It's All About the Transplant

Judson Reid, CCE Cornell Vegetable Program

With high tunnel tomato planting season upon us, we see a lot of challenges resulting from poor transplant quality. Specifically, plants that are ‘pot-bound’ or ‘leggy’, in other words left in their transplant cell too long. Several problems result:

- Plants become nutrient deficient as their foliage outstrips the delivery capacity of the root system.
- Plants become too generative, focusing on fruit and flowers instead of shoot growth, resulting in a permanently stunted plant.
- Transplants that are too tall are more susceptible to wind damage or burning as they fall over on plastic mulch.
- Outsized plants increase transplant labor.

To prevent this it is important to avoid seeding too early. Aim for 6 weeks prior to transplant. If wet conditions or cold tem-
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The next issue of VegEdge will be May 10, 2017.

Grants for Processing Crops Research Awarded
Julie Kikkert, CCE Cornell Vegetable Program

The New York Vegetable Research Association and Council awarded a total of $128,927 for 9 research projects. The funds for these grants are contributed by the growers and processors through the processing contracts. The following projects were awarded for 2017:

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Title</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nault</td>
<td>Advancing corn earworm management in sweet corn, seed corn maggot control in beans and an update on CMV in bean fields</td>
<td>$20,322</td>
</tr>
<tr>
<td>Olmstead</td>
<td>Validation of a hyper-local developmental model to predict western bean cutworm adult emergence in sweet corn</td>
<td>$19,922</td>
</tr>
<tr>
<td>Pethybridge</td>
<td>Optimizing the fungicide-based management of white mold in two varieties of snap bean</td>
<td>$20,857</td>
</tr>
<tr>
<td>Pethybridge</td>
<td>Know your enemy! Identification of plant-pathogenic fungi associated with root decay on table beet</td>
<td>$17,418</td>
</tr>
<tr>
<td>Pethybridge</td>
<td>Optimizing the use of Aprovia Top for management of Cercospora leaf spot in table beet</td>
<td>$13,143</td>
</tr>
<tr>
<td>Reiners, Ballerstein</td>
<td>2017 Processing pea variety trial</td>
<td>$8,187</td>
</tr>
<tr>
<td>Reiners, Ballerstein</td>
<td>2017 Processing snap bean variety trial</td>
<td>$12,281</td>
</tr>
<tr>
<td>Reiners, Ballerstein</td>
<td>2017 Processing sweet corn variety trial</td>
<td>$10,807</td>
</tr>
<tr>
<td>Reiners, Ballerstein</td>
<td>NYS processing snap bean foliar nutrient study</td>
<td>$5,990</td>
</tr>
</tbody>
</table>

TOTAL AWARDS $128,927

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.
peratures delay the transplant date, ‘potting-up’ into a larger container (3 or 4” rounds) can keep the plant in a vegetative stage for a few more weeks. Some growers this spring are experimenting with the removal of first flowers or fruit.

Quick and Easy Resources for Farm Food Safety
Robert Hadad, CCE Cornell Vegetable Program

There are many questions concerning farm food safety and with the new FDA regulations. The Cornell Produce Safety Alliance has a great website where you can find very useful information. The website is listed here: https://producesafetyalliance.cornell.edu/resources

To find out if you need to comply or if you are exempt, check out the PSA PowerPoint presentation found on the resources page of the PSA FSMA Produce Safety Rule Exemptions & Exclusions PowerPoint

If you are looking for compliance dates, check out this link. This will provide a list of dates when produce farms need to have completed their training course and instituted their food safety practices. The list is divided by farm size based on the value of sales averaged over the previous three years. https://producesafetyalliance.cornell.edu/sites/producesafetyalliance.cornell.edu/files/shared/documents/compliance-date-add-on.pdf

Resource Available: What Color Plastic Mulch is Best for Your Crop?
Robert Hadad, CCE Cornell Vegetable Program

Have you ever wondered about the benefits of using different colored plastic mulches? Here is a terrific read on the crop and the mulches that might be best for growing them. It is from the Penn State Center for Plasticulture. Here is a hint of what is in store: red tomatoes = red mulch. So what grows better on blue? http://extension.psu.edu/plants/plasticulture/technologies/plastic-mulches/summary-and-recommendations-for-the-use-of-mulch-color-in-vegetable-production

[VegEdge, Vol. 12, Iss. 18, 8/17/2016, pg 7 featured a similar article, Plastic Mulch – Does Color Matter?, written by Jodi Callwood and Darcy Telenko, CCE Cornell Vegetable Program. ed. A. Parr, CCE CVP]
2017 Vegetable Pesticide Updates
Christy Hoepting and Amy Celentano, CCE Cornell Vegetable Program

Changes in pesticide registrations occur constantly and human errors are possible. Read the label before applying any pesticide. No endorsement of companies is made or implied. Other pesticide updates that we missed are welcome. Information was last updated on April 25, 2017. Updates after this date will be posted in future issues of VegEdge.

NOTE: We only included the uses that pertain to vegetables. Several labels include uses in fruit and field crops as well.

New Registrations (i.e. new EPA No.)

- **ENGENIA Herbicide**: (EPA No. 7969-345; a.i. N, N-Bis-(3-anisylmethyl)aniline, a.i. N, N-Bis-(3-anisylmethyl)aniline (3-amino-2-propyl) methylamine salt of 3, 6-dichloro-o-anisic acid; BASF). For pre and post-emergent control of annual, biennial and perennial broadleaf weeds, woody brush and vines in asparagus. This is BASF’s new formulation of low-drift dicamba.

- **LEAP ES Biological Insecticide and for Bacterial Disease Management**: (EPA No.73049-500; a.i. Bacillus thuringiensis subsp. Kurstaki, strain ABTS-351 and methyl salicylate; Valent). Control of several worm (caterpillar) pests and and variegated cutworm; and for control of bacterial diseases (Pseudomonas spp. and Xanthomonas spp.) in peppers and tomatoes.

- **LUNA EXPERIENCE Fungicide**: (EPA No. 264-1091; a.i. flupyradacet and tebuconazole; Bayer). Broad-spectrum fungicide for foliar disease control (Alternaria, Anthracnose, Botrytis, Cercospora, Powdery mildew, Rhizoctonia, Rust, Scab, Sclerotinia, etc) in Brassica leaf vegetables (e.g. broccoli raab, Bok Choy, Collards, mustard greens, etc.), edible podded legumes (beans, peas, etc.) and dried shelled legumes (except cowpea, dried pea and soy-beans), melon, onion (both dry bulb and green subgroups), and squash/cucumber.

- **LUNA SENSATION Fungicide**: (EPA No. 264-1090; a.i. flupyradacet and trifloxystrobin; Bayer). Broad-spectrum fungicide for control of plant diseases (Alternaria, Anthracnose, Cercospora, Downy mildew, Powdery mildew, Rhizoctonia, Sclerotinia, etc) in Brassica head and stem vegetables (e.g. broccoli, cabbage, Brussels sprouts, etc.), Brassica leafy vegetables (e.g. Broccoli raab, Bok choy, mustard greens, etc.), carrot, eggplant, leafy greens (e.g. spinach, radicchio, etc.), melon, pepper, squash/cucumber, tomato and root vegetables (e.g. beets, radish, turnips, celery, etc., NOT sugar beet) and herbs.

- **LUNA TRANQUILITY Fungicide**: (EPA No. 264-1085; a.i. flupyradacet and pyrimethanil; Bayer). Broad spectrum fungicide for control of plant diseases (Alternaria, Botrytis leaf blight, Cladosporium leaf blotch, neck rot, Purple blotch, Stemphylium leaf blight, suppression of white rot) in onion (dry bulb and green sub-groups), root vegetables (beets, carrots, radish, etc. NOT sugar beet), tomato, tuberous and corm vegetables including potatoes. **NOTE**: Luna Tranquility was available in 2016 only on onions as a 24 (C) Special Local Needs (SLN) label; until the old packaging is used up, Luna tranquility may only be used on onions (and apples, which also had a 24 (C)).

- **NEALTA Miticide**: (EPA No. 7969-336, a.i. cyflumetofen; BASF). New mode of action for control of several mites species in tomatoes.

- **PROPULSE Fungicide**: (EPA No. 264-1084; a.i. flupyradacet and prothioconazole; Bayer). For foliar disease control (Anthracnose, Grey mold, Mycosphaerella blight, Powdery mildew, White mold, etc.) in dry beans.

- **SPEAR Biological Insecticide**: (EPA No. 88847-2; a.i. GS-omega/kappa Hxt-Hv1a; Vestaron). For control of worms/caterpillars, beetles and thrips in most vegetables – see label.

- **TRIDENT Insecticide**: (EPA No. 70051-120; a.i. Bacillus thuringiensis subsp. var. tenebrionis strain SA-10; Certis). Biological insecticide for control of Colorado potato beetle in eggplant, potato, and tomato.

- **VACCIPLANT Plant Defence Stimulant**: (EPA No. 83942-266330; a.i. Laminarin; Arysta Lifescience). Foliar and soil-applied for broad-spectrum control of diseases in asparagus, Cole crops, sweet corn, all cucurbits, fruiting vegetables (eggplant, tomatoes, etc) bulb vegetables (onions, garlic, etc.), leafy vegetables (lettuce, spinach, etc.), legumes (peas and beans), root crops (e.g. carrot, beets) and potatoes.

- **VELIUM PRIME Fungicide and Nematicide**: (EPA No. 264-1078; a.i. flupyradacet; Bayer). Soil treatment for control of powdery mildew and new mode of action for control of nematodes in Brassica head stem vegetables (e.g. broccoli, cabbage, Brussels sprouts, etc.), melons, squash/cucumbers, potatoes, sweet potatoes and tomatoes.

- **ZAMPRO Fungicide**: (EPA No. 88847-2; a.i. GS-omega/kappa Hxt-Hv1a; Vestaron). For control of various worm (caterpillar) pests and variegated cutworm; and for control of bacterial diseases (Pseudomonas spp. and Xanthomonas spp.) in peppers and tomatoes.

Label Expansions (new pests added to updated version of label)

- **AVAUNT Insecticide**: (EPA No. 352-597; a.i. indoxacarb; DuPont). Label expanded to include dry beans and snap beans, and higher rates have been approved. For control of corn borers.
The New York Dry Bean Association awarded a total of $31,764 for 5 research projects. The funds for these grants come from the Dry Bean Endowment. The following projects were awarded for 2017:

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Title</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Griffiths</td>
<td>Breeding, evaluation and development of dry bean varieties that are highly adapted to NYS growing environments and markets</td>
<td>$11,729</td>
</tr>
<tr>
<td>Hamlin</td>
<td>Cool School Food: Encouraging the use of dry beans in school lunches, and promoting the health aspects of dry bean consumption.</td>
<td>$1,955</td>
</tr>
<tr>
<td>Pethybridge</td>
<td>Towards a durable management strategy for white mold in dry beans in New York (2017/18)</td>
<td>$6,840</td>
</tr>
<tr>
<td>Reiners, Ballerstein</td>
<td>Comparison of new and standard dry bean varieties at NYSAES</td>
<td>$7,819</td>
</tr>
<tr>
<td>Zuefle</td>
<td>Determine the magnitude and distribution of Western Bean Cutworm, and the risk to dry beans, in the major production area in New York</td>
<td>$3,421</td>
</tr>
</tbody>
</table>

**TOTAL AWARDS** $31,764

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**FIFRA 2(ee) Recommendations (unlisted pest for crop already on label)**


**Note:** Users must have a copy of both the approved SLN, 2(ee) or supplemental label, AND the primary label in their possession at the time of application. See section on how to look up pesticides labeled in New York.

**Label Name Changes**

- VOLIAM EXPRESS Insecticide (EPA No. 100-1320) name changing to BESIEGE Insecticide: (EPA No. 100-1402; a.i. chlorantraniliprole, lambda-cyhalothrin; Syngenta). Use up existing stocks of Voliam Xpress. For control of various beetles, worms, bugs, flea beetle, etc. in Brassica head and stem vegetables (broccoli, cabbage, Brussels sprouts, etc), cucurbits, succulent and dried legumes, fruiting vegetables (eggplant, pepper, etc.), lettuce, sweet corn, tomato.

**Products Being Phased Out**

- BELT Insecticide: (EPA No. 264-1025; a.i. flubendiamide; Bayer). Bayer stopped shipping and selling Belt as of 7/29/16. It can be sold and applied through 12/31/19, and it is canceled for 2020.

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**How to LOOK UP LABELS for Pesticides Labeled in New York – New Location**

Out with the old and in with the new!

The “NYS Pesticide Product, Ingredient and Manufacturer System (PIMS)” website is now disabled, and the NY DEC has enabled a new, more streamlined database, called the “New York State Pesticide Administration Database (NYSPAD)” portal. It is available at [http://www.dec.ny.gov/nyspad/products](http://www.dec.ny.gov/nyspad/products).

On the right-hand side of your screen, you can search by EPA Registration Number, Product name, Registrant, Pesticide Use/Type or Other (including but not limited to: Restriction, Formulation, and Registration Status).

Enter the information that you are looking for and scroll down to click “Search”. A list of products will come up with some basic information including full product name, EPA registration number, manufacturer and restrictions. For the product that you are interested in, click the “More” button to access a lists of the active ingredient(s) and labels. All label types will be presented including primary, supplemental, 2(ee) and 24 (c) labels. The most recent label will be at the bottom of that list.

Revised 2017, C. Hoepting, CVP

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**Grants for Dry Bean Research Awarded**

The New York Dry Bean Association awarded a total of $31,764 for 5 research projects. The funds for these grants come from the Dry Bean Endowment. The following projects were awarded for 2017:
With increasing heavy precipitation events, short-term drought, shifting growing seasons, and higher temperatures, climate change is having a significant impact on agriculture in the Northeast. These forces can wreak havoc on any farm, but there are ways to guard against them and even take advantage of some, which is what the Cornell Climate Smart Farming (CSF) Program is focused on. Cornell CSF gives farmers in New York and the Northeast the tools and information needed to respond to extreme weather, climate change, and climate variability, while maintaining their bottom line. The CSF website (climatesmartfarming.org) is the main portal for the free online decision tools, resources, and other CSF-specific information used by farmers, extension, and consultants to achieve this goal.

The CSF tools, in particular, combine weather and climate data at any location (by address, zip code, etc.) in the Northeast, and are updated daily to give users accurate short-term projections. The CSF tools currently available on the site (see picture) were developed in collaboration with the Northeast Regional Climate Center, and include a Growing Degree Day (GDD) Calculator, Apple and Grape Freeze Risk Tools, and a Water Deficit Calculator. Additional tools for extreme events such as heat stress are also planned.

The tools were particularly useful during recent extreme events, such as the 2016 summer drought and the 2017 spring freezes. Farmers at Empire Farm Days in Seneca Falls, NY remarked on the accuracy of the Water Deficit Calculator in capturing plant stress conditions on their farm in 2016, and enjoyed seeing the tool’s 3-day forecast, especially as critical harvest periods approached. Fishkill Farms Manager, Mark Doyle, also commented on the freeze tools, which give a 6-day forecast, stating that: “Along with other factors, I will be looking at this tool to understand the weather situation in front of me and the freeze risk facing our apple trees.”

The CSF tools can also be used in combination with other tools such as those from the Network for Environment and Weather Applications (NEWA). For example, the CSF GDD calculator provides climatological data on GDD as well as a 6-day forecast that can be useful for seeing pest development and determining best management practices, especially when combined with NEWA’s pest management tools.

Feel free to check out the tools and resources, or contact one of the CSF Extension team members for help in using the tools at cicss@cornell.edu.

An example of how the tools generate information that would be useful for vegetable growers:

**CSF Water Deficit Calculator for a site in Batavia, NY.**

The CSF site provides easy access to other tools as well, such as those from NEWA, the US Drought Monitor, seasonal forecasts, and greenhouse gas accounting tools.
UPCOMING EVENTS view all Cornell Vegetable Program upcoming events at cvp.cce.cornell.edu

Elba Muck Donut Hour Every Tuesday
June 6 - August 15, 2017 | 8:30 AM - 9:30 AM
Elba muck, corner of Transit and Spoilbank, Elba, NY

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! Questions? Contact Christy Hoepting at 585-721-6953.

Fresh Market Minutes - Every Other Tuesday in Eden Valley
June 6 - August 29, 2017 | 9:00 AM - 10:00 AM
Across from W. D. Henry & Sons, Inc., 7189 Gowanda State Rd, Eden, NY 14057

New this year! Meet with the Cornell Vegetable Program Specialist Darcy Telenko every other Tuesday morning to ask questions and share your observations in fresh market vegetables. Darcy will be in Eden Valley on the first and third Tuesdays June - August. Questions? Contact Darcy Telenko at 716-697-4965.

Fresh Market Minutes - Every Other Tuesday in Niagara County
June 13 - September 5, 2017 | 9:00 AM - 10:00 AM
Location TBA soon!

New this year! Meet with the Cornell Vegetable Program Specialist Darcy Telenko every other Tuesday morning to ask questions and share your observations in fresh market vegetables. Darcy will be in Niagara County on the second and fourth Tuesdays during the 2017 season. Questions? Contact Darcy Telenko at 716-697-4965.

2017 Oswego Muck Onion Twilight Meeting
June 22, 2017 | Time and Location TBD

This on-farm meeting will provide crucial, in-season research to aid onion growers with their management decisions to keep them profitable. The twilight meeting will emphasize strategies to prevent economic loss from onion pests and weeds. DEC recertification credits will be available. More details soon. Contact Christy Hoepting at 585-721-6953 with questions.

Fresh Market Vegetable Field Day
June 26, 2017 | 9:00 AM - 3:00 PM
CVP Fresh Market Demo Site at Partridge’s on the Farm Market
4924 Ellicott St Rd (Rt 63), Batavia, NY 14020

View demonstration plots to exemplify early disease detection and weed management options for fresh market vegetable production. In addition to the demonstration plots, sessions will be offered throughout the day on weed and disease identification and biology, soil health and resistance management by CVP team members and county agriculture Educators. Regional equipment dealers and industry representatives will be invited to display equipment and new technology. CCA and DEC credits will be available. More details about the topics will be available soon.
VegEdge is the award-winning newsletter produced by the Cornell Vegetable Program in Western New York. 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 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, and carrots)

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

PROGRAM ASSISTANTS
Amy Celentano | ac2642@cornell.edu
John Gibbons | 716-474-5238 cell | jpg10@cornell.edu
Cordelia Machanoff | ch776@cornell.edu
Mariam Taleb | mt786@cornell.edu

ADMINISTRATION
Peter Landre | ptl2@cornell.edu
Angela Parr | 585-394-3977 x426 office | aep63@cornell.edu
Steve Reiners | sr43@cornell.edu

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

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