as a trial location for small grain performance evaluations and the continued challenges at some of the other ROCs may mean that the importance of and reliance on the on-farm locations that are managed by my project in collaboration with the wheat, barley, and oat breeding programs is likely to grow.

As in the past, the variety trials will serve as sentinels for detecting insect and disease pests which we use to alert small grain producers of in-season management issues. The sentinel plots also provide an invaluable tool to use during summer field days as hands-on demonstrations to teach small grain producers and crop consultants important pest identification skills.

Farmer-cooperators carry out all field operations while my research group in collaboration with the two breeding projects takes care of planting, weed control, data collection, and harvest. All trial locations utilize a randomized complete block design with three replications. Experimental units measure 5 ft. by 12 ft. and seeded with an Almaco plot drill. All trials are harvested and subsampled with a Zurn 150 plot combine.

Summer field days will be planned to take place at variety trial locations at Benson, Le Center, and Rochester, MN in the later part of the month of June. Winter small grain meetings will be held in central and southern Minnesota, including Benson, Cold Spring, LeCenter, Rochester, and Slayton in the second half of February each year. In addition to the in-person workshops, a virtual small grain workshop option will be included as part of the Strategic Farming: Field Notes program in late-February. Both field days and virtual meetings will feature results from variety trials and other University of Minnesota research as part of our statewide extension programming efforts in small grains.

Table 1 – On-Farm locations in central and southern Minnesota in 2024 through 2026

Location	HRWW	Winter Rye	HRSW	Barley	Oats
Le Center	x	x	x	x	x
Becker	x	x	x	x	x
Benson		(x) ²	x	(x)	(x)
Rochester ¹	(x)	(x)		x	x

¹ Not funded through this grant application

² (x) indicates that these performance evaluation trials may be placed at these on-farm trials in the coming years as capacity at ROCs has either unavailable or is inadequate.

Regional linkages to other research activities: The variety trial data is integrated into the Minnesota Field Crops Trials online bulletin that is published annually by the Minnesota Agricultural Experiment Station. The data is also presented and interpreted for producers during the small grain workshops, summer field days, through the University of Minnesota Extension website and Crop News Blog, and through consultations with farmers and crop consultants.

List any other secured, pending, or planned submissions to outside funding sources for this work: The winter rye project, barley breeding program, oat breeding program, and spring wheat breeding program, all share in technical labor and travel expenses related to plot maintenance and harvest.

Research Group: J.J. Wiersma, J.A. Anderson, and K.P. Smith

Relationship to past projects: This project is a continuation of the previous efforts to ensure that small grains gain a foothold as the most viable third crop alternative for southern Minnesota

Estimate the budget requirements: \$ 74,992.-

References:

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RESEARCH PROJECT PROPOSAL BUDGET

Project Title: Southern Minnesota Small Grains Research & Outreach Project			
Principal Investigator(s) / Project Director(s) J.J. Wiersma	<u>Funds Requested For</u>		
	Year 1 (2024)	Year 2 (2025)	Year 3 (2026)
A. Salaries and Wages	\$	\$	\$
1. Co-principal Investigator(s)			
2. Senior Associates			
3. Research Associates – Post Doctorate			
4. Other Professionals (Phyllis Bongard - Crops Team Communications Specialist)	\$ 2,000.-	\$ 2,000.-	\$ 2,000.-
5. Graduate Students			
6. Prebaccalaureate Students	\$2,560.-	\$2,560.-	\$2,560.-
7. Secretarial - Clerical			
8. Technical, Shop and Other			
B. Fringe Benefits	\$ 952.-	\$ 952.-	\$ 952.-
C. Consulting and Professional Services			
D. Supplies and Services	\$ 1,000.-	\$ 1,000.-	\$ 1,000.-
E. Travel	\$ 9,000.-	\$ 9,000.-	\$ 9,000.-
F. Sub-Contracts (food and publicity for fields days and meetings)	\$ 3,500.-	\$ 3,500.-	\$ 3,500.-
G. Repairs & Maintenance			
H. Rentals & Lease (plot charges)	\$ 2,500.-	\$ 2,500.-	\$ 2,500.-
I. Other Expenses			
TOTAL AMOUNT OF THIS REQUEST (per year)	\$ 24,997.-	\$ 24,997.-	\$ 24,997.-