

Pest Control After A Prevent Plant Season

After an extremely wet season, such as 2019, it can be tempting for a grower to consider reducing the cost of pest control the following season in order to reduce overall costs. This may or may not be a good idea. Before reducing pest control costs, here are some factors a grower should consider.

Factors to Consider:

- **Corn Rootworm (CRW):** Because CRW is mainly a soil insect pest, it can be tempting to assume that their numbers have been significantly reduced by a fallow year. However, CRW can live on multiple host plants. Most of these hosts are grasses, especially the foxtail family, and, to a lesser degree, small grain crops. If the grower was unable to control grass species of weeds in a fallow year, or if the field was planted to a cover crop with small grains, you may have CRW problems. Some species of CRW have demonstrated Extended Diapause. This is a condition where the eggs lie dormant one or more years before hatching. If they hatch into the recently planted corn crop, regardless if it was prevent planted the year before, then they will damage the current crop. [1][2]



Corn Rootworm Larvae



Ear of corn infected with CRW

- **Soybean Cyst Nematode (SCN):** SCN is a hearty pest in soybeans that can persist many years in the soil without their preferred host. Studies from the University of Minnesota have shown that it can take five years for populations of SCN to fall to a point where it is safe to plant a non-tolerant soybean under normal growing conditions. One year of fallow is unlikely to reduce the population below a safe threshold. [3]

Action Plan:

- **CRW:** If a grower has a field with a history of significant to severe CRW, a single year of fallow due to prevent plant is not likely to reduce the CRW population to a point where it is economically safe to skip preventative measures. Consider a corn hybrid with a below ground trait for control of CRW such as a Genuity® SmartStax® or Agrisure® trait. If the infestation has been severe in the past and/or there has been demonstrated trait resistance, then consider adding a soil applied insecticide.
- **SCN:** If SCN has been a significant pest in the past, do not assume that a single year of fallow will reduce the population to a point where the grower shouldn't take precautions. Keep SCN tolerance in mind when selecting a soybean variety and consider applying a seed treatment such as Salto® to reduce the impact of SCN.

Summary:

2019 was a severe weather year and many acres across the heartland were unplantable. As a result, many growers chose, or were forced to prevent plant many acres. It can be tempting to reduce input costs on those acres next year by reducing control options for soil borne pests. However, if the field has a history of significant to severe infestations of CRW or SCN, then a single year of fallow is unlikely to reduce the populations of those pests. It will still be economical to use treatments and seed selections to combat their effects.

Resources

- [1] Comparison of Non-maize Hosts to Support Western Corn Rootworm Larval Biology, Environmental Entomology, Thomas L. Clark and Bruce E. Hibbard, <https://academic.oup.com/ee/article/33/3/681/457956>
- [2] Winter Wheat and Volunteer Cereals as host plants for the western corn rootworm in Europe, Giselher Grabenweger, Michael Zellner, <https://www.cabi.org/isc/FullTextPDF/2014/20143231361.pdf>
- [3] Soybean Cyst Nematode Management Guide, University of Minnesota, Extension, <https://extension.umn.edu/soybean-pest-management/soybean-cyst-nematode-management-guide#how-do-scn-populations-change-over-time%3F-1496263>