

What This Rain, Rain, Rain Means To Your Crops

Rain Damaged Rye - To Harvest Or Not To Harvest?

There have been reports of rye that was cut ten days ago but not harvested because of the rain. Is it now worth harvesting this material? This is not easy to answer depending on the state of damage to the rye. However, if a particular farm is in dire need of forage, it may be worth the risk of ensiling. The big question is whether rain damaged rye will ferment properly or not.

There are three requirements for good fermentation during the ensiling process; 1) an oxygen-free environment, 2) adequate numbers of lactic acid producing bacteria, and 3) adequate amounts of soluble sugars for the bacteria to grow. With the amount of moisture we've had, there should be an adequate population of natural occurring Lactobacillus organisms. The most limiting factor would be the source of soluble sugars. With the amounts of rainfall we've had, much of the soluble nutrients in the rye is most likely leached out.

If rain damaged rye is stored in the silo, it may be worth adding some ground corn in to assure a readable source of soluble sugar. For wilted rye, I would suggest adding about 2% ground corn by net weight. In other words, for each ton of 60% moisture content rye, add 50 lbs. of ground corn.

S.C. Bosworth

Nitrogen Loss From Heavy Rains

Two years in a row we have had heavy rains in May resulting in high potential nitrogen fertilizer losses. This is a classic example of why sidedressing is recommended. For farmers who were planning on sidedressing, their nitrogen is still in the bag or in the bin or in the tank. For those who put their nitrogen on preplant it is hard to say where their nitrogen is now. The big question is not whether some of the nitrogen has been lost but how much! For farmers who are planning on sidedressing their nitrogen no adjustments need to be made at this time. However, if planting continues to be delayed by the wet weather yield potentials may be reduced and thus nitrogen fertilizer rates may need to be adjusted accordingly. This is another

advantage to sidedressing nitrogen, it allows the farmer to wait longer and gather more information before making a final nitrogen fertilizer decision.

Farmers who have already applied their nitrogen have fewer options. It is difficult to predict how much of the nitrogen has been lost. We would expect losses to be greatest on soils at the extremes of drainage, i.e., in the excessively well drained soils and on the very poorly drained soils. Plant color can be used as a crude indicator of lack of nitrogen. Yellow plants, where the yellow is greatest on the lower leaves, usually indicates nitrogen deficiency. If the corn is yellow at the 10 to 20 inch tall stage some additional sidedress nitrogen (30-60 lbs./A) should probably be applied.

This year for the first time it will be possible to test the soil for nitrate nitrogen just before sidedressing to determine if there is enough nitrogen to grow the crop or if additional nitrogen fertilizer is needed. This test will provide additional information to help the farmer who is planning to sidedress make a sound nitrogen management decision and it may provide some help to the farmer who has already applied his nitrogen but has lost some of it. Since the test is primarily designed for use where little nitrogen has been applied prior to sidedressing, its use where large amounts of nitrogen have been applied preplant has not been thoroughly evaluated. This test will be available as a quick test on a limited trial basis through the extension office this year. However, nitrate nitrogen analysis is available routinely through Merkle Soil Testing Lab at Penn State and through most commercial labs. There are very specific sampling and sample handling requirements for this test. The details of this test and the interpretation of the results and recommendations are covered in Agronomy Facts #17 Nitrogen Soil Test for Corn in Pennsylvania, or by calling the office at 248-9618. The testing will be free. You pull the sample, I'll do the test, and give you results within 10 minutes if you wait. Sampling procedures are critical. Call the office for details.

Early Replant Decisions With Corn

The past three weeks of rain and

cool weather may result in poor corn stands in fields planted in late April. It is still early enough in the season that fields requiring replanting can be planted to corn and maintain a relatively high yield potential.

Making a decision whether to replant is always difficult. The major issue is, would the farmer be better off with the reduced stand from the original planting, or would he be better off replanting and accepting the yield penalty associated with the later planting date? Information from the following table should help in these decisions. The data is from Iowa State University, but the response of corn to planting dates and populations should be fairly similar. Information in the table is based on relatively uniform stands. In the real world, lower stands are often somewhat uneven and decisions need to be made as to how much to subtract due to unevenness of stand. An Illinois study indicated yields are reduced about 2% if the stand includes several small gaps of 1.5-3 feet. Numerous 4-6 ft gaps reduced yields by about 5-6%. Thus in some cases, you may have to reduce the percentages given in the table according to your best judgement. An added complication can be the variation in height of plants due to uneven emergence. Recent studies indicate a "mixture" of plant heights can result in significant yield reductions - especially if plant to plant emergence varies by 2-3 weeks.

To use the table, first consider the "percent of maximum yields for the May 10 planting date for your reduced stand. For example, if you ended up with a final stand of 14,000, it means that the yield potential is approximately 82% of what a full stand would produce. If you replant to a full stand (22,000-26,000) on the 20th of May, yields in the range of 91-92% would be possible. In this example, the extra yield (about 10%) may cover the cost of replanting.

Replant decisions are rarely easy. Before making decisions,

accurately determine populations and uniformity of stand. Certain hybrids may have the ability to form multiple ears at low populations and partially compensate for stand loss. Finally, determine the cost of replanting (tillage, seed, additional chemicals, labor, etc.) and estimate the likelihood of the increased yield potential covering these costs.

Influence of Planting Date and Plant Populations on Yield Potential.

Population (plants/A)	Planting Date			
	5-10	5-20	6-1	6-10
	-----Percent-----			
26,000	100	92	84	71
22,000	98	91	83	70
18,000	93	85	78	66
14,000	82	76	69	58
10,000	67	62	56	47

G. Benson, Iowa State University.

R.G. Hartzler & G.W. Roth

Wet Weather vs. Good Weed Control.

What will happen to the pre-emergence herbicides that were applied prior to the heavy rains over the past two weeks?

Rainfall is needed following application of pre-emergence herbicides to move the material to the depth at which weed seeds germinate. With most materials, a half inch of rain is adequate. The more rain that occurs, the deeper the herbicide will be moved into the soil profile. Since the majority of weeds germinate within the upper 0.5 inch of soil, if much of the herbicide is moved significantly below this depth, poor weed control might occur.

Several factors influence the rate of herbicide movement in the soil profile, including chemical properties of the herbicide, soil properties, and quantity of rainfall. Herbicides vary widely in their potential for movement; a relative mobility ranking of corn herbicides would be: Lasso = Dual = Bladex > atrazine > Princep >

Prowl. Lasso and Dual are more susceptible to failure during wet years than some other products because they are absorbed primarily through the shoots of grasses. If Lasso or Dual are leached below the weed seeds where they only contact roots of seedlings, they will not provide adequate control. The triazine herbicides are absorbed by plant roots, and Prowl is active on roots, so these herbicides can still be effective if leached below the depth of shoot emergence.

How deep will the herbicide be leached? We are concerned about

the detection of herbicides in the groundwater. These heavy rains will increase the potential for movement deep into the soil profile. However, when I say that herbicide activity may be diminished due to leaching, I am referring to the herbicide being moved 3 - 4 inches into the profile. Although this is still very shallow, it is deep enough to reduce the herbicide's activity.

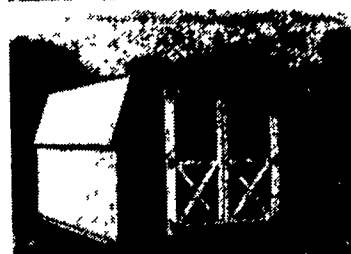
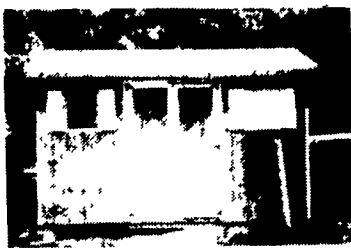
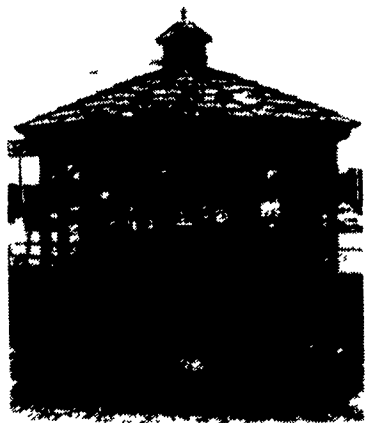
Another factor that may reduce control is a decrease in herbicide persistence. The length of persistence of a chemical may be reduced under very wet conditions, resulting in a shorter period of weed control. The combination of greater leaching and shorter persistence may result in late season weed escapes in those fields that had herbicides applied in late April prior to the rain. Fortunately, those weeds that emerge 4-6 weeks after crop emergence are at a competitive disadvantage with the crop. In most competition studies, late emerging weeds have not caused significant yield losses.

A second problem that might be associated with the recent wet, cool weather is an increased

(Turn to Page A27)

STORAGE BARNs & GAZEBOs

Custom Made To Order



If You're Looking For Quality At A Good Price, Contact

B & B STRUCTURES

Henry K. Blank

RD 1, Bird-In-Hand, PA 17505

(717) 656-0783

Dealer Inquiries Invited

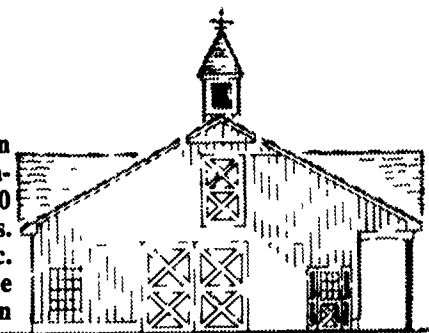
DELIVERY AVAILABLE

THE FARM BUILDINGS PLACE

"Designed for your needs to your specifications"

- Pole Barns • Poultry Houses • Dairy Barns
- Horse Stables • Riding Arenas • Utility Buildings

To help you plan your building and write your own specifications, a professional Snavely field representative is ready and willing to assist you. For over 100 years Snavely has satisfied thousands of area farmers. Snavely's factory fabricated panels, walls, trusses, etc. not only make erection easier and faster but also save you considerable money. Phone us for a no-obligation consultation on your building requirements.



Since 1878

Snavely's

We take time to help you build better!

Landisville, 150 Main St., 898-2241