

Cover Crop Termination Date Strip Trial

"MU Certified" Strip Trial Program

Objective:

How do delays in cover crop termination affect grain yield and residue cover?

Approach:

Compare two termination dates on fields with existing cover crop.

Key design elements:

- Farmer choice of cover crop or crop mix that does not winter kill.
- Compare two termination dates at least 7 days apart in corn, 10 days apart in soybean. Farmer selects termination dates.
- Note that this trial requires two passes with the sprayer.
- Soybean, corn and milo preferred grain crops.
- Minimum of four replicates (eight strips), prefer more.
- Farmer defines all grain crop management decisions (variety, seeding rate, and planting date; fertilization; weed and pest control; harvest date).
- We need a yield map from the whole field; prefer an as-applied map from termination applications

Information needed to layout trial:

| | | |
|-----------------------|--------|--------|
| Name: | Phone: | Email: |
| MU Extension Contact: | Phone: | Email: |

| Field Information | |
|-------------------------------------|---------------------|
| Field location/size: | Harvest direction: |
| Cover crop(s) planted/seeding rate: | Planting date: |
| Termination date objectives: | Planned grain crop: |

| Equipment | | |
|------------------------------|---------------------|------------------------|
| Sprayer type/model: | Sprayer width (ft): | GPS enabled? yes or no |
| Spray controller type/model: | | |
| Planter type/model: | Planter width (ft): | GPS enabled? yes or no |
| Combine type/model: | Combine width (ft): | GPS enabled? yes or no |
| Yield monitor type/model: | | |

Interested?

Contact the local Extension Office or David Kleinsorge (KleinsorgeD@missouri.edu; 573-884-8696).

Termination trial in Cooper County in 2018. A cereal rye cover crop was terminated 13 days before planting and on the same day as planting (May 8). Image was taken June 12.



More Information

Key measurements

- Farmer estimate of cover crop growth stage, and height/biomass at termination dates.
- Aerial imagery will be obtained between termination dates to confirm location of treatments.
- High-resolution images will be obtained using low-altitude UAV at points in the field at pre-canopy closure to assess residue, weed control, and stand issues.
- Aerial imagery will be obtained in early July (corn) to assess nitrogen status or August (soybean) to assess stand issues. Scouting for any stand issues identified.
- Farmer provides GPS referenced yield map.

Key additional information needed from farmer:

- Prefer as-applied/coverage map for herbicide applications.
- Information on cover crop and grain crop including planting dates, seeding rates, termination/harvest dates, herbicide management, and for corn, nitrogen fertilizer program.

Key trial implementation notes:

- We will work with you to create a treatment map for your field. Typically will alternate treatments across the field.
- For soybean crops, spray treatment strips parallel to your harvest direction, not your planting direction.
- We will try to create a trial where you do not change how you harvest.
- Work with your local extension specialist and state program staff if you have questions.

High resolution images of treatments on June 12, 2018 of Cooper County trial.

Terminated April 25, 2018



Terminated May 8, 2018



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