Weekly Update

Cucurbit Weed and Insect Control Updates

Herbicide options for cucurbits: Pumpkin and winter squash planting was under way in the Capital District early this week and if the weather holds and the ground dries out a little bit later this week, I’m sure planting will be in full swing. I wish that I could report that we have some good news on the herbicide front for cucurbits but I don’t. We are still waiting for the much anticipated Reflex label in pumpkins to come through.

Until then, I think we need to manage our herbicide options carefully. We found some interesting results last year with our pumpkin herbicide trial. The take home message from that trial was that combinations of products work much better than individual products applied alone. I’ve created a table with all the treatments (minus the Reflex treatments) with respective weed control ratings, weed escapes and cost of applications (not including the actual application cost). If you would like a copy of this please let me know. This trial was done on a mixed vegetable/dairy farm in Rensselaer County. This was a great site as we had a great assortment of both broadleaf and grass weeds and this field had been manured in the fall of 2010. As you review the list, you need to keep several things in mind. First, all the treatments in this trial were applied as pre-emergent/post plant. Second, these prices are for last year and may have changed. Third, in some cases where a large quantity of product is being purchased, there might be reduction in price due to volume. These are meant only as a comparison – prices you receive from your chemical dealers might be different so it is worth asking.

Lastly, most of these materials are either seed germination inhibitors or root inhibitors. In my opinion, there are three important factors for these herbicides to work their best; application timing, moisture and field preparation. Preparing a field for planting and then planting as soon as possible and then spraying right after planting works best. The newly tilled soil takes care of a lot of weed seeds that might have already germinated and allows the herbicides to work on newly germinating seeds. All of these materials require either a rain or irrigation after application in order to “activate” them. Finally, making sure that your fields are prepared correctly and reducing field clods so that the entire soil surface is evenly covered is also important.

Here is the rundown on what is labeled for cucurbits: Command 3 ME (clomazone) – annual grasses and many broadleaves. Command is labeled for all cucurbit crops but the company has made a point of labeling it on processing pumpkins only. The rates vary according to the crop but the old Command formula this one does not and should not be incorporated. It can cause plants to turn white for a while, but yields are usually not affected and plants will grow out of it. Be sure to review the label for crop rotation restrictions. Again, use rates vary according to the crop, but 2/3 – 2.0 pints is the range. Typically 1.0 pint is used here in the Capital District.

“Serving the research and educational needs of vegetable and small fruit growers in Albany, Columbia, Fulton, Greene, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, & Washington Counties”
Strategy – This is a pre-mix material of the active ingredients is Command (clomazone) and an older product known as Curbit (ethalfluralin). It does a pretty good job on annual grasses and many broadleaves. It is labeled on all the crops and rates depend on soil type, ranging from 2 – 6 pints per acre, applied post plant/pre-emergent. Note that if you have some Strategy left from a previous season, make sure you shake the contents up completely. I have seen cases where the material was frozen during the winter and settled out or created a bunch of clumps when dumped out. However, if you continue to shake it (it might take a while), it will usually go back into suspension. Do not incorporate!

Dual Magnum (s-metolachlor) – This material controls mostly annual grasses and a couple broadleaves (especially galinsoga). It is labeled as a 24 (c) and is now labeled on pumpkins and winter squash which is good news. However, this is an indemnified label which means you accept the risk of using this material and not the company. Because this is an indemnified label, several more steps need to be taken – first, you need to obtain a copy of the correct 24 (c) label and second, register with Syngenta that you are using this product on those specific crops. The good news is, this process is simple and can be done via the internet.

First, go to www.farmassist.com where you will need to create a user name and password. Once logged in, select “Products” where a dropdown menu will appear. Under that, select “Indemnified Labels”. Next, select “New York” under the state and “Dual Magnum” under the “product”. It is very important to note here that only the Dual Magnum formulation is labeled on pumpkins and winter squash and not Dual II Magnum. Then the list of Dual Magnum indemnified labels come up and you need to find the appropriate one (on my computer it was the fourth one that included pumpkins and winter squash). Click the crop you are applying it to and the “submit” button. You will then be navigated to a “WAIVER OF LIABILITY AND INDEMNIFICATION AGREEMENT” page where you will either accept or decline the special instructions for using this product on the selected crops. If you accept it, the label you need to print will appear as a pdf file and you can then print it and you are ready to go. If you decline it, the labels will not appear and you legally cannot apply Dual Magnum to the selected crop. The good news is that Farmassist will save all of the indemnified labels you have agreed to in case you lose your label and need another one. If you need assistance you can call the Syngenta Customer Resource Center at 866-796-4368. Remember, you need to have a copy of the 24 (c) label in your possession when using this material. I would not recommend using Dual Magnum alone, but rather in a tank mix with Command or Sandea.

Sandea – This material is labeled on all cucurbits as a post plant/preemergent application. It controls many different broadleaves including galinsoga, lambquater (pre-emergent), mustard species, ragweed, pigweed and velvetleaf. As a preemergent it also suppresses yellow nutsedge, but is very effective when used post emergent to control yellow nutsedge. It has a 0.5 to 1.0 ounce rate range; however I tend to recommend the 0.5 ounce rate as I have seen some delayed emergence and stunting when used at the higher rates. Also, the maximum use rate is 1.0 ounces and if you need to come back post-emergent for nutsedge or some broadleaf control, if you used a higher pre-emergent rate you may not be able to use it post. When you purchase this material make sure the distributor provides you with a measuring container that is supposed to come with the package. Again, I would recommend tank mixing this with one of the materials that controls annual grasses such as Dual Magnum. I was quite pleased with the weed control when we tank mixed it with 1 pint of Command 3 ME without costing too much.

One thing to keep in mind about Sandea is that we’ve had a lot of growers complain that usually around the 4th of July they notice a lot of weeds coming in their pumpkins. As I started to ask some questions, it was brought to my attention that it has a fairly short residual – 3-4 weeks. Knowing this and that you can use a total of 1.0 ounces of Sandea for the whole season, it might be worth applying a post emergent application of Sandea 3-4 weeks after the first application in pumpkins and winter squash. However, for post emergent applications plants need to have at least 2-5 true leaves and no visible female flowers.

Please read the label for determining rates depending on your soil type for any of these materials. The information above is only a brief introduction as to what is labeled and how they might be used. These are also not the only materials labeled, but appear to be the most effective. For more information please consult the 2012 Cornell Vegetable Guidelines -CDB
I know that many of you have been using the FarMore treated seeds for cucumber beetle control and as of today, I have heard control of striped cucumber beetles has been excellent. However, as you might have noticed in the catalogs, seed companies aren’t offering all their cucurbits with the FarMore treatment which means some of you are may still be using an in-furrow treatment of imidacloprid (Admire Pro, Advise etc.). If using an in-furrow application of imidacloprid for direct seeded or transplants, the first thing we need to know is what formulation you are using because it will make a big difference in the rates used. If the product you have has a “2F” in the name such as Advise 2F (or other generic versions), it means that you have 2 lbs of active ingredient per gallon. If you are using Admire Pro (or generic versions), it has 4.6 lbs of active ingredient per gallon, which is twice the amount of active ingredient compared to 2F formulations.

In-furrow application for direct seeding: Research conducted with 2F formulations of imidacloprid has shown that 1.1 ounces per 1000 feet of row is adequate for striped cucumber beetle control. To determine the per acre rate at different spacings, take 43,560 square feet (the number of square feet in one acre) and divide it by your between row spacing. Take that value and divide it by 1,000. Finally, take that number and multiply it by 1.1 fluid ounces and that is the number of ounces you need to treat one acre. For example, if you plant your Jack-O-Lanterns on 10 foot centers, then you would take 43560/10 = 4,356 row feet. Divide that by 1,000 row feet: 4,356/1000 = 4.4 (this is the number of 1,000 row feet per acre per your spacing). Then take 4.4 and multiply that by 1.1 ml imidacloprid per 1000 feet = 4.8 ounces of imidacloprid 2F per acre. Most growers are aiming to apply their imidacloprid in between 5 and 10 gallons of water per acre. If you have Admire Pro, essentially you will use half that rate (2.4 ounces per acre). Again I cannot stress the importance of knowing what formulation of imidacloprid you have!

Transplants: First, if you are using FarMore treated seed for transplants, I would not expect to get the same beetle control as with direct field seed treatments. This is because the material should give you 2.3 weeks of beetle control in the field but, when we talk about a transplant that is already 3-4 weeks old in the greenhouse, much of the activity is gone. So, is using FarMore treated seed in the greenhouse worth the extra cost? Probably, but not for the beetle control - Farmore also has several fungicides included which could help with damping off diseases commonly found in greenhouses. I would recommend that if you use FarMore treated seed in the greenhouse and want to get good beetle control, you will either need to treat the transplant flats just before planting, apply an in-furrow application or apply it through the drip system. I think the easiest is to apply it to the transplant flats a day or two prior to transplanting. Use a very low rate (0.02 ml/plant of Admire 2F formulation) to treat transplants about 1 day prior to planting in the field. It can be applied with a backpack sprayer, Dosatron or other injection watering system or with a watering can. To treat a flat of 200 transplants with Admire at this rate, a grower would need to dilute 4 ml (0.135 oz) of Admire in a volume of water sufficient to soak to soil mix evenly. This treatment will protect the plants for about 2 weeks, and after that may be followed by field application. To help make other conversions: multiply 0.02 ml per plant times the number of plants in your flat. Be sure to rinse the plants off after the application so that the imidacloprid gets washed into the soil. It needs to be taken up by the roots to be most effective. Remember, know your formulation - if you are using Admire Pro, the recommend rate is 0.44 ozs (13.2 ml) per 10,000 transplants (note this is the rate for controlling aphids and whiteflies in cucurbit transplants. It is not labeled for control of cucumber beetles as transplant treatment).

-CDB

Diagnose pest and disease problems using color pictures: http://vegetablemdonline.ppath.cornell.edu/
Cornell Guidelines for fruit and vegetables: http://www.nysaes.cals.cornell.edu/recommends/
Cucurbit Downy Mildew forecast: http://www.ces.ncsu.edu/depts/pp/cucurbit/
USDA Fruit and Vegetable Market News: www.marketnews.usda.gov/portal/fv
Late blight was confirmed on actively sporulating leaf lesions from an 8 acre potato field in Cookstown, NJ (Burlington County). The few infected plants were found at the end of a row were the boom sprayer was most likely turned off. The grower had preventative applications of manzate followed by chlorothalonil prior. Seed pieces were sourced from Maine. This is the first report of Late blight in NJ on potato or tomato this year.

Crop(s) at risk: All potato (and tomato crops).

Potential impact: Significant losses may occur if not controlled properly.

What growers should do: Control of late blight begins with regular scouting, recognizing symptoms and preventative fungicide applications. All potato and tomato growers should scout fields and begin a regular preventative fungicide program if one has not been started. Adding a late blight specific fungicide to the tank mix should also be considered. Weather this past week has been ideal for late blight development in many areas of NJ (i.e., cool, wet, misty weather with heavy morning fogs). Alert by: Wendy Wyanandt, Rutgers

If you suspect you have late blight, please contact Chuck, Laura and Crystal and we will come and verify. A preventative fungicide such as chlorothalonil or copper could be applied now, though we have not verified any cases of LB in actively growing crops in NY. The risk of infected seed being imported from Maine paired with the favorable environmental conditions of the last few weeks may warrant this step. (CLS)

Green Peach Aphid in Cole Crops, by C. Hoepting, CVP. Source: Veg Edge Weekly, Volume 8 Issue 9

Green peach aphid (GPA) was noticed in several plantings of Cole crops this week; generally they are occurring at very low levels, but on many plants. As a function of the mild winter and warm May, they have now moved from their over-wintering host, peach trees, into vegetable and other ornamental and agronomic crops. GPA nymphs are greenish-yellowish and closely resemble adults (Fig. 1). Nymphs that develop into winged adults may be pinkish. There are multiple forms of winged adults that are yellowish-greenish with black markings (Fig. 2). GPA tend to be uniformly distributed throughout a field.

GPA generally does not cause serious damage on Cole crops, because their populations are mostly kept in check by their numerous natural enemies. Parasitized aphids' mummies will remain firmly attached to the plant. The aphid itself is dead, so there is no need for concern if you see aphid mummies. Damaging populations of GPA will usually occur only under dry hot weather and with frequent use of broad-spectrum insecticides like pyrethroids, because these insecticides eliminate natural enemies and stimulate reproduction in the aphid. Also, aphid densities tend to be higher on plants that are fertilized liberally, thus efficient use of fertilizer can help to prevent large-scale outbreaks.

Feeding from large numbers of aphids can kill seedlings and young transplants. On larger plants, feeding damage results in curling and yellowing of leaves, stunted plant growth, and deformed developing heads. Contamination by dead aphids in the head or wrapper leaves can also be a problem. Dead aphids do not wash off easily and will cause a head to be unsuitable for fresh market sales. To prevent GPA buildup, do not use broad-spectrum insecticides. The use of insecticides is only recommended after approximately 50% of leaves are infested. Movento, Beleaf and Fulfill are labeled for aphids and do not kill natural enemies. Provado (being replaced by Admire Pro), Assail and Leverage are also non-broad-spectrum insecticides labeled for GPA. Provado, Assail, Leverage and Movento also provide control of onion thrips.
This year strawberry plantings have looked particularly weak after going through the winter. Perhaps this should be expected as the lack of winter snow cover left plants vulnerable to winter desiccation and cold injury. The hot dry spring also stressed plants followed by lots of cold weather to hold them back, so the fact that they are finally hitting their growth stride is quite amazing.

Some plantings however are not rebounding even with the plentiful moisture and occasional nitrogen application. These plants remain unthrifty looking, and some are even wilting. If you dig them up, look at the roots and try to determine if there is root feeding. Keep your eyes open for white grubs as these have been reported to be a problem in strawberry fields this year from Ontario to Maine. Similar plant symptoms can be the result of root weevil, and Verticillium wilt, so a root examination is important.

White grubs are immature scarab beetles and are traditional turf pests. Japanese Beetle, Asiatic beetle, European chafer and June beetles make up the white grub complex that can infest strawberry plantings. All of these beetles are largish, hard-shelled beetles which fly at night and are seldom seen on plants, but their C-shaped larvae are found in the soil and these grubs are what do the most damage. The adult beetles actively lay eggs beginning in late May through August (egg laying period depends on the species). The eggs are laid in grassy places where they hatch into larvae (white grubs) and feed on roots. Most species larvae feed in late summer and then again in the spring until the adults emerge, but June beetle larvae remain in the soil for three seasons where they feed continually on plant roots.

To control white grubs, do not follow sod or pasture crops with strawberry plantings. Use a cover crop for at least one season to break the cycle. Sites that have light soil and are surrounded by grassy parking areas may experience the heaviest pressure. Admire-Pro can be used to control white grubs.

Verticillium Wilt is a soil borne fungal disease that like white grubs is most devastating to plants in their first year of growth. Outer leaves turn brown and eventually collapse, but inner leaves will remain green until the bitter end. The affected plants typically appear throughout the planting in a random fashion. Many weeds are host of Verticillium including nightshade, groundcherry, redroot pigweed, lambsquarters and horseradish making weed control critical to Verticillium management. Actinovate AG can be used as a preventative soil drench, but fumigation is the only sure way to eradicate Verticillium. Resistant varieties include Earliglow, Guardian, Allstar, Tribute and Tristar.

Root weevils including the strawberry root weevil, the black vine weevil and the rough strawberry root weevil all attack the roots or crowns of plants while in the grub stage. The larvae cause serious damage by tunneling in the roots and crowns in the spring of the year. Injured plants appear stunted; the leaves are closely bunched and are dark and blue-green. The fine roots have been destroyed, and sometimes even the hard fibrous roots have been eaten. Heavily damaged areas in the field can be large and circular, because of the beetles' behavior of gathering in groups. Newly transplanted strawberries are particularly susceptible to black vine weevils.

There are no resistant cultivars known. If root weevils exist, rotation away from infested area for at least 1 year will help. Setting up barriers might also be effective this limits the movement of the adult. Parasitic nematodes have been shown to be effective. Brigade is the only insecticide labeled in NYS for the control of root weevil. This should be applied at a rate of 8-32 oz/A in mid-late June. -LGM
Upcoming meetings and notices

Seasonal High Tunnel Program (NRCS) – Apply by June 1, 2012
Looking to extend your season, or improve yields of warm climate crops? Apply for a National Resource Conservation Service grant for financial and technical assistance in building a high tunnel on your farm. For more information visit this site: http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?&cid=stelprdb1046250, or contact your local NRCS office.

Conservation Funding for Organic Farmers (NRCS) – Apply by June 1, 2012
The Natural Resources Conservation Service is providing funding for conservation projects through the Environmental Quality Incentive Program (EQIP), to be implemented by organic farmers and farmers transitioning to organic. Conservation proposals can include irrigation and water management measures, improved grazing technology, pest management plans, and more. For more information about this funding opportunity visit http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?cid=nrcs143_008224.

Farm-to-School Grants (USDA) – Apply by June 15, 2012
The US Department of Agriculture is providing funding for programs that seek to improve access to local foods in schools. Potential projects include programs that get local food on the menus of schools, education activities that encourage the participation of school children in farming and gardening, among others. Proposals should include evaluation plans as well as demonstrate the long term sustainability of the plan. For more information visit the USDA Grants site at http://www.fns.usda.gov/cnd/f2s/.

Farm Service Agency Announces Loan Program for Conservation Purposes
FSA announces the availability of the Guaranteed Conservation Loan (CL) program that will provide farm owners and operators access to credit to implement conservation techniques that will conserve natural resources. CL funds can be used to implement conservation practices approved by the Natural Resources Conservation Service (NRCS), such as the installation of conservation structures (ie manure digesters on farm, wind or solar generation, manure and silage storage); establishment of forest cover; installation of water conservation measures; establishment or improvement of permanent pastures; implementation of manure management; and the adaptation of other emerging or existing conservation practices, techniques or technologies. Guaranteed CLs up to $1,214,000 are available from lenders working with FSA. For more information on the Conservation Loan program, contact your local lender, local FSA office or visit the FSA website at http://www.fsa.usda.gov/.

Weekly and Seasonal Weather Information

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