

Densities Of Volunteer Corn Impressive In Many Areas



DR. AARON HAGER

URBANA, ILL.

Many farmers would likely agree that they are still encountering repercussions of last fall's challenging corn harvest. One of the most obvious is the amount of volunteer corn in the 2010 soybean crop. Densities are perhaps as high as any time in recent memory. One observer recently estimated the stand of volunteer corn at approximately 500,000 plants per acre. As the accompanying photographs illustrate, these very dense stands that suggest special consideration will be needed to control volunteer corn with postemergence herbicides.

The first step in selecting a herbicide to control volunteer corn is to determine the "type" of corn planted in 2009. Volunteer corn can be controlled with glyphosate or glufosinate unless the corn carries the traits conferring resistance to these herbicides. Glyphosate-resistant corn hybrids are commonly grown across many areas of Illinois, and the trait conferring resistance to glufosinate is found in many hybrids as well; certain "stacked" hybrids carry both traits. If volunteer corn in 2010 originated from a herbicide-resistant hybrid planted in 2009, alternatives to glyphosate and glufosinate will be needed.

Density of volunteer corn also determines whether additional management options will be needed. Research has demonstrated that volunteer corn, whether growing in clumps or as individual plants, can reduce soybean yield. Generally, the higher the volunteer corn density and the longer the interference duration, the greater the soybean yield loss.

Several postemergence herbicides provide excellent control of volunteer glyphosate- or glufosinate-resistant corn. The ACCase-inhibiting herbicides (clethodim, quizalofop, fluzafop, sethoxydim) provide broad-spectrum control of grasses and are frequently tank-mixed with glyphosate for control of volunteer glyphosate- or glufosinate-resistant corn. Keep in mind that labels of ACCase inhibitor herbicides sometimes caution about reduced effectiveness when applied in combination with certain other postemergence broadleaf herbicides. Also be mindful that spray additive recommendations for ACCase inhibitors can vary depending on how the

product is used – alone or in a tankmix – and on the type of glyphosate formulation it is tank-mixed with. For example, additive recommendations can vary depending on if a product is tank-mixed with a glyphosate formulation containing a "built-in" adjuvant system or that itself requires additional surfactant.

Other postemergence herbicides that can con-



Volunteer corn can exist as clumps or as individual plants.



Very dense infestation of volunteer corn in soybean.

control or suppress volunteer corn include glufosinate (Ignite), imazaquin (Scepter), and imazamox (Raptor). The activity of glufosinate on volunteer corn is often best when applications are made during periods of warm air temperatures and sunny conditions.

Instead of including a tank-mix partner with glyphosate during the initial post-emergence application, farmers sometimes opt to wait to see if additional volunteer corn emerges before treating. While this approach is understandable, remember that the longer and larger volunteer corn grows with soybean, the greater the likelihood of soybean yield loss and the higher the rate of an ACCase-inhibiting herbicide will be needed to control the volunteer corn. Δ

DR. AARON HAGER: Associate Professor, Crop Sciences, University of Illinois