



# WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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## Subscription Information for the 2007 WCU

In 2007 the Weekly Crop Update will be issued weekly from March 30, 2007 to September 14, 2007. The WCU is posted on the web, and sent to mail and fax subscribers by 4:30 each Friday. The cost of mail or fax subscription is \$40. For mail and fax subscriptions use the form at <http://www.rec.udel.edu/update07/WCUflyer2007.pdf>

Crop Update is also available for free online. For those of you who access the newsletter via the internet we offer to send a weekly email reminder which will let you know when the WCU has been posted online, provide a link directly to the current issue, and give you a taste of the headlines. If you would like to receive the email reminder or if you experience problems during the season with the online WCU please contact me at [emmalea@udel.edu](mailto:emmalea@udel.edu) or (302)-856-7303.

*Emmalea Ernest*



## Vegetables

Corrections/Changes to the 2007 Vegetable Recommendations - *Joanne Whalen, Extension IPM Specialist;*  
[jwhalen@udel.edu](mailto:jwhalen@udel.edu)

As a reminder, Actara *is not labeled* for any cucurbit (including but not limited to cantaloupe, cucumber, pumpkin, squash, and watermelons), eggplant or tomatoes. It is **incorrectly** listed in the vegetable recommendations as labeled under eggplants and under tomatoes for aphid control.

Older Materials including diazinon, Di-Syston, Thimet, and Mocap are no longer labeled on many crops. Be sure to refer to the label before making any applications.

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Vegetable Crop Insect Control - *Joanne Whalen, Extension IPM Specialist;*  
[jwhalen@udel.edu](mailto:jwhalen@udel.edu)

Beleaf (from FMC) - This new selective aphicide was registered on Jan 3, 2007 in Delaware. Crops listed on the label include: head and stem brassica; cucurbits; fruiting vegetables, leafy vegetables (except brassicas) and potatoes. Please refer to the label for use rates and other application instructions.

<http://www.cdms.net/ldat/ld7UH000.pdf>

Trigard (from Syngenta)- A couple of new crops have been added to the label including certain varieties of dried beans and Colorado potato beetle and leafminer control on potatoes. Please refer to the new labels for use rates and application instructions.  
<http://www.cdms.net/ldat/ld869007.pdf>

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**Vegetable Crop Disease Control -**  
 Bob Mulrooney; Extension Plant Pathologist;  
[bobmul@udel.edu](mailto:bobmul@udel.edu)

**Potatoes**  
 Many of you know that potato acreage in Delaware has been declining, but we are committed to the potato growers to provide disease forecasting for late blight and information on other important potato diseases. Joanne Whalen and I will be providing the late blight forecast again for those that would like to receive it either by email or FAX beginning in late April or early May depending on the

weather. If you want to receive the Potato Disease Update, email me at [bobmul@udel.edu](mailto:bobmul@udel.edu) or leave me a message at 302-831-4865 and give me your name and email address or FAX number. Potato planting is underway and hopefully we are done with the cold temperatures.

**Lima Beans**  
 There are two additions to the list of fungicides that can be used on lima beans that did not make the Commercial Vegetable Production Recommendations book. BASF added **Headline** on lima beans to their national label for control of soybean rust and anthracnose. Dow Ag Products was granted a section 18 label for the use of **Nova** on lima beans for soybean rust control in DE. Previously they were only labeled on snap beans. I do not expect soybean rust to be a threat to lima bean production from the inoculation studies and field trials in the US and South Africa but these products are now labeled for use if needed.

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**Winter Temperature Index for Predicting Stewart's Wilt in Delaware Sweet Corn, 1997-2007**  
 Bob Mulrooney; Extension Plant Pathologist; [bobmul@udel.edu](mailto:bobmul@udel.edu)

Average monthly temperatures in °F at Georgetown, DE REC 1997-2007

	2006-07	2005-06	2004-05	2003-04	2002-03	2001-02	2000-01	1999-00	1998-99	1997-98
December	43.5	36.2	38.9	38.6	36.7	43.2	31.2	40.3	41.3	39.3
January	39.7	43.0	34.9	29.5	28.9	40.0	33.8	33.9	39.5	42.6
February	30.1	37.4	36.7	35.2	33.8	39.9	38.8	39.7	38.7	40.6
INDEX	113.3	116.6	110.5	103.3	99.4	123.1	103.8	113.9	119.5	122.5

Average monthly temperatures in °F at Newark, DE Experiment Station 1997-2007

	2006-07	2005-06	2004-05	2003-04	2002-03	2001-02	2000-01	1999-00	1998-99	1997-98
December	42.5	34.0	35.5	34.0	33.5	43.3	31.1	39.1	41.0	38.4
January	37.3	39.5	31.0	26.4	27.1	39.6	31.5	32.6	34.8	40.9
February	27.8	34.5	34.2	33.1	29.5	40.1	38.4	37.8	38.0	40.6
INDEX	107.6	108.0	100.7	93.5	90.1	123.0	101.0	109.5	113.8	119.9

**Severity Index:** < 90, usually absent; 90-100, intermediate; >100, usually severe. The index is used to predict overwintering flea beetle populations that vector the Stewart's wilt bacterium, *Pantoea stewartii*.

**Stewart's Wilt Prediction for 2007**

Newark: 107.6 = Severe- Avg. monthly temp (Dec, Jan, Feb) - 35.9 °F

Georgetown: 113.3 = Severe - Avg. monthly temp - 37.7 °F

For processing and fresh market growers this means that if you are planting susceptible or moderately susceptible hybrids that flea beetle control is very important. A number of strategies are available including seed treatments, granular insecticides at planting and/or foliar applied insecticides after emergence. See the Commercial Vegetable Production Recommendations - 2007 for control options.

**Corn, Ethanol, and Processing Vegetables** -  
*Ed Kee, Extension Vegetable Specialist;*  
[kee@udel.edu](mailto:kee@udel.edu)

For the first time in many years, higher corn prices mean that processors have faced more competition as they contract vegetable crops. Prices for our major processing vegetable crops rose from 8 to 15%, depending on the crop and the company. Contract prices for peas, lima beans, sweet corn and pickling cucumbers all experienced a price increase. Even with that, plantings of processing vegetables will be reduced by 10 to 15%. That is not necessarily bad news. Perhaps inventories of canned and frozen products will be reduced, helping maintain better grower prices. All of this does put our processors in a more precarious position as they juggle increasing costs of all inputs, while competing for sales and shelf space.

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**White Rust on Spinach** - *Kate Everts;*  
*Vegetable Pathologist, University of Delaware*  
*and University of Maryland;* [keverts@umd.edu](mailto:keverts@umd.edu)

Fungicide options for spinach white rust have increased in the past few years. Our research has shown that fungicides should be applied beginning at 2 or 3 weeks after planting (prior to symptom development), and applied on a 7 to 10 day schedule.

We now have the following chemical options for white rust:

- Cabrio—12-16 oz 20EG/A
- Actigard—0.75 oz 50WG/A
- azoxystrobin (Quadris—6.2-5.4 fl oz 2.08F/A or Amistar—2-5 oz 80WDG/A)
- Aliette—3 lb 80WDG/A,
- Fixed copper (see label for rates and details, may cause phytotoxicity)
- Ridomil Gold Copper—2.5 lb 70WP/A (14-day schedule, may cause phytotoxicity)

Remember that azoxystrobin products and Cabrio are group 11 fungicides and after two applications, these fungicides must be rotated with a fungicide with a different mode of action. There should be a minimum of two years between spinach plantings and spring spinach

should be planted away from overwintered fields.

## Agronomic Crops

**Agronomic Crop Insects** - *Joanne Whalen,*  
*Extension IPM Specialist;* [jwhalen@udel.edu](mailto:jwhalen@udel.edu)

### Alfalfa

Be sure to sample fields for small alfalfa weevil larvae feeding in the tips of plants. Early damage will appear as a round, pinhole type of feeding. Once you detect tip feeding, a full field sample should be taken. You will want to avoid treating fields too early since it may result in multiple applications. Also, be sure that you do not confuse clover leaf and alfalfa weevil larvae. Cloverleaf weevils are generally larger at this time of year and have a distinct white stripe lined with red down the middle of their backs. Although cloverleaf weevils can cause damage during cool, dry springs, controls are generally not needed for cloverleaf weevils.

For pictures of cloverleaf weevil and alfalfa weevil, please refer to the following links:  
<http://www.ipm.iastate.edu/ipm/icm/1997/4-21-1997/icloverweevil.html>  
<http://www.ent.iastate.edu/imagegal/coleoptera/curculionidae/0212.47alfalfalarva6in.html>

### Field Corn Soil Insect Management

The decision to use preventive treatments should be based on field history, sampling for the insects, and crop rotation. The following is a brief review of conditions favoring soil insects in field corn as well as observations from past seasons:

**I. Corn Rootworm (Larval Control):** In general, rootworms are more of a problem in continuous corn. With the potential increase in continuous corn acres, be sure to consider management options for this pest. Although generally more of a problem in heavier soils, we have also seen problems in continuous, irrigated corn fields with sandy soils. In our area, rotating out of corn is still a viable option for corn rootworm larvae management. However, if you plan to plant

continuous corn, control options include either a soil insecticide, a commercially applied seed treatment of either Cruiser (high rate) or Poncho 1250, or a transgenic corn hybrid with resistance to rootworm larvae

As far as seed treatments, reports from the Mid-West and areas in PA with heavy rootworm pressure state that "when rootworm densities and root injury have been low - moderate, seed treatments have provided acceptable protection of the roots. However, when rootworm densities have been high and root injury has been moderately high to severe, insecticidal seed treatments have not provided consistently acceptable control of corn rootworm larvae."

**II. Wireworms:** High soil organic matter, sod covers, and heavy grass weed pressure the previous season all favor wireworm populations. In addition, damage from this insect is also higher in continuous corn. Commercially applied seed treatments i.e. Cruiser (thiamethoxam) and Poncho (clothianidin) have generally provided good wireworm control. *NOTE - Labels for Cruiser and Poncho state seed and seedling protection.*

**III. Grubs:** In general, grubs are favored by a number of factors including planting into soybean stubble, old sod, hay, pasture, or set-aside acreage. Cruiser and Poncho are labeled against white grubs. Although these 2 chemicals can work against moderate grub populations, in the past few years we have seen poor control with both products in commercial fields under high pressure, especially when the predominant grub species has been Asiatic garden beetle. If populations are high, you may still need to consider a soil insecticide. *NOTE - Labels for Cruiser and Poncho state seed and seedling protection.*

**IV. Black Cutworm:** This insect is favored by late planting, broadleaf weed growth (especially chickweed) present before planting, poorly drained field conditions and reduced tillage. Rescue treatments can be applied for this soil insect if you are able to scout fields twice a week once leaf feeding is detected. Pheromone traps placed in the field by mid-March can be used to determine when to look for cut plants.

Overall, our trap catches still remain low. Look for pheromone trap counts in future reports. If you are unable to scout and you have conditions favoring cutworms, one of the following preventive approaches can be considered: (1) a soil insecticide labeled for cutworm control applied as a t-band, or (2) a tank mix of an insecticide with a pre-emergence herbicide or (3) a Herculex corn hybrid.

Although the seed applied treatments, Cruiser and Poncho, have cutworms on the label, they are systemic so larvae must feed to be affected. Both labels say: provides early season protection of seedlings against injury. In the Delaware/Maryland area, we are mainly dealing with populations that lay eggs early on weeds or, in some cases, an overwintering population so we generally find larger larvae (1/2 inch and greater) present in fields at planting time. After our field experiences the last 3 years, we still feel that seed applied treatments may/will not provide economic cutworm control under our conditions, especially if economic levels of larger larvae are present at planting. Fields should still be scouted and a rescue treatment applied if necessary.

### Small Grains

As April begins, it will be time to start sampling small grains for aphids and cereal leaf beetles. So far, we have not seen any cereal leaf beetle adults. However, as temperatures increase in April, we should begin to see adult beetles, especially along field edges that border woods or in protected areas. Adult beetles feed along the veins of grain leaves leaving characteristic narrow linear holes parallel to the leaf veins. Although they do not cause much damage, you should routinely check these areas since this is where you are likely to find the first eggs and larvae. Larvae can feed heavily on leaves, especially flag leaves, and can quickly cause significant yield reductions if they exceed the economic threshold of 25 eggs/young larvae per 100 tillers.

A few growers have asked the question about potential problems from Hessian fly damage this season. Although we have not seen a problem in recent years, we know that a combination of mild fall conditions; fields planted in continuous

wheat and/or no-till wheat having volunteer small grains present at the time of planting; presence of volunteer wheat; and early planted fall cover crops could result in heavier spring Hessian fly populations. In the past, it also appeared that we could have 2 generations in the fall and/or an early spring generation when warm winter conditions occur. While scouting fields during the next couple of weeks, do not rule out Hessian fly damage if stands are reduced and you find weakened or dead tillers. If you pull up a stunted plant, you should find tiny white maggots and/or the puparia or "flaxseed stage" in the crown of the plants or at the base of the leaf sheaths if Hessian fly are present. Fall infestations affect yield by reducing the number of live tillers per unit area. Spring infested plants have weakened stems, which can lead to stem lodging and poorly filled, smaller grain heads. If 20% or more of the tillers are infested, significant yield loss can occur. When populations were high in 1998, fields with low tiller counts (from fall infestations) or greater than 50% lodging (from spring infestations) were abandoned before spending more money on inputs.

Please refer to the following link for more information on Hessian fly biology and pictures of the insect and damage:  
<http://www.entm.purdue.edu/fieldcropsipm/insects/hessianfly.cfm>

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**Soybean Rust Update** - *Bob Mulrooney;*  
*Extension Plant Pathologist;* [bobmul@udel.edu](mailto:bobmul@udel.edu)

Soybean rust made its appearance in 15 states and 274 counties in 2006 which was a large increase over 2005. Many of the new finds were the result of an October storm front that moved spores from Louisiana up the Mississippi River valley into western TN and KY, AR, southern MO, southern IL and southern IN. There was enough rainfall and cool temperatures with the storm to provide conditions for infection to occur. The disease marched north into VA for the first time and finally stopped on the eastern shore of VA where it was confirmed in Northampton County on Oct 30 and Accomack County on Nov 20. Only a few states in the south had enough infection

early enough to affect yield and fungicides were widely used where soybean rust was present. The appearance of soybean rust in NC and VA was too late to affect yields.

In 2007 soybean rust is still active on kudzu below the frost line from Tampa south. Kudzu is regrowing rapidly in the south following a rapid warm up. Frost on March 5 killed most of the kudzu in north Florida and southern GA but a few infected leaves have been detected near Jacksonville recently. Scouting is continuing as it has been all winter in the southern states including FL, AL, MS, LA, TX, and SC. AL is reporting they are rust free and dry at the present time. MS, LA, and SC have reported no rust over the winter and in the one county with rust in southern TX the soybean crop was mature and the field has been plowed and planted to corn.

Delaware will again be planting sentinel plots as part of the nationwide effort to monitor the movement of soybean rust and provide growers with an early warning system should the disease make it to Delaware in 2007. Plans for 2007 are to include six sentinel plots to cover the state. Plots will be monitored every two weeks until flowering, when they will be sampled weekly. (More on this in later issues.)

The website to bookmark and check regularly for information on soybean rust is the USDA Legume PIPE site <http://www.sbrusa.net/>.

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**Agronomic Crop Disease Control** -  
*Bob Mulrooney;* *Extension Plant Pathologist;*  
[bobmul@udel.edu](mailto:bobmul@udel.edu)

### **Soybeans**

A recent research article in the electronic journal Plant Health Progress  
<http://www.plantmanagementnetwork.org/php>  
by Pat Donald with USDA-ARS at Jackson, TN showed that winter weeds and the legume cover crop, crimson clover, that are hosts of the soybean cyst nematode (SCN) did not increase SCN levels the following season. This corroborates my observations over many years. It is known that the winter annuals, chickweed,

henbit, and purple deadnettle are hosts of SCN. I had observed that here in DE many years ago but at very low levels of infection. The results of her three year test showed that although the weeds and crimson clover were infected there was no reproduction during the non-cropping time between soybean harvest and planting the following spring that would increase SCN numbers in infested fields. The take home message was that winter weed hosts of SCN do not pose a threat to current SCN management practices of rotation and use of resistant varieties.

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**Spring Pasture Fertilization** - *Richard Taylor, Extension Agronomist; [rtaylor@udel.edu](mailto:rtaylor@udel.edu)*

With the slow warm up this spring, many pastures are only just now showing an indication of greening up. Many fields may still be too wet to begin grazing since this spring has had several bouts of intense rainfall, at least in some parts of the state. With that said, it is time to apply an initial nitrogen (N) application to help stimulate spring growth. With the wet soil conditions and a history of significant rainfall events this spring, I would suggest limiting your initial N application rate to 25-30 lbs N/acre. This will be enough to stimulate growth but not too much for your pasture forages to take up and hold until enough warm weather occurs to bring growth along to full speed. This should improve your N-use efficiency (how much the plants take up versus how much you apply) which will be important this year both economically (due to the high cost of N fertilizer) and environmentally.

Generally an actively growing pasture can use about a pound of N per day but be sure to scout your pastures about 20 to 30 days after you apply the N to see when the next shot of N will be needed. Since potash (K) tends to be released over the winter, I recommend waiting until mid-May to mid-June to apply the recommended phosphorus (P) and K using soil test recommendations for maintenance fertilizer application rates. If clovers are present add about 1 lb boron/acre with the required maintenance P and K and adjust later N

application rates based on the amount of clover in the pasture. If half or greater of the biomass (dry matter) comes from clover, additional N will not be needed. If from 25 to 50 percent of the dry matter comes from clover, the N rate can be cut in half, but if the clover contributes less than 25 percent to the dry matter available, the full rate of N should be used.

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**Nitrogen Applications to Wheat**  
**Unfertilized Fall 2006** - *Richard Taylor, Extension Agronomist; [rtaylor@udel.edu](mailto:rtaylor@udel.edu)*

A number of wheat fields were seeded last fall after being enrolled in cover crop programs that excluded fall applied nitrogen (N). Many of these fields are only just now emerging from winter dormancy and do not have very much growth. If these fields will be harvested for grain rather than used strictly as cover crops, it will be very important to apply N this spring to stimulate tiller production and root growth as early as possible. Virginia Tech's publication entitled "Intensive Soft Red Winter Wheat Production" provides some valuable information to assess the N status of wheat fields in early spring.

To use the information, you will need to determine the average number of tillers (a tiller is a shoot showing at least three leaves visible) per square foot. At normal planting populations, many plants will only have two or three tillers present (counting the primary shoot). To access the tiller count in your field, take a yard stick or dowel rod cut to a 3-foot length and randomly place it next to a typical looking row in at least five places well-spaced out around the field. In each section of row, count and record the number of tillers with three or more leaves that are found within the 3-ft section of row. After you've counted and recorded the number of tillers in 3-ft of row from at least five locations (preferably ten), add up the number of tillers and divide by the number of locations to get average tiller count (per 3-ft of row). To calculate tiller density multiply the average tiller count by 4 and divide the result by the row width in inches and this will give you tiller density (tillers per square foot). For example in 5 locations you find there are a total of 450

tillers, so 450 divided by 5 equals 90 tillers on average per three feet of row. If you multiply 90 by 4 and divide this by the row width (7 inches), your tiller density comes to 51.4 tillers per square foot.

If the tiller density is 60 or less you need at least 60 lbs N/acre (assuming you will be using split applications—one at green-up or around Zadoks' stage GS 25 and one at Zadoks' GS 30-31 or Feeke's GS 4-5 or pseudo stem erection or first node detectable). If you have a tiller density of 100/ft<sup>2</sup> or more, no N is needed at this stage; but if the tiller count is 75/ft<sup>2</sup>, you will need 40 lb N/acre. A N rate of 25 lb/acre will be needed if the tiller count is 85/ft<sup>2</sup>. You will need to evaluate each field for the likelihood that you will have time and the ability to return and apply a second application of N to the field. If a second split is not possible, you may decide to apply all required N at this time. With the expense of N, you should consider the likelihood that the stand will produce maximum yields or whether you should adjust your yield goal down to a more reasonable level. The lower the tiller count this late in the season, the less likely the field will yield top yields so keep that in mind when considering N rates.

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### **Thoughts on Roundup Ready Corn and Soybeans** - Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

Each year more acreage is planted with Roundup Ready corn and more questions arise. **Is it wise to use Roundup Ready corn and Roundup Ready soybeans and rely on glyphosate for weed control year after year?** No. The more a given field is sprayed with a specific herbicide mode of action the greater the risk of developing populations of herbicide-resistant weeds. On Delmarva we have glyphosate-resistant marestail. In other regions of the United States biotypes of common ragweed, giant ragweed, Palmer amaranth, tall waterhemp, annual ryegrass, and rigid ryegrass have developed resistance to glyphosate.

**What if I am only using glyphosate in corn if I have to (the Roundup Ready trait is only for**

**escaped weeds)?** If a weed is not killed (or escapes) from a preemergence herbicide treatment then glyphosate is putting as much selection pressure on it as if no preemergence herbicide was used at all. Therefore, the preemergence herbicide has not lessened the pressure for developing resistance.

**I will be rotating vegetables and do not want to be concerned about herbicide carryover.** Roundup Ready corn is a great fit in this scenario since the rotational crops are relying on other means than glyphosate to kill weeds.

**If I use Roundup Ready corn should I use a soil-applied herbicide?** Yes. Early-season weed competition can reduce yield. Use an adequate rate for effective early-season control, at least 0.75 labeled rate for your soil type. If a postemergence glyphosate application is needed, include a tankmix partner that is effective on the weeds present at time of application.

**Will Roundup Ready corn help shade out late emerging weeds?** Corn is not as competitive of a crop as soybeans. Even reducing corn row spacing does not increase its competitiveness in our region. Soybeans on the other hand are very competitive with weeds, particularly planted in 15" rows or drilled. Weeds that are stunted and injured with glyphosate in soybeans will often die when the soybean canopy blocks sunlight from reaching these weeds. Corn does not intercept sunlight as well as soybeans.

**Should I use residual herbicides in soybeans?** Residual herbicides are important in no-till soybeans in our region. Due to the winter annual weeds that we have, and the presence of glyphosate-resistant marestail, burndown herbicides should be applied a few weeks prior to planting soybeans. UD research demonstrates that weeds emerging 4 weeks after planting or later will not impact soybean yields and have minimal seeds produced. This means that there can be as many as eight weeks between spraying a burndown herbicide and making a postemergence application. This gives many weed species an opportunity to emerge and get to a size that glyphosate will not control them. Use a broad-spectrum residual herbicide with

your burndown program. In most cases, this will provide sufficient control until the postemergence application is made.

**What is the 2-1-2 approach?** Limiting an herbicide mode of action to only two (2) applications to a given field (1) over a two-year period (2) is a practical approach to herbicide resistance management. This approach is not only for glyphosate, but for all herbicide modes of action. Many herbicide manufacturers are labeling their products with a number corresponding to the herbicide mode of action. If you find yourself using herbicides with the same number on the same fields, contact your cooperative extension staff to see if you are setting yourself up for problems.

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**Small Grain Weed Control** – Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

If you have not done anything about weed control in small grains, now is time to be scouting the crop. Fields that were no-tilled or where chickweed emerged shortly after planting in the fall are fields to check first for spring treatment. If you have wild garlic or Canada thistle, the time of application should be delayed since you need to spray these weeds when they have fully emerged. Coverage is important for these species; so allow adequate emergence, but do not wait too long. If weed pressure from winter annuals is great, it may not be possible to get control of the winter annuals and perennial with one application. In that case, two applications may be required.

Harmony Extra can be applied with nitrogen. If spraying Harmony Extra with nitrogen, be sure to pre-mix it in water first. If using nitrogen as your carrier, no need for a surfactant unless wild garlic is over 8 inches tall. If applying Harmony Extra in nitrogen diluted with water, use a non-ionic surfactant at ½ to 1 pint/100 gallons of solution. If applying it in water use non-ionic surfactant at 1 qt/100 gallons. However, delaying your herbicide application until the late application of nitrogen is applied will result in reduced weed control. Waiting means the weeds

and small grains will be larger; both reducing the efficacy of the herbicide.

Grass control in small grains is still challenging, even with a few new products. Hoelon is the only product labeled for grass control in barley, and it will only control annual ryegrass before it is more than 2 tillers. For winter wheat, Osprey is also available from Bayer. Fall will be a better time for Osprey applications, but it will control annual ryegrass in the early spring. Osprey cannot be applied with nitrogen carrier and the Osprey application and nitrogen application must be made 14 days apart. Spray solution can not be any more than 15% nitrogen. Osprey has activity on small annual bluegrass. Large annual bluegrass control will be better with Maverick than with Osprey. However, Maverick requires that STS soybeans be used for double-cropping and does not allow for rotation to vegetables.

Finally, the following are the timing limitations for small grain herbicides. The timing restrictions are based on crop safety.

2,4-D - up to jointing stage (pre-jointing)  
Banvel/Clarity - up to jointing stage (pre-jointing)  
Osprey - up to jointing stage  
Buctril - up to boot stage  
Harmony Extra or Harmony GT - up to flag stage (pre-flag leaf)

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**Precautions for Herbicide Use with Nitrogen Applications to Small Grains** – Mark VanGessel, *Extension Weed Specialist*; [mjv@udel.edu](mailto:mjv@udel.edu)

It is common to add herbicides when nitrogen is applied to small grains and small grain-legume mixtures. These precautions are from manufacturer's label:

Harmony Extra or Harmony GT- slurry in water first and may result in temporary crop yellowing. If liquid nitrogen is less than 50% of the spray mix, then include a surfactant. For 2,4-D it varies with the formulation. The ester formulation (2,4-D ester) can be mixed directly with nitrogen, but labels recommend good

agitation. Amine formulation of 2,4-D (2,4-D amine) should be mixed with 3 to 5 parts of water before adding it to the nitrogen solution. **Buctril** label cautions about potential leaf burn when mixed with liquid fertilizer, but leaves emerging after application are not affected. For **MCPA**, it varies some with the manufacturer. The ester formulation should not be applied with liquid nitrogen. The amine formulation varies, ranging from no mention of liquid nitrogen to application is allowed. **Osprey** restricts applications to no less than 2 weeks of a nitrogen application. **Maverick** cautions about possible leaf burn and reduced growth and states that weed control is more consistent when applied with water as the carrier.

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**Weed Publications are Available** - Mark VanGessel, Extension Weed Specialist; [mjv@udel.edu](mailto:mjv@udel.edu)

A number of weed control publications are available from your county extension office or online at [http://www.rec.udel.edu/weed\\_sci/WeedPublicat.htm](http://www.rec.udel.edu/weed_sci/WeedPublicat.htm). The annual corn and soybean weed management guide for Delaware and New Jersey are available as well as fact sheets on noxious weed control, herbicide-resistant weeds, and perennial weed control. In addition, **2007 Pasture and Hay Weed Management Guide** is available. The guide is intended for use by anyone who manages forages for animal grazing and/or hay production. Information on cultural, mechanical, and chemical weed management practices is included at the front of the guide and is appropriate for the novice to the experienced manager.

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**Control the Horseweed (or Marestalk) in No-Till Soybeans When It's Small** - Mark VanGessel, Extension Weed Specialist; [mjv@udel.edu](mailto:mjv@udel.edu)

The presence of glyphosate-resistant horseweed has made no-till soybean burndown programs more challenging. (Glyphosate is the active ingredient in Roundup and Touchdown). This species is not a problem in tilled fields (because

it emerges before the tillage is completed, so tillage kills it) or in corn (because atrazine is pretty effective on it). Rather the problem has only been showing up in no-till soybean fields where glyphosate alone has been used for burndown control prior to planting. The presence of glyphosate-resistant horseweed is so wide-spread and it moves so easily with the wind, you have to assume that the horseweed plants in your field are resistant and not rely on glyphosate to control them.

What to use?? A program based on a plant-growth regulator herbicide (2,4-D or dicamba). Glyphosate will not kill the resistant biotypes. Paraquat often will not effectively control all the plants and it often requires two applications for good control (and two applications is not a sound resistance-management strategy). There is concern about excessive use of ALS-inhibiting herbicides such as FirstRate, Canopy EX, or Synchrony XP that could lead to additional resistance. That leaves 2,4-D or dicamba. Dicamba is the active ingredient in Banvel and Clarity. The pint rate of 2,4-D ester is only marginal on horseweed (particularly when the plants are 4 inches or taller). A quart rate of 2,4-D ester is needed to consistently control this species. For most formulations, a quart rate (assuming 4 lb ai/gallon formulation) requires a period of 30 days from time of application until soybeans can be planted. There are a few formulations available that require only 15 days between the quart application rate and planting soybeans. So this treatment should be made as early as possible due to controlling small weeds and allowing the time interval prior to planting.

For dicamba, there are some differences between Banvel and Clarity labels. Banvel is labeled for 8 to 16 oz/A and requires a 30-day interval between application and planting soybeans. Clarity use rates are 4 to 16 oz/A. The interval between Clarity application and soybean planting is defined by a total accumulation of 1 inch of rain followed by 14 days. Averaged over the past 20 year weather records, this is a 26 day period, but it can be longer. Our experience is that a minimum of 6 oz/A of Banvel or Clarity is needed for consistent control.

There are a number of weed species not controlled by 2,4-D or dicamba. These products should be tankmixed with a non-selective herbicide such as paraquat or glyphosate. (Paraquat is the active ingredient in Gramoxone Inteon and other formulations are available). Since most of the no-till soybeans will be planted with Roundup Ready soybeans, paraquat would be a better choice from a resistance management standpoint.

Additional flush of weeds is possible with this early application, so a tankmixture with a residual herbicide (such as Sonic, Authority First, Valor XLT, Synchrony EX, or Canopy) may eliminate the need for an additional application of paraquat at planting.

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### **New(er) Changes for Herbicides in Corn** - *Mark VanGessel, Extension Weed Specialist;* [mjv@udel.edu](mailto:mjv@udel.edu)

Lexar (Syngenta) was released in 2005 and is similar to Lumax. The difference is the ratio of Dual II Magnum:atrazine:Callisto. Lexar has less Dual II Magnum, but more atrazine. The Lexar ratio fits our soil types and weed spectrum better than Lumax.

Impact (AMVAC) is a postemergence herbicide for broadleaf weeds and some grasses. The mode of action (how it kills weeds) is similar to Callisto. Impact should be tankmixed with 0.25 to 0.5 lbs active of atrazine (4 to 8 fl oz/A of 4L; or 0.27 to 0.55 lbs of 90DF). The addition of atrazine improves the spectrum and consistency of weed control. Impact provides better grass control than Callisto; although fall panicum and broadleaf signalgrass may not be effectively controlled with Impact.

Resolve (DuPont) is intended as a tankmix partner with glyphosate in Roundup Ready corn to provide residual control of some weed species. Applications should be made to corn 12" tall or less (or up to 6-collar stage). The active ingredient in Resolve is rimsulfuron which is the active ingredient in Matrix and is one of the two herbicides in Steadfast.

Stout (DuPont) is a prepackaged herbicide of Accent and Harmony GT. This combination is designed to provide postemergence grass and selected broadleaf weed control. This combination will not effectively control crabgrass.

Status (BASF) is a prepackaged herbicide and safener. The active ingredients in Status are the same as Distinct except Status includes a safener to reduce the risk of corn injury.

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### **Grain Marketing Highlights** - *Carl German,* *Extension Crops Marketing Specialist;* [clgerman@udel.edu](mailto:clgerman@udel.edu)

#### **Prospective Plantings Report Highlights**

USDA released the March 30<sup>th</sup> Prospective Plantings Report this morning. U.S. farmers intend to plant 90.45 million acres of corn, a 12.15 million acre increase over the actual corn plantings for the 06/07 marketing year. Pre-report planting intentions estimates averaged 88 million acres, ranging from a low of 86.3 to a high of 90.75 million acres.

U.S. farmers intend to plant 67.14 million acres of soybeans, 8.36 million acres less than actual soybean plantings for the 06/07 marketing year. Pre-report estimates averaged 69.2 million acres, ranging from a low of 66 million acres to a high of 69.20 million acres.

The total plantings for all U.S. wheat, reported at 60.30 million acres, reflects an increase of 3 million acres from last year.

#### **Quarterly Grain Stocks Report Highlights**

U.S. corn stocks in all positions as of March 1, 2007 were reported at 6.069 billion bushels (bb), 922 million bushels less than the same time last year. Pre-report estimates averaged 6 bb, ranging from a low of 5.9 to a high of 6.1 bb.

U.S. soybean stocks were placed at 1.785 bb, 116 million bushels larger than the same time last year. Pre-report estimates averaged 1.8 bb, ranging from a low of 1.760 to a high of 1.825 bb.

U.S. wheat stocks were reported at 856 million bushels, 116 million bushels less than the same time last year. Pre-report estimates averaged 880 million bushels, ranging from a low of 855 to a high of 900 million bushels.

### Marketing Strategy

It is widely held that commodity trader attention will now turn to the weather and its impact on getting the crops in the ground and off to a good start. The corn planting intentions number will initially be viewed as bearish since it is larger than the average of pre-report estimates. A correction is expected in the corn pits, although we shouldn't see a sizeable sell-off just now due to the fact that the planting intentions must get realized. This will help to keep the corn planting intentions report in the bearish to neutral trading range.

Soybean acreage intentions are called bullish since the acreage reduction is somewhat larger than pre-report estimates. Bear in mind that the Southern Hemisphere is expected to harvest a larger soybean crop and that U.S. carryover stocks from the '06/'07 marketing year are expected to be somewhere around 500 to 600 million bushels (595 million bushel carry projected in the March supply/demand report).

The wheat market is expecting a neutral to bearish impact from this report. Planted acreage is expected to be larger than last year while March 1 U.S. wheat stocks are down.

For technical assistance on grain marketing decisions contact Carl L. German, Extension Crops Marketing Specialist.

## General

**General Insect Control Information** - *Joanne Whalen, Extension IPM Specialist;*  
[jwhalen@udel.edu](mailto:jwhalen@udel.edu)

As we start the 2007 season, remember that pesticide labels are always changing so it is important to read all labels before applying any pesticide. In some cases, the labels you find on line or even in label books may not be the most

recent label or may have changed after printing. In addition, there are changes that did not make it to the 2007 Vegetable Recommendation book. Therefore, you always need to read and use the label that is on the pesticide container in your possession. Since the label is the law, it is important to always read the label and follow those directions and restrictions before making any applications. If you are applying a pesticide under a special label (including Section 18's, Special Local Need 24C's or 2ee) then you must also have those labels with you at the time of application.

<h2>Weather Summary</h2>	
<a href="http://www.rec.udel.edu/TopLevel/Weather.htm">http://www.rec.udel.edu/TopLevel/Weather.htm</a>	
<b>Week of March 22 to March 28, 2007</b>	
<b>Readings Taken from Midnight to Midnight</b>	
<b>Rainfall:</b>	no rainfall recorded
<b>Air Temperature:</b>	Highs Ranged from 82°F on March 27 to 54°F on March 25.
	Lows Ranged from 55°F on March 27 to 33°F on March 26.
<b>Soil Temperature:</b>	56°F average.
	(Soil temperature taken at a 2" depth, under sod)

*Weekly Crop Update is compiled and edited by Emmalea Ernest, Extension Associate - Vegetable Crops*

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