

Welcome

Its that time of year again to start our newsletter. We welcome several people this year into the Helena Family as well as many new customers. We would like to remind everyone that Helena's logo says People, Products and Knowledge and with that we hope that our people can bring you knowledge not only on crop production but also on products that can enhance the quantity and quality of your labors.

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Keep a look out for :

- Black Cutworm
- Wireworm
- Alfalfa Weevil

Inoculants

Corn planting is starting to the south and soybeans aren't far away. Now is a great time to make that decision which could have a significant impact on soybean yields this fall. What decision is that you may ask? Whether to use an inoculant! Over the years, soybean inoculants have proven to increase plant health by providing more Nitrogen to the plant. The *Rhizobia* bacteria that naturally live in our soils don't always do such a good job at producing nitrogen for the plant. In addition, scientists have done a better job of finding new combinations of *Rhizobia* species that do a better job of nitrogen production. This is resulting in higher yields for farmers.

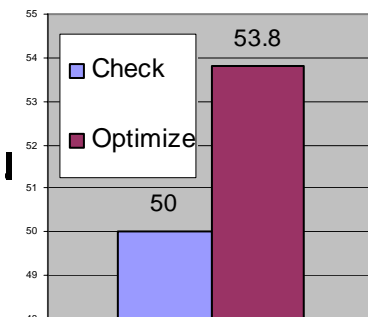


Helena's line of inoculants have a proven track record that span several years and with different universities across the Midwest. These inoculants have shown time and again that they are not only able to out yield out non-inoculated beans, but beat their competition as well! Helena has further solidified this record by adding another bacterial strain to their inoculants package – *Bacillus subtilus* (Subtilex). Subtilex is an EPA registered bacterial fungicide that helps to protect the plants roots against invading fungal diseases.

Over time, Inoculation has produced over \$3 for each \$1 spent. Some materials produced a 500% profit.—Jim Beuerlein, The Ohio State Univ

Inoculants Study

Southern Indiana 2006






Inoculants to a new convenience

Starting in 2007 you have access to a new inoculant, called Optimize® which can allows a retailer to treat soybeans long in advance. Optimize® has been on the market for a couple of years but only recently increased its treatment window to 120 days. This solves several issues from the past. Some people have not liked peat based inoculants because of sensors or vacuum type planters, this is a liquid. In case a grower gets rained out there is no need to retreat. If humidity is high bridging isn't an issue because it was treated weeks before.

Alfalfa Weevil

Heating units are accumulating and that it is time to be keeping a watch on Alfalfa Weevil feeding. Reports are coming in of damage beyond threshold in the south. Please keep a watch on those alfalfa fields, often we loose yield and quality because they are overlooked due to other field activities with Corn, Soybeans, or Wheat. (Photos from Co. State)

OSU— Action thresholds relevant to stand height, tip feeding, and density of larvae per stem.			
Stand Height Inches	Indication of Problem % Tip Feeding	Problem Confirmation Larvae per Stem	Recommended Action
6	25	1	Recheck in 7 days
9	50	> 1	Spray
12	75	> 2	Spray or harvest
16	100	> 4	Harvest early
When harvested early due to weevil, check within one week for regrowth.			

Soybean Seed Treatments—From CORN newsletter 4/10/06, OSU— Anne Dorrance

I was struck again [this year] how consistently higher yields from seed treated with fungicide are compared to the nontreated checks-- both statistically significant and at economical levels. ... Some characteristics of soils and production practices that have emerged over the years that may increase the chances that soybean fungicide seed treatments will pay for you are:

1. No-till, reduced tillage – we are finding in fields with a history of no-till >5 years, a larger number of pathogens in the seed beds. Since the soil is not turned over, pathogens will remain in the upper layers, this is especially important for the water molds, Pythium and Phytophthora.
2. Continuous soybeans or only corn-soybeans – another recent finding from the lab is an increase in the number seedling pathogens that are pathogenic on both corn and soybean seed and seedlings. This reduced number of crops per field and reduced tillage favors this increase in seed and seedling pathogens.
3. Poor drainage – fields with old tile lines or tiles spaced too far apart are also prone to seed and seedling diseases. This comes down to providing the most favorable environment for the longest period of time for the seedling pathogens. The longer the fields are saturated the more time these pathogens have to produce spores and infect the roots of the plants.
4. Old Rps genes for Phytophthora sojae. Occasionally we get some soybean seed in the state with Rps1a, this gene is no longer effective in most of our fields and the partial resistance (tolerance, field resistance) is what is protecting the plant through the season. The partial resistance component is not 100% effective until the plants are up and growing. We have shown over several years the added benefit of putting a seed treatment on when the partial resistance is the primary form of resistance in the plant.

If you have two or more of the conditions listed above in any of your fields, those would have the highest probability of a seed treatment preventing a replant situation but also increasing your yields overall.

Wheat-What all is going on???

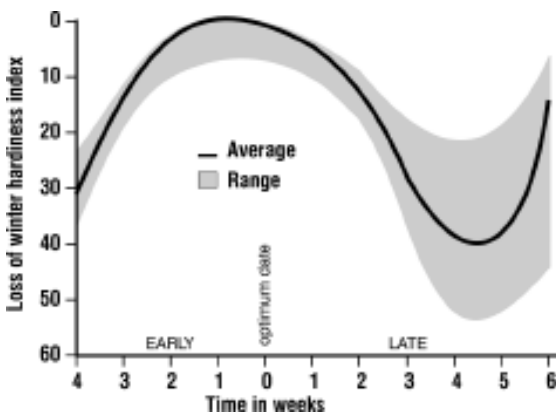
There have been a lot of reports of wheat looking less than beautiful in parts of the geography this year. This can be from several issues outlined below. Some are rectifiable and some unfortunately are not, but could have been prevented. It is important to spend time with the growers to help them understand what actually has gone wrong. Wheat acreage is actually up in some areas, however late season rains did curtail some planting in local geographies.

Winter Kill

When evaluating winter kill potential one must first understand how the wheat plant overwinters and tillers. Panting date starts setting the stage and then weather controls severity. (Figure 1) Photos from K State



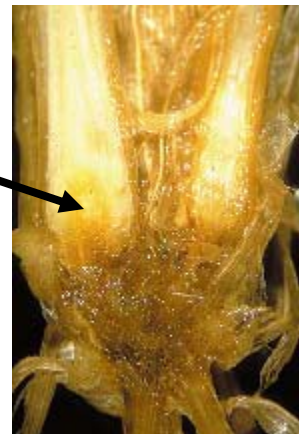
Overwintering -Decreasing day length and gradually falling temperatures during fall prompt the wheat plant to develop a high level of cold hardiness. Most varieties also undergo a change from an upright to a prostrate growth form. Hardiness usually is greatest during early winter and is lost gradually as the season progresses. Most winterkilling occurs during late winter, when warm spells cause the plants to loose hardiness and then are followed by cold fronts that cause the damage. Snow provides excellent protection because it insulates the plants from extreme cold and keeps them from responding to warm spells. The critical plant part is the growing point, which is protected partially by



being about 1 inch below the soil surface during winter.

The entire plant is killed by injury to the growing point, which turns from a white, turgid appearance to a brown, wilted appearance after it is frozen. Leaves often stay green during mild winters, but freezing or “burning” of leaves by cold has little effect on yield.

Photo at right.



Tillering—Warming temperatures in late winter cause wheat to “green up” and resume growth. Tillers that were initiated in the previous fall grow rapidly and change back from the prostrate form to an upright form as the sheaths, the parts of the leaves that cover the stems, become longer. Nitrogen fertilizer should be top-dressed at this time to stimulate growth of the tillers, which will produce most of the grain at harvest. The growing points are still at their protected underground position at this stage, but drought and other stresses may restrict growth of the tillers.



Stand Counts on Wheat— exert from Why Ask?

In drilled fields, use a yard stick to take 7-10 random counts. At each location count the number of plants on either side of the yard stick avoiding double drilled areas. Also take note of the number of tillers with 3-4 fully unfolded leaves, crop color, and row spacing. Make sure that plants are counted and not tillers; this is especially difficult when the wheat has multiple tillers.

To calculate plants/yard², average the number of plants per yard of row and multiply by 6, 5.14, 4.8, or 4.5 for 6, 7, 7.5, and 8 inch rows respectively. Multiply this by the average number of tillers with more than 3-4 leaves to attain the total number of tillers per yard². An ideal stand count in February is 225 plants/yard² for early planted wheat and 250-275 plants/yard² for later planting dates. Our goal is to achieve 650-750 tillers with more than 3 leaves just prior to breaking dormancy. This should give us our desired head number at harvest time. If you have stand problems as a general rule I would want to have the following minimum viable plants to keep the crop :

3 leaf plants 125-150 plants/yard²

1 large + 2 small tillers 100-125 plants/yard²

3 large + 3 small tillers 75-100 plants/yard²

As soon as you can determine that the majority of plants will survive and that the number of plants is acceptable, then nitrogen should be applied to encourage tiller development.

Be sure to check
the Why ASK
Bulletins for the
Watch Glass
Wheat Special

Questions & Comments

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This is a regional newsletter being distributed every 2 weeks in season dealing with agronomic issues in the Northern Business Unit of Helena Chemical Company. It will contain articles from many individuals throughout the season and is meant to provide helpful information for growers, dealers, crop consultants, and salesman to help in decision making.

The editors are well known by most of you:

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It is our hope that you enjoy this newsletter. Also be looking for information from :

Proprietary Products Group on products in their Technical Bulletin series

WHY ASK? Agronomic Bulletins from the Division Agronomists in the NBU

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