



## Vegetable News

Welcome to the 2016 Eastern NY Commercial Horticulture Programs first issue of the Weekly Vegetable Update! You are receiving this publication because you chose to receive it as part of your enrollment to the ENYCHP. This is a weekly publication intended for commercial vegetable producers to supply you with information on vegetable production including pest alerts, cultural considerations etc. It is our opportunity to bring you the latest scouting and pest information we are seeing on farms from Orange County to Clinton County and from all across NYS and New England. We strive to bring you the most accurate and practical information from a variety of reliable sources. If you have questions or comments about the content of these newsletters, please feel free to contact any of the educators listed on the inside cover of this issue. Thanks and I wish all of you a happy and prosperous 2016 growing season!

CCE ENYCHP Vegetable Team

### Weekly Update

Chuck Born, ENYCHP



**Did your Peas get hurt by the cold?** Ah, the joy of farming in upstate NY where there is no longer any “typical” growing season! I received probably about 6 phone calls last week from growers who had planted peas only to see them a couple days later under a couple inches of snow. They wondered what was going to happen to them. Peas are pretty tough and my initial thought was as long as they weren’t germinated and emerged, they would probably be fine. If they had emerged, then I wasn’t as sure they would be as viable in the long run. While reviewing my emails the other day, I happen to come across

this article from Gordon Johnson, Extension Vegetable & Fruit Specialist with the University of Delaware Cooperative Extension on the very topic of “Pea Damage from Freezing: *“Peas are very cold hardy and can tolerate freezing temperatures down to the low 20s. Lower temperatures (below 20°F) or a combination of high winds (gusts over 30 mph) and freezing temperatures (below 25°F) can cause damage to pea plants, sometimes killing them to soil level. Peas that are germinating or just cracking the ground will have little damage.*

*If pea tops are frozen to the ground level, they will develop new stems from dormant buds below ground. There will be 1-3 new stems that develop. This will be seen within a week after the frost. These stems will develop and flower later than undamaged plants. Generally, freeze damaged peas will yield 5-20% less due to the differences in maturities in the field and having weaker plants.”* (Source: *Weekly Crop Update*, University of Delaware Cooperative Extension. Vol.23, Issue 3. April 8, 2016)

**Sweet Corn Herbicide Update:** Not much has changed since last year (See Table 1) with new herbicides being registered with the exception of a new material from Syngenta called Acuron. Acuron is very similar to Lumax or Lexar (pre-mix of S-Metolachlor or the active ingredient in Dual Magnum, Atrazine and Mesotrione or the active ingredient in Callisto) with the exception of a fourth active ingredient called bicyclopyrone. The addition of bicyclopyrone will improve annual grass control, especially several of the foxtail species that seem to escape our Lumax treatments. Some trials have shown some increase injury to sweet corn, but it has not resulted in reduced or delayed yields. There are also generic versions of some of these materials on the market so please pay particular attention to the active ingredients so you know what you are applying!

Also keep in mind that all of these require moisture to activate them and ensure the most effective *continued on next page*

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Sweet Corn Herbicide Update, continued from previous page

Weekly Update

weed control. They are also mostly seed germination inhibitors, so fitting a field, planting it and getting it sprayed as soon as possible will also probably result in better weed control.

**Table 1: Preferred Herbicides Registered for Pre-Emergent Use in Sweet Corn in New York State (scroll over the herbicide name for a link to a NYS DEC approved label)**

Herbicide Name	Active Ingredient	Rate per acre	Comments
<a href="#">AAtrex 4L*</a>	atrazine	1.0 – 2.5 pints	
<a href="#">Dual II Magnum*</a>	S-metolachlor	1.0 – 1.67 pints	Rates need to be adjusted depending on organic matter levels – see label for specifics
<a href="#">Dual Magnum*</a>	S-metolachlor	1.0 – 2.0 pints	Use lower rates on coarse soils, higher rates on finer soils – see label for more information
<a href="#">Outlook*</a>	Dimethenamid-p	12 – 21 fluid ounces	Rates are based on % organic matter and soil texture – see label for more information
<a href="#">Callisto Herbicide</a>	Mesotrione	6.0 – 7.7 fluid ounces	
<a href="#">Prowl H2O</a>	Pendimethalin	2.0 – 4.0 pints	Rates vary depending on soil texture and organic matter– see label for more information.
<a href="#">Lumax EZ*</a>  DO NOT USE ON ORNAMENTAL or WHITE POPCORN!	Atrazine, S-metolachlor, mesotrione	2.7 - 3.25 quarts	Less than 3% organic matter use lower rate. Higher than 3% organic matter use higher rate. DO NOT USE on sweet corn or yellow popcorn that has already emerged!
<a href="#">Acuron*</a>  DO NOT USE ON ORNAMENTAL or WHITE POPCORN!	Atrazine, S-metolachlor, mesotrione and bicycloyrone	2.5 - 3.0 quarts	Less than 3% organic matter use lower rate. Higher than 3% organic matter use higher rate. DO NOT USE on sweet corn or yellow popcorn that has already emerged!
<a href="#">Bicep Lite II Magnum*</a>	Atrazine, S-metolachlor	1.0 – 1.5 quarts	Rates vary depending on soil texture and organic matter – see label for more information.

\*Restricted use herbicide in New York State  
Please completely read and understand the labels before using any of the materials listed above. If you have questions or comments, please contact your local extension agent or pesticide salesman for more information or assistance.

**Tis the Potato Planting Season!** Last week’s cold seems far away with a couple nice days in the sixties and more predicted for the rest of this week. With last year’s bumper crop of potatoes, I’m thinking that a few of you with potatoes still in your storage might think about using them for seed. As an extension educator I can’t really recommend this, but I also know it will be done so here are a couple things to consider before planting your own seed: First, re-think about it and see if you can still order some certified seed! Second, think about what diseases you might have had last year in the field such as late blight, Fusarium, Silver Scurf (which tends to show up more in storage after harvest) and Scab just to mention a few (see Figure 1). Grade hard and if you see anything that doesn’t look right and err on the side of caution and get rid of it. I strongly do not recommend saving your own seed of varieties like Yukon Gold or any of the russet varieties as they tend to be more susceptible to viruses like PVY which can go undetected in seed that is not specifically tested for it. If you have questions about these diseases or others, please don’t hesitate to

contact me at 518-859-6213 or [cdb13@cornell.edu](mailto:cdb13@cornell.edu)  
I know a few potatoes have gone in the ground but for those of you just getting started, here are a few reminders about handling and cutting seed potatoes. For more details see the University of [Maines “Bulletin #2412, Selecting, Cutting and Handling Potato Seed”](#).

Information excerpted from Bulletin #2412, Selecting, Cutting and Handling Potato Seed:

Determine the physiological age of your seed:

- Dormant - potatoes do not sprout at all, they may still be in a period of dormancy
- Young - characterized by apical dominance with one or just a few sprouts emerging from eyes on the apical or bud end of the tuber
- Middle aged - multiple sprouts all over the tuber with no clear apical dominance
- Old - branched sprouts that can appear hairy
- Potato no top - small tubers form on the sprouts once they emerge from the eyes

Old and Potato No Top seed should be avoided as poor stands and overall lower yields will be the result.

2) Precutting Seed: Only seed of young (precut one month prior to planting) or middle physiological age (precut two weeks prior to planting) should be precut. If the seed has previously sprouted, the seed should be cut only two weeks ahead. Middle-aged seed can be precut up to two weeks ahead of planting only if it has not sprouted. Middle-aged seed that has sprouted and been desprouted is old seed.

3) Warming seed: Potatoes should be warmed to 45—500 Fahrenheit prior to cutting.

4) Proper Seed-Piece Size: Cut seed tubers into blocky pieces about 1.75 ounces in size and should have at least one eye. For varieties with poor eye distribution, consider cutting seed pieces closer to two ounces each. Tubers under 1.5 ounces should not be planted. Tubers weighing between 1.5 ounces but under 3.0 ounces should be planted whole. Tubers 3.0—5.0 ounces should be cut into two pieces; 5.0—7.0 ounce tubers should be cut into three pieces.

5) Avoid blind pieces (no visible eyes) slab, sliver cuts or ripped pieces as they tend to have less vigor and may result in poor stands.

6) Disinfect all equipment including knives and mechanical cutters before each seed cutting session and between seed lots.

7) Keep knives sharp and straight to prevent ripping the potato surface.

8) Curing Cut Potato Seed: Cool the cut seed to 38 to 40 degrees F and do not pile it more than six feet deep. Provide good air circulation with relative humidity levels at 85 to 95 percent for 6—10 days to promote healing and prevent dehydration.

9) Before Planting: Re-warm seed again for two days before planting to get sprouts growing again and to avoid condensation on the seed.

10) Handling Cut Seed: Cut potato seed is easily bruised and damaged areas allow decay organisms (on seed or in the soil) to infect the seed piece resulting in slower emergence and less stored energy to promote early growth.

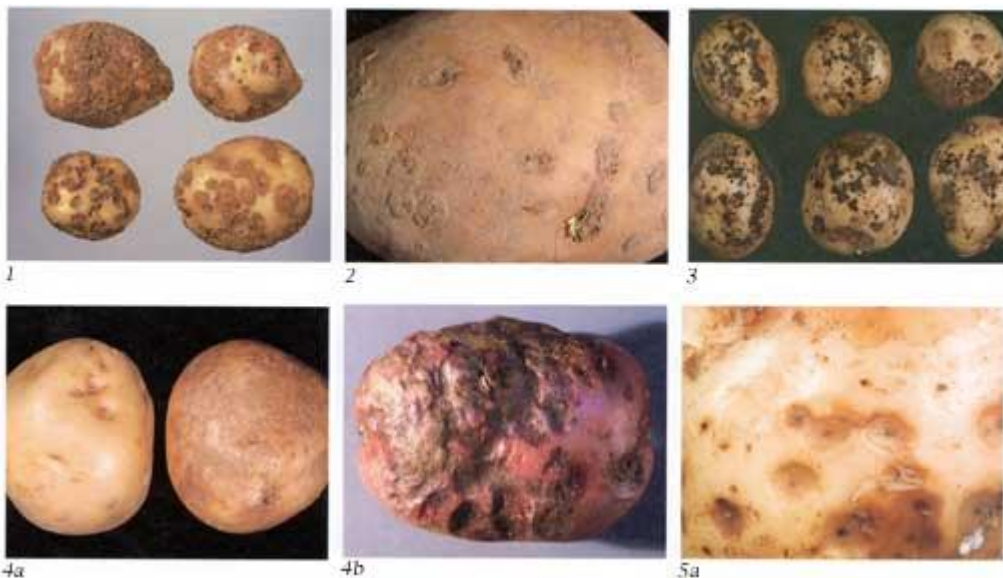


Figure 1: These pictures are from Cornell University Bulletin 205 "[Detection of Potato Tuber Diseases & Defects](#)" by Thomas A. Zitter and Rosemary Loria, Department of Plant Pathology, Cornell University. 1.) Common Scab; 2.) Powdery Scab; 3.) [Rhizoctonia \(black scurf\)](#); 4a & b Silver Scurf and 5a Bacterial soft rot.

**Common Sense: Sanitizing Your Greenhouses and other Surfaces:** Greenhouses are filling up quickly and so we thought it might be a good time to remind you that as you continue your successive plantings, that sanitation is still a critical part of ensuring good healthy transplants. There are several disinfectants that can be used for disinfecting bench tops, inserts and other surfaces in your greenhouses and each one has pro's and con's - but first things first: The cleaner you start, the better job your disinfectant will do! Start by:

- \* Cleaning all dirt and debris from the surfaces you want to disinfect! This includes all of the surfaces I mentioned above including greenhouse benches, inserts, bottom trays etc. "Pre-cleaning" is important because organic matter, dirt and other particulates tie up the active ingredients in disinfectants and reduce their effectiveness!
- \* There are lots of ways to do this but I think the most effective is to use a power washer or a hose and scrub brush. Yes, it is time consuming, but well worth it otherwise the rest of the sanitation could be worthless!
- \* In the case of tomato stakes inserts and trays, do not pack stakes too tightly in the washing container—allow solution to distribute evenly and contact all surfaces of the stake. Surfaces of stakes in the middle of a tightly packed group may not completely be soaked.

*continued on next page*

**What to use:****Clorox/Bleach (5.25% sodium hypochlorite)**

- Use rate of 1 part bleach to 9 parts of water (or 10% solution).
- Completely submerge stakes and allow to soak for at least 30 minutes before removing and rinsing.
- If possible, lower water pH to 6.5 – 5.8 to obtain the most activity from bleach.
- Add bleach or change water frequently when it becomes visibly dirty.
- Bleach is short-lived after mixing in water, with a half-life of only 2 hours so replenishing often will be critical for the best activity.

**Green-Shield (quaternary ammonium chloride salt)**

- Recommended use rate is 1 tablespoon (= 0.5 fl oz) per gallon of clean water.
- Allow surfaces to remain wet for 10 minutes before rinsing off with clean water.
- For stakes, trays and inserts, use the same rate as above and fully submerge and allow soaking for 10 minutes and rinse thoroughly.
- Very effective and economical: 1 gallon of Green-Shield is equal to 28 gallons of Clorox.

**ZeroTol 2.0 (hydrogen peroxide + ethaneperoxoic acid) – OMRI approved**

- Use a dilution of 1:300 or ½ fl. oz per gallon of clean water and spray until runoff on greenhouse surfaces etc.
- Use a dilution of 1:50 or 2½ fl. oz. of ZeroTol 2.0 per gallon of clean water if surfaces have not been pre-cleaned.
- For stakes, trays and inserts, use a 1:100 – 1:300 or 1¼ fl. oz. – ½ fl. oz. per gallon of clean water and spray until runoff (according to label). However, I would recommend submerging these items for at least 5 minutes before rinsing with clean water.

**Sanidate 5.0 (hydrogen peroxide + peroxyacetic acid)- OMRI approved**

Use a dilution rate of 1:256 or 0.5 fl. oz. per gallon of water for all non-porous surfaces that have been pre-cleaned with water.

## Environmental, Disease and Insect Challenges of Early Season Vegetable Production

*Crystal Stewart, ENYCHP*



Pushing the envelope on warm season vegetable production can be extremely profitable, but it also comes with a unique set of challenges. High tunnel tomato producers, for example, have to work to keep night time temperatures warm enough to prevent chilling injury to plants and also

have to ensure that soil is warm and dry enough prior to planting. When growers end up planting or growing tomatoes in cooler than ideal conditions, we often see more issues with root and soil-level diseases such as pythium and rhizoctonia. These diseases may always be present in the soil, and would not typically affect a vigorous tomato plant of the size of the one pictured, but with environmental conditions which are not ideal for the crop but are ideal for the plant, disease can form. In this case we see this as the girdling at soil level and in some rotting, thready roots. Another concern unique to very early season production is that we see unusual pest pressure. Girdling of transplants in the tunnel often has a disease aspect, but sometimes we see girdling exclusively from insect feeding and often we see a combination of the two. Jud Reid, the high tunnel specialist with the Cornell Vegetable Program, and I have been examining the role of ants in girdling plants such as this one for the last few years. We have a suspicion that they are often involved (though it's harder to verify this than it is when slugs are the culprit, since they leave obvious traces).

The first question I am often asked when growers encounter plants with issues like this is, “what can I apply to fix it?” It may be that biologicals such as Actinovate and Rootshield can help improve the microbial community in the rhizosphere, but the more important variable in this case is environment. A focus on creating the ideal growing environment (ideal soil temperature and moisture, as well as ideal air temperatures) is going to lead to healthy, vigorous plants which are able to withstand some pathogens. Other inputs are like adding icing to the cake—important, but you need to have a cake first.

The second question I am asked is, “can I save these plants?” The answer is probably yes, because secondary roots will form above the damage to the stem, but that does not mean that you should. Replanting a healthy plant in the place of this one, even if it's half the size, will result in a higher yield than you would get from a damaged



plant. For this reason it's always good to keep 5-10% replacement plants in reserve, and cull aggressively when a plant struggles.

A high tunnel tomato suffering from fungal disease issues at the soil level (inside the yellow circle) Image: CLS

## Allium Leaf Miner Alert

Amy Ivy, ENYCHP



### Another new pest of alliums

Last week word came out about a new pest of alliums, the Allium Leafminer. Native to Poland and Germany it has spread in recent years across Europe and Asia and as of 2004, into the United Kingdom as well. As of December 2015 the first infestation in the US was confirmed in Lancaster County, Pennsylvania.

Please alert any of us on the team if you notice the characteristic twisted leaves in onions this summer, the tunneling damage by larvae, or the dark brown pupae when overlapping leaves are pulled apart (see photos).

Please alert any of us on the team if you see any of the symptoms described and illustrated below. To access the complete Pest Alert document containing detailed information visit: <http://ento.psu.edu/extension/vegetables/pest-alert-allium-leafminer> Excerpts are below:

The allium leafminer (also known as the onion leafminer) has recently been confirmed from infested leeks and onions collected in December 2015 from Lancaster County, Pennsylvania. This is the first confirmed infestation in the Western Hemisphere. Your assistance is needed for monitoring and controlling this new invasive species.

Figure 1 Characteristic twisted leaves on onions. Photo: L. Donovan, Penn State



### Host Plants and Damage Symptoms

The allium leafminer has been reported to infest species in the genus *Allium*. Leeks (*A. porrum*) tend to be described as the most damaged host, which may be influenced by the timing of the second generation and the planting of leeks. Infestations have also been reported in onion (*A. cepa*), garlic (*A. sativum*), chive (*A. schoenoprasum*), shallot (*A. cepa*), and green onion (*A. fistulosum*).

Adult females make repeated punctures in leaf tissue with their ovipositor, and both females and males feed on the plant exudates. Leaf punctures arranged in a linear pattern towards the distal end of leaves may be the first sign of damage. Leaves can be wavy, curled and distorted. Larvae mine leaves, and move towards and into bulbs and leaf sheaths where they pupate. Leaf mines are most evident in

species with thin leaves (chives). In species with larger leaves, it is often necessary to peel back the leaves to find the insect. Both the leaf punctures and mines serve as entry routes for bacterial and fungal pathogens. High rates of infestation have been reported: from 20 to 100 pupae per plant, and 100% of plants in fields. The literature suggests organic production and market garden production systems tend to be most at risk, perhaps due to insecticidal control in conventional production systems.

### Distribution

The allium leafminer was first described in 1858 from Poland, and is native to Poland and Germany. Recently, the geographic range has been rapidly expanding. It is now present throughout Europe, reaching the United Kingdom in 2004. It has recently been reported in Asia, Turkey, and parts of Russia and Turkmenistan.

### Life History

Allium leafminers overwinter as pupae in plant tissue or surrounding soil. Adults emerge in late winter (March) into spring (throughout April, perhaps into May), and lay eggs at the base of plant stems. Larvae mine leaves, and move downward into the base of leaves or into bulbs, where they

Figure 2 Dark brown pupae are easy to see in leeks when leaves are pulled back. Photo L. Donovan, Penn State.



pupate. Pupae may move into soil. These 1st generation pupae undergo a diapause or aestivation period which lasts throughout the summer, and develop into adults that emerge in the autumn (September / October). This 2nd generation of adults lay eggs into *Allium* spp., which develop through the larval and into the pupal stage. These 2nd generation pupae will overwinter. Egg-to-adult development is estimated to require 1,090 degree-days using a 5.1°C/41.2°F threshold, or 1,225 degree-days using a 3.2°C/37.8°F threshold.

**Authors:** Shelby Fleischer, Department of Entomology, Pennsylvania State University, University Park, PA, and Tim Elkner, Cooperative Extension, Lancaster County. Edited by D. Gilrein, Cornell Cooperative Extension of Suffolk County.  
April 11, 2016.

## Spring Injury of Garlic

Crystal Stewart, ENYCHP



Garlic seemed to make it through the winter looking really good this year, despite often putting on at least a few inches of growth during our very long, warm fall and with scant snow cover over the winter. As the weather warmed rapidly in March, garlic quickly resumed growth. Warm weather in March always makes farmers with perennial and winter annual crops nervous, since it often pushes crops into stages of maturity which are not able withstand the cold temperatures of April. However, I've never seen this pattern cause any real damage to garlic. Generally a cold snap in April will lay the garlic down, but it rebounds as soon as the temperatures warm without noticeable damage. This spring we learned that the 10-13° F range, which is where most of the region landed immediately prior to our April snow storm, will in fact lead to lasting damage.

This was the first time that even the most seasoned garlic growers I work with experienced this level of spring injury. Inspections throughout the region are showing that the damage is not to the growing point of the garlic, so new growth should continue normally as long as we don't have another serious cold snap, but the loss of parts or all of the first few leaves could set the plants back slightly and has increased potential for infection by pathogens. It's important at this point to provide the best conditions possible for your garlic so that you do not further limit its yield potential. Make sure spring N is applied as quickly as possible, and make sure you are prepared to provide excellent season-long weed control. It's also important to scout your garlic regularly (once a week is a good goal) looking for unusual growth which may be a sign of disease.

If you see something new, send me a picture (text at 518-775-0018 or email at [cls263@cornell.edu](mailto:cls263@cornell.edu)) or give me a call to set up a visit.



Garlic emerging from the snow following the April cold snap shows permanent injury to lower leaves. CLS

**How does freezing injury work?** When leaves become quickly water-soaked after a cold event, as we see in the image above, we know that ice has formed within the cells and damaged the cell walls, leading to leakage and cell death. This is a common form of damage to plants in the spring, when the primary method that hardy but growing plants have to protect themselves from cold is to move water out of the cells and into the space between the cells so that pure water freezes and expands without damaging the cells and the materials inside the cell are filled with solutes and have a much lower freezing temperature. This can protect tissues down to around 20 degrees, depending on the species. But below that temperature, other safeguards which are only in place over winter are generally used. Since these safeguards are gone, water in the cell will eventually freeze and cause damage to the membranes.

## Onions and the Cold in Orange County

Maire Ulrich, ENYCHP



A few acres of onion transplants were already out on the black dirt when Orange got its cold nights. What does this mean for them? I strongly suspect bolting, but that has a lot to do with whether they had started actively growing or not because we certainly had prolonged periods of less than 45F which will trigger seed production.

As for seed I do not expect any damage from the cold because they were not far enough along in growth. However, there were some fields that suffered wind damage, uncovering the seed.

Right now is a bit of a "wait-and-see" but if you would like help making an assessment, feel free to call Maire at 845-344-1234

## ENYCHP Canada Bus Tour

**Date:** Tuesday, June 28, 2016



**Departure:** Leaving Albany at 6:00 am, with pick-ups along the Northway (Saratoga, Queensbury, Plattsburgh)

**Return:** Arrive in Albany at 9:00 pm.

*Details are being finalized but we plan to visit at least 2 large vegetable operations, 1 on muck soil, the other a greenhouse operation as well as an equipment manufacturer, all south of Montreal.*

More information to follow



## Calibrating Dry Fertilizer Units on Corn Planters

Chuck Bornt, ENYCHP



Sweet corn planting under rowcovers and plastic is underway, but how many of you have actually taken the time to see how much fertilizer you are actually putting down through your planter? I know that many of us fill the hopper, plant a certain acreage and say “It looks like that’s about what should be left over in the hooper”. Over time, the augers, fertilizer disk openers and other parts can get worn out changing the amount of fertilizer actually coming out. It’s important to know either way—too much or too little—what is going on with your fertilizer applications. I know it might not seem like a lot, but a 15% difference in what you think and what is actually being applied can add up over time. If you think you are applying 300 lbs per acre, but you’re off by 15%, that’s 45 pounds extra per acre. Over 100 acres that can add up to 4,500 lbs of extra fertilizer and depending on your analysis and supplier \$800—\$1,600 more in fertilizer costs. Likewise, if you are 10% under and not making it up with a sidedress application, you could be reducing yields or quality and losing money.

Calibrating your fertilizer delivery rates through your planter is really not that difficult using a 1/50th of an acre calculation. The first thing you need to do is look at Table 1 to determine how far you need to drive to equal 1/50th of an acre using your row spacing. For example—if your between-row spacing is 30” then you need to travel 349 feet to equal 1/50th of an acre. It may seem strange to see spacing in the table of 108”, but if you’re growing pumpkins, it may be a common spacing for some of you. If your row spacing doesn’t show up in the table, you can figure it out by dividing 43,560 by your spacing in feet. Multiply that number by 0.02 (which is the decimal equivalent for 1/50th) and that is the distance you need to travel.

Step 2: Disconnect the drop tubes from your fertilizer hoppers and attach a bag or bucket underneath to catch the fertilizer. Make sure the hoppers are at least half full of fertilizer when you start. Also be sure that the augers are “primed” by dropping the planter and moving forward until you see fertilizer coming out of the hoppers. Then, using flags or some kind of stakes, drive the required distance, remove the bucket or bag and weigh it. If you’re using something that’s heavier than a plastic bag, be sure to subtract this weight from your sample. Once you have the weight, multiply it by 50 and that is the approximate

amount of fertilizer you’re applying in pounds per acre.

For example, if the amount you weigh from one tube equals 6 pounds, then you are applying 300 pounds of fertilizer per acre. **Do not add the fertilizer amounts from the hopper together.** The value you get per row should be similar. If they are not, you may need to exam your augers to see if they are worn differently etc. If the rates are similar, but not what you thought you were putting out, you need to review your manual (if you have one) and adjust your sprocket settings. I would also recommend you do this 2 or 3 times and average the values together per row. I would recommend you do this every time you change a sprocket combination as well.

You can also use the same formula and techniques to determine how much fertilizer you’re using if you are sidedressing with a Cole or other type of unit.

The tables in your planter’s manual should be close but I have seen where they don’t match at all. After looking at the manual for a bit, we concluded that sometimes planters have the ability to use different augers. You could have a “normal output” auger or a “high output” auger, and depending on which type you have, you need to read the right table in the manual (trust me, that’s from personal experience). If you’re replacing one auger, it’s better to just replace all of them at the same time; that way you know everything will be more of the same when you head out to plant your crop.

Length of Row to Equal 1/50 of an acre	
Row Spacing (inches)	Number of feet to Travel
28	373
30	349
32	327
34	308
36	290
38	275
40	261
48	218
60	174
96	109
108	97

Also be sure to check your fertilizer disk openers and make sure they are not worn out. The rule of thumb for fertilizer placement is 2 x 2 or 2” below the seed and 2” to the side of the seed. Anything closer than this can result in fertilizer burn on your crop. Many times when we see fertilizer injury it’s not because the rates were too high or the coulter was mounted wrong, it’s because the disks were worn and instead of being the 2” below the seed, it was even with the bottom of the seed furrow. Also, make sure your drive chains are all in good shape and none of the links are seized – even if you stored them in oil, be sure to check them and make sure they roll smoothly.

This is only one part of the planting operation! Be sure to check all the other parts of your planter including the meters, seed tubes etc. If you have questions please feel free to call me (Chuck) at 518-859-6213.

## Good News about the Food Safety Modernization Act (FSMA)

*Erik Kocho-Schellenberg, ENYCHP*



The countdown to compliance with the FDA’s FSMA regulation is under way. By now, you should know whether you are covered by the rule (if you grow produce and make more than \$25,000 gross annually you are covered), and whether or not you will be eligible for exemptions. If you gross over \$500,000 on all food sales, you will not be eligible for exemption. We have covered the specifics about exemptions and coverage in the past, so please go here for review: <http://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm334114.htm>

For covered, non-exempt farms, the mandatory compliance date is less than two years away (end of January 2018). This deadline is coming fast, but help is on the way. The USDA’s National Institute of Food and Ag-

riculture (NIFA) has \$4.7 million available in grants through the new Food Safety Outreach Program to help educate, train, and assist farmers. The grants are going to be made available to state extension services, farms, NGOs, and other eligible institutions, and will be focused on for small and beginning farmers, socially disadvantaged farmers, small wholesalers, food hubs, and farmers markets. There are three types of grants that can be applied for, including pilot projects, community outreach projects, and Multistate Education and Training projects. For more information, read about the program on the NIFA website: <https://nifa.usda.gov/food-safety-outreach-program>

If you have any questions about FSMA, GAPS, or food safety pertaining to fresh fruit and vegetables please call Erik at 845-344-1234.

### ENYCH Program Educators:

#### Fruit

Dan Donahue  
Phone: 845-691-7117  
Email: [djd13@cornell.edu](mailto:djd13@cornell.edu)  
Tree Fruit

Anna Wallis  
Phone: 443-421-7970  
Email: [aew232@cornell.edu](mailto:aew232@cornell.edu)  
Tree Fruit & Grapes

**Laura McDermott**  
Cell: 518-791-5038  
Email: [lgm4@cornell.edu](mailto:lgm4@cornell.edu)  
Berries

**James O’Connell**  
Phone: 845-691-7117  
Email: [jmo98@cornell.edu](mailto:jmo98@cornell.edu)  
Berries & Grapes

#### Vegetables

Chuck Bornt  
Cell: 518-859-6213  
Email: [cdb13@cornell.edu](mailto:cdb13@cornell.edu)

Amy Ivy  
Phone: 518-561-7450  
Email: [adi2@cornell.edu](mailto:adi2@cornell.edu)

Teresa Rusinek  
Phone: 845-340-3990 x315  
Email: [tr28@cornell.edu](mailto:tr28@cornell.edu)

Erik Schellenberg  
Phone: 845-344-1234  
Email: [js3234@cornell.edu](mailto:js3234@cornell.edu)

Crystal Stewart  
Cell: 518-775-0018  
Email: [cls263@cornell.edu](mailto:cls263@cornell.edu)

Maire Ullrich  
Phone: 845-344-1234  
Email: [mru2@cornell.edu](mailto:mru2@cornell.edu)

#### Business and Marketing

Jesse Strzok  
Phone: 608-556-4365  
Email: [js3234@cornell.edu](mailto:js3234@cornell.edu)

*Content Editor: Erik Kocho-Schellenberg  
Layout: Abby Henderson*

Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide. .

### 2016 Weekly and Seasonal Weather Information

Site	Growing Degree Information Base 50° F			Rainfall Accumulations		
	2016 Weekly Total 4/5-4/18	2016 Season Total 4/5-4/18	2015 Season Total 4/5-4/18	2016 Weekly Rainfall (inches) 4/5 - 4/18	2016 Total Rainfall (inches) 3/1 - 4/18	2015 Total Rainfall (inches) 3/1-4/18
Albany	18.4	65.9	39.0	0.73	2.46	2.61
Castleton	4.7	50.7	41.4	0.7	3.26	2.33
Glens Falls	14.1	34.6	16.0	0.82	3.38	1.43
Griffiss	12.7	35.7	10.0	1.5	5.35	1.37
Guilderland	18.5	49.5	27.5	0.95	7.11	2.68
Highland	27.6	96.4	55.9	0.99	2.67	4.59
Hudson	19.8	76.4	45.9	1.32	3.48	3.37
Marlboro	58.8	79.4	48.2	0.66	2.34	3.8
Montgomery	14.0	72.0	46.0	0.75	2.47	4.12
Peru	2.3	18.7	25.3	0.97	2.94	1.89
Red Hook	13.9	69.4	43.8	0.65	1.92	2.36
Willsboro	0	19.2	21.4	0.51	2.35	0.23
N. Adams, MA	5.6	40.6	9.5	1.54	4.35	1.81