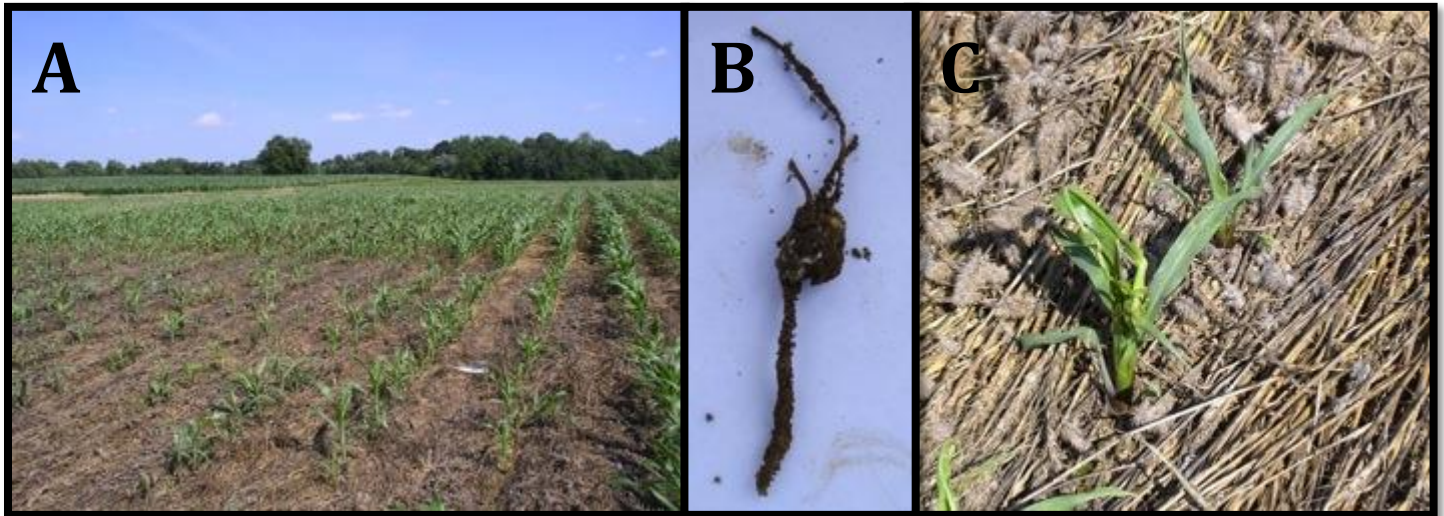


THE MYSTERY

- Dry spring—we had accumulated 5.9” of precipitation by planting
- Soil volumetric water was under 25% at planting
- Dawn ZRX Helical Roller (“Charlie Martin Planter”) used for planting
- TA-477-18 (97 day RM) -No BT trait, no seed insecticide, GT Agrisure®
- Cover crops (rye, crimson clover, rye + crimson clover) in planted green plots were terminated 4-10 days after planting (Table 1) (22 oz. Roundup® + 12 oz. Clarity® + 8 oz. 2, 4- D ester)
- Corn populations 29% lower planted into green clover than into early-terminated clover (A)



- In bare patches, we dug up some corn seed that germinated but did not emerge (B)
- 3 weeks after planting, corn planted into green clover showed twisting, stunting and excessive tillering, and will not likely produce an ear (C)
- Brown stinkbugs and evidence of feeding was seen on plants

Table 1. "Planting Green" experiment operation dates at Russell E. Larson Agricultural Research Center (Rock Springs) and the Southeast Research and Extension Center (Landisville)

Operation	Rock Springs	Landisville
Early Termination	8-May	5-May
Late Termination	18-May	29-May
Planting	14-May	19-May

Table 2. "Planting Green" experiment cover crop and corn seeding rates

Crop	Seeding Rate
Rye	120 lb/A
Crimson Clover	20 lb/A
Rye + Crimson Clover	60 lb/A + 20 lb/A
Corn	32,000-34,000 plants/A

WHO'S THE CULPRIT?

- What could explain the poor stand counts?
- What could explain the injury symptoms seen on the corn?
- These will likely result in yield losses. How could this be prevented next year?



Table 3. Location, cover crop, and termination timing effect on corn population, soil temperature at planting, soil moisture at planting, percent soil cover 3 weeks after planting, and insect damage to corn in the "Planting Green" experiment.

Location	Cover Crop	Termination	Corn Population	Soil Temperature At Planting (°F)	Soil Moisture At Planting	Soil Cover 3 Weeks After Planting	Insect Damaged Plants
Rock Springs	Rye	Early	30976	66.5	14.9%	83%	21%
		Late	28072	64.0	13.3%	95%	24%
	Crimson Clover	Early	28556	60.1	14.2%	92%	22%
		Late	20328	59.8	12.2%	96%	21%
	Rye + Crimson	Early	30492	62.4	14.1%	90%	23%
		Late	25652	61.7	12.1%	91%	25%
				***	NS	$p = 0.07$	NS
Landisville	Rye	Early	26620	74.0	29.8%	59%	17%
		Late	27104	70.7	32.6%	83%	26%
	Crimson Clover	Early	30492	72.0	32.3%	66%	30%
		Late	22748	67.9	30.2%	84%	45%
	Rye + Crimson	Early	31944	71.2	30.9%	86%	23%
		Late	25652	68.5	30.6%	84%	35%
				**	NS	$p = 0.06$	*

Significance values: $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$

