



The Sweet Corn Pheromone Trap Network provides scouting and monitoring info for fresh market sweet corn and links to resources on major sweet corn insects.

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Having a hard time controlling ragweed in onions? An overview of our research trials, 2015-2017, is provided to guide your management decisions.

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CNY fruit and veg farm, Reeves Farm, LLC, shares how they reduce risk from crop damage and how crop insurance protects them against catastrophic loss.

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Would you like to learn more about biological control and how to use it successfully on your farm? Read short articles on IPM's new blog, "Biocontrol Bytes".

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● Volume 14 | ● Issue 7 | ● May 23, 2018

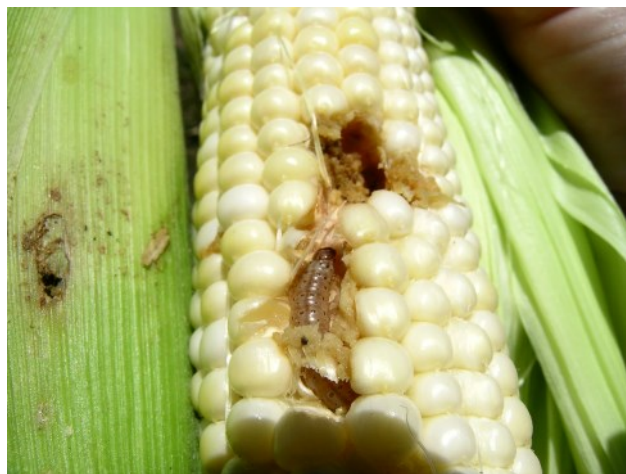
Photo: Julie Kikkert

Cornell Cooperative Extension
Cornell Vegetable Program

Sweet Corn Pheromone Trap Network is a Tool that Can be Used to Help Manage Insect Pests

Darcy Telenko, CCE Cornell Vegetable Program

The purpose of the Sweet Corn Pheromone Trap Network is to provide weekly reports on major sweet corn insect pest activity in western NY. The trap network is a collaboration between the NYS IPM Program, Cornell Cooperative Extension programs, farmers, and crop consultants. The site provides scouting and monitoring information for fresh market sweet corn, and links to resources on the major sweet corn insect and disease pests. The insect pests that are monitored include European corn borer (ECB), fall armyworm (FAW), corn ear worm (CEW) and western bean cutworm (WBC). Sweet corn traps are placed throughout western NY and the CVP team assists in collecting the activity data. Many traps will be placed this week with the first counts available next week. Weekly reports for western NY counties in the CVP will be in VegEdge, in addition the statewide weekly reports are available at <http://sweetcorn.nysipm.cornell.edu/>.



European corn borer larva. Photo: Sweet Corn Pheromone Trap Network

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VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension regional agriculture team, serving 13 counties in Western New York.

The newsletter is a service to our enrollees and is intended for educational purposes, strengthening the relationship between our enrollees, the Cornell Vegetable Program team, and Cornell University.

We're interested in your comments. Contact us at:
CCE Cornell Vegetable Program
480 North Main Street, Canandaigua, NY 14224
Email: cce-cvp@cornell.edu

Web address: cvp.cce.cornell.edu

Contributing Writers

Robert Hadad
Christy Hoepting
Julie Kikkert
Ali Nafchi
Judson Reid
Darcy Telenko

Publishing Specialist/Distribution/Sponsors

Angela Parr

VegEdge is published 25 times per year, parallel to the production schedule of Western New York growers. Enrollees in the Cornell Vegetable Program receive a complimentary electronic subscription to the newsletter. Print copies are available for an additional fee. You must be enrolled in the Cornell Vegetable Program to subscribe to the newsletter. For information about enrolling in our program, visit cvp.cce.cornell.edu. Cornell Cooperative Extension staff, Cornell faculty, and other states' Extension personnel may request to receive a complimentary electronic subscription to VegEdge by emailing Angela Parr at aep63@cornell.edu. Total readership varies but averages 700 readers.

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Help us serve you better by telling us what you think. Email us at cce-cvp@cornell.edu or write to us at Cornell Vegetable Program, 480 North Main Street, Canandaigua, NY 14424.



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The next issue of VegEdge will be May 30, 2018.



Onion research trials have been established this spring by the CVP team and our grower cooperators (Joe DiSalvo Jr. and Joe DiSalvo III in Oswego County). Photos: C. Hoepting, CCE CVP

You can subscribe to receive an email of the statewide report.

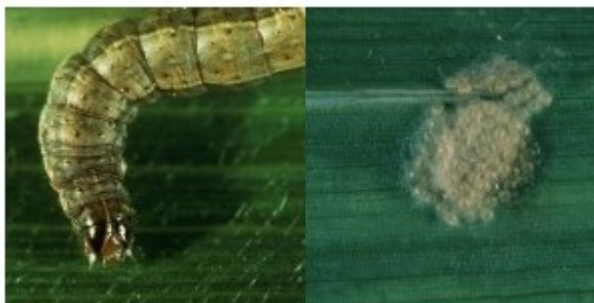
European corn borer (ECB) and Fall Armyworm (FAW) Scouting

For bare-ground fresh market sweet corn scouting for ECB and FAW larvae, should be *initiated at early tassel emergence*. Two well-timed applications at tassel emergence have been found to be more effective than applications at the whorl stage on bare ground sweet corn even when ECB trap counts are high. Larvae feeding in the whorl are protected from insecticide applications and mortality will not be as high as at tassel emergence, when larvae feeding in the emerging tassel are exposed to the spray. Larvae will leave the tassel as it opens and no longer provides a moist, protected feeding environment, and move down the plant looking for protected places to feed. Insecticide applications need to be timed to kill larvae before they bore into a new feeding location where again they will be protected from sprays. In fields with very uneven development, two applications may be necessary, one when approximately 25-50% of the tassels have emerged, and again after 75-100% of the tassels have emerged, if the field is still over threshold.

The **threshold for ECB and armyworms at tassel emergence is 15% infested plants, while at silking the threshold drops to 5% infested plants.** For corn borers, look down into emerging tassels for tiny larvae or frass (white to brown material about the size of fine sand). For armyworms look for ragged feeding holes and frass pellets the texture of coarse sawdust. (See Table 1 for thresholds and comments). Scout the ear zone (roughly from two leaves above and one leaf below the ears) for ECB egg masses and ECB or FAW larvae. Egg masses are found most frequently on the underside of leaves near the midrib, and consist of approximately 10-20 flattened eggs overlapping like fish scales. Egg masses can also sometimes be found on the flag leaves of the ears or on the husk itself. Eggs take approximately 100 base 50 degree days to hatch. Look down into the tops of the silks for newly hatched

larvae, and pull the ear away from the stalk slightly to look for larvae feeding between the stalk and the ear.

Table 1. Thresholds for the major sweet corn pests				
Insect	Crop stage	Fresh market	Processing	Comments
European Corn Borer (ECB) and Fall armyworm	Early tassel and tassel	15% infestation	15% infestation	Processing: Monitor trap network once late whorl/tassel or silk stage begin scouting – sample 40 plants (five at each of eight sites).
	Silk stage through harvest	5% infestation	5% infestation	Fresh Market: Monitor trap network and scout weekly or more often if temperature is above 80°F.
Corn earworm	Monitor trap catches to detect arrival and flight activity (see Table 2 for spray intervals)			
Western bean cutworm	July through August	1% infested with eggs or larvae	4% infested with eggs or larvae	Use trap network to determine times to scout for WBC in fields.



Fall armyworm larva and egg mass.
Photos: Sweet Corn Pheromone Trap Network

Corn Earworm (CEW) Scouting

It is difficult to scout for CEW, but pheromone trap catches may be used to time sprays per the table below. Add one day to the recommended spray interval if daily maximum temperatures are less than 80° F for the previous 2-3 days (Table 2).

Table 2. Average corn earworm catch and recommended spray interval

Per Day	Per Five Days	Per Week	Days Between Sprays
<0.2	<1.0	<1.4	No Spray (for CEW)
0.2-0.5	1.0-2.5	1.4-3.5	6 days
0.5-1.0	2.5-5.0	3.5-7.0	5 days
1-13	5-65	7-91	4 days
over 13	over 65	over 91	3 days

Information adapted from the Sweet Corn Pheromone Trap Network Scouting and Threshold Information maintained by Marion Zuefle, Vegetable IPM Extension Area Educator with the New York State Integrated Pest Management Program

Trials and Tribulations of Controlling Ragweed in Onion: An Overview of Results from 2015-2017 Research Trials

Christy Hoepting, CCE Cornell Vegetable Program

Common ragweed (*Ambrosia artemisiifolia*) is a summer annual that is favored by cultivated ground. Without competition, plants can reach 7 feet tall at maturity and produce 32,000 to 62,000 seeds per plant. Seed production is stimulated by shortening day length, so after the summer solstice, even very short plants may set seed. Ragweed (RW) seed only germinates in the spring. Dormant ragweed seeds require a period of exposure to cold temperatures to germinate, which occurs at soil temperatures of 50 to 80°F. Temperatures above 86° F will halt germination and send the seeds back to dormancy until a repeat of the cold requirement the following winter.

Therefore, ragweed only germinates once in the growing season, so only one flush in the spring needs to be controlled.

Why is ragweed so hard to control? In onion, sometimes ragweed seedlings emerge before the first pre-emergent (PRE) herbicide application is applied. Newly emerged ragweed in the cotyledon stage does not look like ragweed (Fig. 1). **Out of the PRE herbicides used in onion including, Buctril, Outlook and Prowl, Buctril has the most activity on ragweed.** Prowl has no activity and Outlook may help to suppress it. In my 2017 pre-emergence herbicide ragweed trial in 2017, Brox 2E 1.5 pt (generic Buctril) had 67% RW control. In my trials, the split application of Outlook (11 fl oz PRE to onion followed by (fb.) 10 fl oz at barley kill) resulted in poor if any RW control; better control (although not much) was achieved when Outlook 21 fl oz was applied PRE to onion. In fields that have high level of RW infestation, it is not surprising that ragweed easily escapes the PRE herbicide program, especially if conditions are dry and herbicides are not activated properly. **If RW has emerged prior to first PRE herbicide application, because Buctril also has post-emergent (POST) activity, it may clean up such escapes (Fig. 2).** The new active ingredient, bicyclopyrone, which is

the pipeline to be labeled in onion had as good PRE activity on RW as Buctril 2E 1.5 pt. Whether it can be incorporated into the onion PRE herbicide program to improve PRE ragweed control without causing onion injury is one of the projects that I am working on.

So, that leaves post-emergent options for ragweed control. In my experience (so far), best POST RW control with best crop safety was bicyclopyrone 6.8 fl oz + Chateau 2 oz applied to 2-leaf onions when RW was 2-4" tall. This treatment resulted in 96.7% RW mortality 2 weeks after treatment. Bicyclopyrone + Buctril



Figure 1. When Common ragweed seedlings first come up (left), they are not easily recognized, because the cotyledons do not have the characteristic finely divided leaves (right – 2" stage) until the first true leaf stage (middle). Photos: Bayer Crop Science

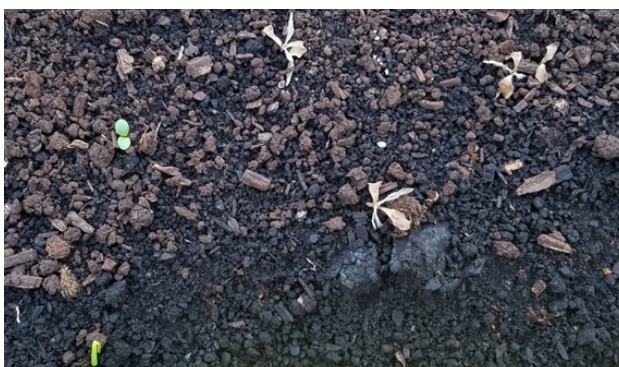


Figure 2. Emerged ragweed was burned off with first pre-emergent herbicide application: Prowl EC 2 pt + Outlook 11 fl oz + Buctril 2E 1.5 pt. Photo: C. Hoepting, CCE CVP



Figure 3. Best post-emergent control of ragweed has been with tank mixes with bicyclopyrone. Left: Bicyclopyrone 6.8 fl oz + Buctril 2E 8 fl oz (4-leaf) fb. Bicyclopyrone 6.8 fl oz + Buctril 2E 4 fl oz killed 6-8" ragweed. Right: Bicyclopyrone 6.8 fl oz + Chateau 2 oz (2-leaf) killed ragweed 2-4". Compare to untreated in the back. Photo: C. Hoepting, CCE CVP

continued on next page

also gave excellent RW control (Fig. 3). I am literally jumping for joy knowing that bicyclopyrone is in our future. I think that bicyclopyrone will be revolutionary for weed control in onions, particularly for ragweed, marsh yellowcress and smartweed. Unfortunately, we have to wait until 2022. Until then, I will continue to optimize its use in muck-grown onion, so that growers can hit the ground running when it becomes available.

So, how best to control ragweed in the meantime? Goal, Buctril and Chateau are the options for POST weed control in onion. In addition, I have experimented with bicyclopyrone (as I already mentioned), as well as Stinger and Reflex. Stinger (a.i. clopyralid) is at EPA (I think?) waiting to get labeled in onion as a spot treatment for perennial sow thistle. Reflex (a.i. fomesafen) is in IR-4 for registration on onion. Although, Reflex certainly has potential to improve RW control in onion, I have not got it working quite right yet, so will not discuss it in this article.

Buctril is very good on ragweed.

Anybody who has battled ragweed knows that this weed gets big fast! Buctril is labeled from the 2-5 leaf stage, and I recall Dr. Roy Ellerbrock stating that 4-leaf was the most tolerant. So, when using Buctril, I made the first application when onion was at the 3-leaf stage. By this time, ragweed was already 4-8 inch tall. One week after Buctril 2E 8 fl oz and 12 fl oz, RW mortality was a very disappointing 1.7% and 3%. One week after I applied another 4 fl oz to the Buctril 2E 8 fl oz treatment, RW mortality was still disappointing (8/4: 3.7%; 12: 10%). However, overall weed control was significantly better with the split application (60%) than the single high rate application (47%). At harvest, the 8/4 treatment had half as much RW biomass as the 12 fl oz treatment. I've seen this phenomenon of a split application with a high rate followed by a low rate resulting in better weed control than a single high rate application on several types of weeds with Chateau, Stinger and Reflex. I've coined this, **"High-Low is the way to go!"** Even though the

higher rate may kill or more severely injure the weed, I find that the second low rate application is just enough to knock out any weeds trying to make a recovery. Although Buctril was safe on the onions, waiting until the 3-leaf onion stage allowed enough time for RW to become competitive with the onions, and with only 60% control, this treatment resulted in reduced yields.

Add Goal to Buctril for even better RW control. I added Goal 2XL 4 fl oz to each application of Buctril in the 8/4 treatment, which increased RW control to 77% with 67% ragweed mortality, which was one of the best treatments in the trial (next to the bicyclopyrone treatments). Unfortunately, this caused too much injury (19% visual injury: worst in trial) (Fig. 4a). In a smartweed trial in 2017, I applied Buctril 8/4 at the 2- and 5-leaf (2 weeks later) onion stages, and the Buctril treatments were the safest in the whole trial, even in treatments where I tank mixed Buctril 8/4 with Goaltender 2 fl oz (Fig. 4b) or Nortron. So, this year, I am going to study earlier applications of Buctril alone and in tank mixes for improved RW control and crop safety. **Another advantage of Buctril + Goal is control of a wider weed spectrum**, because Buctril is weal on pigweed and purslane.

How does Buctril compare to Goal? In the same study, one week after the second application, Buctril 8 fl oz (3-leaf)/4 fl oz (4-leaf) had significantly better control (60%) than Goal 2XL 4 fl oz (2-leaf; 4-leaf) (47%), despite the

first application applied when RW was smaller (2-4"). Perhaps, control with Goal 2XL would have been better had it been applied after 7 days instead of 14 days? **As of right now, I am inclined to believe that Buctril is better than Goal 2XL for RW control.**

How does Chateau compare to Goal?

As I mentioned earlier, RW gets big fast, so there is the temptation to control it when it is as small as possible. Which, for me, would be at the 1-leaf stage when RW is cotyledon to 2". In a comparison between Goal 2XL 2 fl oz (1-leaf) fb. Goal 2XL 4 fl oz (2-leaf) (Fig. 4c) and Chateau 2 oz (1-leaf) fb. Chateau 1.0 oz (2-leaf) (Fig. 4d), RW control was almost twice as good with Goal 2XL (41%) than Chateau (16%). So, based on these results, I decided that **Goal 2XL was better than Chateau to knock back RW very early in the season (I have not experimented with Buctril at 1-leaf yet).** I also learned from this trial that twice as much Goal 2XL (4 fl oz) applied at the 2-leaf stage gave the same RW control as the half rate (2 fl oz) applied earlier at 1-leaf, and with less onion injury. In 2017, I tried Goaltender 2 fl oz (2-leaf) + Chateau 2 oz fb. Goaltender 2 fl oz + Chateau 1 oz (3.5 leaf) and RW control was only 31%. **I am still getting to know Goaltender.**

What about Stinger?

I've noticed that if ragweed is not killed dead by Stinger after a week, that the injured weeds hang on for a very long time not doing much of anything. The growing points are distorted, and Sting-



Figure 4. a) Buctril 2E 8 fl oz + Goal 2XL 4 fl oz (3-leaf) fb. Buctril 4 fl oz + Goal 2XL 4 fl oz had the highest RW mortality, but waiting until 3-leaf when ragweed was 4-8" was hard on the onions. b) In another trial, in a treatment with Buctril 2E 8/4 + Goaltender 2 fl oz, starting at 2-leaf and waiting 2 weeks between sprays was much easier on the onions. For early season RW control, b) Goal 2XL 2 fl oz (1-leaf) fb. Goal 2XL 4 fl oz (22-leaf s-leaf) worked better than c) Chateau 2 oz (1-leaf) fb. Chateau 1 oz (2-leaf). Photos: C. Hoepting, CCE CVP

er-injured RW become very brittle with weak root systems. Because the weeds are still green, when we give a Stinger-treated plot a control rating, it tends to be 40 to 65%, which gives credit for the weeds being stunted and not actively growing (Fig. 5a). The first time that I evaluated Stinger on ragweed, in a control rating two weeks after the treatments were applied to 1-4" ragweed, where Buctril 8 fl oz + Goal 2XL 4 fl oz had 78% control, Stinger 2 fl oz, 4 fl oz, 6 fl oz and 8 fl oz were rated as 25%, 31%, 30% and 42% control. In the trial where Buctril 8 fl oz + Goal 2XL 4 fl oz (3-leaf) fb. Buctril 4 fl oz + Goal 2XL 4 fl oz (4-leaf) had 79% control (67% mortality), Stinger 4 fl oz (2-leaf) fb. Stinger 8 fl oz (4-leaf) had 66% control (0% mortality). However, at harvest, the reduction in RW biomass was equal. In the end of July, injured RW suddenly fight for their lives and even though the main growing point is dead, they produce new shoots from the leaf axils buds (Fig. 5b). **After all of my work with Stinger, my favorite rate is 8 fl oz applied between the 3 and 6 leaf onion stages.** At 2-leaf I only use 4 fl oz, and then would follow up with 8 fl oz at 4-leaf stage. Waiting until the 4-leaf stage to apply Stinger 8 fl oz when ragweed was 4-8" tall failed to control ragweed.

Another strategy would be to use Goal 2XL early to burn back ragweed until onions were in 4-leaf stage, which is the safest timing to apply Stinger 8 fl oz. In 2017, I applied Goal 2XL 2 fl oz (1-leaf) fb. Stinger 8 fl oz (3.5 leaf). Two weeks after the second spray, ragweed control was 45% with the smaller weeds dead and the remaining weeds injured. Stinger 4 fl oz was applied at 6-leaf and although we did not make a formal evaluation, by the end of the season, the plot looked pretty good. This year, more treatments are planned to study the order and timing between Goal 2XL and Stinger for best RW control.

Stinger + Goal/Chateau.

Stinger and Goal have very different modes of action. Stinger is a growth regulator which is absorbed through



Figure 5. a) Ragweed injured by Stinger showing various degrees of injury. Although not actively growing, control ratings are not as high as when an herbicide kills the weeds. b) After being inactive for over a month with the main growing point dead (yellow circle), in late-July, the Stinger-injured ragweed plant produces new shoots from the leaf axils and begins to grow again. Photos: C. Hoefting, CCE CVP

the leaves and translocated throughout the plant, which requires the weed to be actively growing. Goal and Chateau are contact herbicides that kill the leaves very quickly. Since Stinger has a narrow weed spectrum, it would be practical if Stinger could be applied at the same time as Goal or Chateau to broaden the spectrum of weed control. Does Goal or Chateau reduce the ability of Stinger to do its job as Goal burns off the leaves? In my trial, adding Chateau to Stinger was no different than Stinger 4 fl oz (2-leaf) fb. 8 fl oz (4-leaf). However, when Goal 2XL 4 fl oz was added to the same Stinger timing/rate treatment, RW control increased from 66% to 79% one week after the second spray and at harvest RW biomass was reduced by two-thirds. This treatment also appeared to be safe on the onions. In 2017 Stinger crop tolerance trial, although there were no significant differences, Stinger 8 fl oz + Goal 2XL 4 fl oz (3.5-leaf) fb. Stinger 4 fl oz + Goal 2XL 4 fl oz (6-leaf) resulted in 5.2% unmarketable Stinger bulb injury, while Stinger by itself had only 0.3%.

So, after all this, here is where I am at with Stinger. In my trials, I have not gotten the best kill of RW with Stinger as I was expecting. And, I have seen highly variable control of perennial sowthistle from poor to phenomenal. And, Stinger can cause a yield drag in onion. However, I do value that even if Stinger does not kill ragweed, when it injures it, this can buy a lot of time for

hand weeding. Stinger-injured RW is not actively growing and competing (as much) for plant nutrients and sunlight with the onion crop, it is very easy to pull out and it is not as disruptive as hand weeding healthy weeds. I am very tempted to tank mix Stinger with Goal 2XL. I would not use Stinger unless I had to due to risk of reduced yield and bulb quality. Remember, Stinger is not labeled in onion yet, so this is "pie-in-the-sky" for now.

What do I recommend for ragweed control? I want to get 100% kill by the time the onions are in the 4-leaf stage. It is really important to not let ragweed get big (ideally keep it less than 4"), which means that first POST herbicide applications will have to be made at the 1- or 2-leaf stage. I'd like to use Buctril 2E 8 fl oz at 2-leaf (maybe with Goal?), but may come in with Goal 2XL 4 fl oz (or less depending on weather) at 1.25-leaf first if it looks like the ragweed is gaining ground quickly. Then, repeat applications as necessary. 🍷

New Group Attempts to Upgrade "Organic"

Robert Hadad, CCE Cornell Vegetable Program

The Real Organic Project is a response by a group of farmers, former National Organic Standards Board members, and soil and plant scientists to the problems not being addressed by the USDA with the National Organic Program (NOP). The group wants to make the public aware of the NOP problems not being fixed, issues that aren't in keeping with organic principles, and working to support the traditional model of small family organic farms.

Real Organic is intended to be an add-on labeling scheme to the existing USDA certified organic label. Under the Real Organic label, soil health and improvement will be emphasized thereby not acknowledging soilless crop production such as hydroponics as being truly organic. The principles are to "feed the soil not just the plant". Other issues

focus on pasture-based livestock production would be required thereby prohibiting caged or CAFO animal production.

The group came together last January in Vermont determined to create a better system than just USDA Certified Organic which has always treated this type of production as a marketing method rather than a principled set of production practices and philosophy. According to their website, frustrated with the USDA on their stand on ignoring farmers in favor of industry, back-peddling on access to pasture for poultry, and their utter disregard with soil being the cornerstone of organic production by allowing hydroponic systems to be certified as organic, these activists have challenged the organic farming community to join their efforts. For more than

20 years, small family organic farms have been at odds with the large food industry who merely have used the organic label to put profits before the farmer.

The Real Organic Project has three boards. The first is Executive, then Advisory, and a Standards board. The last few months has seen the Standards board build up the guidelines for the eventual labeling scheme. To learn more about the group and to read the standards, check out their website at <https://www.realorganicproject.org/provisional-standards/>. With the centers of this new movement both in the Northeast and West Coast, expect to see more activity from their efforts in the coming year and beyond. ●

Time to Check Your W-4's

Richard Stup, Agricultural Workforce Specialist, Cornell University

A question came up recently about tax withholding on employee paychecks and a significant change with the new tax law. As most employers and many employees know, Form W-4 "Employee's Withholding Allowance Certificate," is the federal tax form that tells employers how much tax to withhold from an employee's paycheck. It's one of the standard new employee forms, but employees can update it at any time to adjust withholding. In the past, employees sometimes claimed to have many dependents as a way to have less tax withheld from their paycheck, but that strategy might not work so well in the future.

First, a few important definitions are in order:

Dependents. These are the people that a taxpayer can claim "depend" on him or her for their living needs. This can be a spouse or other adult in some circumstances but most commonly includes minor children.

Exemptions. In tax lingo this is the amount that taxpayers can claim for themselves and dependents so that it won't be taxed. Exemptions are subtracted off of adjusted gross income before any tax is calculated.

Allowances. This is what the employee calculates and reports on Form W-4 in order to guide how much the employer withholds. The more allowances an employee claims, the less the employer withholds from the paycheck for taxes.

Tax credit. This is an amount that taxpayers can claim to reduce their tax owed, dollar for dollar, after taxes are calculated.

The new tax law passed in December 2017 has an important change. No longer will the number of dependents you have be a factor in the number of allowances you can claim on your W-4. Compare the [2017 W-4](#) to the [2018 W-4](#), note that the 2017 form asked for the number of dependents in line D of the personal allowances worksheet, the 2018 version omits that. This is because the Tax Cuts and Jobs Law passed in December 2017 phases out personal exemptions for the years 2018 through 2025. The new tax law increases the amount of child tax credits in order to offset the effect of eliminating personal exemptions. [See here for a more thorough discussion](#) <<https://www.kraftcpas.com/articles/tcja-changes-personal-exemptions-standard-deductions-child-credit-impact-tax-liability/>> of this issue.

So, what does all this mean? Let me illustrate with an example: An employee, in an effort to minimize tax withholding, claims a large number of allowances on his W-4, more than the worksheet would indicate. So, the employer doesn't withhold enough for taxes on paychecks throughout the year. At the end of the year, this employee does his tax return and gets a nasty sur-

prise. He finds out that not only will he not get a refund, he actually owes additional tax. Why? Because he really doesn't have as many allowances as he claimed on W-4 and the child tax credit is only given for children with Social Security numbers and who are living in the U.S.

On a related topic, employers have asked if claiming too many allowances on Form W-4 is a government red flag. First, W-4 isn't normally sent to the government, the employer simply retains it and uses it to calculate withholding, although IRS can review it in an audit. There used to be a rule requiring employers to report any W-4's claiming 10 or more allowances but [that rule has been scrapped](#).

I encourage employers and employees to discuss this and other tax issues with a qualified tax professional. For further reading, [here's an article about doing a paycheck checkup](#) <<http://www.cpapracticeadvisor.com/news/12400766/irs-releases-new-2018-w-4-form>>.

Special thanks to Libby Eiholzer from Cornell Cooperative Extension and Dariusz Arezo from Farm Credit East for identifying this issue and engaging in a spirited discussion of the implications! ●

Crop Insurance Among Risk Management Tools at Central NY Fruit, Vegetable Farm

Cornell University Crop Insurance Education Project, <https://aq-analytics.org/cropinsurance/basics>

Risk management encompasses a variety of business and production practices, from buying crop insurance, to rotating crops for better soil health at Reeves Farm, LLC in Lysander, NY. The central New York fruit and vegetable farm was founded in 1898. Brothers Brian and Mark Reeves are the fourth-generation operators of the farm. They took over in 1990. The fifth-generation is involved in the business.

"I like a variety of jobs. There's office work - the thing I like least - and, meeting with customers, being outdoors, working with my hands. One day you are an agronomist, the next, you are a mechanic, or a carpenter," Brian Reeves said. "I'm never bored here. We move on to something else tomorrow."

Today, the farm includes more than 1,000 acres of conventional and certified-organic blueberries and strawberries, and a diversity of vegetables, including peas, zucchini, summer squash, cucumbers, tomatoes, peppers, eggplant, sweet corn, winter squash and pumpkins.

The crop diversity is one way Reeves Farm reduces risk from crop damage or loss. Other production-based risk management tools include Integrated Pest Management, a low-pesticide management system, as well as reduced-tillage for soil health, and crop rotation. Reeves Farm rotates production ground with a neighboring farm that grows field corn and soybeans.

Risk management continues on the business side of running a farm. Reeves Farm has a variety of markets, from the home-based u-pick berries and roadside produce stand, to mom-and-pop retail outlets, to large supermarket chains, including Wegmans, Tops, Price Chopper and Wal-Mart.

Since the mid-1990s, Reeves Farm has purchased crop insurance. At first, the only crop the farm could buy coverage on was sweet corn.

"The good news is the insurance didn't cost much. The bad news, it didn't pay much," Reeves laughed.

"The general trend is to use more crop insurance and less disaster payments. The programs are evolving," he said.

Under various programs, crop insurance is available for more than 100 crops in the United States. Farmers buy insurance through private companies. In some cases, the federal government subsidizes a portion of the premiums. Insurance may be paid out for yield or revenue loss to crops, at rates based on the amount of insurance purchased.

Among the newer crop insurance options is Whole Farm Revenue Protection, which provides coverage for the diversity of crops grown on a farm, all under one policy.

At Reeves Farm, strawberries are the riskiest crop to grow. Reeves said, for the cost of covering the strawberries,

he can buy insurance on all the crops.

"Even if I rarely have a claim, everything is covered," he said. "The claims have mostly been minor payments. You don't get insurance for the small claims. It's like a \$10 doctor's visit. The insurance doesn't matter much. It's when you come down with a disease and the bills are in the thousands of dollars, that's when you wish you had insurance."

Over the years, Reeves said, the farm has received more in payouts than it as paid in, including two payments of over \$30,000 each for strawberry losses.

Each farm has different circumstances, from risk tolerance to debt load to production. Is crop insurance right for your farm?

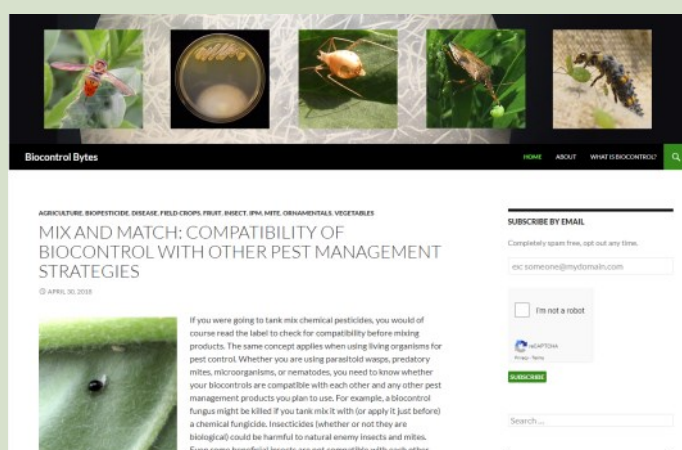
"Every farm needs to look at their own level of risk and consider, 'If I took a hit, how much would it set me back,'" Reeves said. "Try to get a handle on your business and assess your risk. If you look at your profit centers and how you can cover them, crop insurance can be relatively low-cost for protecting against catastrophic loss."

Cornell University delivers crop insurance education in New York State in partnership with the USDA, Risk Management Agency. This material is funded in partnership by USDA, Risk Management Agency, under award number RM17RMETS524020. 📌

New Biocontrol Blog

Amara Dunn, Biocontrol Specialist, NYS IPM Program

Would you like to learn more about biological control and how to use it successfully? New York State Integrated Pest Management biocontrol specialist Amara Dunn has a new blog - "Biocontrol Bytes" (<https://blogs.cornell.edu/biocontrolbytes>). Short articles are posted approximately once a month to share information, answer stakeholder questions, and connect readers to other relevant resources. Subscribe using the green button on the right side of the page in order to receive email updates when new articles are posted. 📌



GREENHOUSE/HIGH TUNNELS

Given our cool spring, many transplants were delayed in making it into the field. As transplants continue to grow in the greenhouse they can experience a number of stresses from being in their containers too long, becoming 'potbound'. In some cases the plants become nutrient starved, showing discoloration and stretching. At other times the potbound stresses of too little nutrients and light trigger the plant into a generative, or flowering stage. Fruiting vegetables such as peppers and tomatoes can correct themselves once set in the field, but at considerable cost to total yield.

These plants will be stunted and may not develop new growing points for some time as they set and mature fruit. For tomato transplants that set fruit in their trays, we recommend pruning off the fruit to promote vegetative growth once set in the field.

Season extension advantage are clearly visible in cool spring such as 2018 as high tunnel tomatoes are setting and maturing fruit throughout the region. As we have noted in our research most high tunnels experience climbing levels of calcium and pH as time goes on, given high water alkalinity. As plants grow rapidly in response to daylength and temperature they will often exhibit iron deficiency of interveinal yellowing on new growth under high pH conditions. This is not caused by a lack of iron in the soil, but rather the excess of calcium, and closely associated pH. Alkaline irrigation water, as well as inputs such as compost and certain fertilizers cause this long-term condition. To avoid iron deficiency in high tunnel tomatoes, soil test annually and consider fall applications of elemental sulfur to lower pH.

Water testing can help us make decisions about the injection of acids, (such as citric or sulfuric) to decrease the alkalinity of irrigation water. Call Judson with questions on the details of this process. Most tomatoes will outgrow mild cases of iron deficiency. — JR



Nutrient deficiencies visible in the discoloration of these transplants that have been in their trays far too long. Photo: J. Reid, CCE CVP



Although this plant will have an early fruit set, it has no new growing points and total yield will be decreased. This is caused by stress in the transplant state. Photo: J. Reid, CCE CVP



Interveinal yellowing of new growth is a visible symptom of iron deficiency caused by high soil and water pH. Photo: J. Reid, CCE CVP

ONIONS

Direct seeding is almost finished as transplanting continues. Earliest transplants have six leaves and a lot of the direct seeded crop is in the flag to 1-leaf stage (Fig. 1). Stand looks really good! Barley nurse crops have been growing like crazy in the warm weather with adequate rainfall, and barley-kill has been on the agenda. Next, will be post-emergent control of weed escapes. Goal 2XL, Goaltender, Chateau and Buctril are the options for both muck and upland onions. For post-emergent herbicide applications to 1-leaf onions, waiting until second

leaf starts to come and flag leaf begins to die (= "strong" 1-leaf) is best (Fig. 2). Last year, in some wet spots where there was a film of water on the soil surface, Chateau herbicide presumably lying in the water film burned the onions at the soil line (Fig. 2 right). Those that did not have the second leaf coming died, but in the seedlings where the second leaf was coming, the second leaf pulled the plant out of injury as the first leaf died. Also, see article (page 4-6) on my thoughts on ragweed control in onion after three years of field trials. This is an escape that needs to be caught early. — CH



Figure 1. Majority of direct seeded onion crop is in the flag to 1-leaf stage this week, and barley nurse crops have been killed so that they don't trap in heat and fry the new onion seedlings or compete for moisture and sunlight. Photo: C. Hoepting, CCE CVP



Figure 2. Left: Onion in "strong" flag leaf stage with second leaf starting to come. Annual mustard seedlings dying after Chateau 1.0 oz. Center: Although technically in 1-leaf stage, these onions are at greater risk for post-emergent herbicide injury than those on the left. Right: Chateau injury at soil line in a wet spot. Photo: C. Hoepting, CVP

Late Blight Tool Updates

Judson Reid, CCE CVP

For potato and tomato growers who have used BlightPro to manage Late Blight on their farm in the past there are important changes in 2018. The tool has been licensed to a new company, Ukko Agro, and users will need to register through them. The core platform was developed at Cornell University and evaluated in field experiments from 2010 to 2014. The inner workings of the BlightPro program will remain the same, however the interface has been significantly streamlined. Local farm/field location(s) will still be used for weather and disease forecasts. Growers' varieties and fungicide choices will also be factored in. In addition to the National Weather Service point forecasts, and the Northeast Regional Climate Center's information, the Weather Underground and other weather information can be used. The tool allows for more precise and localized management of Late Blight.

For more information on the new BlightPro from Ukko Agro, and on how to sign up for 2018, contact Ketan Kaushish, ketan@ukko.ag or at 437-993-5848.

There will be webinars on May 24 at 7:30 pm and June 3 at 4:00 pm to help growers understand the platform. Please sign-up at <https://goo.gl/forms/zZqee0WpWooTuCra2>

Link for webinar - meet.google.com/bxv-yggk-din (to view the live demo) or dial-in at 252- 986-3381, PIN: 115 108 169# for audio only. 📞

Upcoming Events

view all Cornell Vegetable Program upcoming events at cvp.cce.cornell.edu

Muck Donut Hour: Weekly, Casual Discussion Group

Every Tuesday beginning June 5 | 8:30 AM - 9:30 AM

Elba Muck, corner of Transit and Spoilbank, Elba, NY 14058

Meet with Cornell Vegetable Program Specialist Christy Hoepting every Tuesday morning to ask questions and share your observations. Grower experience is combined with research and scouting information for a whole lot of talk about growing ONIONS! FREE! Contact Christy Hoepting at 585-721-6953 for more info.

2018 WNY Fresh Market Vegetable Twilight Meeting

June 19, 2018 | 5:00 PM - 7:55 PM; dinner served at 8:00 PM

W.D. Henry & Sons, 7189 Gowanda State Rd, Eden, NY 14057



An early season fresh market vegetable discussion of issues and to present information on pest management tools. 2.25 DEC pesticide certification credits (categories 1a, 10, and 23) and 1.0 (category 21) will be available for those that attend the entire meeting. Topics and speakers are listed at <https://cvp.cce.cornell.edu/event.php?id=931>. Dinner will be served after the meeting at approximately 8:00 PM. Cost: FREE to growers due to the support of sponsors! Since dinner will be provided, please call us or [register here](#) to let us know that you plan to attend so that we can place the dinner order. Contact Darcy Telenko at 716-652-5400.

2018 Elba Muck Onion Twilight Meeting: Weed Control

June 21, 2018 | 5:30 PM - 8:00 PM

Mortellaro's Red Shop in the Elba muck land, Elba, NY 14058



All onion growers are invited to this event which will feature trial tours and demonstrations of pre- and post-emergent weed control in direct seeded onions. 2.0 DEC recertification credits will be offered for those that attend the entire meeting. FREE! Contact Christy Hoepting at 585-721-6953 for more info.

Ontario Produce Auction Growers Meeting

July 17, 2018 | 6:00 PM - 8:00 PM

Jonathan Sensenig, 5299 Crowe Rd, Stanley, NY 14561



This course will demonstrate pest management in fresh market vegetables in both field and greenhouse (high tunnel) vegetables, primarily for those growing for wholesale auction. A hands-on demonstration of weed, insect and disease identification in vegetables including management options. FREE! Contact Judson Reid at 585-313-8912 for more info.

New York Soil Health Summit ~ SAVE THE DATE

July 18, 2018 | Time TBD

Empire State Plaza, downtown Albany, NY

Save the date for the first New York Soil Health Summit. This event, organized by the New York Soil Health project, is for farmers, researchers, agriculture service providers, government agencies, non-profits and policy-makers interested in advancing soil health efforts across the state. Topics include local experts/grower panel, research and policies relevant to soil health, and Soil Health Roadmap breakout sessions.

Registration, summit agenda, and other details will be coming soon. Summit details will be updated at: summit.newyorksoilhealth.org For more information at this time, contact David Wolfe (dww5@cornell.edu) or Aaron Ristow (ajr229@cornell.edu). *New York Soil Health is funded through New York State Department of Agriculture & Markets.*

Weather Charts

John Gibbons, CCE Cornell Vegetable Program

Weekly Weather Summary: 5/15 - 5/21/18

Location**	Rainfall (inch)		Temp (°F)	
	Week	Month May	Max	Min
Albion	0.70	1.30	78	55
Baldwinsville	1.03	1.54	78	45
Bergen	0.56	1.32	80	44
Buffalo*	1.08	1.80	83	52
Burt	1.57	2.46	73	59
Ceres	0.62	2.93	82	50
Fairville	0.89	1.79	75	46
Farmington	0.70	1.65	79	45
Gainesville	0.67	1.62	80	44
Geneva	1.12	2.75	78	47
Lodi	0.80	1.13	83	48
Niagara Falls*	1.06	1.57	78	46
Ovid	0.79	0.77	80	47
Penn Yan*	0.66	0.98	79	50
Phelps	0.99	1.70	77	45
Portland	1.56	3.12	75	47
Rochester*	0.64	1.14	78	46
Silver Creek	1.23	2.48	76	47
Sodus	0.72	1.27	76	44
Versailles	0.67	2.06	78	47
Volney	0.74	1.24	78	45
Williamson	0.67	1.11	74	44

Accumulated Growing Degree Days (AGDD)

Base 50°F: April 1 - May 21, 2018

Location	2018	2017	2016
Albion	229	201	107
Baldwinsville	258	250	128
Bergen	217	197	84
Buffalo	292	217	141
Burt	165	171	NA
Ceres	231	230	75
Fairville	218	205	67
Farmington	229	211	94
Gainesville	179	169	56
Geneva	232	230	107
Lodi	277	292	128
Niagara Falls	263	239	144
Ovid	250	271	118
Penn Yan	250	258	111
Phelps	231	224	99
Portland	239	270	107
Rochester	262	240	123
Silver Creek	203	247	90
Sodus	211	211	76
Versailles	244	268	114
Volney	222	210	NA
Williamson	195	254	73

* Airport stations

** Data from other station/airport sites is at: <http://nwa.cornell.edu/> Weather Data, Daily Summary and Degree Days.

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VegEdge is the award-winning newsletter produced by the Cornell Vegetable Program. It provides readers with information on upcoming meetings, pesticide updates, pest management strategies, cultural practices, marketing ideas and research results from Cornell and Cornell Cooperative Extension. VegEdge is produced every few weeks, with frequency increasing leading up to and during the growing season.



VEGETABLE SPECIALISTS

Robert Hadad | 585-739-4065 cell | rgh26@cornell.edu
food safety & quality, organic, business & marketing, and fresh market vegetables

Christy Hoepting | 585-721-6953 cell | 585-798-4265 x38 office | cah59@cornell.edu
onions, cabbage, potatoes and pesticide management

Julie Kikkert | 585-313-8160 cell | 585-394-3977 x404 office | jrk2@cornell.edu
processing crops (sweet corn, snap beans, lima beans, peas, beets, carrots) and dry beans

Judson Reid | 585-313-8912 cell | 315-536-5123 office | jer11@cornell.edu
greenhouse production, small farming operations, and fresh market vegetables

Darcy Telenko | 716-697-4965 cell | 716-652-5400 x178 office | dep10@cornell.edu
soil health, weed management, fresh market vegetables, and plant pathology

PRECISION AG SPECIALIST

Ali Nafchi | 585-313-6197 cell | nafchi@cornell.edu

PROGRAM ASSISTANTS

Amy Celentano | ac2642@cornell.edu

John Gibbons | 716-474-5238 cell | jpg10@cornell.edu

Angela Parr | 585-394-3977 x426 office | aep63@cornell.edu

ADMINISTRATION

Peter Landre | ptl2@cornell.edu

Steve Reiners | sr43@cornell.edu

Cornell Cooperative Extension
Cornell Vegetable Program

For more information about our program, email cce-cvp@cornell.edu or visit us at CVP.CCE.CORNELL.EDU



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