



ACTION TRIAL PROTOCOL

COVER CROP BIOMASS & WEED SUPPRESSION

PROTOCOL AUTHORS – ISA OFTN Team

OBJECTIVE—Evaluate how different cover crop grass species (cereal rye & winter barley) impact cover crop biomass and weed suppression in the following soybean crop.

- Number of locations: 4 on-farm sites
- Geographic scope: Statewide
- Prefer no-till or reduced / minimal tillage field.

TREATMENT—Comparison of at least two different cover crop grass species (cereal rye & winter barley) to a non-cover crop control.

Cover Crop Treatments

- Cover Crop Grass Species
 - Cereal Rye
 - Winter Barley
- Cover Crop Planting Guidelines
 - Both planted at the same rate: 40-50 lb/A pure live seed
 - Plant cover crops as soon as possible after harvest. Must be planted by November 15. Please refer to the Midwest Cover Crop Council Selector Tool for ideal dates for planting in your area.
 - Must be direct planted with drill, 15" planter or air seeder.
- Cover Crop Termination Guidelines
 - Use chemical termination.
 - May choose termination date but at least one of the cover crop species must have a minimum of 12 inches of cover crop growth at time of termination. Consult ISA OFTN Team for clarification on termination method with cover crop growth stages.
 - Both cover crops (cereal rye & winter barley) should be terminated on the same day, using the same herbicide program.
 - Detailed termination plan to be discussed with ISA OFTN Team.

Control Requirements

- Should have same management as two cover crop treatments, except without a cover crop.
- Only exception: Herbicide strategy for control (dates and residual) can differ from the cover crop treatments.

Treatment Rationale:

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- *Testing the amount of biomass for two grass species using typical seeding rates to evaluate how much biomass is produced and the impact of that biomass on weed suppression in soybeans.*

PLOT LAYOUT—Flexible depending on equipment and field dimensions.

- Minimum of 40 acres.
- Trials will consist of at least 4 replications of a control and two cover crop treatments (total of 12 plots), each a minimum of 60 foot wide.
- Width of plots can be adapted to farmer's equipment.
 - Must be wide enough to measure yield using farmer's harvest equipment.
 - Minimum width is the larger of either 60 ft or twice the width of the combine header (to avoid edge effect).

EQUIPMENT NEEDED

- Cover crop planting equipment—drill, planter, air seeder, etc.
- Access to sprayer or custom applicator for chemical termination of cover crop
- Calibrated yield monitor

FIELD WORK AND MEASUREMENTS COLLECTED

- Agronomic management information-Farmer provided
 - Previous 3-5 years of basic management information preferred
 - More detailed current year's management information
- Cover crop planting and termination, farmer responsible
- Baseline soil fertility and inorganic soil nitrogen sampling & analysis-ISA responsible, spring
- Field scouting-ISA responsible, cover crop and cash crop growing season
- Spring cover crop biomass-ISA responsible, spring
- In-Season weed count-ISA responsible, growing season
- Yield monitor data-Farmer provided, post-harvest

ISA OFTN CONTACT INFO

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