What Exactly Do You Mean by ‘Leaf’?

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- Leaf collar method for corn growth staging is easiest and most accurate.
- ‘Droopy’ leaf method used when assessing hail damage.

Growth staging in corn can be confusing, some even claim it's a shell game. The confusion exists because there is no universally accepted method to stage corn. Agronomists have their method, hail insurance adjusters have theirs, and herbicide labels are in between the two.

**Leaf Collar Method.** Agronomists determine leaf stage in corn by counting the number of leaves on a plant that have visible leaf collars, including the first short rounded-tip leaf. The leaf collar is the light-colored 'band' visible at the base of an exposed leaf blade.

‘Droopy’ Leaf Method. Hail insurance adjusters also begin counting with the first short leaf, but continue counting beyond the uppermost visible collar to that leaf which is 40 to 50 percent exposed. In knee-high corn or older, the tip of this leaf is typically also pointing downward, hence the name ‘droopy’ leaf method. The few post-emergence corn herbicide labels that refer to corn leaf stage typically use the ‘droopy’ leaf method, except that the first short leaf is not counted.

**Leaf Collar vs. Droopy Leaf.** Up to the 5- to 6-leaf collar stage, the leaf collar method will typically result in a leaf stage that is one less than the ‘droopy’ leaf
method. After corn reaches 18 to 24 inches in height, the leaf collar staging method will typically result in a leaf stage that is two less than the 'droopy' leaf method.

As corn plants develop, the lower few leaves typically die or are ripped from the stem by expansion of the stalk or by developing roots. Consequently, growth stage identification can be difficult on older plants when you aren't sure which leaves to begin counting first. But, not to worry, growth staging can still be accomplished!

First, dig or pull a plant without breaking the stalk. With a knife, split the stalk down the middle, completely through the root ball. Look for the first noticeable internode (the whitish area between the 'woody' horizontal stalk nodes) above the triangular 'woody' base of the stalk. This internode's length is typically only 1/2 to 3/4 inch.

Carefully determine which leaf’s sheath attaches to the node immediately above the first noticeable internode. This leaf is usually Leaf #5. Once Leaf #5 is identified, then stage the plant by counting the remainder of the leaves up the plant that have visible leaf collars. If you want to determine growth stage in order to use a defoliation/yield loss chart, then remember to add 2 to that number to equal the ‘droopy’ leaf method.

The usefulness in understanding the differences between the leaf collar and ‘droopy’ leaf methods lies in the fact that the defoliation/yield loss chart used by hail insurance adjusters depends on the ‘droopy’ leaf method. That chart is reproduced in Purdue’s Corn & Soybean Field Guide, Extension publication # ID-179. Severe hail damage often limits your ability to spot true ‘droopy’ leaves, whereas leaf collars are often still identifiable. Thus, you can usually stage a damaged crop by the leaf collar method, then add one or two more leaves to the count in order to use the defoliation chart.

[ Photo Gallery ]

For other information about corn, take a look at the Corn Growers Guidebook on the World Wide Web at http://www.kingcorn.org
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