

MN Wheat On-Farm Research Protocol

Elevated P and K Fertility in Wheat and Soybean

Objective

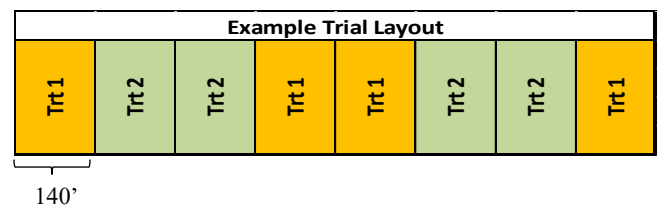
Evaluate elevated P and K fertility to determine if current P and K recommendations provide adequate fertility in a high yield wheat-soybean crop rotation.

Field Selection

- This trial will take place over four years, through two complete cycles of a wheat-soybean rotation
- On a higher-yielding field, where 70-80 bu wheat and 40-50 bu soybeans could be a reasonable target

Treatment Application

- Two fertilizer treatments will be replicated at least four times, for a total of eight harvested strips. Strips should be twice the width of the equipment used to fertilize (ex. 2 passes of a 70 ft floater = 140 ft. per strip) and will run the full length of the field.
- Treatment 1- Normal rate + 50 units P + 50 units K
- Treatment 2- Normal P and K rates
- Fertilizer applications will be made each year. In the first year, an extra 50 units of P and K will need to be applied to strips with Treatment 1 to establish the trial, and then in the fall of the same year the whole trial will receive both fertility treatments and resume normal application timings for the remaining years.



Harvest

- Yield will be measured using one of MN Wheat's weigh wagon to record yield and obtain a protein sample
 - MN Wheat Staff will be available with the weigh wagon to assist with harvest
- Combine passes should avoid sprayer tracks and drown-outs if possible
- MN Wheat will also need to collect the as-applied map and yield map following harvest

Data MN Wheat Will Collect

- Precipitation
- Drone imagery near tillering through NCTC
- Tissue samples at tillering
- Yield, moisture, test weight, protein
- Fall soil residual P + K

Data Reporting

MN Wheat will email participants the preliminary results of all on-farm research trials after harvest. Data will also be included anonymously in the annual On-Farm Research Report booklet, be discussed at the annual On-Farm Research Summit in December and posted on-line on MN Wheat's On-Farm Research Network homepage at the link below.

Participants will be compensated according to the payment structure outlined in the Producer Agreement upon the successful implementation and harvest of each trial for any extra time and costs incurred while participating in this research. This trial is eligible to receive \$1,500 in compensation. The Producer Agreement can be found at www.mnwheat.org/farm-research-network/

Call us anytime with questions - Thank you! Lauren, 218-556-3174; Melissa, 952-738-2000