

Centre Co. Cooperator, June 7, 2016 (17 DAP)



# Cover crop management varies depending on:

- weather
- soil conservation vs. crop establishment
- previous crop residue
- cover crop species
- cash crop
- equipment
- experience

Lancaster Co. Cooperator, May 27, 2016 (At Planting)



Rock Springs, May 19, 2016 (At Planting)





Early-Terminated

## Planting Green Effects on Soil

Planting green reduces soil temperature, resulting in...

- Delayed crop emergence & maturity lag lasting the entire growing season
- Slowed nitrogen cycling (special considerations for corn)

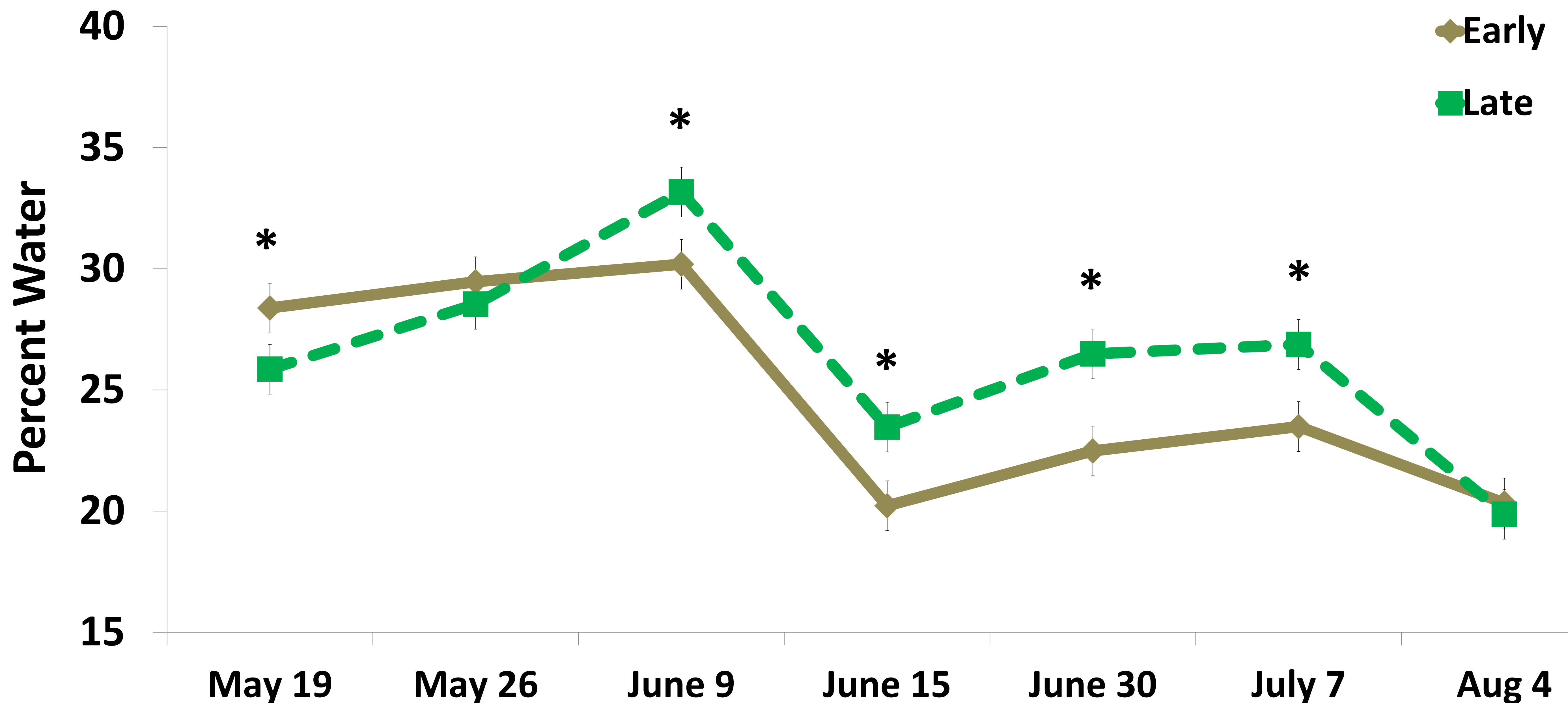
**\*The more cover crop biomass, the greater the effect\***



Planted Green

- Planting green dried soil at planting and conserved soil moisture later in the growing season
- **Detrimental** in a **dry** spring (2015)
- **Beneficial** in a **wet** spring (2016 & 2017)

Rock Springs Soybean After Early- and Late-Killed Rye 2016



# Soybeans can compensate for reduced populations and maintain yield even in sub-optimal conditions

- **Dry** spring **2015**: planting green **reduced** soy population by **8%** but not yield
- More typical spring **2016** and **2017**: soy populations were the **same or higher** when planted green
- Yield was not different between early- and late-rye termination **8 of 9 site years** (dry and wet years)



- Planting green **reduced slug feeding damage in soybean** by 35% in 2016 at 3/5 sites
- **No difference** in damage between early- and late-terminated rye in 2015 & 2017



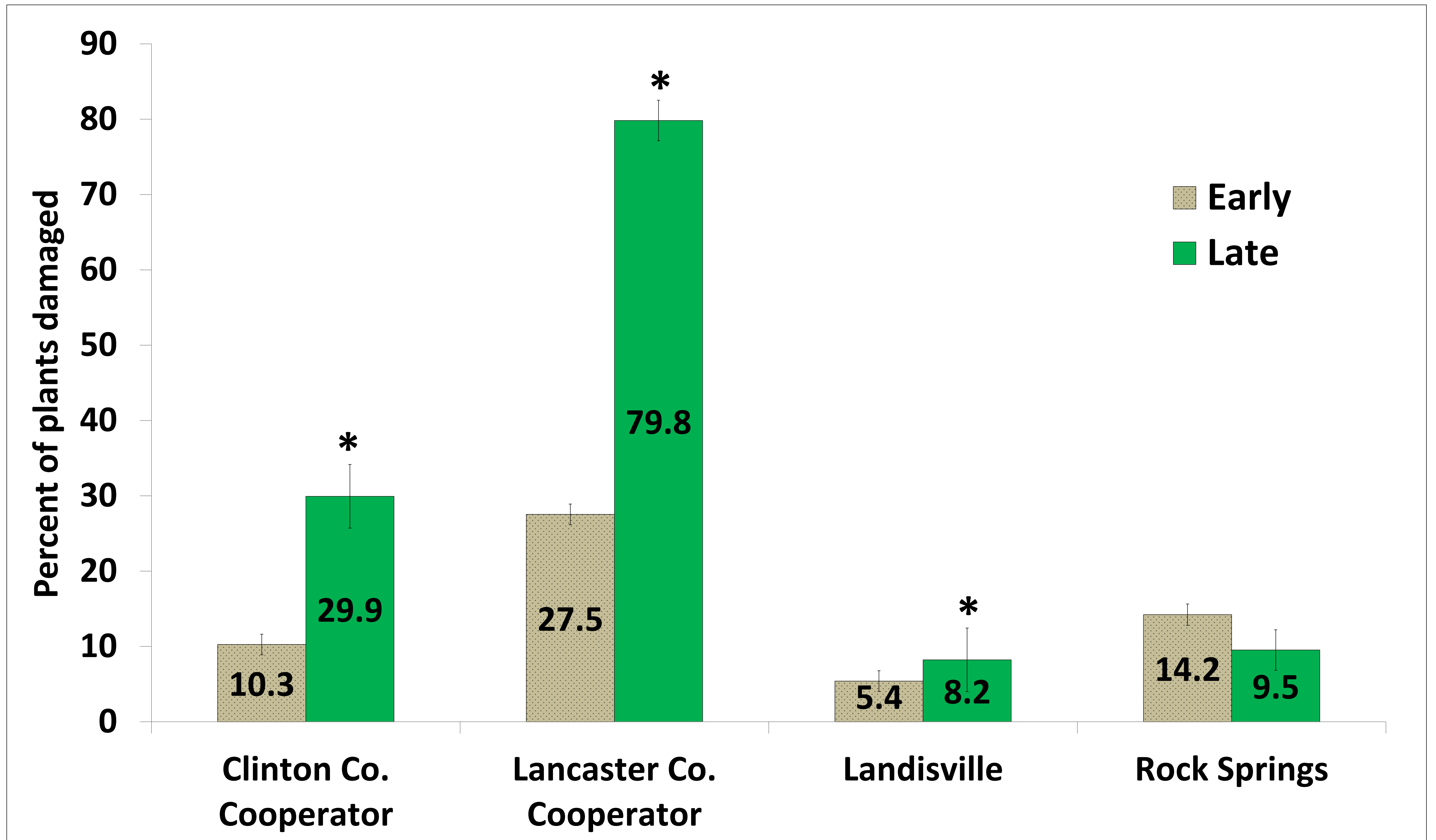
# Planting green with corn is not recommended in a dry spring

- 2015 very **dry soils at planting**, difficulty achieving 2” planting depth
- 2/4 sites had **10% yield reduction** when planted green
- 2016 **ample spring moisture**  
= good planting and establishment conditions
- **10% yield loss at one site** likely due to slug damage followed by drought stress

Potential for nitrogen deficiency in corn due to N immobilization by cover crop and cool soil temperatures



**In 2016, Slug feeding on V5 corn increased by 144% when planted green. (3/4 sites)**



# **Cover Crop Management Recommendations for Planting Green**

- **Reduce CC seeding rate or delay seeding in fall, especially if applying manure to CC**
- **Consider rolling/crimping, especially in CC over 18”**
- **Aggressive row cleaners aid in achieving good stands**
- **Planter recommended to improve soybean establishment**





# Key Points

- Start with soybeans
- Manage residue
- **Dry spring → kill cover early**
- Focus on achieving optimum planting depth
- Expect delayed emergence and maturity lag
- Nitrogen management is critical in corn, even following a legume
- Use IPM to manage pests