



The State of Corn

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Freeze Damage: Why Must it Always Be Corn!

These past few weeks have shown that cool to cold weather can last into May in North Carolina. Of course, this had to include nighttime temperatures in the low 30s with some areas experiencing below freezing temperatures. We had a corn crop across the state that many sources were reporting as very good to excellent that in some areas was subjected to a May freeze. If you are like me you are thinking, “Why must it always be good corn that gets dinged?” Hopefully, you are one of the lucky ones that missed this weather event but, if not, how do you determine how this is going to impact your corn crop?

There are a couple of issues that make assessing freeze damage to corn difficult. First, cold temperatures are not uniform across the state or across a field. Figure 1 shows a corn field hit by freezing temperatures this past weekend. As you can see there are good looking plants and plants that look like they are dying. Soil moisture, tillage, trees or other cover, topography all change the way temperature is moderated at the soil surface and how cold the plants get. The second factor that makes it difficult to assess freeze damage is the ability of a corn plant to recover from leaf damage and how that ability to recover is affected by weather conditions following the frost, growth stage of the plant, and to some extent how lucky the plant is in shedding dead or dying tissue.



Figure 1. Corn damaged by a freezing events on May 8, 9, and 10.

The first thing to look for in a field that has been “frosted” is to check the growing point. The growing point of a young corn plant up to growth stage V5-6 is below ground at a structure we call the “crown”. It is a place where the nodes of the stalk are all compressed together and is usually and $\frac{3}{4}$ to $\frac{1}{2}$ inch below the soil surface. It takes temperatures below 28 oF for over two hours to damage or kill this below ground growing point. Figure 2 shows a dead, a damaged, and a healthy growing point in a corn plant that has been cut open. While we did not have any reported temperatures below 30 degrees F it is still important to look at the growing point to make sure it has not been damaged by the freeze.

Figure 2. Dead growing point on left – note black tissue; damaged growing point in the center – note gray to black areas; and healthy growing point on right.

Most of the growing points I have seen have been healthy despite extensive leaf damage from this weekend’s freeze. So, the corn should be OK, right? Well, not so fast. The second thing to look for is viability. The more leaf and leaf sheath tissue that has been damaged the less energy the plant can generate and the more difficult it is for the plant to recover. Figure 3 shows some plants from North Carolina. The two on the left will certainly recover but the two plants on the right have extensive leaf damage. The closer that damage is to the crown the less likely those plants are to recover successfully. Figure 4 shows a plant with damage close to the crown and a picture of the only remaining leaf. The tip has already turned brown. This plant is not likely to survive even though the growing point is still healthy.



Figure 3. Plants from the same field affected by different levels of freeze injury.



Figure 4. Left: Plant showing extensive damage to just above the crown. Right: Remaining leaf in the whorl of the plant showing necrotic tip.

The best way to tell if a plant is going to survive is to wait 3 to 7 days and observe how the growing tissue emerges from the dead or dying leaves. This is the only way to be sure that a plant is able to survive this event. Figure 5 shows a field recovering from this past weekend's freeze. The good news is the most of the fields affected in North Carolina appear to be recovering.



Figure 5. Corn field five days after frost event. Note green leaves emerging from the damage.

So, how much yield has been lost? If the plants were in the V3 to V4 stage then the good news is that little, if any, yield potential has been lost. These plants will recover with little lasting impact. However, larger plants in the V5 to V7 stage will take longer to recover and will experience as much as a 5% reduction in yield potential. Hopefully, we have seen our snafu for 2020 and the rest of the year will be smooth sailing! Well, I can dream, can't I?

Marketing News

How Do You Eat an Elephant?

Brooks Schaffer
Pinnacle Marketing

Someone told me they have felt like they are in a game of Jumanji this year. Things we had not even dreamed of keep jumping out at us from different directions every few days. It would be one thing if all this hit us after a good year, but this has all come after several tough ones in a row. I want to lead with that to say; that you are not the only one who is going through this even though I know saying you are not alone doesn't help much. Knowing you are not alone may help a little.

Our first look at USDA's projections for the new crop balance sheet was released earlier this week. There was nothing major revealed that shocked the market. The market expected a huge carryout projection for new crop corn and we got it at 3.3 billion bushels. New crop soybean carryout is down slightly for the crop now in the field compared to what we have in the bin and wheat carryout is also declining. World carryouts are projected to build in corn and wheat but decline in beans. USDA is very slow to adjust demand and we still have so many unknowns it is not surprising their estimates fell right in the middle of the trade expectations.

Projections are tough in a normal year and we still need to see a start the recovery in demand before we have a better idea of the slope of that recovery. We have priced in demand destruction over the past two months, now the market is trying to figure out how to price the recovery. The next 48 days are going to be very important in the corn market.

So, what do you do now? How do you eat an elephant? One bite at a time. It is very unlikely you are going to see a price in the next 6 months that is going to make you excited to sell, so you need to sell small and sell often. Have orders working at intervals to scale in sales on old crop like \$3.25, \$3.35, \$3.45. You do not have to do it all at one time. Be scaling in new crop around \$3.50 futures.

Everything is not negative. The rebound in gas demand may exceed expectations when we do start the recovery. There are some positives out here if we look. There is going to be a lot of pent up demand to travel and I doubt people are going to be quick to embrace public transportation. Airplanes, busses and subways do not burn much ethanol. China is also building back their hog herds as rapidly as possible. This is very positive for long term demand.

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Corn Growers Association of North Carolina is now offering Associate Memberships. If you are a corn farmer, you don't need to do anything, the Association pays your dues to National Corn Growers. If you are in an allied industry, or just want to support corn production in North Carolina and across the country, go to www.JoinCornGrowers.com and sign up! Dues are \$25 a year, or \$60 for three. Choose your state, North Carolina, and Associate Member

If you have any questions, feel free to reach out to the Corn Growers office at (919) 803-4778.

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