



Benefits of Scouting Fields Before Planting Corn in the North

Weeds can become a major problem in crop production when not controlled prior to planting. This is especially important in no-till systems. Weeds emerging in late summer through fall can overwinter and flower to set seed in the spring and early summer. Identifying weeds before planting corn can be difficult, especially if plants are in the rosette state of development.

Scouting fields before planting can identify what weeds are present, their population, and their growth stage.¹ This information helps to determine what management practices and herbicides would be most effective for protecting the upcoming crop prior to planting and after establishment.

Good weed control during the first four to six weeks after planting is critical for maintaining yield potential. A clean start helps to conserve moisture for the crop, promote good seed-to-soil contact, and helps prevent weeds from binding up planters.

Considerations for No-Till Systems

Winter annual weeds have become a larger problem in no-till fields due to the limited use of soil residual herbicides and the reliance on postemergence weed control associated with planting herbicide-resistant crops. Marestalk has become a difficult to control weed for no-till fields because there are many populations that are glyphosate-resistant.² It is important to control marestalk when it is small, which can require control as soon as equipment can enter the field.³

Plant debris in no-till fields can provide overwinter protection for germinated weeds, increasing weed populations.⁴ Fields that have been in no-till production for a few years may have a few scattered patches of weeds, which may not seem economically important to control. However, these patches may have enough time to seed out before a burndown application is made, creating problems in subsequent years.³

Identification of Common Early Annual and Perennial Weeds

Common weeds that may be present in fields prior to planting corn in the north include field pennycress, prickly lettuce, marestalk, henbit, purple deadnettle, shepherd's purse, dandelion, and lambsquarters.

Young field pennycress plants develop as a rosette from seeds that germinate in the fall or the spring. Leaves are hairless and attach directly to the stem with no petiole (Figure 1). When crushed, the plants have a strong odor.



Figure 1. Field pennycress rosette (left) and flowering with leaves attached to stem with no petiole.

Photos courtesy of Steve Dewey, Utah State University, Bugwood.org.

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Prickly lettuce germinates in the fall or the spring with young plants forming a rosette (Figure 2). Leaves have spines and petals of the yellow flowers have a toothed margin.



Figure 2. Prickly lettuce.

Photo courtesy of Ohio State Weed Lab, The Ohio State University, Bugwood.org.

Marestail, or horseweed, forms a basal rosette after germination and seedlings are covered with coarse hairs. Seedling leaf margins are toothed. Plants develop an erect, columnar shape and flowers are white to pink with yellow centers. Marestail is more susceptible to herbicide application when in the rosette stage. It is important to control marestail before it is more than 4 inches tall.



Figure 3. Marestail with stem elongation.

Purple deadnettle and henbit look similar and can be misidentified. They can be distinguished from each other by looking at the leaves in the upper portions of the stem. Henbit leaves attach directly to the stem while the upper leaves on purple deadnettle have short petioles that attach to the stem (Figure 4).



Figure 4. Purple deadnettle on the left and henbit on the right.

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Shepherd's purse and dandelion can be distinguished by the lobes in the rosette leaves. Shepherd's purse leaves have deep lobes while dandelion leaves form points toward the center of the rosette. Dandelion plants will exude a milky sap from all plant parts and have a bright yellow flower.



Figure 5. Shepherds purse rosette on left and dandelion on right.

Lambsquarters germinates before corn planting as very small plants with leaves that can be covered with a powdery coating. Leaves form in an opposite pattern and plants can grow almost 6 feet tall. Some lambsquarters may be resistant to ALS-inhibitor and Photosystem II inhibitor herbicides. There may also be reduced sensitivity to glyphosate.⁴



Figure 6. Young lambsquarters plant in field.

Sources

¹ Pittman, K., Flessner, M., and Ackroyd, V. Start the season out right: plant into weed-free fields. <https://integratedweedmanagement.org/index.php/iwm-toolbox/cultural-practices/plant-into-weed-free-soil/>

² Werle, R. and Sandell, L. 2013. Managing winter annual weeds starts this fall. University of Nebraska. <https://cropwatch.unl.edu/managing-winter-annual-weeds-starts-fall>.

³ Hartzler, B. 2009. Managing winter annual weeds in no-till fields. Iowa State University. <https://crops.extension.iastate.edu/cropnews/2009/04/managing-winter-annual-weeds-no-till-fields>.

⁴ Clay, S.A. 2016. Selected broadleaf weeds in South Dakota corn fields. South Dakota State University. iGrow Corn: Best Management Practices. <https://extension.sdstate.edu/sites/default/files/2019-09/S-0003-39-Corn.pdf>.

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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. ©2020 Bayer Group. All rights reserved. 2012_S2