

YIELD LOSS DEPENDS ON SEVERAL FACTORS

SITUATION

Greensnap occurs when wind causes corn stalk breakage. This yield-robbing phenomenon is most prevalent in the central and western Corn Belt, where high winds are common. Corn is most susceptible to greensnap during the five- to eight-leaf stages and again from the 12th-leaf stage to one week after silking. During these rapid growth stages, lignin is not deposited into the new cells, leaving them brittle and vulnerable.

Factors to Consider

- Hybrid type
- Herbicides applied
- Nitrogen availability
- Expected yield loss

Action Plan

- 1. Spread risk by planting a variety of hybrids.** Plant hybrids with a 10-day range of maturity to offset the possibility that all plants will be in the same developmental stage when conditions are right for greensnap. This also reduces the possibility of poor pollination caused by a heat blast. A good rule of thumb is to plant 50 percent to 55 percent of hybrids in the mid-maturity range for the area, 15 percent to 20 percent in the early-maturity range and 25 percent to 35 percent in the full-season range. Select hybrids with a high greensnap rating.
- 2. Manage herbicide application.** Application of growth regulator herbicides can increase injury risk. Do not apply these herbicides beyond the three-leaf stage.
- 3. Monitor fertilizer application.** High rates of nitrogen (N) fertilizer can encourage greensnap damage. Excess N increases the rate of vegetative growth through rapid cell division and elongation while producing weak cell walls. Manure, high in N, causes the same rapid vegetative growth as commercial fertilizers.
- 4. Estimate yield loss.** Immediate yield loss can be expected if the stalk is broken below the ear. If the damage occurs early in the growing season, remaining plants may compensate, though it is unlikely that original yield potential will be achieved.

Loss will be irreversible if damage occurs late in the growing season. Once the primary ear has developed, the only way a plant can compensate is to initiate a secondary ear. The level of yield compensation will depend on the hybrid's propensity to double-ear and the amount of growing season remaining. In cases where damage occurs below the ear, estimate yield reduction using the table to the right:

Stand Reduction	Expected Yield Loss
25%	10%
50%	26%
75%	43%

Table courtesy of the University of Minnesota.

Summary

The timing and intensity of windstorms ultimately determines the severity of greensnap damage. Severe stalk damage may occur if the plant is at a susceptible stage of development when winds reach damaging speeds. If greensnap damage occurs, consult your Mycogen Seeds agronomist or trusted agronomic adviser to discuss your options.

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