

Cover Crop Termination Time “Planting Green” Study

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Background: No-till cover crop systems in the Mid-Atlantic region can pose agronomic and pest management challenges, including plant residue interference with seed placement or poor row closure due to high moisture, and providing ideal slug habitat, resulting in reduced yields. Typically, cover crops are terminated one to two weeks before planting, but some farmers are delaying termination until planting or later for soil conservation and soil moisture management.

Hypothesis: We hypothesize that terminating cover crops at cash crop planting rather than earlier will improve seedbed conditions for planting; **extend soil and water conservation benefits of cover crops**; and reduce slug habitat damage to the subsequent crop for corn (*Zea Mays*) or soybean (*Glycine max*).

Research Farm Sites: The corn experiment consists of rye, crimson clover, or a rye-crimson clover mix, terminated either early or at corn planting (6-8 treatments, 60 x 75 ft plots) with four replications. The soy experiment consists of 30, 60, or 120 lb/A rye seeding rate, 30 or 60 lb/A N fertilization rate, terminated either early or at soybean planting (12 treatments, split-split plots 30 x 75 ft) with 4 replications.

Schrack Farms Site: Corn and soybean experiments with rye cover crop at one seeding rate across the farm; treatments were either terminated either early or at planting of the cash crop with 4 replications.

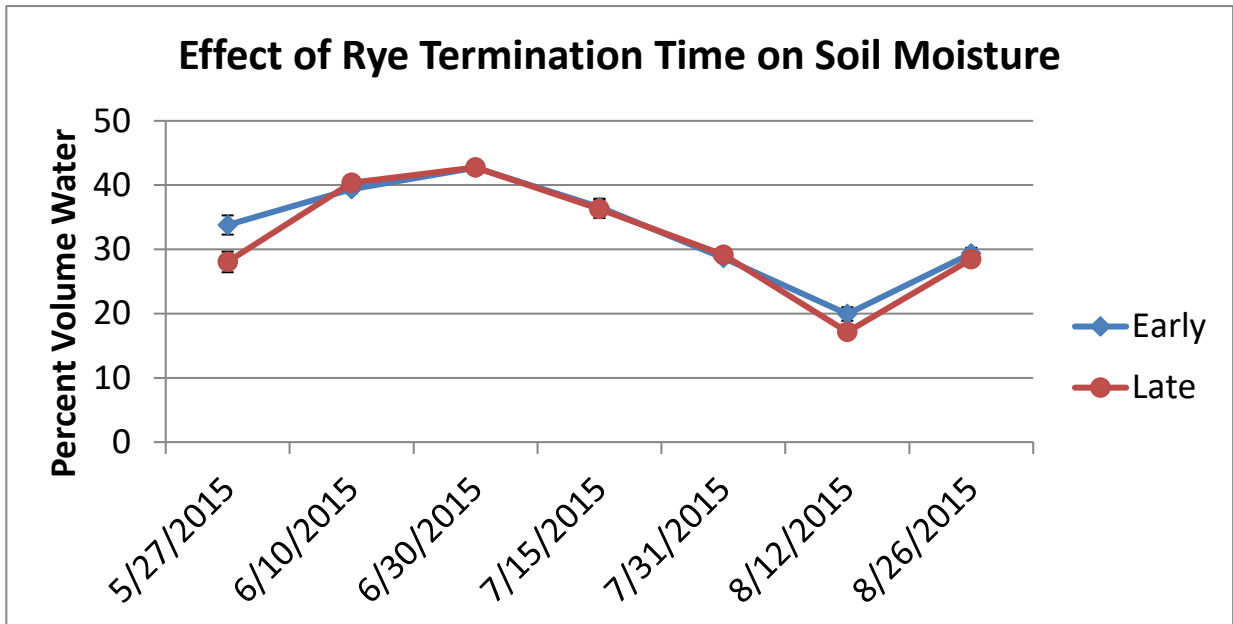
Measurements:

- Rye biomass at early termination and at planting
- Cash crop stand counts
- Soil Moisture
- Soil Temperature
- Slug Population
- Soil Cover

Year One Results—Corn Experiment:

- More than triple the rye biomass was present at late termination (planting green) than early termination
 - Early terminated = 479 lb/A
 - Terminated at planting = 1,542 lb/A
- Corn population was no different between treatments
 - Early terminated = 27,600 plants/A
 - Terminated at planting = 28,500 plants/A
- Soil cover was no different between treatments
 - Early terminated = 97%
 - Terminated at planting = 94%

- Soil moisture (top 3 inches) was reduced in the terminated at planting (late) treatment at the beginning of the growing season; this difference diminished by early June.



- Soil temperature (top 3 inches) was reduced in the terminated at planting (late) treatment at the beginning of the growing season; this difference diminished by early June.

