

The Produce Pages

Serving the fruit and vegetable growers of Eastern New York

Farm Feature

January 2019

Photo 1: Drumlin Field farm site.

Drumlin Field Ventures in Claverack, NY: Distillery

Dr. Jim Meyers, Viticulture Specialist, CCE ENYCHP

This month's farm profile previews a new venture that is underway in Columbia County to create an estate grown and bottled brandy distillery. Earlier this year Drumlin Field Ventures, a Boston based investment firm, purchased a 180+ acre fallow farm in Claverack, NY for the project (photo 1). The venture, a long-held dream of the company's President John Frishkopf (photo 2), is still so new that it has yet to be formally named. The current working name of the farm, Drumlin Field, will soon be retired when the official name is revealed. John became enamored with wine and spirits while traveling in California wine country in the 1980s and later honed his appreciation for brandy while living in Europe. Wanting to build a business related to wine and/or spirits without leaving the Northeast, he concluded that a brandy distillery was the best fit with the regional climate.

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Photo 2: John Frishkopf

Cornell Cooperative Extension
Eastern NY Commercial Horticulture Program

The Produce Pages

Regular contributors:

Vegetables

Chuck Bornt

Phone: 518-859-6213 Email: cdb13@cornell.edu

Ethan Grundberg

Phone: 617-455-1893 Email: eg572@cornell.edu

Amy Ivy

Phone: 518-561-7450 Email: adi2@cornell.edu

Teresa Rusinek

Phone: 845-691-7117 Email: tr28@cornell.edu

Crystal Stewart

Phone: 518-775-0018 Email: cls263@cornell.edu

Fruit

Dan Donahue, Apples

Phone: 845-691-7117 Email: djd13@cornell.edu

Jim Meyers, Grapes

Phone: 845-417-8005 Email: jmm533@cornell.edu

Laura McDermott, Berries

Phone: 518-791-5038 Email: lmg4@cornell.edu

Mike Basedow, Apples

Phone: 518-691-7117 Email: mrb254@cornell.edu

Business , Marketing and Economics

Liz Higgins

Phone: (518) 949-3722 Email: emh56@cornell.edu

Newsletter Layout: Sarah Elone

Content editor: Chuck Bornt

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Serving the Educational and Research Needs of the Commercial Small Fruit, Vegetable and Tree Fruit Industries in Albany, Clinton, Columbia, Dutchess, Essex, Fulton, Greene, Montgomery, Orange, Putnam, Rensselaer, Saratoga, Schoharie, Schenectady, Ulster, Warren and Washington Counties



Photo 4: Site preparation to date. Left, images captured from drone in September 2017. Right, image captured from drone in September 2018.

Why is a distillery a good fit for New York climate? Most of the wine grapes grown in New York are made into wines that are similar in style to traditional European table wines with alcohol concentrations of approximately 12-14%. To achieve this level of alcohol grape growers must achieve a ripeness level that results in sufficient sugars, often harvesting late in the growing season and risking weather damage. But brandies are distilled from wine or cider with a lower alcohol concentration (approximately 8-11% and 5-7% respectively). This largely eliminates the need to balance the risk of grape damage from weather with sugar levels. In addition, brandies are traditionally made from wines that are more acidic than average table wines. Acidity in wine grapes generally decreases as fruit ripens late in the growing season and wine grape growers are often forced to harvest grapes prior to optimal ripening for table wine due to cold and/or wet fall weather. This problem is virtually eliminated when growing grapes destined for brandy as optimal ripening calls for higher acidity and lower sugar.

Drumlin Field has partnered with master distiller Daniel Farber (founder and owner of Osocalis



Photo 3: Dan Farber (left) and John Frishkopf (right) at the Chateau du Breuil in Calvados.

Distillery in Soquel, CA; photo 3, left) and currently plans to produce grape and apple brandy in the style of Cognac and Calvados and eau de vie in the style of Alsace and Austria. Eau de vie is a clear brandy made from a range of different fruits with an alcohol content of approximately 40%. Traditional aged grape or apple brandy is made from the distillation of wine or cider followed by at least several years of barrel aging. Oak barrel aging gives the brandy the darker color and



WHEN PLANTING GOES WRONG...

Prevented Planting & Replant Provisions in Crop Insurance

Crop insurance can help your farm recover from a crop failure. Did you know it can also help you manage risk at planting time? Most crop insurance policies include provisions that can compensate you if you are unable to plant or help you afford to replant your crop if necessary.

Prevented Planting

Prevented planting provisions in insurance policies can provide valuable coverage when extreme weather conditions prevent or delay planting.

Am I covered? Most policies include a provision for prevented planting. Notable exceptions are area risk (ARPI) and catastrophic-level (“CAT”) policies.

Eligibility

The acres to be replanted must be:

- Originally planted on or after the earliest planting date
- Either at least 20 acres total or 20% of the insured planted acreage (whichever is less - this is known as the “20/20 Rule”)
- Affected by an insured cause of loss, such as a late frost
- Appraised as having an expected yield below 90% of the guaranteed yield in your policy
- Determined to be “practical to replant” by an Authorized Crop Insurance Adjuster
- Replanted with the original crop

So you were unable to plant, now what?

You must provide notice that you were prevented from planting an insured crop within 72 hours after you determine you will be unable to plant. Then you may choose to:

- Leave the acreage idle or plant a cover crop (and receive a full prevented planting payment as long as you do not hay or graze the cover crop before November 1)
- Plant the crop late (your original production guarantee applies but is reduced one percent per day for each day planting is delayed after the final planting date), OR
- Plant a second crop (you may receive a prevented planting payment equal to 35% of the prevented planting guarantee).

To learn more about the crop insurance prevented planting provision, please check out the New York Prevented Planting fact sheet at: <http://bit.ly/2quKTCm>

To learn more about the crop insurance in New York State, please visit: agriskmanagement.cornell.edu

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

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more complex flavors found in Cognac (made from grapes) and Calvados (made from apples), also typically bottled at 40% ABV.

Initial production in 2019 will rely on locally sourced fruit, including apples and pears from partner Russ Bartolotta of Klein's Kill Fruit Farms. Site preparation is underway (photo 4) for planting 40 acres each of grapes and apples. Grape varieties will include Baco Blanc and many cultivars already grown in New York including Riesling, Vidal, Traminette, Seyval and Cayuga White. Apple varieties will include 25-30 cultivars, including heirlooms and European cider varieties, planted on semi-dwarf rootstocks. Grapes planting is planned for 2020 and apples in 2021. The tasting room opening is planned for Spring of 2020.

Drumlin Field's Chief Operating Officer, Brett

Mattingly, is designing the farm to utilize as much modern agricultural technology as possible. Brett, who grew up on a family farm and holds degrees in Electrical and Computer Engineering and Nuclear Engineering, has already begun deploying a network of weather stations and sensors on site including deep soil probes capable of reporting temperature, moisture and salinity at four-inch intervals down to four feet deep. Additional planned technologies include GPS-guided tractors, aerial drone scouting, and automated irrigation fed from captured surface water.

The initial investment to bring the farm, distillery, and tasting room online is expected to be over \$6 million dollars. Empire State Development, New York's economic development initiative, is providing up to \$400,000 in tax-credits linked to the creation of 25 new jobs.



The Labor Ready Farmer Project

Looking to Improve Hiring, Workforce and Labor Management Issues?

One-on-One Consulting and Technical Assistance Available

Being prepared to hire, manage and retain a skilled workforce is crucial to your ultimate success as a farm business. The Labor Ready Farmer Project is offering grants to provide up to 12 hours of Technical Assistance (TA) consulting services to farms who want to make improvements to their processes in hiring, training, managing or evaluating employees. Applicants will choose from one of four general assistance categories:

Technical Assistance Consulting Service Categories:

1. **HIRING EMPLOYEES 101 – GETTING OFF TO A GOOD START**
2. **ONBOARDING & TRAINING EMPLOYEES QUICKLY AND EFFECTIVELY**
3. **FINE-TUNEING & IMPROVING THE WORKING ENVIRONMENT**
4. **H2-A READINESS**

Application & More Information Available! [Click Here](#)

Please visit our website for full details and the Smart Farming Team [application](#)! Complete applications should be sent to Nicole Waters, Beginning Farm Project Coordinator for the Cornell Small Farms Program. The form can be submitted by email, mail or in-person at the address listed below. Please feel free to call or email Nicole with any questions. We are always happy to hear from you! [Click here](#) to assess the application!

Small Farm Program Contact Information: Applications Due by January 30, 2019

Nicole Waters – Beginning Farmer Project Coordinator
Plant Science Building, Room 15b, Tower Road, Cornell University Ithaca, NY 14853
Phone: 607-255-9911
Email: nw42@cornell.edu
Website: smallfarms.cornell.edu/projects/labor-ready-farmer/
Complete Application and Instructions: [Click Here](#)

Cornell Cooperative Extension | Eastern NY Commercial Horticulture Program

2019 Eastern New York Fruit and Vegetable Conference

The Desmond Conference Center
660 Albany Shaker Rd
Albany, NY 12211

Tuesday, February 19th
Wednesday, February 20th
Thursday, February 21st

Day 1: Tree Fruit Tuesday, February 19th

DEC credits
Pending

Morning Sessions

Fungicide Efficacy Trials for New York Apple Disease Triad: Fire Blight, Apple Scab, Sooty Blotch & Flyspeck—Dr. Srdjan Acimovic, Cornell University

Characterization of *Erwinia amylovora* (Fire Blight) and *Pseudomonas syringae* pv. *Papulans* (Blister Spot) isolates from New York Apples—Dr. Ricardo Delgado Santander, Cornell University

Orchard Management of Brown Marmorated Stink Bug—Peter Jentsch, Cornell University

Disease Management Highlights from 2018 Apple Field Research at Cornell Agritech—Dr. Kerik Cox, Cornell University

Management of Nitrogen, Potassium and Calcium in High Density Orchards—Dr. Lailiang Cheng, Cornell University

Afternoon Sessions

Hail Netting for Pest Exclusion—Mike Basedow, CCE ENYCHP

Beta Testing the Pollen Tube Growth Model in Eastern NY—Dan Donahue & Mike Basedow, CCE ENYCHP

Precision Crop Load Management—Dr. Terence Robinson, Cornell University

The Occurrence of an Endemic Mosema Pathogen in BMSB Populations in NY and Surrounding States—Carrie Preston, Cornell University

Update on Apple Decline—Dan Donahue, CCE ENYCHP

Identification and Characterization of New Apple Fungal Pathogens in New York: *Colletotrichum* spp. Causing Fruit Bitter Rot and *Marssonina coronaria* Causing Marssonina Leaf Blotch—Dr. Fatemah Khodadadi, Cornell University

Day 1: Business Management Tuesday, February 19th

Morning Sessions

Transitioning from Individual Performer to Supervisor: An Introduction—Richard Stup, Cornell Cooperative Extension

Developing SOPs in Fruit and Vegetable Production, Best Practices—Richard Stup, CCE & Elizabeth Higgins, CCE ENYCHP

Day 1: Small Fruit Tuesday, February 19th

DEC credits
Pending

Morning Sessions—Berry and Fruit Wines

Talk Title - Dr. Jim Meyers, CCE ENYCHP

Fruit Wine Regulations—Speaker TBA, NYSDAM

Making and Marketing Fruit Wines on Your Farm—Jamie Jones, Jones Family Farm

Afternoon Sessions

New Information on Wildlife Management—Speaker TBA

Using Lasers for Bird Control: What We Learned in 2018—Chuck Bornt & Laura McDermott, CCE ENYCHP

Upgrade Your Social Media Marketing with Harvest Connection—Sarah McFadden, CCE Rensselaer County

What Crop Insurance Has to Offer Your Farm—Elizabeth Higgins, CCE ENYCHP

Exclusion Netting and Attract and Kill: Can These Technologies Work for Your Berry Farm? - Peter Jentsch, Cornell University

Strategies for Dealing with Difficult Customers in Your Agritourism Business—Speaker TBA

Training Youth Workers in Agritourism Ventures—Richard Stup, Cornell University

Day 1: FSMA/PSA Grower Training

Tuesday, February 19th -8:00am to 5:15pm

The Course is designed for fruit and vegetable growers and others interested in learning about produce safety, the Food Safety Modernization Act (FSMA) Produce Safety Rule, Good Agricultural Practices (GAPs), and co-management of natural resources and food safety. The PSA Grower Training Course is one way to satisfy the FSMA Produce Safety Rule requirement outlined in 112.22(c) that requires at least one supervisor or responsible party for your farm must have successfully completed food safety training at least equivalent to that received under standardized curriculum recognized as adequate by the Food and Drug Administration.

Pre-registration is mandatory and there is a separate fee for this event.

If you attend this event, you do NOT need register for Tuesday, Day 1 of the conference

Day 2: General Wednesday, February 20nd

DEC credits
Pending

Morning Sessions

Today's Cornell Cooperative Extension—Dr. Chris Watkins, CCE Director, Cornell University

Pollination from the Perspective of the Honeybee and the Beekeeper: How to Enhance the Beneficial Relationship Between Growers, Bees and Beekeepers—Dr. Jack Rath, Betterbee

Protecting and Preserving Pollinator Habitat—Emily May, Xerces Society

Day 2: Vegetables Wednesday, February 20nd

DEC credits
Pending

Mid-Morning Sessions

What's the Status of the New Late Blight Strain and Managing Phytophthora capsici with New Fungicides—Dr. Chris Smart, Cornell University

The Latest Research on Garlic Fusarium—Crystal Stewart, CCE ENYCHP

2018 Pumpkin Variety Trial and Laser Scarecrow Update—Chuck Bornt, CCE ENYCHP

Afternoon Sessions

New Fungicide Recommendations for Alternaria Left Spot on Brassicas—Christy Hopeting, CCE CVP

Using Technology to Manage Recordkeeping at Moses Farm—Seth Moses, Moses Farm

Tomato Stake Pounding Made Easy—John Altobelli, Altobelli Family Farms

Addressing Bacterial Diseases in Tomatoes—Dr. Chris Smart, Cornell University

What's New with Allium Leaf Miner: Results from 2018 Insecticide and Timing Trials—Teresa Rusinek CCE ENYCHP

2018 Bio-Stimulant Product Trial Results—Ethan Grundberg, CCE ENYCHP

Day 2: Tree Fruit Wednesday, February 20nd

DEC credits
Pending

Mid-Morning Sessions

Updates on Management of Bitter Pit and Other Storage Disorders of Honeycrisp and Gala—Dr. Chris Watkins, Cornell University

Bitter Pit & Honeycrisp in Eastern New York—Dan Donahue, CCE ENYCHP

Afternoon Sessions

Managing Key Apple Pests Through Ecologically Based IPM—Dr. Jamie Pinero, University of Massachusetts

Future Direction of Tree Fruit Horticultural Research in New York State—Dr. Terence Robinson, School of Integrative Plant Science, Cornell University, NYSAES

Adding the SCO Endorsement to Your Apple Crop Insurance Policy—Elizabeth Higgins, CCE ENYCHP

2018 Orchard Survey for Invasive and Exotic Pests in New York—Dr. Julie Carroll, NYSIPM

An Update on the NEWA Platform for Orchard Pest and Disease Management—Dan Olmstead (Pre-recorded Video)

Day 3: Fertility Thursday, February 21st

DEC credits
Pending

Morning Sessions

Managing Ca, Mg & K Nutrition—Dr. Joseph Heckman, Rutgers University

Foliar Feeding: What Works?—Dr. Steve Reiners, Cornell University

Plant Growth Promoting Rhizobacteria (PGPRs): Using Biology to Help Unlock Soil Fertility—Patrick Clark, Biosafe Systems

Using Injectors for effective Product Placement—Liz Madison, Empire Irrigation

Day 3: CSA Marketing Thursday, February 21st

Morning Session

The Changing CSA Model in New York State—

Join Dr. Tim Woods of the University of Kentucky, Dr. Dan Lass, University of Massachusetts, and CSA farmers to discuss and learn about current research on CSAs and what is happening with CSA farms in Eastern New York. Participants will have the opportunity to identify future research and information needs for CSA famers.

Day 3: Irrigation Thursday, February 21st

Afternoon Sessions

Sizing a System—Liz Madison, Empire Irrigation

Group Discussion: What Irrigation You Have and How to Make It Better—Crystal Stewart, CCE ENYCHP

Micro-Watering for Irrigation and Frost Control—Trevor Hardy, Brookdale Fruit Farm & Liz Madison, Empire Irrigation

Above-Ground Irrigation Systems for Germination and Frost Control—Trevor Hardy, Brookdale Fruit Farm & Liz Madison, Empire Irrigation

Day 3: Grapes Thursday, February 21st

DEC credits
Pending

Afternoon Sessions

Under Vine Cover Crops—Dr. Justine Vanden Heuvel, Cornell University

VitisGen2—Dr. Tim Martinson, Cornell University

Pallisage—Dr. Justine Vanden Heuvel, Cornell University

Canopy Architecture Optimization—Dr. Jim Meyers, CCE

Registration information: see website
[https://envch.cce.cornell.edu/event.php?](https://envch.cce.cornell.edu/event.php?id=1081)
[id=1081](https://envch.cce.cornell.edu/event.php?id=1081)

2017 and 2018 Summer Lettuce Variety Trial Results

Crystal Stewart, Vegetable Specialist
and Natasha Field, Technician, CCE
ENYCHP

During the past two seasons we conducted trials of primarily Romaine lettuces to determine heat tolerance as measured by bolting and bitterness. Our trials were located at Pleasant Valley Farm in Washington County. During 2017 we planted three successions. One seeding failed due to a greenhouse malfunction; the other two were transplanted in mid-June and early August, about three weeks after seeding. In 2018 we seeded successions on March 28th, July 15th, and August 1st, all of which yielded good harvests. These trials are more observational than research oriented, and included only one replication per planting.

An overview of these trials is included below. For full results, including pictures of each variety with detailed observational data, please visit our website and click on the lettuce section. Results of both years are detailed there. <https://enych.cce.cornell.edu/crop.php?id=17>

2017 Variety List:

Variety	Color	Size	Type
Aerostar	Green	Medium	Romaine
Augustus	Green	Medium	Romaine
Breen	Red	Small	Romaine
Brown Goldring	Green	Medium	Romaine
Bunyard Matchless	Green	Small	Romaine
Coastal Star	Green	Medium/Large	Romaine
Dragoon	Green	Small	Romaine
Fenberg	Green	Small	Romaine
Greek Maroulli	Green	Medium	Romaine
Little Gem	Green	Small	Romaine
Pablo	Green/Red	Medium	Romaine
Spotted Trout	Green	Medium	Romaine
Strawberry Cabbage	Red	Medium	Boston
Truchas	Red	Small	Romaine

2018 Variety List:

Variety	Color	Size	Type
Aerostar	Green	Medium	Romaine
Agustus	Green	Medium	Romaine
Annapolis	Red	Small	Romaine
Auvona	Green	Medium	Romaine
Breen	Red	Small	Romaine
Brown Goldring	Green	Medium	Romaine
Bunyard Matchless	Green	Small	Romaine
Cimmaron	Red/Green	Medium	Romaine
Coastal Star	Green	Medium/Large	Romaine
Dragoon	Green	Small	Romaine
Dubiya Dapple Density	Green/red	Small	Romaine
Ezbruke	Red	Small	Romaine
Freckles	Green/red	Medium	Romaine
Fusion	Green	Medium	Romaine/ Green leaf cross
Green Forest	Green	Large	Romaine
Green Towers	Green	Medium/Large	Romaine
Holon	Green	Medium	Romaine
Kalura	Green	Medium/Large	Romaine
Newham	Green	Small	Romaine
Pomegranate Crunch	Red	Small	Romaine
Red Rosie	Red/Green	Small	Romaine
Romulus	Green	Medium	Romaine
Salvius	Green	Medium	Romaine
Sparx	Green	Medium/Large	Romaine
Spretnak	Green	Small	Romaine
Thiruness	Red	Small	Romaine
Truchass	Red	Small	Romaine

As a general rule, anything that performed well during 2017 was included in the 2018 trials. 2018 was a hotter season until mid-July, effectively testing the heat tolerance of varieties included during this growing season.

First planting: May 28th, harvested August 1st, had 17 days above 85 degrees, GDD (Base 45) 1612

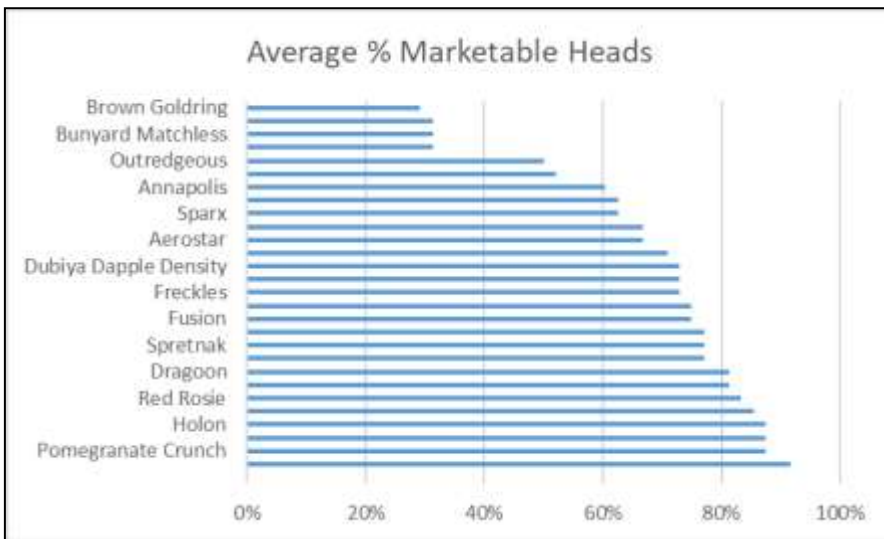
Second planting: July 15th, harvest September 15th, had 15 days above 85 degrees, GDD (Base 45) 1711

Third planting: August 1st, harvest October 3rd, had 12 days above 85 degrees, GDD (Base 45) 1525

The following chart gives a good idea of which varieties were most susceptible to bolting, which was by far the greatest reason for loss of marketability. Varieties listed at the top of the chart had lower percentages of marketable heads, and those at the bottom had the greatest percentages of marketable heads.



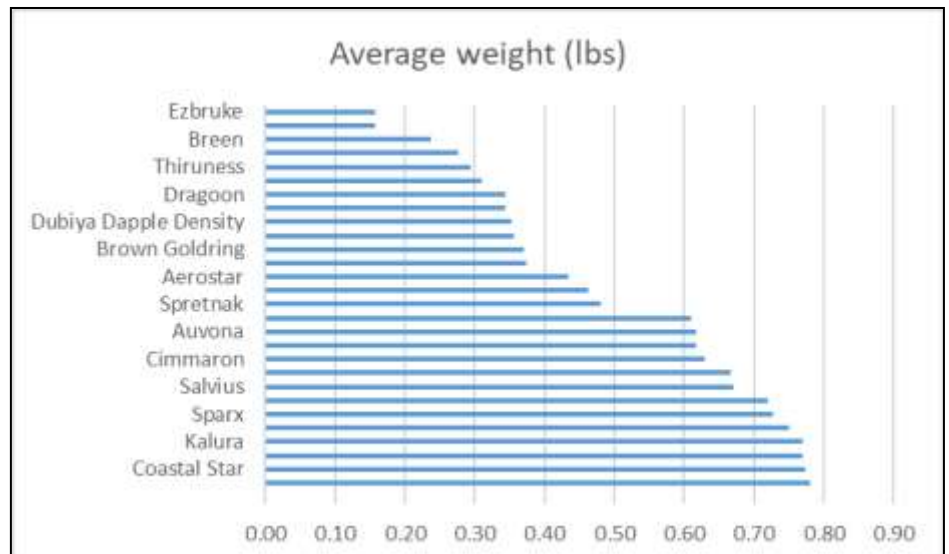
Coastal Star



The weights of various varieties are detailed in the chart below. It's important to note that some of the varieties on the lighter side are mini-romaines or are designed for use in salad mix, so weight alone should not be a determining factor for consideration, only for deciding the right use for each variety.



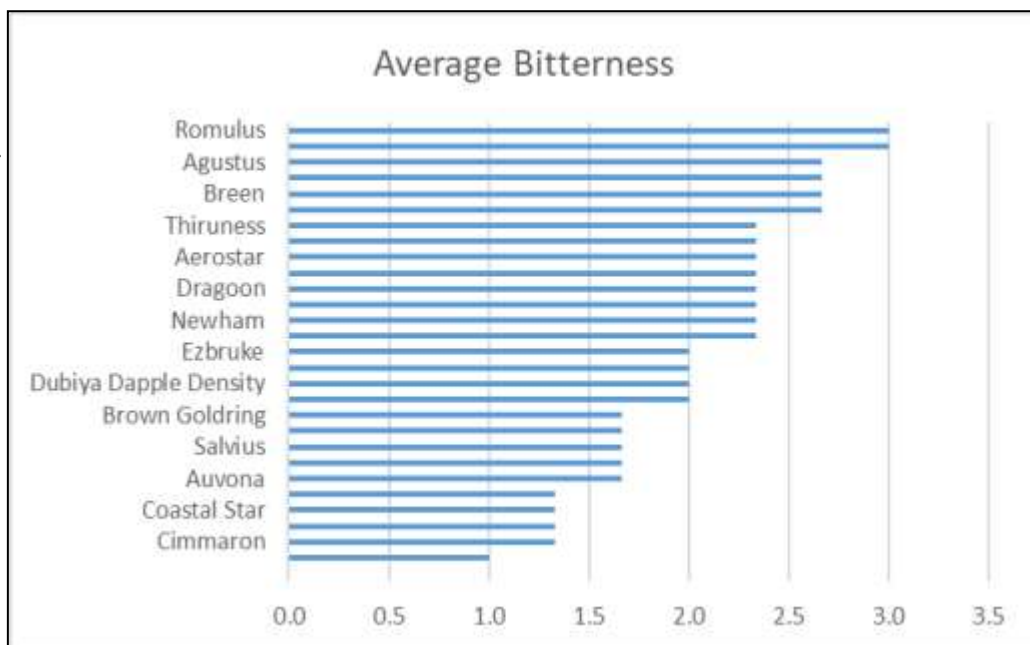
Pomegranate Crunch



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Finally, we rated each variety on bitterness, with one being bitter and 3 being sweet/not bitter. The table above shows that there was a wide spread of variation in average bitterness across the varieties, with some being much more palatable in a hot year than others.

Unfortunately, some of the large, robust heads had bitter flavor in the heat of the summer, and would not be considered good choices regardless of their relative heat tolerance. Others, like Romulus, held flavor nicely. I personally loved Breen's flavor, but I'm known to eat with my eyes.



For complete information about this trial, remember to visit our website to see the slideshow of varieties at <https://enych.cce.cornell.edu/crop.php?id=17>

A huge thanks to Kim and Peyton Atkins and Paul and Sandy Arnold of Pleasant Valley Farm for their support of this trial.

And, thank you to the following participating seed companies: Johnny's Selected Seeds, High Mowing Organic Seeds, Adaptive Seeds and Wild Garden Seed.



Breen

Heroin and Opioid Addiction and Rural America

Suzanne Flaum, Gleaning Assistant
CCE Orange County

The heroin and opioid epidemic has spread across the country in the last decade, and overdose deaths in rural areas are now surpassing those in urban areas. Access to prevention, treatment, and support services are typically lacking in rural or farming communities, leading to untreated addiction and increased overdose deaths. Additionally, recent reports show that those who work in occupations with higher rates of injury (farming, construction, roofing, etc.) where workers are less able to take time off to heal are more likely to

medicate acute or chronic pain symptoms with opioids, leading to increased likelihood of addiction (MADPH, 2018).

Unlike heroin, which is not considered to have any legitimate medical uses and can only be obtained illegally, commonly abused opioid drugs are found in a wide range of prescription medication and include oxycodone, hydrocodone, codeine, morphine, and fentanyl. Fentanyl in particular is extremely potent and can be lethal in doses as small as 0.25mg. These drugs are prescribed legally for pain management by medical professionals, but over-prescription, misuse, and overuse rapidly leads to dependence and addiction. Statewide health data tells us that between 2010 and 2015, the rate of opioid overdose deaths in New York per 100,000 people increased by over five times (NYS, 2017).

Per a 2017 study by the American Farm Bureau Federation and the National Farmers Union, 74% of farmers or farm workers nationwide report they have been impacted by opioid abuse, either through knowing a friend or family member who dealt with opioid abuse or by having taken opioids or dealing with opioid addiction themselves. Unfortunately, the same study states that only 38% of respondents believe they could find local care that is effective, covered by insurance, or affordable. While there's no silver bullet to halt addiction, and barriers to treatment are still numerous, it's important that New York families understand the resources available to them.

Stopping an Overdose in its Tracks

Naloxone, commonly referred to as Narcan™, is a medication that chemically reverses an opioid overdose as it's happening. Narcan™ comes in a pre-loaded syringe or as a nasal spray to be administered to a person who is experiencing an overdose. Narcan™ is meant for friends, family, or any non-medical persons to administer to someone in the throes of an overdose. Studies show that the odds for overdose recovery are significantly increased when Narcan™ is administered immediately by a non-medical but trained bystander rather than an untrained bystander or no administration of the antidote at all (NCBI, 2015). Training and an available Narcan™ kit on hand is often the difference between a loved one's life and death. Narcan™ trainings offered regularly through the state teach participants how to recognize an overdose and administer the life-saving medicine, and many trainings provide participants with Narcan™ kits to take with them. To find programs offering no-cost Narcan™ trainings in your region, check out the New York State Department of Health Community Calendar of Opioid Overdose Trainings by region at <https://nyoverdose.org/Home/Calendar#>.

Resources for Heroin and Opioid Treatment and Recovery

If you, a friend, a family member, or one of your farmworkers is dealing with opioid or heroin addiction, know that there are numerous resources for those seeking recovery from substance abuse, including in-patient and out-patient services, therapy, and medical treatment. These particular addictions are nearly impossible to overcome without professional help, so please reach out.

- 24/7 HOPELine, NYS Office of Alcohol and Substance Abuse Services (OASAS): 1-877-846-7369,
- Office of Alcoholism and Substance Abuse Services (OASAS)-Find a treatment near you:

<https://findaddictiontreatment.ny.gov/#/search>

- Narcotics Anonymous meeting finder: <https://www.na.org/meetingsearch/>
- Nar-Anon meeting finder (support for family or friends of those addicted): <https://www.nar-anon.org/find-a-meeting/>
- Interactive map of NYS-authorized Extended Syringe Access Programs (ESAP), Narcan™ availability, and Hepatitis Testing location finder: <http://www.thepointny.org/#>

Stigma and Recovery

The silver lining in the fact that the heroin and opioid epidemic is so widespread is that it's gained national attention. In addition to the National Farmers Union and the American Farm Bureau Federation, government agencies like the USDA and state health departments are funneling funding and resources not only to educate and assist farmers and rural communities in addiction recovery and support, but also to address rural prosperity difficulties and public health concerns that lead to the use of heroin and opioids in the first place. These groups also widely recognize addiction as a disease, which certainly helps to ease the stigma experienced by those struggling and makes seeking treatment more socially acceptable.

Combating the heroin and opioid epidemic starts in your community. Check in on your family, friends, neighbors, and employees. If you see a doctor for pain management, ask if there are available alternatives to opioid medication. Share the above resources for treatment whenever they're needed, and complete a free and local Narcan™ training ASAP. Armed with education and resources for action, our rural and farming communities can work to mitigate this epidemic.

Giglio, R., Li, G., DiMaggio, C. (2015). Effectiveness of bystander naloxone administration and overdose education programs: a meta-analysis. *Inj Epidemiol* 2(1) 10.

National Farmers Union (2017). <https://nfu.org/2017/11/30/survey-shows-massive-opioid-impact-in-farm-country-farm-groups-call-for-dialogue-action/>

New York State Dept. of Health, Opioid Annual Report (2017). https://www.health.ny.gov/statistics/opioid/data/pdf/nys_opioid_annual_report_2017.pdf

New York State Dept. of Health 2018-2019 Community Calendar of Opioid Overdose Trainings. <https://nyoverdose.org/Home/Calendar>

Massachusetts Dept. of Public Health (2018). <https://www.mass.gov/files/documents/2018/08/15/opioid-industry-occupation.pdf>

Cold Hardy Rootstocks for Eastern New York

Mike Basedow, Tree Fruit Specialist,
CCE ENYCHP

Cold injury is a concern for apple production in Eastern New York, where extremely cold mid-winter temperatures and dramatic temperature fluctuations in the late fall and early spring are not uncommon. Let's review the types of cold damage we might expect to see in rootstock tissues, and discuss which rootstocks might be most appropriate for dealing with the cold in a high density production system.

Cold injury occurs when water in the living cells of the vascular system freeze. Ice crystals in the cells rupture the cell membranes, leading to death of the vascular tissue (Schupp et al., 2001). This injury will generally occur in one of two regions within the rootstock; in the trunk, or in the roots. Trunk injury commonly occurs just above the soil line between late October and December, when temperatures fluctuate between stretches of relative warmth and the occasional blast of cold. The lower trunks are sensitive because cold acclimation begins in the growing tips of the trees, leaving the trunk to be the last above ground portion to acclimate. The trunks are also susceptible as trees deacclimate early in the spring (Moran et al, 2018).

In addition to trunk damage in late fall and early spring, trunks and roots are also vulnerable to cold injury in the middle of the winter, when temperatures in the orchard hit their minimum. Roots do not acclimate to the cold as fully as the trunks do, and can be injured at higher temperatures. This does not occur that often, as soil temperatures at the root zone are generally warmer than the air temperatures. Damage to the roots is usually observed in very cold years when there has been poor snow cover, as adequate snow cover insulates the roots from the cold (Moran et al, 2011).

So, with this information in mind, how tolerant are our current rootstocks to the cold? It is difficult to determine hard cutoff temperatures for where cell death might occur, as cold hardiness is dependent on many conditions surrounding the cold event, including the weather before and after the event, the orchard management practices used in the block, and the health of the trees. We can, however, compare rootstock hardiness relative to one another, placing rootstocks into loose categories ranging from more to less cold hardy.

M.26 is well-known for being the most cold-hardy of the Malling dwarfing rootstocks (Quamme, 1990). However, the vigor of M.26, along with the rootstock's susceptibility to fire blight and its propensity for developing burr knots, presents other horticultural challenges that can limit its further planting in high density systems.



M.9 and its various clones remain some of the most widely planted dwarfing rootstocks. M.9 has shown good hardiness in late fall and early spring, but its roots are relatively tender, and is more susceptible to mid-winter cold injury, particularly in years where snow cover might not be adequate.

Bud. 9 has been found to be as cold hardy as M.26 (Moran et al, 2011). However, Bud. 9 deacclimated more quickly than M.9 and M.26 when exposed to ten days of above freezing temperatures in mid-January in a lab study. This may make it more susceptible to freeze events in years where temperatures fluctuate (Forsline, 1983).

The Cornell Geneva rootstocks were bred for resistance to fire blight, phytophthora crown and root rot, and for tolerance to wooly apple aphid and apple replant disease. They were also bred with cold hardiness in mind, and have been studied in recent lab hardiness tests.

The Honeycrisp rootstock trial in Peru contains Malling rootstocks to serve as commercial standards, as well as many of the cold hardy Geneva rootstocks.

G.41 is becoming a popular rootstock, and lab studies have found that root winter hardiness may be comparable to M.26. However, these results were not always consistent, and hardiness was dependent on how extensive the root system of G.41 was prior to the cold event. When compared to M.9 in lab studies of spring freeze events, G.41 may be slightly more susceptible to spring freezing due to slightly earlier deacclimation.

G.935 is becoming more popular, and is useful for weak growing scion varieties. A lab study has found the roots of G.935 to be more cold-hardy than M.26, and trunk tissues of G.935 were harder than M.26 above the soil line in October, suggesting G.935 may be very well suited for production in areas where extreme cold hardiness is a requirement (Moran et al., 2011).

G.11 roots have also been rated with similar cold hardiness as M.26. It appears to have similar early winter cold hardiness to M.26 as well.

While these lab studies have been performed, further testing is warranted to understand how trees might respond under different cold injury scenarios. Outside of the lab, many rootstocks have been evaluated in field trial plantings. During a mid-winter freeze in the winter of 2004 in the Champlain Valley, many trees on M.26 and M.9Nic29 rootstocks died of cold injury, while G.16 and G.30 had very good rates of survival (Robinson et al., 2006). Unfortunately, these were the only two Geneva rootstocks in the trial at the time,

and since then a test winter has not been observed. While Geneva rootstocks have the potential to deacclimate somewhat earlier than some Malling rootstocks, very few trees have been lost in years where there has been an early warm spell (Robinson, 2018).

Other new Geneva rootstocks are being evaluated for cold hardiness, but have not yet been released for commercial production. Many promising new cultivars from the Geneva and other rootstock breeding programs are being evaluated in replicated trials across the country. Some are also in field trials in Peru and Highland, so stay tuned for future reports on their performance in our Eastern New York conditions.

While cold hardiness is an important factor for rootstock selection, there are countless other variables to also consider. Some of these include: disease resistance, productivity, and precocity. While there may never be a perfect rootstock, you can choose the best rootstock to fit your orchard blocks' unique set of challenges.

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Edible Weeds from Farm to Market

Edible Weeds from Farm to Market is a Northeast Sustainable Agriculture Research and Education (SARE) funded project researching the use and marketability of edible weeds as supplemental farm crops. A **free** resource guide will be developed for farmers on how (and why) to add edible weeds to their harvest lists. Many common weeds that growers battle with, such as purslane, lamb's quarters, and pigweed amaranth, are the very ones popping up on restaurant menus and at farmers' markets.

The market potential for edible weeds is expanding. Some farmers are well-positioned to take advantage of this supplemental income. Are you a farmer in the Northeast interested or experienced in selling wild foods from your farm?

If so, we'd be grateful if you could take a few minutes to fill out our **survey**. (Survey link: <https://www.surveymonkey.com/r/VNKWFWD>).

To learn more about this project, visit www.foundwild.com/weeds-as-crops. To get involved, contact Tusha Yakovleva at tushayak@gmail.com. There are various ways to participate and any input about the intersections of agriculture and wild foods is welcomed. For more information contact Tracey Testo (tet35@cornell.edu) at CCE in Columbia/Greene counties.



Wild Edible Mustards



Wild Autumn Olives at Letterbox Farm



EDIBLE WEEDS from FARM to MARKET

A free resource guide for farmers on how and why to add edible weeds to their harvests.

Weeds that commonly pop up in cultivated fields (purslane, lamb's quarters, amaranth, and many more) are popping up at farmers' markets and restaurants. The market for wild food is growing and farmers are well-positioned to take advantage of these supplemental crops.

Are you a farmer interested or experienced in selling wild foods from your fields? We'd love to hear from you. Please fill out our survey via webpage below.

Survey link:
foundwild.com/weeds-as-crops

Stay in touch:
Tusha Yakovleva - tushayak@gmail.com - 518.805.9851



Move From Good to Great in Ag Labor Management this Season

Elizabeth Higgins, Business Management Specialist, CCE ENYCHP

As a fruit and vegetable farmer, labor is one of your most important resources but being a manager also exposes you to risks. To help prepare you for the 2019 growing season, the Eastern NY Commercial Hort Team, in collaboration with the Cornell Small Farms Program and the Cornell Ag Workforce Development Program and the Cornell Farmworker Program, is offering many opportunities for farmers and farm managers to improve their skills and gain important information in labor management this winter.

Do you have legal or compliance issues? Plan to attend an Ag Labor Road Show in January. One session will be held in Peru and one in Ballston Spa. Experts from farms, private industry and the university will focus on critical topics that affect all farm employers including: employee housing, on-boarding, sexual harassment prevention, employee engagement, safety, wage and hour laws, and worker care.

If you are attending Ag Expo in January in Syracuse there will be workshops there on on-boarding new employees, migrant labor and transitioning to H2A in tree fruit, and training new employees and developing and using SOPs.

At our February fruit and vegetable school(see pages 6&7 for more information), Richard Stup and Liz

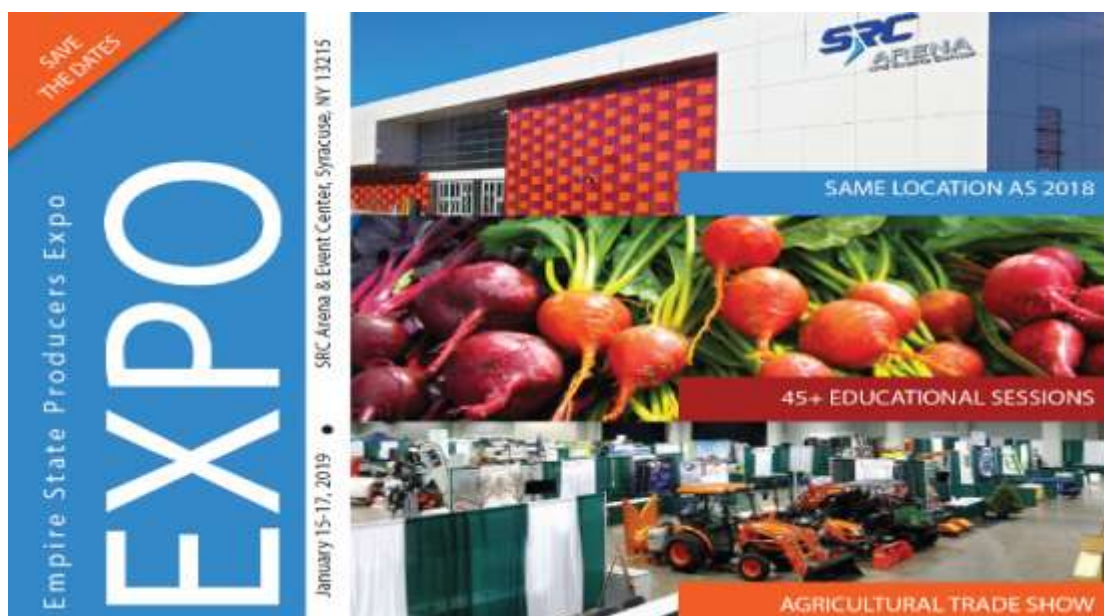
Higgins will be offering a program on making the transition from being an employee (or working alone) to managing people, a session on using SOPs effectively in training; and a session on training youth for agritourism.

Finally, in March we will be offering a 2-day program for farm owners or managers (or employees moving into management) on effective farm labor management skills. This workshop will pilot components of a certificate program in labor management and help get you ready for the 2019 season.

The Cornell Small Farms program is also offering a technical assistance grant for beginning farmers, next-gen farmers and current farm managers who may be part of a transition plan on a farm to provide one-on-one assistance in improving a labor management issue on a farm – this could include development or legal review of an employee manual, assistance with developing a training program or help with paperwork and compliance systems. For more information on this grant, see page 5 of this newsletter. The deadline is January 30.

Improving your knowledge of HR best practices and resources can pay off. In November I surveyed farmers who attended our pilot labor programs in 2018. 58% reported having made changes on their farms in 2018 to improve employee satisfaction and enhance communication with workers. Most planned to implement additional changes in 2019.

If you have any questions about these programs or have additional HR needs related to ag labor, contact Liz Higgins (emh56@cornell.edu) and we will try to put you in contact with the right people.



Understanding Strawberry Root Problems that Impact Berry Farm Profitability: Results of Eastern NY Survey

Laura McDermott, Senior Extension Associate and
Natasha Field, Technician, CCE ENYCHP

Dr. Elson Shields and Tony Testa, Department of
Entomology, Cornell University

James O'Connell, Senior Resource Educator, CCE
Ulster County

Introduction

New York State strawberry growers reported in the 2017 National Agricultural Statistics Service (NASS) survey that the state strawberry crop totaled over 6 million pounds of berries, virtually all sold to the fresh market, for a value of over 18 million dollars. Farmers also reported planted strawberry acreage of 800 acres, a loss of 900 acres since 2005, not coincidentally, the year methyl bromide use was prohibited in NYS.

Weed pressure, root disease, plant parasitic nematodes and soil insects have all been identified by strawberry industry groups as barriers to success with strawberry production in the northeast United States. Research¹ into best management practices has revealed that cover cropping and proper crop rotation will significantly reduce the impact of disease on strawberry production, these recommendations however, are not being used on all farms.

This article describes the findings of a survey, supported by the New York Farm Viability Institute (NYFVI) that was initially part of a larger effort to identify and then manage soil borne insects using entomopathogenic nematodes (EPN's).² These findings verify what industry has identified: that weeds, soil borne diseases and nematodes remain as significant barriers to profitability for strawberry farmers.

Methods

Fifty-eight strawberry growers in 17 eastern NY counties were visited during the 2016 and 2017 growing seasons. Extension educators assessed the planting and considered site history, production system, grower evaluations, management inputs etc. The survey was designed to find weevil infestations to further field test the effectiveness of native EPN's to provide long term control of strawberry root weevil and black vine weevil. In addition, a comprehensive field assessment was conducted for each field showing general loss of vigor. Soil, plant and insect samples were taken to provide diagnostic confirmation of plant disease, insects, nematodes and overall soil health. Results of assessments were communicated to farmers and management options were discussed.

Results

Of the 58 farms surveyed, 41 farms (71%) were identified to have a soil related barrier that was impeding profitability, see Figure 1. Seventeen farms (29%) had no soil related issue in the strawberry field that was examined. Sixteen (28%) were experiencing weed pressure that negatively impacted production, vigor and overall planting longevity. Three of the farmers stated that their inability to control weeds was



Figure 1. Distribution of strawberry farms surveyed in Eastern

the reason they were discontinuing strawberry production on their farm. Twenty-nine farms (50%) had soil samples examined – for disease, insect, nematodes and/or soil health.

Results of tests indicated more pressure from soil borne disease than soil insect pests or nematodes, (Figure 2). Pathogens that cause Black root rot were found on 28% (16) of farms surveyed. *Rhizoctonia fragariae* and other *Rhizoctonia spp.* were found to be the most predominant pathogen found on 17% (10) farms surveyed. *Pythium spp.* were found on a single farm and *Fusarium spp.* were found on 17% or 10 farms surveyed. While there was some overlap in farms, the 10 farms that had *R. fragariae* isolated were not the exact same as those with *Fusarium*. Five farms (9%) surveyed had 2 or more of these pathogens present. *Verticillium dahlia*, the pathogen causing Verticillium wilt, was found on 3 farms (5%) surveyed and *Phytophthora fragariae*, the pathogen that causes Red Stele, was found on one farm (Figure 3). Four farms surveyed were found to have four different species of nematodes present and three had related black root rot disease damage identified.

Eight farms (14%) surveyed had insects identified as being potential barriers to good vigor and production. Two farms had populations of root weevils that were significant, (Figure 4). These farms were treated with native entomopathogenic nematodes with excellent results which remain three years post-treatment. Strawberry root worm and white grub larvae were found on two different farms in high enough populations to cause damage. The only other insect that was found was sap beetle, which has become a significant strawberry fruit pest on some farms, although it does not harm roots.

Abiotic disorders and secondary infections were identified as causing some loss in vigor on 15 farms surveyed (26%). Of these farms, all but 2 farms had another primary pest problem identified.

Ten farms were identified as having soil health issues. Nine of these farms had a comprehensive soil health analysis done. Results ranged from medium to excellent ratings with a median rating of 66 and an average of 65. The most prevalent problems identified was aggregate stability, organic matter and soil respiration.

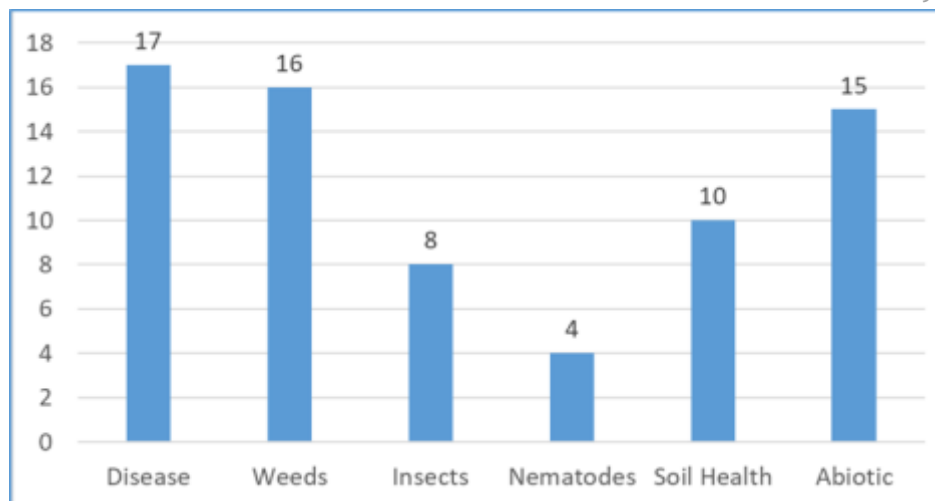


Figure 2. Soil related barriers identified on 58 NY strawberry farms

Discussion

Over the last two decades, as methyl bromide was phased out and then discontinued in 2005, Northeast strawberry growers have changed production systems due to continued pressure from a diverse population of pests. Many growers have adapted the recommendations of lengthy crop rotation and cover cropping, but this survey shows that nearly half of farms are still facing soil borne issues significant enough to reduce vigor and productivity. These farms are often, but not always, ignoring these recommendations. Reasons for this procedural drift include access to land; U-Pick farms in particular prioritize customer access and in certain areas appropriate sites are hard to find.

While land access is a real concern, other reasons that effective management practices are not being implemented exist. One reason is that proper site preparation must be done prior to planting. If

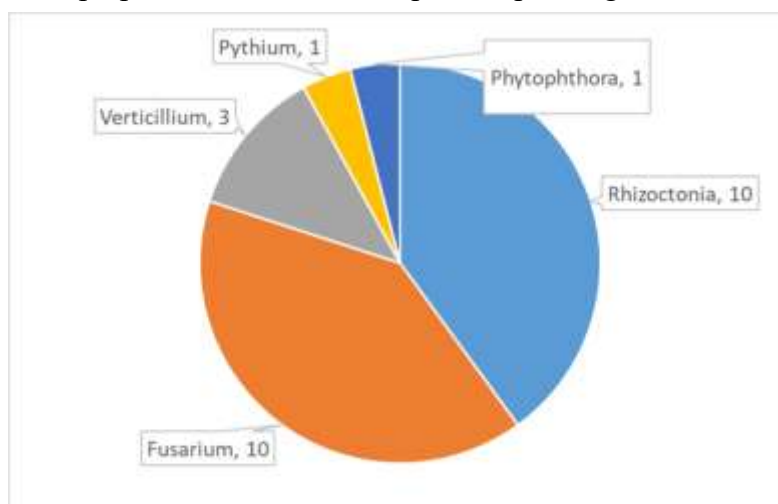


Figure 3. Relative prevalence of soil borne disease found on 17 NY strawberry farms



Figure 4. The strawberry field pictured is typical of plantings showing soil borne

shortcuts are taken there is little help for fields infected with soil borne disease. It can be difficult for farmers to separate the effects of pest and disease damage from the very similar symptoms caused by a variety of soil health and weather issues. Diagnostic symptoms caused by abiotic stressors that are below ground make it hard to recognize the problem when management action should be taken. Lastly, it's difficult to identify the diseases and disorders as symptoms look almost identical.³ The diagram in Figure 5 shows the similarities of diseases and winter injury, explaining visually, the difficulty for extension specialists and farmers to do accurate field diagnostics. Furthermore, even with laboratory assistance, it can be difficult to isolate pathogens from strawberry roots. All of these facts compound the complex issue of root loss and related plant death.

June bearing strawberry plants grown as short term perennials need to be renovated and winterized. These processes differ depending on production systems. As a strawberry plant grows the crown grows up, exposing more of that sensitive tissue to cold winter temperatures. Renovation after harvest helps address this concern by requiring that a 1/2" of soil is thrown on the crowns. Additional winterization occurs after the plant stops growing late in the fall. Longer warm autumn seasons has made this more difficult for growers to manage.⁴ As growers look to plasticulture to solve weed issues, the renovation and winterization requirements change and growers need to alter their practices accordingly. It becomes more difficult to

protect the plant crown and straw mulch is harder to keep on a plastic covered raised bed.

Soil health and how management inputs interact, is another area of consideration. This survey found that aggregate stability, organic matter and surface and subsurface soil hardness often rate very poorly in perennial strawberry production, a finding also noted in previous work.⁵ The annual incorporation of winter straw mulch at renovation would seem to guarantee good soil health, but it can act quite the opposite. Organic matter that is not being actively converted may exacerbate issues with active carbon,

mineralizable nitrogen and soil respiration triggering problems with the soil's biological life. Soil aggregation is effected by the soils' biological activity which produces compounds and by-products or "glues" aiding in aggregation. When biological activity is diminished, aggregation is reduced.

As berry farmers struggle with the challenges presented by weed pressure and soil borne disease, a growing number of farmers are looking backward to chemical options, including hiring contract fumigation companies to do the work. In general, chemical fumigants offer varying degrees of control and none are completely effective in controlling weeds, diseases, insects and nematode pests. Fumigation has also been implicated in long term soil health decline as it reduces beneficial micro-organisms along with the pathogens.⁶

Successful management of strawberry weed, disease and insect pests requires an integrated approach utilizing identification, education, recommendations and effective sustainable applications. More research is needed in novel approaches to managing soil borne disease under northeast conditions. This includes biofumigation and anaerobic soil disinfestation (ASD). Additional attention should be given to refining the timing and application of management options like cover cropping and crop rotation in light of new production practices and climate change.

It is hoped that the results of this survey will serve as an impetus for further work in addressing the ongoing

problem of soil barriers to northeast strawberry farm productivity and profitability.

Special thanks to Annie Mills, former technician with CCE ENYCHP and Anita Minnifield and Cameron

Fuhr, Cornell University Cooperative Extension summer interns, for conducting much of the sampling done in this survey.

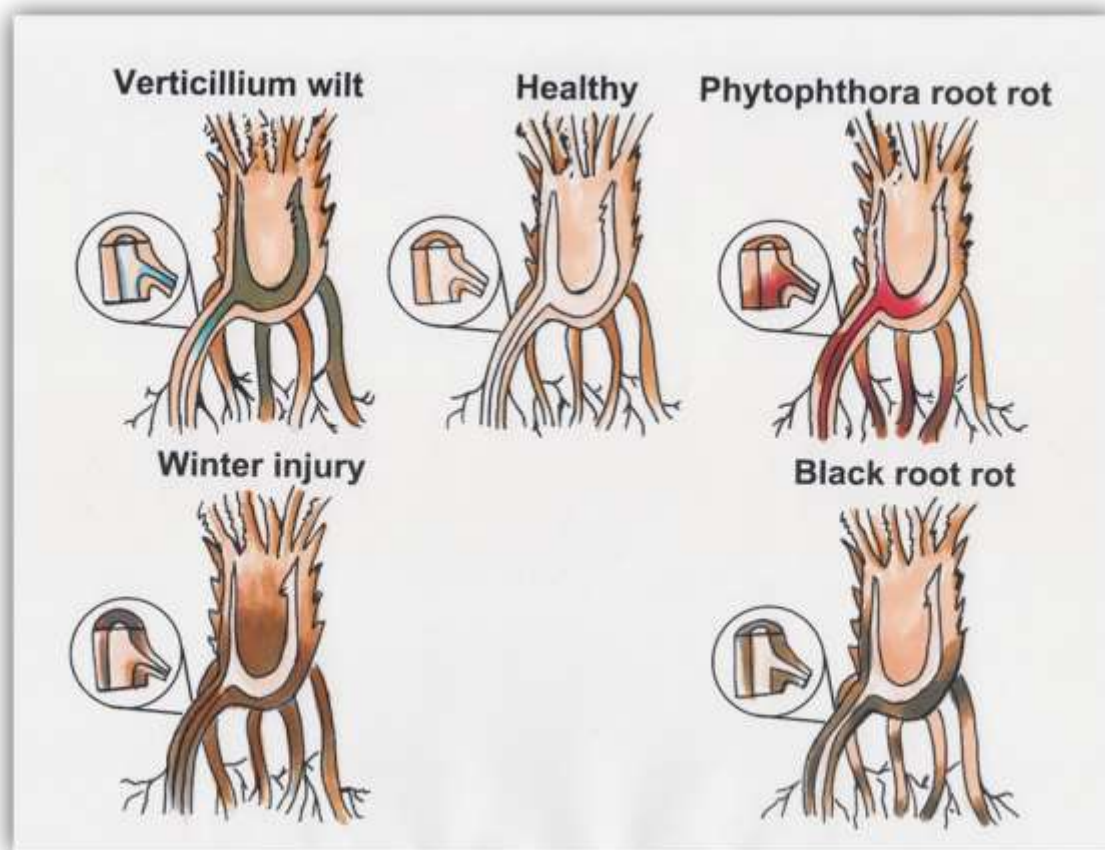


Figure 5. Diagnostic Tips for recognizing root diseases and freeze injury in damaged strawberry crowns. Illustration by Dr. Kerik Cox, SIPS, Cornell University

¹ Subbarao, K.V., Kabir, Z., Martin, F. N., and Koike, S. T. 2007. Management of soilborne diseases in strawberry using vegetable rotations. *Plant Disease* 91: 964-972

² McDermott, L., Shields, E., Testa, T., Pashow, L., and Ivy, A. 2017. Managing strawberry root problems for improved profitability and sustainability on NYS berry farms: using entomopathogenic nematodes to control strawberry root weevil complex. *Fruit Quarterly* 25(2): 15-17.

³ K. Cox, 2018, Diagnosing and managing soil-borne pathogens of strawberries and raspberries. *NYSBGA News*. Vol 1 Issue 6.

⁴ Union of Concerned Scientists, the Changing northeast climate. Summary based on Climate Change in the U.S. Northeast, a report of the Northeast Climate Impacts Assessment (NECIA, 2006), and on two studies by K. Hayhoe, C. Wake, and collaborators on the NECIA Climate Team: "Past and future changes in climate and hydrological indicators in the U.S. Northeast" (published in *Climate Dynamics*) and "Quantifying the regional impacts of global climate change" (in review at the *Bulletin of the American Meteorological Society*).

⁵ Pritts, M., C. Heidenreich, L. McDermott, J. Miller, (eds.) 2015. *Berry Soil and Nutrient Management – A Guide for Educators and Growers*, Cornell University, Ithaca, NY.

⁶ Herrick, C. 2018. Managing Soil Health Can Improve Strawberry Productivity. *Growing Produce*, March 4, 2018.

2018 Pumpkin Variety Trial Results

Chuck Bornt, Vegetable Specialist, CCE ENYCHP

The search for the perfect pumpkin variety continued in eastern NY during the 2018 season with CCE ENYCHP conducting 2 pumpkin variety trials; one at Wertman's Farm and Greenhouses in Melrose, NY (Rensselaer County) and at Robert O. Davenport and Sons Farm in Kingston, NY (Ulster County). Despite the roller coaster weather, the Wertman location turned out good and is the trial in which all data is based on. Unfortunately, the Davenport site suffered some poor stand issues and was used for observational data only.

The Wertman trial was planted on May 30, 2018 under excellent conditions. Rows were marked and fertilizer laid in furrow at a rate of 400 lbs per acre of 15-15-15 with a Monsem planter on 6' centers. Two seeds per variety were planted by hand using a jab planter at the recommended spacing based on square footage per plant values determined by using the recommended seed company spacing and the grower spacing of 6' between rows. Plots were 10 hills (5 hills planted in side-by-side rows) and replicated twice. Hills with multiple plants were thinned to one plant in mid-June. The herbicide program consisted of 1 pint Dual Magnum, 1/2 ounce Profine (halosulfuron) and 5 pints Strategy (pre-mix of clomazone and ethalfluralin) post plant/pre-emergent and one cultivation just before vine closure in mid-July. Insecticides and fungicides were applied by the grower appropriately.

Pumpkins were harvested beginning on September 2 and fruit were counted, weighed and evaluated. Because this trial has so many entries, the full table and a slideshow of all the varieties and this information can be found on our website at: <https://tinyurl.com/y9l8essl> or contact Chuck Bornt at 518-859-6213 or cdb13@cornell.edu for a copy.

Varieties of note: Large Jack-O-Lanterns (15lbs and up): Kratos (Harris) continues to be one of the nicest, most consistent pumpkins I've seen in many years and we were not disappointed this year! Unfortunately, we did not have many seed of Tallon from Harris, which is reported to be a new and improved Kratos so I look forward to seeing more of it in 2019. Secretariat (Harris) is one that I would highly recommend you try this year as it was very impressive. Conquest from Outstanding Seed was probably be far one of the largest fruit, but also one of the most variable in terms of size and shape which

leads me to think it would be great for retail sales but a hard one to grow for wholesale if you are looking for specific bin counts. The Johnny's release, JPN 625005R was also very impressive in terms of shape, color, handles and overall fruit quality. One surprise was a variety called Igor, also from Johnny's – it is what I would call an “ugly” pumpkin, but with so much character. The numerous, deep ribbing, dense flesh and unique odd shape was eye catching and captures the meaning of Halloween for me anyway. Hulk from Siegers gets an honorable mention as I really liked the shape, size, color and heft – unfortunately, the stems were fair at best.

Medium Jack-O-Lanterns: (10-15 lbs) This is a tricky group as the size range is sometimes hard to decide what to do with. Orange Sunrise from Seedway and Harris was very nice as was Pegasus from Outstanding. From Rupp, RPX 6688, RPX 6208 and RPX 5588 are varieties to certainly look at.

Pie and Specialty Types: This for me is always the most interesting group and this year was no different. There are several nice pie types including Early Abundance, RPX 6680 and Gumdrops. In addition, if you are looking for a white pumpkin that stays white, I would suggest looking at Blanco, a small (4-5 lbs), very attractive fruit (we received this seed late so it was used as an observational variety). Likewise, I was impressed with RPX 6927, another white pumpkin from Rupp that really maintained great white color still in the field late into the season (October). Other oddities included RPX 6629 which was a tall-round, tan to brown fruit. Specter, which is supposed to be more white but ended up being more yellow with some warts, was interesting and may do well at retail outlets. Likewise, Miniwarts, Warty Gnome (both small and warted) and 2 munchkin types, Spark and Flame that were very colorful with white, orange, green and yellow coloring.



Growers get a chance to see the fruit firsthand at one of two twilight meetings.

2018 Pumpkin Variety Highlights – For full table and pictures please visit: https://tinyurl.com/y9l8essi		
Variety Name	Average Weight (lbs)	Comments
Conquest 880	19.1	Really nice. Round-round, to tall-round, slightly pointed, variability. Massive stems, 2.5 inches diameter, dried grey/black and rock solid. Ribs are deep, narrow, numerous, with some wide deep ribs. Wholesale might have some concerns because of variable shape. Retail would be great. Good size, very heavy and thick, hefty.
Flame	0.8	Munchkin type, Creamy to yellow skin with more orange in the ribs. Some more white and some more orange. Some 1/4 to a pound. High shoulders, deep ribs, flat type. Variation in shape - some more rounded. Grey, hard stems, firm handles.
Gumdrop	7.5	Variable shape, but pleasing. Teardrop shape, a point near the top. Thick handles, dried down hard, grey color. Great attachments. Fairly ribbed and looks nice, catches the eye. Dark orange color, quite appealing.
Hulk	22.8	Tall-round, tall-tall elongated shape. It's pretty nice. Some of the stems are dodgy, 4 of 9 have dried grey nicely, 5 are doughy. Great carver type. Color is medium orange, with some russeting in the back. Medium rib, skin is smooth. Nice but stems are a concern. A few stems are beautiful, a few are questionable. Okay heft.
Igor	21.5	Interesting! Tall to tall-round to elongate-round. Ribs are very numerous and very deep. Skin texture is rippled. Okay handles, not the best. Kind of freaky looking, very cool. Some potential here similar to Mrs. Wrinkles, but this is taller. Beautiful ribs. Color is orangy brown, hard to describe. Pretty heavy.
JPN 62005R	17.4	Nice, squat-round to round-round. Uniform shape. Handles are very nice, 6 of 7 have dried to black/grey and are very solid. Orangy brown color. Medium ribs, even. Nice pumpkin. Potential for medium/large jack. Two fruit didn't take frost well but they are lighter color.
Kratos	18.1	Beautiful, barrel shape round. Tall-round to round-round. Dark orange color. Nice medium rib. Nice handles, short and stocky, dried down pretty good, good anchors. Solid fruit, hefty. Medium rib, decent number of ribs.
Mini-warts	2	Small warted variety. Hard as nails stems dried down. Mostly orange color with green/yellow/orange warts. Not a dark orange, but a bright, happy orange. Round-round, very uniform. Excellent for this size market. Light heft
Orange Sunrise	12.6	Not bad looking, medium to dark orange color. Nice jack o lantern orange. Stems aren't terrible, dried down to grey/black color, very well attached. Fruit is tall-round, to medium tall-round to a round-round. Decent ribbing, shallow rib but numerous, makes it look nice. It's okay.
Pegasus 8870	13.1	Handles dried down rock hard but aren't very big, nicely sized for the fruit. Round-round, to barrel-round shape. Medium orange to yellow orange in color. Okay ribbing. High shoulders, stem in a little pocket. Fruit are very solid and heavy in comparison to same sized fruit.
RPX 5588	11.8	Pretty heavy. Really nice, fairly uniform. Round-round shape. Stems have dried down grey, but nice. Medium, numerous ribs. Dark orange color. Really nice fruit for a medium size.
RPX 6208	13.5	Not bad. Tall to round-round. Stems are thick and great, dried down nicely. A nice dark orange color, not burnt. A little texture to skin. Great handle anchors. Would like to see again. Fruit are heavy/hefty.
RPX 6229	9.7	Tan to yellow color. Round-round to slightly tall-round. Uniform in shape. Lighter color might be younger fruit. Medium rib, nice handles. Flecking in the skin, orange/brown flecks. Okay ornamental for some color variety. Down at Davenport's, they are more dark tan/brown.
RPX 6680	5.2	Love this. Tall-round to round-round pie. Beautiful dark orange color. Great stems, hard as rocks, dried down to grey. Fairly uniform. Medium, numerous ribs. Beautiful color, very pretty.
RPX 6927	6.5	White pumpkin. Held color very well in the field into late season. Slight yellowing but mostly white. Stems are okay, short and a little thin but some dried okay. Round to squat-round shape. Medium ribbing. Fairly smooth skin texture. Impressed with color.
Secretariat	11.9	Excellent shape. Handles are in good shape. Barrel shape to round round/squat round with some variability but all nice. Deep ribbing, very nice, numerous. Anchors are excellent and very nice looking.
Spark	0.4	Munchkin type but much smaller than Flame. Same coloration, tan/yellow orange in ribs, green mottling. Very uniform. Nice handles. High shoulders. Looks nice, decent yield. Flat, round, deep ribs, true munchkin.
Warty Gnome	2.5	Similar to Blaze but with warts. Space saucer shaped. Yellow background, dark yellow with yellow orange, medium dark orange on the ribs. Stems have dried rock hard, nice stems, 3 inches long, some longer. Lovely ribbing. For specialty market, it is nice. Pretty uniform.

The Changing CSA — Data from CSAs in the US and Eastern New York

Elizabeth Higgins, Business Management Specialist, CCE ENYCHP

“When CSAs were first around, it seems like it was more like customers saying, ‘We really believe in you, the farmer, and how can we make this work for you?’ Now, it seems like it has shifted and the farmers are saying, ‘How can we make the CSA work better for you, the customer?’”¹

-CSA Farmer interviewed in “Community Supported Agriculture – New Models for Changing Markets

A 2017 report by USDA-AMS and the University of Kentucky is highlighting key trends in CSAs (Community Supported Agriculture) in the United States and these trends are echoed in data I have collected on CSA farms in Eastern New York. In *Community Supported Agriculture – New Models for Changing Markets* the authors Timothy Woods, Matthew Ernst, and Debra Tropp surveyed 495 CSAs in the USA and then conducted case-studies of six CSAs. They found several changes compared to a national CSA survey, conducted in 2001². They found (1) increasing competition, from other CSAs and from other market channels (2) increasing focus on customer service and choice and (2) growth of multi-farm and alternative types of CSAs. They also found a decline in the number of certified organic CSAs. In 2001 49% of CSA farms were certified organic. In the 2017 survey only 27% were certified organic. These trends are echoed in data I collected on 106 CSAs in Eastern NY in 2017 and 2018³ (Figure 1). For example, I found that 26% of Eastern New York CSAs were USDA Certified Organic, like the national percentage.

In some ways CSAs have not changed much from the early 2000s. The typical CSA farm in the US 1999-2001 provided 22-24 weeks of produce to their shareholders. This is the same today in Eastern NY where the median number of weeks of a traditional CSA was 22. The median share price for a full share in the US in 2001 was \$400, which adjusted for inflation is \$571 in 2018 dollars. The median share price for a traditional CSA in Eastern New York in 2018 was \$585, so there isn't a large difference in the cost of a traditional CSA share.

What has changed is what farms are doing to reach those customers. Like the 2017 USDA survey, I found that many CSA farms in Eastern NY were making the CSA share more accessible to their customers. There is an increasing focus on home or workplace delivery, especially among the larger CSAs, for whom the CSA model is their primary business. The mean number of drop-off sites in 2017 was 3.4 and that increased in 2018 to 3.7. The total number of drop-off sites also increased in Eastern NY. There were 319 sites in 2017 and 364 sites in 2018. 11 of those “sites” were door to door regional home deliveries, so the total number of drop-off sites is actually larger. Many farms are now advertising that they will offer to create a CSA drop off if a critical number of subscribers is reached.

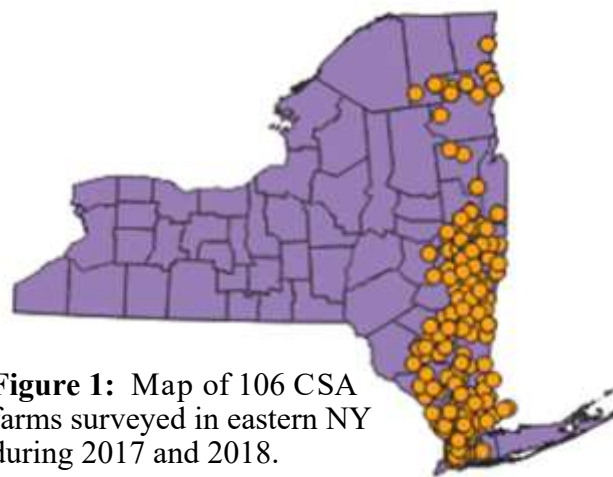


Figure 1: Map of 106 CSA farms surveyed in eastern NY during 2017 and 2018.

However, despite this increase in customer service, I observed a downward trend in CSA share price between 2017 and 2018. 22% of CSAs in Eastern New York lowered their share price between 2017 and 2018. Overall the median share price was flat between 2017 and 2018. One possible reason is competition for customers. The 2017 USDA survey found that only 39% of CSA farmers in the Northeast expected their share #s to increase in the future. They cited competition from other market channels, but especially competition from other CSA farms as their primary competitor for customers. Anecdotally CSA farms in Eastern New York reported challenges in recruiting and retaining new CSA members. This could be reflected in the additional effort to reach customers and the downward trend on prices.

The 2017 survey found that there was growth in the number of alternative product CSAs (meat, processed food, flower) and the number of multi-farm subscription CSAs. We have seen this change in Eastern New York. About 10% of the CSAs in our

study do not offer vegetables. The USDA study voiced a concern that multi-farm CSAs risked the loss in perceived value to consumers by moving from a farm estate product to an aggregated “local” product that was not as identified with a specific farm. But these concerns were outweighed by the benefits of offering more diverse products, allowing growers to specialize and reducing production risk by spreading production over more farms. In Eastern New York many farms are adding products from other farms to their CSA. 28 of the 99 farms were explicitly including products from at least 1 other farm on their CSA share in 2018. There are also two farmer-owned “CSA weekly subscription box” multi-farm CSAs, where customers can order CSA boxes with the product provided by multiple farms and can place weekly orders for specific products. Twenty-five farms in the region participate in these two CSAs. Most of these farms also have their own individual CSA so apparently see this subscription box as an additional marketing outlet. Both of these CSAs have a minimum order size or a minimum balance requirement.

The most significant change in Eastern New York CSAs is the rapid movement from the traditional share box CSA to the declining balance card CSA. In this model, customers pre-purchase a card for a specific amount that then has a value that can be used either at the farm’s farm stand or farmers market during the season. Most CSA farms add 10% value of the purchase price onto the card (e.g. a \$600 card is worth \$660 in value of product). The average initial payment required in 2018 was \$350. This was a small decrease from the 2017 average price, but most farms held their price the same between 2017 and 2018. This model is increasingly popular, in 2017 13% of CSAs offered some form of the declining balance card but this increased in 2018 to 18%. Farmers I spoke to

like the reduced labor of packing boxes and that it allows them to focus on one marketing channel (their market) but provides the benefit of customer loyalty and advanced payment. They report that their customers like the flexibility.

Although this model has many benefits for CSA farms that focus on farmers markets or a farm stand; it has some potential pitfalls. First it could make the consumer more price aware. Using the card at the market a customer sees the exact cost of all their produce selections and can compare those prices directly to other farms at the market. The traditional CSA box is less price transparent. Another issue could be more competition from other market vendors as this model is much easier to adopt than a traditional CSA. Finally, very few farms in Eastern New York that offer this model have an option for reduced cost for limited resource consumers and none of the farms using this had a volunteer requirement, two hallmarks of the traditional CSA. What are the implications for the “community” aspect of the CSA if the model transitions from the on-farm share to cards that are essentially a discount for prepayment or retail loyalty card?

We will continue to collect data on the CSAs in Eastern New York to have a better sense of how the model is changing over time. In addition, the ENYCH team is planning to offer a program on CSAs at the winter fruit and vegetable school in February. To echo the farmer quoted in the beginning of the article, it is clear that the CSA model has been successful for many farms, but continued growth is requiring farmers to adopt more of a customer-focused orientation and competition from other farms and other marketing channels may reduce overall profitability for some farms.

¹ Timothy Woods, Matthew Ernst, and Debra Tropp. *Community Supported Agriculture – New Models for Changing Markets*. U.S. Department of Agriculture, Agricultural Marketing Service, April 2017. Web.

² Lass, Bevis, Stevenson, Hendrickson, Rhuf. *Community Supported Agriculture Entering the 21st Century: Results from the 2001 National Survey*. University of Wisconsin Center for Integrated Systems available at: http://cias.wisc.edu/wp-content/uploads/2008/07/csa_survey_01.pdf 29 pages.

³ The New York data was collected directly from the farm’s websites and subscription forms.

Calendar of Events

See the Website to register for many of these programs

<http://enych.cce.cornell.edu/events.php>

January 9-11, 2019	North American Raspberry & Blackberry Assoc. , Savannah, GA. Information: http://www.raspberryblackberry.com/ .
January 11, 18, 25 February 8 and 15	Manage Your Risk in an Agritourism Business. 6 session Webinar Program from 10:00am to 12:30. RSVP to Marianne Kiraly (607) 865-6531 or mk129@cornell.edu .
January 15-17, 2019	2019 Empire State Producers EXPO , Syracuse NY – for registration and information: http://nysvga.org/expo/information/
January 28, 2019	High Tunnel Berry Workshop at the Mid Atlantic Fruit and Vegetable Convention , Hershey, PA. http://mafvc.org/
January 28, 2019	Ag Labor Road Show , Peru, NY. For registration and information https://tinyurl.com/yczxanoa
January 29-31, 2019	Mid Atlantic Fruit and Vegetable Convention , Hershey, PA http://mafvc.org/
January 29, 2019	Ag Labor Road Show , Ballston Spa, NY. For registration and information https://tinyurl.com/yczxanoa
February 3-6, 2019	2019 NASGA Annual Meeting and 9th North American Strawberry Symposium , Orlando FL – for registration and information: https://nasga.org/n-american-strawberry-growers-conference.htm
February 19-21, 2019	Eastern NY Fruit and Vegetable Conference , Albany NY – for registration and information: https://enych.cce.cornell.edu/
February 19, 2019	FSMA/PSA Grower Training. Desmond Hotel, Albany, NY. Pre-registration deadline is February 5 th , 2019 - Pre-registration is mandatory. For registration and information: https://enych.cce.cornell.edu/
March 5-6 , 2019	SAVE THE DATE Ag Labor Management 2-day workshop in Eastern, NY. This program will be for owners and farm managers who want to improve their skills in HR Management.



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