



# Agromony News

Eastern Region, No. 6

May 24, 2006

## ASSESSING HAIL DAMAGE IN CORN

Severe weather last week resulted in significant hail injury to corn in some areas. Hail damage early in the growing season usually results in yield loss only if the stand is reduced. The most accurate assessments are made 4 to 7 days after the damage has occurred. At this time, regrowth of living plants should be apparent. Corn is generally not affected by hail in the first three weeks after emergence. Since the growing point is protected below the soil surface until the 5 - 6 leaf collar stage, plants will usually recover. To assess damage, split the stem and observe the growing point. If it is whitish-yellow in color, it is most likely fine. If dark and mushy, it is probably dead or dying. Plants that may not be unfurling properly after hail damage are difficult to evaluate until later. For purposes of making a replant decision, they should not be counted. Once plant population and defoliation estimates are made, a standard hail adjuster's chart can be used to further evaluate yield loss potential. Remember that when using the hail adjuster's table that the leaf stage given represents one more leaf than when using the official leaf collar staging method (i.e., 7-leaf equals 6-collar).

Percent Corn Yield Loss Due To Defoliation\*

Growth Stage	Percent Leaf Area Destroyed									
	10	20	30	40	50	60	70	80	90	100
7-leaf	0	0	0	1	2	4	5	6	8	9
8-leaf	0	0	0	1	3	5	6	7	9	11
9-leaf	0	0	1	2	4	6	7	9	11	13
10-leaf	0	0	2	4	6	8	9	11	14	16
11-leaf	0	1	2	5	7	9	11	14	18	22
12-leaf	0	1	3	5	9	11	15	18	23	28
13-leaf	0	1	3	6	10	13	17	22	28	34
14-leaf	0	2	4	8	13	17	22	28	36	44

\*Adapted from National Crop Insurance Service (NCIS 6102)

## SPRAY CORRECTLY FOR EMERGED GRASSES

In many instances it appears that we have missed the window of effective application for several of our "preemergence" grass herbicides. Remember that adding a crop oil concentrate (**Prime Oil or Superb HC**) to **AS Atrazine** or atrazine pre-mix herbicides such as **Confidence-Xtra**, etc., will only control emerged grasses up to 1.5 inches in height. It is very important to control annual grasses before they reach 3-4 inches in height to minimize yield losses. There are several herbicides, including **A/S Option, Steadfast, etc.**, labeled for post emergence grass control in conventional corn. Both **Option or Steadfast** can be applied as a broadcast spray over corn up to 6 leaf collars. A unique feature of **Option** herbicide is the inclusion of a safener, which not only safens the **Option** (ALS chemistry), but is also effective in safening dicamba chemistry. Therefore **Option** becomes an excellent choice for adding dicamba containing herbicides such as **Distinct, Sterling, or Sterling Plus** for additional broadleaf control if needed. The addition of **InterLock at 4 oz/acre** or **PowerLock at 8 oz/acre** will help minimize off-target movement when using dicamba herbicides.

## CORN HEIGHT vs. LEAF STAGE FOR APPLICATION OF POST HERBICIDES

Due to early season stresses such as our extended period of cold wet soils, and several incidents of frost or hail, corn plants are likely to be shorter growing than what would normally be expected, especially in no-till fields. Because of this, it is always best to use the leaf collar (VE-VT) staging method to determine herbicide timing, rather than using measured plant height. Starting with the first smaller rounded leaf, count the number of exposed leaf collars to determine the leaf-collar stage of corn growth. Where corn has been frosted and lowermost leaves killed, we

still need to count those original leaves as if they were still present. In other words, a 5-leaf plant is a 5-leaf plant, regardless of how many leaves are dead or missing. Proper staging of corn plants should help minimize possible crop response from spraying corn, which is actually too “large”. Note that most postemergence herbicides restrict usage beyond the 5<sup>th</sup> or 6<sup>th</sup> leaf-collar stage.

**Timing of Common Postemergence  
Corn Herbicides (broadcast application)**

<i>Product</i>	<i>Growth Stage</i>
Accent	VE – V6
Aim	VE – V14
<b>Basagran</b>	All stages
Beacon	4” – V6
Callisto	VE – V7
Celebrity Plus	4” – V6
Distinct	4”-10” @ 6 oz 10”-24” @ 4oz
Equip	VE- V4
Hornet WDG	VE – V6
Liberty (LL corn)	VE – V7
<b>Lightning</b> (Clearfield corn)	VE – 20”
<b>Moxy</b> / Buctril	VE – tassel
Northstar	V2 – V6
<b>Option</b>	VE – V6
Permit	Spike to Lay by
Resolve	VE – V5
Spirit	4 – V6
<b>Steadfast</b>	VE – V6
Steadfast ATZ	VE – V6 or 12”
<b>Sterling</b> / Clarity	VE – V5
<b>Sterling Plus</b>	VE – V5 or 12”
Yukon	Spike – 36”
2,4-D	V2 – 8”

**PRESIDEDRESS NITRATE SOIL TEST  
(PSNT) MAY HELP DETERMINE NEED**

Heavy rainfall throughout the last half of May and still in the forecast, makes this a good year to conduct a PSNT for those areas with saturated or ponded corn fields. The PSNT can be useful in determining how much nitrate is remaining in the soil profile to feed the growing corn crop. Sidedress nitrogen applications can then be adjusted accordingly. Although the test is most useful in fields with a history of manure or other organic waste applications, it can also be used to help determine the amount of nitrogen that may

have been lost from preplant fertilizer applications. For proper sampling, a composite sample of 20-25 cores should be pulled at random when the corn is in the V4 - V6 stage. If testing for nitrate levels following preplant fertilizer applications, the number of cores taken should be doubled to account for a higher variability of soil nitrate levels. Cores should be pulled to a depth of 12 inches. If manure or fertilizer has been applied in bands, sets of cores should be pulled, with each set consisting of one core from the middle of the row, one 3 inches to the right of the row, and another 3 inches to the left of the next corn row. Samples should be kept cool and shipped immediately for analysis. Research has shown that a reading of greater than 25 ppm nitrate-N in the top foot indicates that adequate nitrogen is present, and a response to additional N is unlikely (although I would recommend a more conservative reading of 30-35 to be sure). A soil nitrate-N level less than 10 ppm indicates a full nitrogen rate should be applied. Levels between 10-25 ppm are more difficult to interpret, and suggestions for additional will nitrogen vary.

**CHECK FOR EMERGENCE PROBLEMS IN  
RECENTLY PLANTED SOYBEANS**

Recently planted soybeans subjected to cold wet soils in higher rainfall areas, may suffer significant emergence problems. Problem fields should be checked for population soon after emergence has been completed. University research indicates that ideal drilled bean populations should be between 150,000 to 180,000 plants per acre, and ideal populations for rowed beans is between 120,000 and 150,000 plants per acre. A general rule of thumb is to consider replanting only when less than about 80,000 uniformly distributed plants remain and close to a perfect stand of replanted soybeans can be assured. When estimating the population, sample several areas of the field. Always try to determine the cause of the poor stand, to avoid a similar problem with the replanted seed.