**Vegetables**

**Vegetable Insects** - Joanne Whalen, Extension IPM Specialist; jwhalen@udel.edu

**Potatoes.**
Since the earliest planted potatoes have emerged from the ground, it is time to begin looking for Colorado potato beetle adults feeding on plants, especially where Admire was not used at planting. No insecticides will be needed until you find 25 beetles per 50 plants and defoliation has reached 10%.

**Peas.**
You should begin to watch the earliest planted peas for the presence of pea aphids. If the weather quickly changes from cool to warm, aphid populations often explode and beneficial insect activity can lag behind. Fields should be sampled from the bud-stage through harvest for aphids. On small plants, you should sample for aphids by counting the number of aphids on 10 plants in 10 locations throughout a field. On larger plants, take 10 sweeps in 10 locations. A treatment is recommended if you find 5-10 aphids per plant or 50 or more aphids per sweep. Dimethoate or Lannate will provide aphid control. Be sure to check the labels for application restrictions during bloom.

**Herbicide Rotations: Lima Beans and Pickles** - Ed Kee, Extension Vegetable Crops Specialist; kee@udel.edu

Growers and processors generally agree that since 1988, when Pursuit was first used for weed control on lima beans, lima bean fields have been cleaner and more weed free than previous years. However, Pursuit can be relatively long lasting in the soil, and strict attention needs to be paid to the soil carry-over restrictions. In the late 1980s, in our research and in a few unfortunate commercial situations, we saw significant injury to pickling cucumbers, carrots, and spinach planted 12 months after Pursuit applications on lima beans.

Growers confronted with this rotation dilemma can use a preplant incorporated program of Dual (1 to 1.33 pints/acre) plus Treflan (1 pint/acre). Excellent grass control will be achieved, the Dual will control yellow nutsedge, and the combination will help with several major broadleaf weeds. Dual will have good activity on pigweed, nightshade, purslane, and some other minor weeds. Treflan will help with lambsquarters and smartweed. Neither material will have good control of velvetleaf or jimsonweed. Early scouting to control these weeds with Basagran is necessary.

**Section 18 Approved for Command on Watermelons** - Ed Kee, Extension Vegetable Crops Specialist; kee@udel.edu

On April 6, 2000, the EPA granted a specific exemption under the Section 18 provision of FIFRA for use of Command as a single preplant
incorporated or preemergence application prior to seeding watermelons. The PPI rate is 0.4 to 0.5 pints/acre; the preemergence treatment is 0.3 to 0.4 pints/acre. Temporary whitening of the crop may occur, but the crop should grow through this with no adverse impacts.

**Watermelon Weed Control Programs** - Ed Kee, Extension Vegetable Crops Specialist; [keee@udel.edu](mailto:keee@udel.edu)

There are so many different combinations of cultural practice systems for watermelon production, including plastic mulch, transplants, direct seeding, or bareground. Consequently, herbicide programs will vary according to the situation. The Watermelon Production Guide for Delaware and Maryland provides a comprehensive description of the options for these situations. Dr. Ed Beste authored this valuable source of information. The Guide is available from your county extension office.

**Crisis Exemption Issued for the Use of Quadris on Spinach** - Bob Mulrooney, Extension Plant Pathologist; [bobmul@udel.edu](mailto:bobmul@udel.edu)

The Delaware Department of Agriculture has issued a crisis exemption for the use of Quadris on spinach for the control of White rust.

The following information must be followed in order to make an application:

Use Quadris 2.08SC at 9.2 – 12.4 fl. oz./A

- Method of application:
  - **Ground:** Use 20-50 gal/A spray volume depending upon equipment
  - **Air:** Use 5 gal/A spray volume
- Make up to 6 applications/season
- Allow a 7 day pre-harvest interval between the last application and harvest
- Follow all information, particularly precautionary statements, concerning Quadris 2.08SC that appears on the label of the fungicide. **Do not allow spray drift to reach apple trees. Quadris is extremely phytotoxic to certain apple varieties.**

White rust is present in many fields of overwintered spinach at this time. An application of Quadris should be made at this time if the disease threatens. Apply the full rate if white rust is present. Make repeat applications at 7-10 day intervals.

Contact your county agent if you need a label. Labels need to be in your possession before you make an application.

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

Severity value accumulations have exceeded the 18 DSV threshold for potatoes that emerged (green row, 50% emergence) before April 14. The current DSV value is 27.

**Field Crops**

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

**Field Corn.**

During the past week, cutworm moth activity increased significantly in the following locations: **Delaware** - Greenwood, Hickory Hill, Little Creek, Seaford, and Selbyville; **Maryland** - Greenboro, Rhodesdale, Snow Hill and Vienna. As indicated in past newsletters, trap catches only provide an indication of areas of potential cutworm outbreaks. In areas with significant trap counts, you should begin to see cutting when 300 base-50 degree-days have accumulated since peak moth flights (approximately April 15 for the above locations). Currently, 30-degree days (base 50) have accumulated since the peak moth catch in Sussex.
County. Once field corn has emerged, plants should be checked for cutworm activity. Damage can initially appear as small holes in the leaves, which eventually appear shredded. At the 1-2 leaf stage, a rescue treatment is recommended if 10% of the plants exhibit leaf feeding, or 3% of the plants are cut off and larvae can be found. A pyrethroid will provide the most cost-effective control.

**Wheat.**

With the recent cool weather, aphid activity has increased in isolated fields. If the weather remains cool and wet, beneficial insects may not be able to keep up with aphid populations. In most cases, aphid counts are still below threshold levels for this time of year (150 per foot of row). The most important time to control aphids to reduce barley yellow transmission is in the fall (30 and 60 days after plant emergence). However, it is still important to scout for aphids and watch for movement to the grain heads. If conditions remain cool and wet, we could see significant increases in aphid populations in grain heads. A treatment will be needed if you find 20 – 25 aphids per head. Aphids feeding on the grain heads can reduce yields as well as test weight. Once fields reach the early dough stage, it is no longer necessary to be concerned with aphids. Low levels of cereal leaf beetle larvae can now be found in fields in Kent and Sussex County. No treatments will be needed until the economic threshold level of 25 eggs and/or larvae per 100 tillers (with 50% egg hatch) OR 0.5 larvae per stem is reached. As grain heads emerge, you should also begin to watch for grass sawfly and true armyworm larvae. The warm weather we experienced in March could result in heavier grass sawfly populations. A sweep net can be used to detect small grass sawfly larvae that are often found in denser areas along field edges. Once larvae are detected, look for larvae in 5 linear foot of row in 5-10 areas of a field. You will need to shake the plants to dislodge larvae that feed on the plants during the day. Since true armyworm larvae are generally found at the base of the plants during the day, you will also need to look at the base of plants for armyworms. The treatment threshold for sawfly is 0.4 per foot of row. The treatment threshold for armyworm is one per foot of row for barley or two per foot of row for wheat.

**Field Crop Diseases**

Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

**Wheat.**

Disease activity is increasing with the cool, wet weather being very favorable for powdery mildew especially on susceptible to moderately susceptible varieties. Scout fields regularly to see if the powdery mildew is moving up the plants. If mildew is seen on the flag leaf or the leaf under the flag leaf (F-1) monitor development closely. If 10% of the leaf area on the F-1 leaf is infected and the forecast is for more of this favorable weather spraying may be justified. Ten-percent infection on the flag leaf before head emergence would also be justification for spraying. Most of the mildew is staying in the lower denser canopy at the present time. Variety susceptibility, fertility levels and seed treatments all influence the amount of powdery mildew present. The bottom line is you have to look to see what levels you have.

**Wheat spindle streak mosaic virus** (WSSMV) was positively confirmed from a field in New Castle County and I have heard of confirmed reports from Maryland and Virginia. A soilborne fungus transmits this virus disease. It produces symptoms that can be confusing. The slender yellow dots and dashes that tend to be spindle shaped are seen on the leaves over most of the field. Symptoms can be worse in low spots. The chlorotic yellow spots can look like nutrient deficiencies or early powdery mildew infections that have not produced any spores. ELISA testing is the best way to confirm the presence of WSSMV. Testing can be done by sending samples to an outside lab. Contact your county agent for details. The cool weather enhances symptom development. Often the symptoms disappear when warm weather arrives. Yield losses are only thought to occur if symptoms persist on the flag leaves once grain fill begins. Resistant varieties are available for WSSMV. I have not seen any barley yellow dwarf virus as of this writing.
The recent rains may favor infection by the **Septoria complex** of fungi. **Septoria tritici** is not that common here but occurs during wet, cool periods, **Septoria nodorum** which we know causes leaf spots as well as glume blotch, prefers wet, but warmer weather than **Septoria tritici**. Be on the lookout for these diseases. **Septoria tritici** causes speckled leaf blotch and produces long spots with parallel sides normally. **Septoria nodorum** produces spots that are more lens shaped. Both fungi produce small dark fruiting bodies in the dead tissue, but produce spores that are different, which enables them to be identified. Since it was so dry last year there may not be many spores around for infection but it could end up being present in low amounts. We will just have to wait and see what develops.

**Septoria**
(Photo:Bob Mul Rooney)

**Barley.**
The first sample of **barley scald** was submitted last week. Look for large tan leafspots that eventually develop a brown border. They are often numerous. Planting resistant varieties is the best control. This fungus overwinters in old barley residue.

**Barley Scald**
(Photo:Bob Mul Rooney)

**Grain Marketing Highlights** - Carl German, Extension Crops Marketing Specialist; clgerman@udel.edu

**Commodity Markets Retrench Slightly**
Corn, wheat, and soybean prices retreated April 19th in overnight trading on the arrival of another weather front moving across the midwest. Although these rains are helpful, and generally have an immediate negative impact upon commodity prices, that effect may be short lived. Commodities are expected to soften as we head into a long weekend, with traders not wanting to be caught on the wrong side of the current weather market. The most recent wave of showers in the corn belt has been most beneficial in the Northern tier of the corn belt. That leaves a large portion of the belt in dire need of subsoil replenishing rainfall. The National Weather Service has recently published a soil moisture anomaly map, which compares soil moisture availability to normal. For example, in Iowa topsoil...
moisture rated as 88% very short to short, while subsoil moisture was rated 89% very short to short. Illinois was rated 67% very short to short for topsoil moisture, with no rating given for subsoil. Indiana was rated 50% very short to short for topsoil moisture, with subsoil moisture rated 70% very short to short as compared to normal. Weather fronts now moving across the country would have to stall to provide needed soaking rains to parched areas before we can take the possibility of what could be a 'price explosive' summer out of this market.

Within the Dairy Division, entrants can actually select a corn silage sample now and store it in a 2-gallon air-tight container in the freezer until September when they send in their entries. All corn silage entries must be from the 1999 growing season. Contest entries MUST be received at AgSource by Friday, September 8, 2000. Producers may enter as often and in as many categories as desired.

All winning samples will be displayed during World Dairy Expo, October 4 to 8, 2000. Winners will be notified prior to the Expo and awards will be presented at a luncheon.

Good luck to all!

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Forage Producers: Announcing the World's Forage Analysis Superbowl© - Richard W. Taylor, Extension Agronomist; rtaylor@udel.edu

I recently received the announcement of the World's Forage Analysis Superbowl© that is held each year during World Dairy Expo. The purpose of the competition is to encourage producers to grow and harvest the best quality forages possible. Entries in each category have the chance to win prizes such as alfalfa seed, inoculant, nutritional supplement, or a season's use of forage equipment. Equipment offered for free use this year include a skid-steer loader, self unloading forage box, Arrow front feeder wagon, bifald high-capacity rake, Badger forge box, balage wrapper, and a reel auggie TMR mixer.

Forage producers may enter in either of two divisions: 1) the Dairy Division (open to forage growers with dairy production information) and 2) the Commercial Division (open to all other growers). In the Dairy Division there are three categories including: hay, haylage, and corn silage. In the Commercial Division there are two categories, hay and balage.

The entry fee is $20 per entry. Entry forms are available on the Web at the internet site: http://www.agsource.com/sbentry.htm or from AgSource Soil and Forage Laboratory at 715-758-2178 or by fax at 715-758-2620.

Thoughts on Roundup Ready Corn - Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

I have had a few questions on where Roundup Ready corn is best suited. Roundup Ready corn does not have all the advantages we see in Roundup Ready soybeans. First, we have good herbicide programs for many weeds in corn that are not available in soybeans. In addition, these programs are cost-effective compared to Roundup Ready corn given tech fees, applications costs, and herbicide costs. With most perennial weeds, control is as good or better and less expensive with conventional programs than Roundup Ready corn. In most situations, a residual herbicide is needed for corn, which is not true with soybeans. This shifts the advantage to conventional programs. Where Roundup Ready has a place are where herbicide carryover is an issue. Reducing atrazine levels or eliminating ALS herbicides is a situation that favors use of Roundup Ready corn. Also, RR corn is the best option of bermudagrass control. Using 1 qt/A when the bermudagrass runners are 6 to 8 inches. Finally, where crabgrass is a particular problem and preemergence herbicide control alone is not adequate, this is a place for Roundup Ready corn. Basis Gold is the only other postemergence option for crabgrass and it needs to be sprayed early (less
than 1 inch tall crabgrass). Roundup gives you a wider window to spray. I am sure there are other situations, but these three are the ones I have come across in my plot work.

Finally, be sure to match the agronomics of the Roundup Ready corn hybrid for your situation. It has to have the disease resistance and other traits that you need to be a viable option.

**Effectiveness Is The First Consideration For Weed Control** - Mark Vangessel, Extension Weed Specialist: [mjv@udel.edu](mailto:mjv@udel.edu)

When deciding which weed control option to use, the first question should not be what does it cost?, but What is your overall approach to weed management in the field? Crop rotation concerns can limit herbicide selection thereby reducing the possibility for excellent weed control. Thus, selecting the herbicide program based on effectiveness is more critical than selecting it on cost. An in-expensive option that does not control key weed species is going to be more costly in the end. For assistance in selecting the most effective herbicides, refer to the 2000 Weed Management Guides for Delaware. There is one for corn and one for soybeans available free from the county offices or calling 302/856-7303 and asking for Mabel Hough.

### Weather Summary

**Week of April 13 to April 19**

**Rainfall:**
- 0.91 inches: April 15, 2000
- 0.50 inches: April 18, 2000

Readings taken for the previous 24 hours at 8 a.m.

**Air Temperature:**
- Highs Ranged from 76°F on April 16 to 49°F on April 18.
- Lows Ranged from 58°F on April 16 to 34°F on April 13 & 14.

**Soil Temperature:**
- 57°F average for the week.
- (Soil temperature taken at a 2 inch depth, under sod)

Web Address for the U of D Research & Education Center: [http://www.rec.udel.edu](http://www.rec.udel.edu)

Compiled and Edited By:

Tracy Wooten
 Extension Associate - Vegetable Crops
### Black Cutworm - Pheromone Trap Catches - 2000 Season

Trap Counts Provided by UAP Inc., Seaford, DE  
April 10-16, 2000

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<th>Location</th>
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NOTE: As of April 18, 30 (base 50) degrees days have accumulated since peak moth flights in Sussex County, DE.

- Moth catches of 9-15 moths per 7-day period have been associated with a moderate to high potential for cutworm outbreaks.
- Moth catches of 5 per night for at least 2 consecutive nights have also indicated a high potential for problems.
- You can expect to see cutting activity approx.300 degree-days (base 50) from peak moth activity (9-15 per week or 5 per night for at least 2 consecutive nights)

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