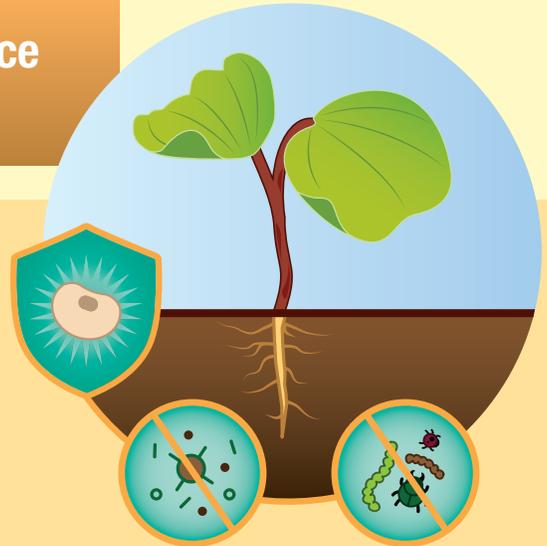


## Seed Treatments: Helping Farmers Produce Better Quality, Higher Yielding Crops

Seed treatment technologies are an effective way for farmers to protect their seed investment for a strong, healthy start to the growing season. Seed treatments deliver a targeted and precise shield for seeds that protect them from the insects and diseases that exist in the soil during those early developmental stages. This protection helps to ensure that the plant has a greater opportunity to grow a strong root system, which is the foundation of a healthy, productive plant.



## Less Impact to Off-Target Organisms Including Pollinators

Over decades of use, the agriculture industry has developed and advanced new technologies to improve the treated seed process, reducing overall pesticide load to only milligrams of active ingredient per individual seed. Seed treatments therefore may reduce the environmental impact of the production process by decreasing the number and dose of spray applications of agrichemical products and lessening exposures to off-target species, including pollinators and other beneficial insects.



In addition, the agriculture industry has implemented national stewardship programs which instruct farmers on Best Management Practices (BMPs) for using treated seed, facilitating safe and effective use with minimal impact to workers and the environment.

## Neonicotinoid Seed Treatments: Among the Most Valued Insect Control Methods in North America

Neonicotinoids were introduced in the late 1990s as an alternative to other pesticides, and quickly became popular because of their excellent pest control and safety to workers.

In fact, U.S. corn and soybean growers estimate neonicotinoids' value at **\$12 to \$13 an acre on average**, while the total value of neonicotinoids in U.S. crop production ranges from **\$4 billion to \$4.3 billion annually for the U.S. economy.**<sup>1</sup>

## If Neonicotinoids Were Not Available in a Farmer's Toolbox

Research conducted by AgInforomatics, an independent agricultural consulting firm, has looked at what would happen if neonicotinoids were not available for use as an insecticide.<sup>2</sup> The study illustrates the consequences to U.S. farmers and consumers alike, including:



**Reduced yields.** Without neonicotinoids, farmers would be denied a proven, convenient method to effectively control yield-robbing pests, such as Asian citrus psyllid, aphids, whiteflies, Colorado potato beetle, wireworms, seed maggots and white grubs.



**116%  
INCREASE**

**Higher insecticide use.** Acres treated with older insecticides would roughly triple. In addition, it's projected that the total number of pounds of active ingredients in insecticides applied to crops would increase from 13 million to 28.2 million pounds – a 116 percent increase.



**Greater pest control challenges and resistance issues.** Populations of pests, like whiteflies in the southwestern U.S., would likely rise. Similar trends would also occur with Asian citrus psyllid, a pest that transmits the deadly citrus greening disease, which has threatened productive trees in Florida. If pest outbreaks become more common – and there are limited options – then insecticide-resistance issues would also be a greater concern.



**NET COST  
INCREASE  
\$848**

**Increased operating costs.** If neonicotinoids were not available, farmers estimate that the average cost per treated acre would increase more than \$8.30 for corn and \$3.30 for soybeans. For a variety of different crops, this creates a projected total net cost increase of \$848 million per year, captured in everything from increased spending on insecticides to costlier application methods.



**Higher food costs and lower quality agricultural products.** More insect damage and higher production costs would translate into rising prices at the grocery store, especially for meat, dairy and eggs, because of higher feed costs – as well as less marketable produce.



**Harm to beneficial insects and integrated pest management (IPM).** Many farmers rely on neonicotinoid seed treatments to provide targeted, systemic control that reduces the risk of insecticide exposure to beneficial insects. IPM would suffer without these beneficial insects.

**Learn more about this research at [www.GrowingMatters.org](http://www.GrowingMatters.org).**

Many of these unintended consequences are reportedly already occurring in the European Union, which started restricting neonicotinoids in 2013. In 2020, as a result, the French government announced plans to lift a blanket ban on the use of neonicotinoids to help save its sugar beet industry, as sugar beet crops in France were ravaged by aphids, with widespread yield losses reported across the country.

## Steps for Stewardship of Treated Seed

**Follow Directions:** Follow directions on treated seed container labeling for handling, storage, planting, and disposal.

**Minimize Dust:** Use advanced seed flow lubricants that minimize dust.

**Eliminate Weeds:** Eliminate flowering plants and weeds in and around the field prior to planting.

**Clean and Remove:** Completely remove all treated seed left in containers and equipment used to handle harvested grain, and dispose of it properly. Keep all treated seed out of the commodity grain channels.

**BeeAware:** At planting, be aware of honey bees and hives located near the field, and communicate with beekeepers when possible.