

VOLUNTEER CORN MANAGEMENT

- Lodged corn resulting from high wind (Figure 1), disease, or physiological stalk rot (Figure 2) increases the likelihood of volunteer corn (Figure 3) in the following crop.
- Volunteer corn is a “weed” in the following crop that can reduce yield, increase the likelihood of a corn rootworm infestation (Figure 4), and potentially be a source for disease inoculum.
- Managing the potential for volunteer corn should begin at harvest and continue the following spring.



Figure 1. Down corn resulting from high wind during active growth.



Figure 2. Lodging resulting from physiological stalk rot.



Figure 3. Volunteer corn in soybean field.



Figure 4. Volunteer corn allowed to reproduce can attract corn rootworm beetles that lay eggs in the soybean field, increasing the potential for rootworms in the next corn crop.

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Down corn, regardless of the cause, can be a major source for volunteer corn. Getting as many ears into the combine as possible reduces the amount of potential volunteer corn. Harvesting tips for down corn include:^{1,2}

- Evaluate the lodged field before adjusting combine or purchasing additional harvesting equipment. Detached ears are not likely to be harvested; therefore, adjustments or additional gathering equipment to pull these ears into the machine is unlikely.
- Harvest as soon as possible. If stalk rot was the cause for the downed corn, the stalks are likely to become increasingly weaker and ears may mold where they touch the ground.
- Follow the combine manufacturer's manual for cylinder adjustments, speed, and clearance settings.
- Keep snouts as low as possible and consider removing ear savers as they may prevent ears from entering the header. Adjust the angle of the header to get gathering chains as low as possible.
- Set gathering chains so the lugs are opposite each other and close together. The deck plates over the snapping rolls should be slightly wider than the stalks so they hold the stalks but wide enough to keep the stalks from becoming wedged between the plates.
- Try harvesting against the angle of the lodged corn to help maximize lift into the header. After harvesting a small distance, evaluate gathering performance behind the combine and compare to an unharvested area. If loss is still considerable, adjust settings or consider harvesting a different direction.
- Corn reels or rotating cones may improve harvest efficiency.
- Harvest when dew is present to help minimize fluff.
- Avoid over-threshing.
- Set combine to blow out as much of the fines and foreign material as possible.
- Above all, be safe. Shut the combine down before attempting to remove plugged material from header and other moving parts.

Fall Management to Help Reduce the Potential for Volunteer Corn

Tillage

- Early fall tillage can help initiate germination of lost grain prior to a winter freeze, reducing the amount of grain that may germinate in the spring.
- Where large amounts of grain have been lost to down corn, deep tillage with a moldboard plow can prevent the seed from germinating.
- Shallow tillage, such as field cultivation, can kill emerged volunteer corn; however, it can "plant" seeds that germinate in the spring.
- Utilizing no-till practices can leave ears and kernels exposed to winter weather and wild animal and bird feeding.

Grazing

Where practical, allowing livestock to graze on non-tilled fields can help reduce the potential for volunteer corn and be beneficial with the return of nutrients through their waste. However, seeds can pass through the digestive system and remain viable. Grazing should be discontinued prior to spring thawing to decrease the potential for livestock caused compaction.

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Spring-Time Controls

Delayed planting may not be a viable option; however, delayed planting can allow for considerable amounts of volunteer corn to germinate. The germinated seed can be controlled through tillage or labeled burndown herbicides. A glyphosate herbicide, such as Roundup PowerMAX® Herbicide can be used to control glufosinate-resistant ONLY volunteer corn. A glufosinate herbicide, such as Liberty® Herbicide, can be used to control glyphosate-resistant ONLY volunteer corn. Volunteer corn that has glyphosate and glufosinate-resistant resistance requires the use of a graminicide (grass) herbicide.

Herbicides for Volunteer Corn in Soybean Acres³

Many corn fields will be planted to soybean the following year. Volunteer corn control depends on the soybean product planted – glyphosate-resistant, glufosinate-resistant, a combination of both, or no herbicide resistance. Where labeled for use, graminicide (grass) herbicides such as Select Max® Herbicide, Poast® Herbicide, Assure II® Herbicide, Fusilade® DX Herbicide, and Fusion® Herbicide can be used to control volunteer corn regardless of the type of soybean product planted.

Herbicide-resistant soybean products: VERY IMPORTANT TO KNOW PREVIOUS HERBICIDE RESISTANCE OF PREVIOUS CORN CROP AND HERBICIDE RESISTANCE OF CURRENT SOYBEAN CROP. If the soybean crop is a glufosinate-resistant product and the previous corn crop was a glyphosate-resistant ONLY product, Liberty Herbicide can be used to control the glyphosate-resistant volunteer corn. If the soybean crop is a glyphosate-resistant ONLY product and the previous corn crop was a glufosinate-resistant ONLY product, a Roundup® brand glyphosate-only agricultural herbicide can be used to control the glufosinate-resistant volunteer corn.

Herbicides for Volunteer Corn in Corn Acres³

Controlling volunteer corn in a current corn crop is more problematic because of the herbicide-resistance of the previous corn crop. If a glyphosate-resistant ONLY corn product was planted the previous year and a corn product with both glyphosate and glufosinate resistance is planted next, Liberty herbicide could be used to control the glyphosate-resistant volunteer corn – DO NOT APPLY LIBERTY HERBICIDE IF THE CURRENT CORN CROP IS ONLY RESISTANT TO GLYPHOSATE.

Sources

¹Hanna, M. 2011. Harvest tips for lodged corn. Integrated Crop Management. Iowa State University. <https://crops.extension.iastate.edu/cropnews/2011/09/harvest-tips-lodged-corn>.

²Bergman, R. and Saeugling, A. 2020. Combine adjustments for harvesting lodged corn. Integrated Crop Management Blog. Iowa State University Extension and Outreach. <https://crops.extension.iastate.edu/blog/aaron-saeugling-kristina-tebockhorst-mark-hanna-ryan-w-bergman-shawn-shouse/combine-adjustments>

³Jhala, A. and Rees, J. 2018. Control of volunteer corn in soybean and corn. CROPWATCH. University of Nebraska-Lincoln. <https://cropwatch.unl.edu/2018/control-volunteer-corn-soybean-and-corn>.

Legal Statement

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

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