

**By Robert Tigner**

**SW4 Agricultural Extension Educator**

Recent hailstorms and high winds in this area have caused questions about the options farmers have for crop management during the rest of the growing season.

Hail decreases yields by reducing stands as well as destroying leaves. The yield loss severity depends on the crop's growth stage.

Corn has an advantage over soybeans early in the season when hailed since corn's growing point remains below ground until about the sixth-leaf stage. Young plants at this stage are not killed if only leaf or stem tissue is lost.

Here are some points to keep in mind if your field has been hailed:

1) Patience. Call your crop insurance agent right away. The crop insurance agent will contact hail adjusters who are trained and equipped to assess hail damage losses. Wait at least three to five days after a hailstorm for a damage appraisal. This waiting period allows recovery time for the plants.

2) Evaluate crop growth stage. Corn growth stage at the time of the storm is critical. If the plant has less than six collared leaves, yield will rarely be affected. Expect re-growth. This is true regardless of the amount of defoliation, if weather after the storm favors growth. As mentioned above, though, most area corn has more than six collared leaves, thus growing points are vulnerable and greater damage can occur than earlier in the season.

3) Assess viable stands. Evaluate injured plants to determine the growing point's viability. Use a sharp knife and cut lengthwise down the stem. The growing point of a healthy plant is white to cream color. Plants with a healthy growing point should survive. Assess plant survival three to five days after the storm allowing plants to recover. If weather is not conducive for plant growth for a prolonged period after the storm, assessing the remaining stand may require waiting up to a week.

4) Estimate yield losses from defoliation. Leaf loss or defoliation will rarely affect yield before the sixth leaf stage. Plants with six leaves or greater will experience yield losses depending on the extent of the defoliation. Yield loss tables are available from your agronomist or the UNL Extension office.

5) Estimate yield losses from stand reductions. Stand loss may occur following significant hailstorms. Small reductions in plant survival do not affect yields much; for example, a one-third reduction in stand will only reduce yield by 10 percent if it occurs before V8. Neighboring plants compensate to some extent for the lost plant. However, after V8, yields are reduced by the same amount that the stand is reduced. A one-third reduction in stand will reduce the yield potential by one-third.

Twisted whorl plants—a.k.a. tied or buggy whipped—may result from hail and wind injury.

A study on twisted whorl plants by Thomison and Mangen at Ohio State University found that fields with major hail damage exhibited 36 to 61 percent twisted whorls. One month later that number was reduced to zero to 9 percent; most plants grew out of it. The site that had the largest yield losses did so because of major stand losses.

Once plant survival is established, another table is used to determine yield potential of the remaining stand based on the original planting date and plant population. Compare this to the yield potential of a replant. Replanting corn now is difficult to justify except for forage and

grazing.

### Replanting considerations

For many producers, options may be limited by previous herbicide selection, timing (it is too late to replant corn for grain) and wet fields. Producers will need to consider potential yield loss of the existing crop vs. replanting costs and potential reduced yields. In some cases, the reduced yield of a hail-damaged field may be higher than the potential yield from replanting.

Before doing anything with the field, notify the Farm Service Agency and your crop insurance provider. Discuss replant options and limits; when they will be able to determine the severity of the loss and their assessment of the loss.

Next, consider your investment in the current crop, the additional expenses of replanting and expected yield at this point. Weed control may be even more difficult if the crop canopy has opened due to stand loss.

Be sure to consider herbicide replant options for this year as well as next year if applying herbicide this late in the season.

Whenever you open the canopy, weeds will develop quickly. Timely rescue treatments when the weeds are small will be most effective and cost efficient. Otherwise, weeds may grow quickly and make harvest difficult to impossible. Once established they also will produce weed seed, which can complicate weed control in future years.

If you plan to rotate to another crop next year, check the herbicide label carefully to ensure that herbicide carryover will not be a problem.

Hail and wind damaged fields also may face increased insect problems, depending on area infestations. Some insects prefer later maturing corn and may flock to those fields, requiring continued diligence in scouting.

Diseases, too, can flare up in plants where hail or wind may have damaged the plant and created openings for pathogens to infect the plant. Scout to identify disease pressure and treat as necessary.