



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetables

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

Lima Beans.

Corn earworm egg laying, threshold levels of larvae and pod damage continue to be found. As the weather turns cooler, we should see a decrease in populations. However, be sure to check within a week of spraying for newly hatched larvae. The treatment threshold is one corn earworm per 6 foot of row.

Peppers.

Continue to spray peppers on a 5-7-day schedule for corn borer and corn earworm control.

Snap Beans.

Corn borer and corn earworm moths continue to be found laying eggs in snap bean fields. Processing snap beans should still be sprayed at the early bud stage for corn borer control and at the pin stage for corn earworm and corn borer control. After the pin spray, sprays are needed on a 5-day schedule until harvest.

Spinach.

We are starting to see an increase in webworm feeding in spinach. You will get the best control, if sprays are applied before webbing occurs. Ambush, Pounce, Confirm (6-8 oz/acre) or Spintor (4-8 oz/acre) should be used. Generally, at

least 2 applications are needed to achieve control of webworms.

Sweet Corn.

Corn earworm continue to lay eggs in silking sweet corn. Therefore, all fresh market silking sweet corn should be sprayed on a 2-3-day schedule throughout the state.



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

Lima Beans.

Downy mildew has been seen this week on both M-15 and unfortunately on Cypress, which is resistant to the new race E. This means that race F is present also. Growers and fieldmen need to be checking all their fields for downy at the present time. Be sure to be spraying preventatively with Champ DP or Kocide 2000 at 2 lbs/A if conditions have been favorable for downy mildew.

Be on the lookout for **root knot nematode** on limas as well. Stunted plants on knolls or other irregular areas of the field may indicate root knot damage. Carefully dig up suspected plants and examine the root. Large galls or growths can be seen and usually very few normal functioning roots will be present.

Field Crops

Field Crop Insects - Joanne Whalen, Extension IPM Specialist; jwhalen@udel.edu

Small Grains.

As you make plans to plant wheat, be sure to use a combination of cultural practices for Hessian fly management. There are no cost-effective chemical controls for Hessian fly, so a combination of the following cultural practices should be used.

- (1) Complete plowing of infested wheat stubble soon after harvest,
- (2) Crop rotation (do not plant wheat in the same field 2 years in a row),
- (3) Eliminate volunteer wheat before planting to prevent early egg laying,
- (4) Do not use wheat as a fall cover crop near fields with infestations,
- (5) Plant after the fly free date (Oct 3 – New Castle County; Oct 8 – Kent County; Oct 10 – Sussex County) and,
- (6) Plant resistant varieties – There are 2 Pioneer varieties from the south that now have resistance to Biotype L (Pioneer 26R61 and Pioneer 2691).

Soybeans.

Corn earworm populations remain low in most fields. If we do not see an increase in populations by the end of this week, it is unlikely that economic levels will develop. Weather factors and overall lower trap catches compared to this time last year have resulted in low populations.

Questions Concerning Mosquitoes.



Now that corn harvest has begun, many folks are spending more time in the field. We have had a number of questions regarding a large mosquito that many folks are encountering. This is not a new species, but is a result of the rainy weather and flooded field conditions in some areas of the

state. It is often referred to as a "flood water species". The larval stage is known to be predacious on other mosquito species. Although it is considered a beneficial, it will bite humans so insect repellent should be used if they are found in your area. These repellants will also work on ticks that you may encounter while working in the field.



Field Crop Diseases - - Bob Mulrooney, Extension Plant Pathologist; bobmul@udel.edu

Soybeans.

Soybean cyst nematode is rearing its ugly head again. We still see the typical stunted yellow areas in fields. The only way to determine the presence of SCN is the direct observation of the small yellow or white females on the roots in the field, or submitting a soil and root sample. If you have planted an SCN resistant variety and see plenty of cysts you may have a race, which is able to reproduce on the variety and you need to change varieties or rotate to a non-host crop such as corn. Be proactive and determine what is causing the plants in the field to be stunted and yellow.

Frogeye leafspot was identified in a Kent county field causing considerable defoliation. This fungus disease is not very common in Delaware, but does occur some years. The fungus produces numerous small purple rimmed spots on the leaves which eventually cause the leaves to dry and drop from the plant. Most of the varieties that we used to grow were resistant to frogeye leafspot and is the best control strategy.

We have had samples of brown soybean plants in irregular patches and are investigating the causes. I have identified anthracnose, Fusarium, and possibly brown stem rot as the cause in one of the fields. We have not seen any Sudden Death Syndrome (SDS) this year so far.



Grain Marketing Highlights - Carl German,
Extension Crops Marketing Specialist;
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Impact of Terrorists Attacks on Commodity Prices Not Certain

Generally speaking world events, such as the bombing of Pearl Harbor, the bombing in Oklahoma City, the Gulf War, and Chernobyl, just to name a few, have not had a significant negative impact upon commodity prices for any significant period of time. Historically, the supply and demand for the commodity has always prevailed in determining the value of commodity prices. U.S. commodity and financial markets remain closed on Wednesday, September 12th as a result of the horrific attacks against the U.S. yesterday. Additionally, USDA delayed the release of the September Crop Production and the U.S./World Supply and Demand Reports until Friday, September 14th at 7:30 a.m., CT. The markets are expected to resume trading with caution, at least until it is known just how much Tuesday's events hinder trade. Initially, the markets are expected to trade lower, due to bearish psychology and to the fact that uncertainty will initially dominate the market. As of today, the day after the attacks, consensus is building that the sooner trading resumes the better the markets will trade through the uncertainties that have been created by this disastrous attack.

Will Commodity Prices Climb if Production Estimates Decline?

That is the prevailing question on most grain traders minds as we head into the release of the September report. The answer appears to be that prices will climb if we get a significant drop in the production estimates. As indicated in a recent issue of Weekly Crop Update, for corn we will need a production estimate below 9 billion bushels for the market to turn bullish and for soybeans we need a production estimate that is less than 2.8 billion bushels before the soybean market turns bullish. Technically (according to the charts), soybeans are entering harvest on a downtrend which occurred once the \$4.80 price level was broken. Corn, although still viewed as an up

trending market, doesn't have far to go before breaking support at the \$2.22 per bushel mark for Dec. futures. According to a local grain merchandiser, pricing for new crop corn and soybeans has been placed on hold until the commodities market resumes trading.



Fall Cover Crop Seeding - Richard W. Taylor,
Extension Agronomist; rtaylor@udel.edu



As harvest season begins, it's time to consider whether cover crops fit your cropping system and what cover crop to use. Actually with timely management, cover crops fit most cropping systems except when crop conditions or crop maturity dictate a late harvest (November or December). The decision to use cover crops must be made by weighing the benefits and costs of the practice. Consider long-term benefits such as improvement in soil tilth from organic matter increases as well as the short-term ones.

Below I will highlight a few of the benefits or special characteristics of many of the cover crops available to Delmarva growers. This list is not meant to be complete and inclusive, but hopefully will stimulate your thinking about these crops.

For tying up nitrogen, cereal or cole crops are among the most effective winter annual crops. Cereal crops include rye, spring and winter oats, barley, wheat, and spelt. Cole crops include the leafy crops such as rape and kale and the root crops such as swedes, turnips, and rutabagas.

If planting a cereal grain before the Hessian Fly-Free date for your county, plant winter or spring oats. Spring oats are planted very early and where appropriate for winter freezing temperatures to kill the cover crop. Mobilization of nitrogen from the crop will occur as soon as soil temperatures rise in the spring. Use winter oats if you want the cover crop to survive later into the spring. Oats are often easier to till behind than cereal rye.

Cole crops such as winter rape can also tie up nitrogen if they are planted by about Sept. 10. Rape also possibly possesses some nematicidal activity on certain pathogenic nematodes.

Cereal rye is the most cold tolerant of the winter cereals, so it can be planted later than the other cereal crops. However, for best soil nitrogen removal, it should be planted around the fly-free date so as to maximize topgrowth in the fall.

Cereal crops planted solely as cover crops and other crops used as cover should be monitored closely in the spring to prevent excessive soil moisture loss in seasons with below average winter or spring rainfall. If adequate rainfall is received, time the destruction of the cover crop by tillage, herbicide, or other mechanical crop injury and destruction with the cover crop's growth stage and the subsequent crop's growth so nitrogen and other nutrients will be mobilized at a time suitable for crop uptake.

Many legume cover crops release nitrogen very rapidly after incorporation or destruction. To slow this release, include cereal rye, winter oats, or other high carbon winter crop when seeding the legume.

Legumes are appropriate cover crops for fixing atmospheric nitrogen for subsequent grass crops. Legumes can help make phosphorus and micronutrients more available to subsequent grain crops.

Hairy vetch is the most efficient nitrogen fixing legume, often fixing 90 to 120 or more lbs N/acre. If allowed to grow to full bloom and if planted by

mid-Oct., nitrogen is released to the next crop rapidly.

Crimson clover also referred to as scarlet clover is not as effective as hairy vetch at fixing N, but will fix 60 to 90 or more lbs N/A plus increase availability to the next crop of other nutrients such as P and the micronutrients. Nitrogen release is also rapid.

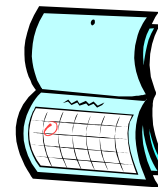
Subterranean clover is a low-growing, potentially reseeding legume able to fix 40 to 80 lbs N/A for a subsequent crop. It produces a tight, thick sward that's very effective at suppressing weeds. Growth is enhanced at high fertility levels and can help raise soil organic matter levels. Lack of a high percentage of hard seed and susceptibility to shading can lead to poor reseeding in irrigated corn or during wet summers.

Austrian winter pea is an effective N fixer only if the seed crop is not harvested. The crop is easily killed in the spring and will rapidly release from fifty to 100 lbs N/A.

As a summer cover crop, buckwheat tolerates a wide range of soil conditions, grows rapidly, chokes weeds, and can make P, Ca, Mg and micronutrients more available to the following crop. To prevent reseeding and the creation of a weed problem, kill buckwheat at flowering and before seed set.



Planting Dates for Small Grains - *Richard W. Taylor, Extension Agronomist; rtaylor@udel.edu and Bob Uniatowski, Associate Scientist; bobuni@udel.edu*



We recently completed a planting date study for both barley and small grains that might convey information useful to you this fall. The ideal time

to plant barley was the first ten days of October. Yield of September planted barley was about five percent or more below that from the ideal planting date. Yields declined significantly for each ten-day period following that first week of October and drastically fell when planting was delayed into November. For wheat, the decline in yield was no where near as dramatic. Ideally, plant winter wheat in the first two weeks following the Hessian Fly Free date for your area.

We also often are asked if seeding rates should be increased when you plant late in the season. In our studies, there was no interaction between seeding rate and planting date which means that there was no value to increasing the seeding rate when planting late. Maximum yields were obtained at 20 seed per foot of row (on 7-inch rows) for wheat. Increasing wheat seeding rates up to 40 seed per foot of row did not change yield potential at all. For barley, 2 bushels of barley per acre maximized yield and again going up to 4 bu/A did not improve yields.



Fall Fertilization of Small Grains - Richard W. Taylor, Extension Agronomist; rtaylor@udel.edu

With many areas having had two years in a row of above normal rainfall and above average yields, producers in this situation should carefully consider their fall fertilization management plans for their small grain crop. In many cases, we've seen visual nitrogen (N) deficiency symptoms appearing on the lower corn leaves late in the season. These fields may have too little residual soil N left to allow good fall growth on small grains. Also after the heavy rains through the summer months, much of the sulfur (S) that is in our soils will have leached down deep to the clay lens which we find underlying many of the sandy soils in southern Delaware. Although a deep soil test for S will show enough there for deep rooted crops, the early seedling growth of wheat can be adversely affected by the low S levels in the sandy topsoil. For these reasons, you may want to

include ammonium sulfate as at least part of your fall N application rate. In our studies, fall fertilization with 20 to 40 lbs N/A can increase yields especially in circumstances where residual N is not available. The yield increases although small were generally enough to at least cover the fertilization cost. Also keep in mind that with nutrient management and environmental concerns, late fall wheat seedings will use very little of any N that is applied, so keep fertilization of late plantings to a minimum. Plan to fertilize them early in the spring just before spring growth begins again.



Manganese Deficiency on Small Grains - Richard W. Taylor, Extension Agronomist; rtaylor@udel.edu

In the past growing season, I have observed many soybean fields with manganese (Mn) deficiency symptoms and I would guess that some corn fields also have shown this deficiency. Wheat and especially barley are susceptible to Mn deficiency injury. This deficiency can result in poor growth in the fall or in total loss of stand. Another common event is fair growth in the fall followed by stand loss when nitrogen fertilizer is applied in the spring. This latter case is seen most where long term liming has raised the subsoil pH to high levels, but the surface pH is low enough to allow enough Mn to be available to the crop. Remember that the availability of Mn not only depends on the amount of Mn in the soil but also is pH dependent. As the pH rises, the availability of many micronutrients and especially Mn decreases. The only one this does not hold true for is molybdenum that increases in availability as the pH approaches neutral.

Early scouting of your fields is essential in preventing stand loss. The usual interveinal symptoms of Mn deficiency are hard to see on young small grain seedlings, but poor growth and a gray steel color are often seen. To confirm the problem, either do tissue testing or pull a soil sample. You may want to limit the depth of the

soil sample to the rooting zone at the time of sampling. Just make note on your soil test information sheet of the depth of soil sampled. Foliar Mn application can help the crop recover but more than one application may be needed if the seedlings are very small and the leaf area available for foliar absorption is limited.



UPCOMING EVENTS:

Pesticide Container Recycling

Date: September 20, 2001

Location: Sussex Conservation District Maintenance Yard

Shortly Road, Georgetown

Time: Collections from 9:30 am – 1:30 pm

Free of Charge!

All containers must be properly rinsed.

More Information: Call DDA at 302-739-4811 or 1-800-282-8685.



12th ANNUAL PESTICIDE CONFERENCE

<http://www.udel.edu/pesticide/Cal.htm#annualconf>

Pesticides and the Public: How Applicators Can Respond To Public Concern With Pesticide Use.

Date: Thursday, January 17, 2002

Location: Modern Maturity Center, 1121 Forrest Avenue, Rt. 8, Dover DE

This year's conference will be held in conjunction with the Delaware Horticulture Industry Expo. Topics will be "IPM in Schools," "What Lessons Have We Learned From Star Link Corn?" and "Risk Communication."

Afternoon break-out sessions will present new information in Agriculture, Turf & Ornamental, and Structural Pest Control.

Recertification credits will be awarded in all applicator categories.



Weather Summary

Week of September 7 to September 13, 2001

Rainfall:

0.13 inches: September 10

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

Air Temperature:

Highs Ranged from 87°F on September 10 to 78°F on September 12.

Lows Ranged from 68°F on September 10 to 52°F on September 13.

Soil Temperature:

76°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>

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