



## Nebraska On-Farm Research Network Starter vs. None in Corn or Soybean

*Protocol developed by: Jenny Rees and Laura Thompson, Nebraska Extension Educators*

**Objective:** Determine any effects on yield and economics of adding starter fertilizer to corn or soybean.

**Rationale:** Previous starter fertilizer studies showed minimal yield and economic gains if soil test phosphorus levels were 10 ppm or greater in corn/soy rotations. Yet a number of growers still utilize starter fertilizer for various reasons. Some growers also wish to determine if lower salt formulations of starter fertilizer impact seedling emergence. This protocol allows growers to test application of a starter fertilizer vs. none.

**Treatment Design:** The following is an example treatment design for comparing two treatments. This design allows for a planter pass to be made for each treatment as long as two combine passes can be harvested from that planter pass (i.e. 12 row planter and 6 row combine). A total of 5 replications need to be harvested for this trial (7 is preferred). All other parameters need to be the same in this study other than the use of starter fertilizer or not.

### Treatments:

**Check:** No starter fertilizer.

**Starter Fertilizer:** Please note the product, rate applied, how applied.

**NOTE:** Yield from the full header width needs to be obtained for each treatment strip shown below.

Replication 1	Starter	Yield from header width:
	Check	Yield from header width:
Replication 2	Check	Yield from header width:
	Starter	Yield from header width:
Replication 3	Starter	Yield from header width:
	Check	Yield from header width:
Replication 4	Check	Yield from header width:
	Starter	Yield from header width:
Replication 5	Starter	Yield from header width:
	Check	Yield from header width:
Replication 6	Check	Yield from header width:
	Starter	Yield from header width:
Replication 7	Starter	Yield from header width:
	Check	Yield from header width:

*Data to Collect:*

1. Pre-plant soil tests to know beginning phosphorus level.
2. Emergence counts in 1/1000 of an acre for each treatment and rep at the same time for several days.
3. Harvest stand counts. In each treatment strip, 2 stand counts will be taken and averaged. Stand counts should be taken from the same area of 1/1000 of an acre as emergence counts.
4. Yield. Yield can be collected using a well-calibrated yield monitor or with a weigh wagon.
5. Any observations such as emergence, photos, etc.

*Grower Requirements:*

1. Flag or mark GPS location of each treatment.
2. Provide all necessary inputs for crop production.
3. Complete background agronomic form about site and practices.
4. Collect yield data and grain moisture with weight wagon or yield monitor. If using yield monitor, please designate a separate "load" for each treatment and set up separate "products" names for each treatment harvested. Yield monitor must be **well calibrated**. Contact UNL Extension if assistance with this process is needed.
5. Collect stand counts at harvest.
6. Submit harvest data to UNL Extension within 30 days of harvest or by Dec. 15.
7. Allow UNL Extension to use submitted and collected data for research, educational, and informational purposes.

*Nebraska On-Farm Research Network will:*

1. Provide technical assistance in setting up replicated and randomized experimental design.
2. Provide assistance upon request with treatment implementation, flagging, stand counts, stalk rot tests, and recording yield.
3. Analyze raw data using statistical analysis and provide this information to the grower.

**Disclaimer:** The Nebraska On-Farm Research Network does not endorse the use of products tested in on-farm replicated strip trials. While treatments are replicated within trials and may be replicated across multiple sites under various conditions, your individual results may vary.

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