

## Welcome

Its that time of year again to start our bi-monthly 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.

### Inside this issue:

Inoculants	1
Corn Population	1
Soybean Seed Treatments	2
Alfalfa Weevil	2
Wheat BYD	3
Wheat Armyworm	3
Wheat Late Season Nitrogen	4

### Keep a look out for :

- Bean Leaf Beetle
- Black Cutworm
- Alfalfa Weevil

## Inoculants

Corn planting is wrapping up and soybeans are starting to go in the ground. 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 subtilis* (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**

## Corn Population

Planting date	Expected Grain Yield Due to Various Planting Dates and Final Plant Populations													
	Plant population (final) per acre in thousands													
	10	12	14	16	18	20	22	24	26	28	30	32	34	36
	<i>Percent of optimum yield</i>													
10-Apr	62	68	73	78	82	85	88	91	92	93	94	94	93	91
15-Apr	65	71	76	81	85	88	91	94	95	96	97	96	96	94
20-Apr	67	73	78	83	87	90	93	96	97	98	99	98	98	96
25-Apr	68	74	79	84	88	92	94	97	98	99	100	100	99	97
30-Apr	68	74	79	84	88	92	95	97	99	100	100	100	99	97
5-May	67	73	79	83	87	91	94	96	98	99	99	99	98	97
10-May	65	71	77	82	86	89	92	94	96	97	97	97	96	95
15-May	63	69	74	79	83	87	89	92	93	94	95	95	94	92
20-May	59	65	71	75	80	83	86	88	90	91	91	91	90	89
25-May	55	61	66	71	75	79	81	84	85	86	87	87	86	84
30-May	49	55	61	65	70	73	76	78	80	81	81	81	80	79

Source: Nafziger. 1994. J. Prod. Ag 7:59-62




Note: The highlighted area represents the optimum ranges (98 to 100% yield) of plant populations and planting dates for productivity levels greater than about 125 bushels per acre. Optimum plant populations for soils with historical yields less than about 100 bushels per acre will likely not respond to final plant populations greater than about 24,000 plants per acre. (RL Nielsen, Purdue Agronomy)

Recent rains (and drought on some areas have affected planting dates or may affect replant decision making. Looking at maturity selection based on planting date and yield return is very important.

The table to the left is from the Purdue Corn and Soybean Field Guide and gives a good indication of the yield potential based on planting date in the central corn belt. Always refer to your local area for fine tuning this recommendation.

## Alfalfa Weevil

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

<b>OSU— Action thresholds relevant to stand height, tip feeding, and density of larvae per stem.</b>			
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, 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 are 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 up in a lot of areas and some people are growing wheat again after many years of it being absent in their rotation.

### Barley Yellow Dwarf

Use Table 1 as a guide to yield potential. These numbers assume that the wheat is relatively healthy and that the crop will be managed with a good fertility and insect and disease management programs where needed. Typical heads have 16-20 spikelets/head. This year the head size seems to range from 16 to 22 spikelets with the majority in the 19-22 range which is above average. The biggest factors affecting head size this season has been the relatively mild and dry winter.

Where BYDV (Figure 1) is present, assume that yield potential would be reduced by half of the percentage symptoms present (i.e. 70 bu yield potential with 30% symptoms estimate at 70 bu - 15% yield loss = 59.5 bu). In MO and KY, there are several fields with 50-75% BYDV symptoms appearing, in this situation 20-40 bu yield losses are likely, and the use of a fungicide is unlikely to give a good return on your investment.

Begin scouting for leaf diseases and insects to decide which fields warrant treatment and to evaluate which fields do not justify applications based on BYDV, fertility, or stand problems.

TILLERS/FT ROW (7.5 IN ROWS)	SPIKELET NUMBER	HEADS/YD <sup>2</sup>	YIELD POTENTIAL (BU/A)
50+	18	720	100
50+	14	720	90
40	18	575	100
40	14	575	70
30	18	432	75
30	14	432	53
20	18	288	50
20	14	288	35



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



### Armyworm

Armyworms should not appear until late April to mid May and tend to favor the thicker, more lush stands that are present in the better looking fields. It is important to monitor untreated fields throughout this period to ensure armyworm populations are not reaching threshold levels. Armyworm larvae are greenish brown with a narrow, middorsal stripe, and two orange stripes along each side. The head is honeycombed with dark lines. Full size is about 1.5 inches long. Traps in KY and IL are again catching mod-high numbers of armyworm moths indicating the potential for at least an average armyworm year.

## Late Season Nitrogen on Wheat

Where nitrogen is yellowing, be sure the cause of the yellowing is nitrogen deficiency rather than BYDV, wheat streak mosaic virus or any other problem before applying additional nitrogen.

Once you get to heading the need for additional nitrogen diminishes quickly so if you are short on N try to make additional applications prior to heading if possible. Applications later than this will green up the wheat but will have less affect on yield. With the current options available, I think CoRoN is probably the best late season option, and you do not have to worry about any leaf burn - this makes for a very easy to use tank mix partner for fungicides.

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## Field of Knowledge (North Central)—Mark your calendars

Helena Chemical Company will be having its annual Field of Knowledge plot tours at 3 convenient locations this year. These locations are designed to showcase our full line of agronomic solutions for today's challenging crop production operations. This year it will also include general agronomic production practices with a greater focus on a few key production items. **Please reserve the date for the location nearest you.**

### INDIANA

Grower—June 28

Dealer—June 29

Pennville, IN

### KENTUCKY

Dealer—July 6

Cecilia, Kentucky

### ILLINOIS

Grower—July 12

Dealer—July 13

Macomb, IL

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### 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:

Dr. Greg Willoughby, Division Agronomist North Central Division

Mr. Steve Curley, Division Agronomist Midwest Division (east)

Dr. Thad Gour, Division Agronomist Midwest Division (west)

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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