

Crop Management after Prevent Plant Acres

Nitrogen management

- The corn following soybean nitrogen (N) rate can be used when corn follows prevented plant acres. The corn following corn N rate is not needed, as no corn was grown in 2013.
- The soybean crop does not leave behind extra N. It costs the soybean plant energy for the symbiotic fixation, so the process is very conservative to the soybean plant using that fixed N. A majority of the N in a soybean plant at maturity is the grain. Therefore, grain harvest removes most of the fixed N and soil derived N.
- Nitrogen rates are typically increased when corn follows corn. The main reason for the increased N fertilization rate is the high amount of crop residue with low C:N ratio that remains after corn grain harvest. Microbial degradation of the corn residue immobilizes N and makes it necessary for an increased N application rate.
- There will be some direct N contribution from the soybean vegetation and grain **if soybean was seeded as a cover crop** on prevent plant acres. The amount depends on the vegetative biomass and seed production level. Estimates from this situation will be difficult at best.
- Cover crops that include forage legumes may contribute N to the next year corn crop. However, if they are summer seeded, their N contribution will potentially be small because of limited vegetative growth.
- Small grain cover crops may be expected to use and sequester some N for next year's crop. However, research has shown little reduction in N needs for next year's corn crop in this situation.
- Nitrogen fertilizer applied for the 2013 corn crop – and then the field enrolled as prevent plant acres – may have little to no significant N carryover for the 2014 corn crop.

Corn rootworm management (CRW) for 2014

- Scenario 1. The 2012 crop was soybean, the field was in prevent plant in 2013 and the 2014 crop will be corn. There is no need for corn rootworm insecticide/CRW trait.
- Scenario 2. The 2012 crop was corn and the field was in prevent plant in 2013. Insecticide/traits for CRW may not be needed. Rootworm damage from northern corn rootworm that have extended diapause is possible. Use CRW insecticide/traits if extended diapause is a concern.

Fallow syndrome

- Fallow syndrome can occur when fields have little or no vegetative growth the previous year. Fallow syndrome can cause poor early season corn growth and reduced yields. The beneficial soil fungi that assist with phosphorus uptake can be reduced by fallow conditions. Phosphorus deficiency symptoms may occur in corn.
- Consider a fall seeded cover crop to reduce the potential for fallow syndrome. A row applied starter fertilizer that contains phosphorus may help also.

Cover Crops

- Oats are an inexpensive and easily managed cover crop.
- Winter rye can be seeded now until mid-October. Winter Rye will function as a traditional cover crop. Spring management is essential to prevent crop competition.
- Radishes are an option where fall grazing is desired. The radish or other brassicas will tolerate some frost/freeze conditions and remain productive well into November.

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