

Objective: How can we improve corn emergence when planting green with planter set-up?

Sites: 5 site-years: Bedford County Cooperator Site (2020, 2021), Russell E. Larson Agricultural Research Center, "Rock Springs" (2020, 2021), Adams County Cooperator Site (2021)

	Adams Co. 2021	Bedford Co. 2020	Bedford Co. 2021	Rock Springs 2020
CC Seeding Rate	95 lb	47 lb rye VNS	45 lb rye VNS + 75 lb wheat	90 lb rye Aroostook
CC Seeding Date	11/10/2020	9/19/2019	9/17/20 + 11/21/20	10/1/2019
Early Burndown Date	6/6/2021	4/15/2020	5/6/2021	4/28/2020
Corn Planting Date	6/17/2021	5/15/2020	5/21/2021	5/19/2020
Late Burndown	6/20/2021	5/21/2020	5/22/2021	5/19/2020
N Fertilization	~170 lb	~200 lb	~240 lb	~145 lb

Study Design: Randomized Complete Block with 4 replications except at Adams Co., which was Completely Randomized with 4 replications

Treatments: Early Burndown (EBD), Rolled, No Row Cleaners (RNRC), Rolled, with Row Cleaners (RRC), Not Rolled (NR)

Measurements:

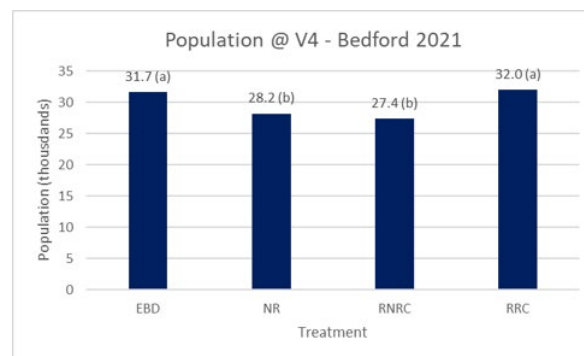
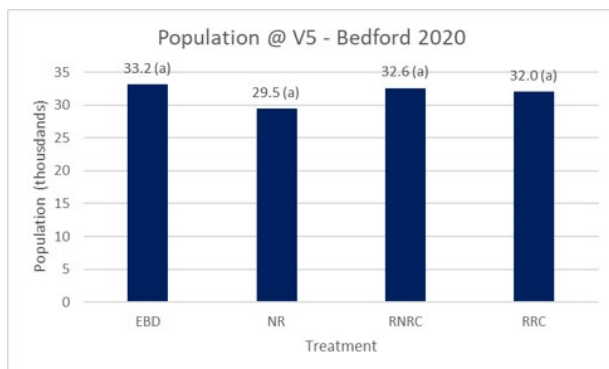
- V5 Plant Population
- V5 Plant Height
- V5 Plant Height Standard Deviation
- Early Season NDVI ("greenness")
- Slug Damage
- Ear Counts
- Yield



Planting corn green into unrolled cover crops can cause uneven emergence, spindly plants, and in some case can worsen slug feeding. (Photo Zachary Larson, Bayer Crop Science. Bedford County Cooperator 2020)

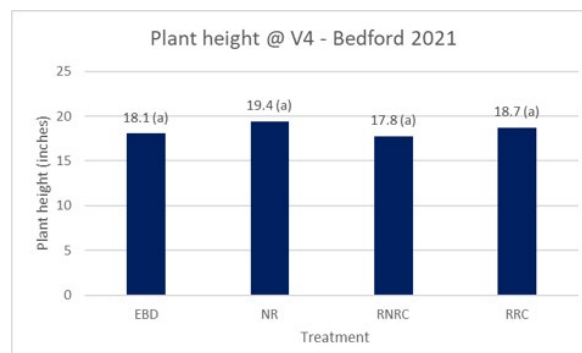
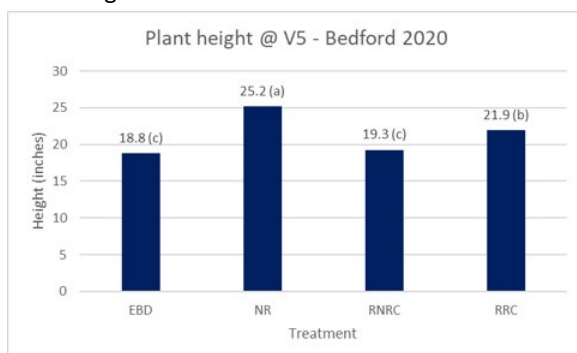
Results Summary:

Population:



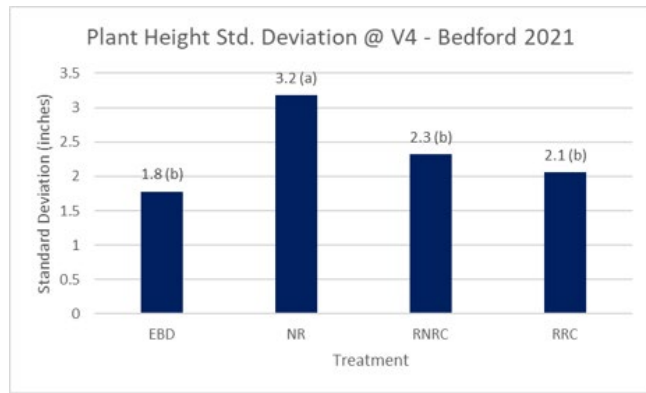
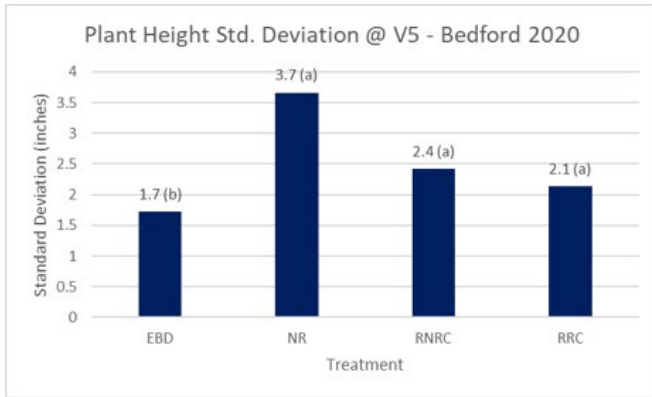
Treatments had no effect on population at Rock Springs or Adams County

Plant Height:



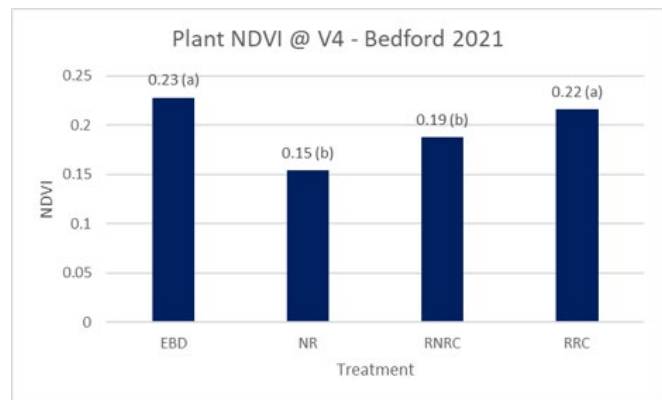
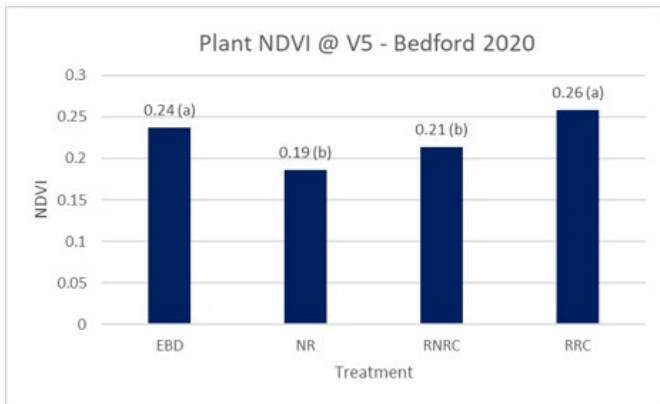
Treatments did have a significant effect on plant height at Rock Springs; NR was taller than remaining treatments in 2020 and EBD was taller than remaining treatments in 2021; Treatments did not significantly impact plant height at Adams County.

Height Standard Deviation:



Treatments did not impact plant height standard deviation at Rock Springs or Adams County

NDVI:



EBD was significantly greener than the other treatments at Rock Springs; Any rolled treatment was greener than EBD at Adams County

Slug Damage:

NR had significantly higher slug damage than other treatments at Bedford in 2021, and in 2022

Treatment had no impact on slug feeding at Rock Springs or Adams County.

Yield:

Treatment had no impact on yield at Bedford or Adams Counties, but in 2020 EBD yielded significantly higher than other treatments at Rock Springs.

Management Take-Homes:

- Roll down cover crops whenever possible; if you cannot, consider planting soybeans instead of corn
- If rolling, use row cleaners if weed control is not your primary objective
- If planting late into very warm soils, row cleaners have less impact on corn emergence