

# MN Wheat On-Farm Research Protocol

## Johnson-Su Compost Extract x NP Fertility

### Objective

Measure the effect of Johnson-Su compost extract (CE) on soil microbial community and N and P availability to wheat and soybeans

Wheat – Compost extract applied as seed treatment at planting at

Soybean/Row crops – Compost extract applied as liquid in-furrow application at planting

### Treatment Applications

1. Control – Farmer fertilizer rate, no extract
2. Compost extract + ½ N rate + 0 P
3. Compost extract + 0N + 0P

Field size _____
Length _____
Width _____
Rye drill width _____
Header width _____
Sprayer width _____
Soybean planter width _____
Plot size _____
Length _____
Width _____
Treatment acres _____

### **Example Plot Layout**

Treatment	1	2	3	4	2	3	4	1	3	4	1	2
	1	2	3	4	5	6	7	8	9	10	11	12
Plot	1	2	3	4	5	6	7	8	9	10	11	12

The four treatments will be replicated three times, for a total of twelve harvested strips. Strips should be wide enough to allow for **one combine pass in soybeans that excludes sprayer track damage** (70-120 ft, depending on sprayer and combine widths) and should be 500-1,000 ft long.

### Harvest

- Yield can be measured using one of MN Wheat’s weigh wagons to record yield and obtain protein samples
  - MN Wheat Staff will be available with the weigh wagon to assist with harvest
 OR
- Yield can be measured in the producer’s grain cart with a calibrated scale
  - Protein samples will need to be collected as the combine empties each plot into the grain cart
- Combine passes **MUST** avoid sprayer tracks and drown-outs
- MN Wheat would like to collect the as-applied map and yield map following harvest

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## Data UMN/MN Wheat will collect, including but not limited to:

- Preplant composite soil microbiome assessment
- Crop stand and vigor after emergence
- In-season tissue test
- Yield and grain quality
- Post-harvest soil Haney test and microbiome assessment

## Producer report

- Participants will receive a preliminary statistical analysis of all harvested trials as soon as all trials are harvested and the data can be analyzed by UMN and MN Wheat.
- Participants will receive a pdf copy of the annual On-Farm Research Report book following the annual On-Farm Research Summit. Printed copies of the book will also be available at the On-Farm Research Summit, Small Grains Updates meetings, or by mail upon request.
- Participants are eligible for one free night at the CanadInn during the Prairie Grains conference in December in Grand Forks, ND, if they plan to attend MN Wheat's annual On-Farm Research Summit.

## Data Use

According to MN Wheat's data use and privacy policy, trial data will be presented anonymously at MN Wheat's annual On-Farm Research Summit and in the On-Farm Research Report booklet, available on-line at MN Wheat's On-Farm Research Network homepage at the link below.

## Compensation

Participants will be compensated upon the successful implementation and harvest of each trial and submission of all necessary supporting field data. This trial is eligible to receive at least \$1500 in compensation for the trial.