One new trend in agriculture is the increasing importance of venture capital investments. On October 13, 2016 the U.S. Department of Agriculture (USDA) announced the launch of the fifth private investment fund initiated since 2014 under the USDA’s Rural Business Investment Program (RBIP). USDA is utilizing RBIP to license funds that invest in enterprises creating growth and job opportunities in rural areas, with an emphasis on smaller enterprises. Yes, you read this right, the USDA is supporting venture capital to finance R&D and loans in agriculture - its traditional market. The most recent RBIC, The McLarty Capital Partners (MCP) Rural Business Investment Company plans invest $100 million into growth-oriented, small businesses across rural America. Other RBICs include the $154 million Advantage Capital AgriBusiness Partners fund, Innova Ag Innovation Fund, Meritus Kirchner.
The Produce Pages

Editor:
Maire Ullrich, Vegetables
Phone: 845-344-1234 Email: mru2@cornell.edu

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
Laura McDermott
Phone: 518-791-5038 Email: lgm4@cornell.edu
James O’Connell
Phone: 845-691-7117 Email: jmo98@cornell.edu
Dan Donahue
Phone: 845-691-7117 Email: djd13@cornell.edu
Anna Wallis
Phone: 518-410-6823 Email: aew232@cornell.edu

Business, Marketing and Economics
Jesse Strzok
Phone: 518-429-1464 Email: js3234@cornell.edu
Liz Higgins
Phone: (518) 949-3722 Email: emh56@cornell.edu

Food Safety & Packaging
Erik Kocho-Schellenberg
Phone: 845-3441234 Email: jk2642@cornell.edu

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Ventures (limited to the Southern US) and the Open Prairie Rural Opportunities Fund (emphasis on the Midwest). Additional funds are currently under review. The funds differ in the geographic region that they cover, their areas of business focus and the size of the pool of funds available for investment.

The RBIP is just one of many examples of venture capitalists moving into agriculture in this decade. A 2010 New York Times Article Selling Agriculture 2.0 to Silicon Valley highlighted this trend. In the Hudson Valley we have Hudson River Ventures, which has invested in several breweries, distilleries, distributors like Field Goods and non-profits like the Hudson Valley Seed Library. On the land access side, Local Farms Fund is a NYC-based investment fund that supports young and early-stage farmers in the NY Foodshed with secure land access. If you are interested, a good source of information about venture capital funding in agriculture is Ag Funder News.

How long will this influx of private equity into agriculture last? Right now local food and agriculture are hot and interest rates are really low - so investors who are looking for sectors to invest in where there are opportunities for growth and, for some investors, the benefit of virtue are flocking to this space. However, I am old enough to remember the dot.com bust of the '90s (I had a friend who left his job to start up "mylackey.com" where you could hire "lackeys" to do your errands for you - I can't imagine why it failed). We are already starting to see some of the highly hyped "ag tech" businesses of the early 2010s go by the wayside (see TechCrunch article on Good Eggs) and there are reports, at least in food based VC, that investors are becoming much more picky. The prediction in ag-innovation VC is it will resemble the dot-com sector in that investors, who would invest in anything in early rounds when they were new to agriculture, are becoming better at assessing ag business viability. According to a source in Ag Funder News “While the agriculture sector is poised for incredible change in the coming decade, resulting from converging technology and consumer trends, the reality is that there will likely be a limited number of large winners." (think Amazon.com).

Weblinks for print version:
- Innova Ag Innovation Fund http://aginnovationgroup.com/
- Meritus Kirschner Ventures http://www.meritusventures.com/
- Open Prairie Rural Opportunities Fund http://www.openprairie.com/
- Hudson River Ventures http://www.hudsonriverventures.com/
- Local Farms Fund http://localfarmsfund.com/
- Ag Funder News https://agfundernews.com/
- TechCrunch Article https://techcrunch.com/2015/08/05/good-eggs-layoffs/

Greetings! My name is Elizabeth Higgins, and I am the new Ag Business Management Specialist for the Eastern NY Commercial Hort Team. If you worked with Bob Weybright in the past, I am Bob 2.0. My office is in Highland, NY and can be reached by e-mail at emh56@cornell.edu or by cell phone at (518) 949-3722. Written out weblinks, at the end of the article, for those of you who are getting the printed version of this newsletter.
In late September Amy, Crystal, Jesse and Teresa attended Open Days at Bejo Seeds headquarters in the Netherlands which showcased their varieties of various crops and their seed handling facilities. Bejo has seeds grown around the world and all of them come through this one processing plant north of Amsterdam to be tested, sorted and packaged.

On a field trip to a large carrot grower (left) we watched them plant daffodils as a crop rotation (right).

This (left) is a demonstration of the difference between germination rates in primed and unprimed spinach seeds. Priming is a pre-germination step offered as an extra service on select seeds.

continued on next page
Seed Health Testing – We toured the seed technology laboratory where various techniques are used to determine if and which pathogens are present on seed. We learned that Bejo participates in the International Seed Health Initiative (ISHI) which is a consortium of seed companies, public sector institutions, and private laboratories that develop detection methods and standards for seed-borne pathogens of vegetables.

**Detection of plant pathogens** - Polymerase chain reaction or PCR is a molecular technique used to make many copies of a piece of DNA from a plant pathogen extracted. Other frequently used seed assays include: selective media plating, serology (antibody/antigen reaction) and seedling grow-outs. Seed disinfection treatments are: hot water (mainly for brassica seeds), pulse steam mainly for onions but also some beets and celeriac, and chemical treatments.

Haskaps: A New Berry for the Hudson Valley?

**Jim O’Connell**

Haskap berries (*Lonicera caerulea*) also known as honeyberry or edible blue honeysuckle are a relatively new introduction to North America, with much of the production in Canada and some in the Pacific Northwest (Oregon State breeding program). These berries are gaining popularity in New York State and in particular with growers of the Hudson Valley.

Small fruit growers in the Hudson Valley are continually seeking to add diversity to their farm operations. Growers have inquired with CCE about Haskaps, wanting to know more about these berries and how they may fit into a diversified farming operation.

The University of Saskatchewan has conducted a lot of research on Haskaps including a breeding program, which has released a number of cultivars popular with Canadian growers. Not much was known about how these berries would perform in the Hudson Valley. Growers in this region are continually seeking to add diversity to their farm operations and Haskaps looked as though they
might fit that need. Therefore, in the summer of 2015, CCE educators Laura McDermott and Jim O’Connell evaluated six cultivars released from the University of Saskatchewan breeding program. These cultivars were planted at cooperating farms in Columbia, Dutchess, Orange and Ulster Counties. Over the course of the growing season and through the winter, the plants were evaluated on general performance. The majority of the plants responded well to the warm summer. Some minor issues of leaf sunscald and mildew were documented at all sights, though nothing severe enough to hinder growth. Researching this problem in the literature, it was discovered that in some instances the plants may need protection (i.e. shade) from the strong sun in the later part of the growing season. Irrigation, especially when trying to establish these plants is necessary. Staking may also help to strengthen the plants early on, however, this was not evaluated in the study.

Haskaps are noted as being very winter hardy, capable of tolerating a USDA Zone 2 (-40°F). In February of 2016, low temperatures in the Lower Hudson Valley ranged from -11°F to -15°F and at all sites, except Dutchess, which was planted late, the plants survived with minimal damage. Frost however, is still an unknown factor for these plants. Because these plants were bred for conditions in Canada, Haskaps accumulate chilling hours quickly. It’s possible that plantings further south can break dormancy early and suffer frost injury. In fact the planting, that happened to the plants at the Hudson Valley Research Lab (HVRL) in Highland. This planting bloomed at or slightly earlier than the apricots at the HVRL. On April 5th, 2016 Haskaps, as well as many tree fruits were in bloom, and temperatures dropped low enough to cause injury to many of the tree fruit crops. Injury to the Haskaps mixed depending on location. Overall, the majority of the plants did well. This berry may fill the need for many small fruit growers. They are reported to have many health benefits, including but not limited to having many antioxidants. Although the early bud break may present a problem with frost, the crop matures a few weeks before June bearing strawberries. This earliness may help bring customers into the farm at a time when not much else is ready. Since there is a lot of unknowns about the impact of frost on Haskaps, Jim O’Connell plans to write a grant to more closely evaluate the survivability of Haskaps from a frost event. If funded, Jim plans to work with Chris Pennings and his son Jake Pennings (pictured below) of Christopher Jacobs Winery in Pinebush NY. If funded, Jim will keep the growers updated via the Eastern New York Berry Newsletter.

Berry and grape educator Jim O’Connell planting Haskaps with Jake Pennings at Christopher Jacobs Winery in Pinebush.
I'm fairly certain these next few paragraphs may not be taken kindly by some and will certainly open a door for passionate discourse on onion economics but no one farmer undermines a market nor can one alone support it.

It has come to my attention and several of the growers and packers in Orange County that, for the most part, folks are too heavy in transplant production, especially in yellows. So let's talk about the pros and cons of onion transplants and the “sweet spot” – the number of acres that assist a farm to be profitable without undermining sales of seeded onions.

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
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<td><strong>Timing:</strong> Ready when we have that late-July/early August window when, normally*, other areas have finished sales and we have our market advantage of diminished supply and equivalent demand. Historically, this is when early yellow home-grown onions entered the market but their loss of favor for sales beyond mid-August has created a market for a hybrid-only sales. Red onions used to be the only transplants sold during this window.</td>
<td><strong>Costs:</strong> The costs of transplant production are somewhere between 50% and 150% higher than that of seed depending on the variety, viability of plants that arrived, plugs or plants, planting method and chemicals needed to finish the crop. Usually the amount of fungicides are less due to the shortened season but often thrips sprays begin much earlier than in seeded and, depending on the chemistries you use, these may be expensive extra weeks.</td>
</tr>
<tr>
<td><strong>Size:</strong> There is no doubt that the planting method affords for a larger bulb. And larger bulbs are where the premium dollars are, especially for reds. Jumbo and colossal bulbs are highly desirable but there are only so many of each you can sell, especially at a premium price since they are not the standard.</td>
<td><strong>Disease:</strong> You may get to use fewer fungicides but the likelihood for bacterial infection is always higher. Seeded onions, in a good year, have fewer than 2% bacterial rot at harvest. Historically, if transplants, regardless of color/variety have below 5%, that is good. Typically, they tend to run more between 5% &amp; 10%.</td>
</tr>
<tr>
<td><strong>Insects:</strong> Mites tend to be less bothersome and are rarely devastating to transplants.</td>
<td><strong>Insects:</strong> Onion maggot control can me a bigger challenge in the application as well as the control.</td>
</tr>
</tbody>
</table>

*2016 was a bit of an anomaly in that there was no marked window this year. Southern onions were still being sold, in force, through July and into August. 2016 season was also so late that, even if other areas were short, we would not have had much for that window.

**ADDITIONAL FACTORS:**

**Size:** Maximum poundage per acre is still at ~6-8 plants per foot and 2.5”-3” in diameter. Income is by-the-pound. Make sure your loss in poundage is made up for the premium price on that larger size.

**Storage:** Transplants are not meant to be stored. If you are going to store an onion it should be seeded.

*continued on next page*
Transplants are for immediate consumption because they hit the market when few onions are available and will be consumed almost immediately. Why pick an onion that matures over 85-90 days? Get them in and out and make a quick profit before you get to the meat of the onion business.

SO WHAT’S THE “SWEET SPOT”?
Remember that transplants are a specialty within a specialty. Unless you have some unique marketing situation, the bulk of your business is storage yellow that you will sell from September through March (maybe).

HOW MUCH:
My suggestion is that no more than 10%-15% of the entire farm be yellow transplants. With an additional 5%-10% in red transplants for a total of ~20% or LESS of the farm in transplants. That market window that supports the extra cost of planting and producing plants closes quickly; there is only so much you can harvest in those 2-3 weeks, even with weather on your side.

WHAT VARIETIES:
Short season 85-90d that will be large and ready on late July. Do not worry about the same characteristics as you would for storage onions.

Summer Options for Cover Crops

AMY IVY

Vegetable growers are coming to realize the importance of cover crops for weed control, reducing soil erosion and for the various ways they improve soil health. But fitting cover crops into vegetable production is challenging. Growers try to maximize production in their fields, cropping from spring through fall, so there is rarely a time when a field is vacant for planting to a cover crop. Traditionally, cover crops have been used through the winter months when fields are void of other crops, but by using some creative timing and different cover choices, there are more options available throughout the calendar year for growers committed to improving their soil health.

Some of the best crops for adding biomass and organic matter to the soil and suppressing weeds are sensitive to frost and grow only during the summer months. Buckwheat and sorghum-sudangrass are classic warm season cover crops. They are also called green manures since they are mowed and tilled under while still green. Sun hemp is another warm season crop of recent interest but so far it has not grown as well in the cooler summers of our region compared to the sultry south where it flourishes.

Taking a field out of vegetable production in mid-summer may seem unreasonable to some growers, but because these crops grow so quickly, even a 6-week long cover crop can provide significant impact. A summer cover crop could fit in if planted in late June-early July after spring lettuce or greens and before fall planted greens or broccoli, for example. It can also fit nicely into more intensive cover cropping systems where a summer cover is followed by a fall cover of grass, grain or a mix of oats and peas, for an even greater impact on soil health. Vegetable growers are learning the value of cover crops even when using them means not having a cash crop in that period of time. Growers need to consider the long term benefits to their soil of working cover crops into their overall cropping system.

To increase grower awareness and interest in

Visit the ENYCHP Website

For online class registrations, announcements, previous issues of our newsletters, and more, visit the ENYCHP website at http://enych.cce.cornell.edu/

Email or call any of the educators with questions or comments on the website – we want to make it work for YOU!
cover crops we worked with Mike Davis, manager of the Cornell Willsboro Research Farm this summer to plant 2 identical demonstration plots, one on sandy loam soil and the other on clay loam soil. The plots were planted with a seed drill on July 1, and were not irrigated. There was no rain for 9 days after planting but eventually the sites received 3.99” of rain in July and 3.16” in August making this a dry growing season. We assessed the crops on September 2 giving them a visual score from 1-5 and measuring biomass on a dry weight basis.

The buckwheat, soybean and crimson clover plots did not establish but we did get data from sun hemp, cowpea, sorghum-sudangrass, tillage radish, teff, and a mix of Japanese millet and forage brassica. Buckwheat should have done well but it had less than 5% germination in both plots and was scratched from the results. This is not characteristic of buckwheat and we encourage growers to consider it as a summer cover crop for its quick growth and excellent weed suppression.

This was not a replicated research trial but instead a demonstration of some possibilities to encourage grower interest and discussion. We held two field meetings this summer, in early August and late September and used these demonstrations to spur discussion on a variety of cover crops strategies. When planning cover crops, it is helpful to consider what you need the crop to accomplish. Some are better at weed suppression, some at easing soil compaction and some at adding biomass or organic matter to the soil, for example.

In this photo from the sandy site, the sorghum-sudangrass block is on the far left (red arrow) and the tillage radish is in the center (yellow arrow). Note the heavy weed pressure to either side of the tillage radish and the weed suppression of both the sorghum-sudangrass and the tillage radish.

*The millet plot was actually a mixture of Japanese millet and forage brassica but the brassica was crowded out by the millet. The sand sample had 8 grams of brassica while the clay sample had zero.*
Cornell’s cover crop website [http://covercrops.cals.cornell.edu/](http://covercrops.cals.cornell.edu/) has an extremely useful Cover Crop Decision Tool which allows you to select different management goals, planting times, and durations of the crop to help you narrow down your choices to best meet your goals. There are also links at this site to fact sheets on each crop indicating seeding rate and tips on growing and managing the crop. Growers are encouraged to spend some time exploring this site this winter to try out different crop and timing options to see which could best fit into their management system. There are also articles there discussing strategies for each season through the year.

In our demonstration planting it was clear that the sorghum-sudangrass produced the most biomass and successfully suppressed weeds in both sites. The cowpea and teff suppressed weeds in the sandy site but did not produce a lot of biomass. The tillage radish flourished in the sandy site, suppressing weeds and producing biomass, but did not do well in the clay soil. Japanese millet suppressed weeds very well in both sites but produce much more biomass in the clay soil than the sandy soil. Readers are advised to not draw conclusions on these results since this was only a demonstration, but it does show how differently a crop can behave in different soil types on the same farm.

*This project was funded by the Northern New York Agricultural Development Program ([http://www.nnyagdev.org](http://www.nnyagdev.org)), supported by the New York State Senate and administered by the New York State Department of Agriculture and Markets.*

**Cultivation Equipment Demonstration Recap and Resources**

**ETHAN GRUNDBERG**

In an effort to help vegetable growers make informed equipment purchases this winter, vegetable crops specialist Ethan Grundberg organized a cultivation equipment demonstration in Poughkeepsie last month. Leon Vehaba, Farm Director at the Poughkeepsie Farm Project, hosted the demonstration that was attended by nearly 40 growers from Ulster, Dutchess, and Orange counties. After a brief discussion regarding the importance of understanding the ecology and biology of specific weed species and of developing field and species-specific weed management plans, Ethan and Leon demonstrated the use of six different implements and discussed their potential uses in stale seedbedding, in-row cultivation, and furrow cultivation. The group discussed the future of mechanical cultivation, focusing on the advancement of in-row weeders (like the KRESS finger weeders that were demonstrated on the HAK Steerable S-Series hoeing machine) and the development of robotic optical eye tools that are gaining popularity in the West and Southwest U.S. Attendees were also given a resource sheet with links to more information on cultivation equipment, which has been included below for your reference.

For those of you who are prone to sticker shock when considering the purchase of new equipment, I highly recommend that you do some quick “back of the envelope” calculations on the potential savings over time (especially labor savings) of newer precision equipment. Charlie Tangerini, owner and operator of Tangerini’s Spring Street Farm in Millis, MA presented just such a cost comparison for his Fobro Star Hoe Weeder at the New England Vegetable and Fruit Conference back in 2015. His calculations, which include assumptions about cost of tractor use per acre, cost of hand weeding per acre, and more, can be viewed at [http://www.newenglandvfc.org/2015_conference/Tangerini_Fobro_NEVFC.pdf](http://www.newenglandvfc.org/2015_conference/Tangerini_Fobro_NEVFC.pdf) beginning on page 12.
Cultivation Equipment Resource Sheet

“Cultivation Equipment for Weed Control: Pros, Cons, and Sources.” [https://www.uvm.edu/vtvegandberry/factsheets/cultivators.html](https://www.uvm.edu/vtvegandberry/factsheets/cultivators.html) - Short descriptions from Vern Grubinger of UVM on mechanical cultivation implements, costs, and dealer information.


“Weed ‘Em and Reap: Tools for Non-Chemical Weed Management in Vegetable Cropping Systems” [https://www.youtube.com/playlist?list=PLE6F4803EBE0BC31D](https://www.youtube.com/playlist?list=PLE6F4803EBE0BC31D) - A series of videos featuring vegetable growers discussing their cultivation equipment its role in their broader weed management plans.


“Mechanical Weed Control in Vegetable Production.” [https://www.youtube.com/watch?v=kGWNsgtNXk&list=PLFKS49vZwmmmFHf4LOMhjHV11zBT3Mdw1](https://www.youtube.com/watch?v=kGWNsgtNXk&list=PLFKS49vZwmmmFHf4LOMhjHV11zBT3Mdw1) - Demonstration video of new European equipment, such as torsion weeders, finger weeders, brush hoes, Kress duo-parallelgram, and more.


Optical eye in-row weeders:

“Tool Carrier” type tractors:
HAK LTC-Series: [https://www.youtube.com/watch?v=u8FOYfdOVTc](https://www.youtube.com/watch?v=u8FOYfdOVTc)
Fobro Mobil D46: [http://www.fobro-mobil.ch/fobromobil-d46/](http://www.fobro-mobil.ch/fobromobil-d46/)
Dear Betty,

My husband and I have been fighting for weeks. We have a vegetable farm and farmstand that has been in my family for two generations. I am an only child and my husband has been the farmer while I manage the stand and the books. We have three daughters in their 20s, all who have shown an interest in the farm and currently are working for us. My husband is such a control-freak that they all want to quit. Each of them has come to me in tears in the past few weeks because of my husband’s management style. His response is that they are too careless and he doesn’t trust them. I am really worried that they will leave, and that the farm business that my family built will die with my generation. What do we do?

Caught in the Middle

Dear Caught,

You are not alone. What your family is experiencing is a very common scenario in multi-generational family businesses. You, your husband, and your children have a relationship with each other as family members and it can be really hard to check those family relationships at the door of the business.

The first discussion that you and your husband need to have is an honest discussion about what each of your goals are for the succession of the family business. Does he know how important having your family’s business carry forward to the next generation is to you? Does he share that goal? What are his goals and concerns? How can concerns he has (or you may have) about your daughter’s capacity or the farm’s viability be addressed? The next step will be to include your children in this discussion. What are their future professional goals? Are their goals compatible with a succession plan for the family farm business, and what needs to happen to make this possible?

The key to success with these discussions will be to keep the discussion focused on the business, and not on other family relationship dynamics. Dad can be dad at home and the kids can be the kids - but at work he is a supervisor and they are management trainees or staff. Both your husband and your daughters should be clear about what that means and learn how to be successful in those roles. For all of these discussions, mediation or facilitation can be very helpful. There are two programs in New York, Farm Net [http://www.nyfarmnet.org/1-800-547-3276 (FARM)] and Ag Mediation [http://nysamp.com/1-866-669-7267] that can provide trained counselors/mediators with a knowledge of agriculture to help your family. Good luck!

-Betty

Do you have an ag business relationship problem?

Write to Betty Van Pacht (also known as Elizabeth Higgins).

Contact “Dear Betty” at emh56@cornell.edu or c/o ENYCH Team, P.O. Box 727, Highland, NY 12528.
New Farmers Grant Fund Now Accepting Applications—is this grant right for YOUR farm now?

ELIZABETH HIGGINS

If you are a new or early-stage farmer (farming for 10 years or less), $1 million in funding is available through the New York State New Farmers Grant Fund. This is the third year of funding for this program. To date, nearly $1.4 million has been provided to 41 farms throughout New York State to expand their operations and improve their profitability. The fund provides grants of up to $50,000 to assist with up to 50 percent of eligible project costs, with the remaining 50 percent being matched by the recipient. All owners of eligible farms must be within the first ten years of ownership and the farm must have had a minimum of $10,000 in income from sales of products grown or raised on the farm. Eligible project costs include the purchase of farm machinery, supplies and equipment, and construction or improvement of farm structures. Empire State Development, in consultation with the New York State Department of Agriculture and Markets, administers the fund. The application and guidelines for the New York State New Farmers Grant Fund are available http://esd.ny.gov/BusinessPrograms/NewFarmersGrantFund.html. The deadline for submission is January 27, 2017.

In reviewing projects that have been funded in the first two years of the program, there are two key factors that are likely to make a proposal more competitive. The first is that even though the program is advertised for new farmers, the farms that have been funded by this program generally have at least 5 years of farming under their belt. It is very unlikely that a brand-new farm will be competitive for this grant. Too many new business start-ups close in the first five years— for many reasons. The goal of this program is not to keep struggling farms from failing but to strategically invest in farm businesses that have a likelihood of success and growth. There will be a bias towards funding farms that are past the very early stages to help ensure that state funds will be invested in businesses that will survive and grow. If you are newer, be prepared to make a strong case about your experience and why your farm is beyond the initial “start-up” phase.

The second is having a strategic purpose for the grant. All new farms need infrastructure—the question that an applicant needs to answer is why should the state invest in this specific farm at this point in time? Farms that have been funded all have a very specific infrastructure need that is a barrier to expansion and have a business plan that demonstrates that state funds at this point in time will make a significant difference in this businesses long term viability and profitability. As an example, I worked on one successful proposal in 2015 where we demonstrated that the equipment requested would give the applicant farm the ability to expand production now, so they could secure enough quality long-term land leases near their processing facility to ensure their long-term survival. If they had to wait until they could cash-flow the equipment they were requesting, there was a reasonable concern that quality leases would be less available. The farm was otherwise showing consistent progress and was well managed.

If your farm has a project that would seem to meet these two tests, this program might be right for you. It is one of the few state grant programs that provides strategic investments in new farming businesses. If you have questions about the program, or want to discuss a project idea for this grant, contact Liz Higgins at emh56@cornell.edu. There are resources to assist with proposal application.
New Crop Insurance Premium Estimator and Other Tools on Ag-Analytics

JESSE STRZOK

Do you have questions regarding crop insurance? As part of a team headed by Jennifer Ifft and Joshua Woodard of the Dyson School, we are helping to bring information and tools to new and existing users of crop insurance. Not only are these tools useful specifically for crop insurance, they are also incredibly useful for budgets, business plans, feasibility studies, etc. Throughout this next year I will be bringing crop insurance information to you through our publications, at our schools, and through our team website. First, I’d like to bring to your attention some new tools on Ag-Analytics. As you will see, many tools exist, but to start let’s do a quick tour of calculating how much crop insurance premiums should cost.

Follow me by going to ag-analytics.org and at the top of the screen you will see a tab with “Tools” written on it, click on it. You will see a screen with user tools ranging from crop yields to commodity future prices. Next, maneuver to the user tool titled “Crop Insurance.” This tool uses historical yield data of your own as well as data collected by USDA to help figure out how much you should pay for insurance. Enter your data to the best of your ability and click “Calculate Premium” at the bottom of the screen. Using this information, you should be off to a good start with your estimates. Please note you will still need to refer to USDA RMA for official premium estimates.

As we are still developing these tools your feedback is appreciated (both good and bad). Please let us know how we are doing and what you would like to see in the future. If your questions are related directly to the website, Joshua Woodard can be reached at jdw277@cornell.edu. Otherwise I am available at js3234@cornell.edu.

Economics and Farm Policy Part 2:
The Case for Support

JESSE STRZOK

As introduced in last month’s Produce Pages, we’re taking a look at the basic economic arguments for price supports as part of our Economics and Farm Policy. To recap Part 1, we inspected prices received by farms for their products over time, adjusted for inflation, and took a look at how to do this.

Most farms have experienced first-hand the variability of prices received both in retail and wholesale markets. This can be broken down into two main reasons, supply and demand. (Said the economist). On both the supply and demand side we’re competing internationally, especially in wholesale markets with current transportation costs. For example, we’re seeing more food supplied to NY, and less demanded, by Canadians due in part to the exchange rate.

Of the determinants of supply and demand, perhaps the most variability is being caused by weather. The greater variability of weather during production is producing greater variability in supply and a resulting change in prices and quantity demanded, ceteris paribus. The weather also has an effect on demand with foreign consumption based on their supplies. Each determinant of supply and demand should be analyzed in this manner. This price variability is the main argument for government intervention into the markets to buy and store excess supply. By holding excess supply when prices are low, and selling when prices are high, the crop prices can be stabilized; like a central bank and currency supply.

Questions, comments, or concerns? Please let me know – js3234@cornell.edu.
Handwashing Water

ERIK SCHELLENBERG

Many farms provide porta-johns for their workers in the field and around the farm yard. For mid-scale and larger produce farms, this is one of the highest risk areas for contamination on the farm. At the risk of sounding like an alarmist, I will say with confidence that if you don’t take handwashing seriously you are putting your entire farm and livelihood at risk. Handwashing with regular non-antibacterial soap and water (doesn’t have to be warm but warm encourages the sufficient wash time) is the most beneficial and most basic hygiene practice you can do. A study published in the American Journal of Public Health found that a thorough hand washing reduces risk of gastro-intestinal illness (GI) by 31% and reduces risk of respiratory illness by 21% (1). A 20 second vigorous and thorough washing of the hands is essential for all workers who will be handling fresh produce, or anything that the produce will come in direct contact with.

Astonishingly, there are farms that supply bathrooms or porta-johns for their workers and no hand washing facilities. It is likely that consumers of fresh produce from such operations have already contacted GI illnesses. This practice is as dangerous for farm viability as it is for consumers. It’s not a question of if there will be a foodborne illness outbreak from this type of situation, but when. And when it happens, word will get out. Even if the FDA doesn’t get involved, word of mouth travels fast on social media and through buyer networks, and sales will drop.

Many more farms have handwashing facilities, but they are not used all the time. The handwashing station needs to be immediately adjacent to the rest room, and it needs to have eye-catching signage telling workers that they must wash their hands before returning to work. There must be water in the tank, ideally a foot- or knee pedal, a soap dispenser, and paper towels. All farms that have passed a GAPS audit know this well. However, there is news about the water in these facilities:

In a permanent bathroom, the sink is usually connected to a multi-purpose well that among other things supplies drinking water. Because of this, the water must be tested and found to have zero total coliforms, which renders it potable. If there is a presence of coliforms, the well must be shocked and re-tested until the test comes back negative. In porta-johns, however, the handwashing station water is often delivered by the rental company. The company probably gets the water out of a tested well, then pumps it into a water tank, and dispenses it into non-food grade handwashing stations. For this reason, they have been recently putting stickers that say “Non-potable water: do not drink”. Unfortunately, this sticker is a red flag for GAPS auditors.

Going forward, you need to make sure that the water in the handwashing station of your porta-johns is potable. You can put a sign that says “Do not drink the water”, but it must be water from a potable and tested source. You can request to see the test results from the rental company that is delivering the water, or, if they are unwilling to work with you on that, you can use your own tested potable well water to fill up the handwashing station. I know this all sounds pretty unimportant, but you don’t want to be washing your hands with contaminated water. The second thing you don’t want is to have to spend a lot of time answering questions about this with an auditor, as they charge by the hour. Write down the source of your handwashing water, and it needs to have eye-
water in your Food Safety Plan, and have the water tests on file. That way when they ask, they get the right answer immediately and the case is closed.

Effect of Hand Hygiene on Infectious Disease Risk in the Community Setting: A Meta-Analysis [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2446461/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2446461/)

Reimbursement Program for Food Safety Audits

**ERIK SCHELLENBERG**

This year there is a special $1,000 reimbursement grant for costs of obtaining third party audits. In the past, there has been a $750 grant available only for first year auditees. In an effort to help more farms obtain and maintain food safety audits, the USDA specialty crop block grant program has made this extra funding available to all farms that have passed a third party audit, regardless of how many audits the farm has had in the past. This grant can reimburse costs associated with any third party food safety audit, or water tests. Funding for this reimbursement grant is finite, and farms who have passed their 2016 need to act fast. The contact for this program is Saeed Akhtar, 518-457-2090, saeed.akhtar@agriculture.ny.gov

You can also contact Erik Schellenberg to get the grant application form. jk2642@cornell.edu, 845-344-1234

Act fast, because the funding for this program for 2016 will end at the end of the calendar year!

Fast-Changing World of Fresh Berry Marketing

**ERIC HANSON & KATHERINE HANSON,**
**DEPARTMENT OF HORTICULTURE, MICHIGAN STATE UNIVERSITY**

Most U.S. consumers know their grocery stores offer fresh blueberries, blackberries, raspberries and strawberries every week of the year. Berries now considered a year-round option rather than a seasonal treat. Continual availability is the result of the development of varieties adapted to diverse climates and production systems tailored to specific regions, often including the use of protective structures to extend harvest seasons. Producers are constantly developing ways to target windows in time when prices are most lucrative. This results in a dynamic industry where berry volumes and sources change each year.

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For local berry producers, year-round availability has increased overall consumption of berries but also perhaps diminished the anticipation of the coming local production season. Although retail prices still vary with season, supplies from multiple regions have also tended to stabilize prices at low to moderate levels. Growers in regions such as the Midwest or eastern U.S. producing for local markets need to understand the dynamic nature of the national and international berry industries, since changes can impact their prices. Although local producers often enjoy higher prices than those received by national or international suppliers, distant suppliers often impact price trends and define what consumers come to expect for prices.

A valuable source of data on fresh berry movement and prices is the USDA Agricultural Marketing Service Specialty Crops Retail Report (https://marketnews.usda.gov/mnp/fv-home). We utilized data from this site to describe how the volumes, sources and prices of fresh berries have changed over the last few years.

**RED RASPBERRIES**

Fresh raspberry consumption, sources and volumes have undergone enormous changes in the last two to three decades. Before the 1980’s, fresh raspberries were mostly a seasonal crop produced by local farmers in most northern U.S. states. Since the late 1980’s U.S. raspberry production has increased by nearly fourfold. Fresh market raspberries produced in California account for nearly all of this increase. Up until about 2005, fresh red raspberry demand during the winter months, when California production was low, was met by imports from Chile and Mexico (Fig. 1). Recently, berries from Mexico alone have filled the winter markets when California production is low. High volumes of fresh red raspberries are now available to U.S. consumers throughout the year.

Retail raspberry prices in Midwest grocery stores (Fig 2) have been impacted by changing volumes. Since late 2010 at the start of retail price data collection for fresh raspberries, overall prices have declined from about $7.00 per pound to $6.00. These prices are based mostly on 6 ounce clamshell units. Another apparent trend is a reduction in some of the seasonal fluctuations; prices seem to vary less now between seasons.

Smaller growers in the Midwest or Northeast U.S. often market red raspberries directly to consumers

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through farm or farmer’s markets or pick-your-own. Depending on their approach and location, they may achieve higher or lower prices than the larger suppliers to grocery chains. The North American Raspberry and Blackberry Association (NARBA) periodically surveys their members to describe grower prices in different regions of the country. They reported prices received by growers for pre-picked fresh red raspberry ranged from about $5.00 to 9.00 per pound in the upper Midwest, and $4.00 to 11.00 in the Northeastern states. The wide range in prices likely reflects local demographics and berry availability.

BLACKBERRIES
Mexican growers, the primary supplier of fresh blackberries to the U.S., have developed a novel production system based heavily on one cultivar named Tupi. The Mexican market season generally runs from October to June, while California, Guatemala and southeastern U.S. states now supply demand during the remainder of the year. Overall annual volumes of fresh blackberries increased dramatically from 2000 to 2010, and have been more stable since that time. Unlike most other berries, fresh blackberry volumes are lowest during the North American growing season, which may offer some opportunities for growers in the Midwest and Northeastern states. As can be seen in Figure 3 however, summer volumes have increased recently.

Since late 2010 at the start of fresh blackberry retail price data collection by the USDA Agricultural Marketing Service, prices in Midwest grocery stores have generally been between $6.00 and $7.00 per pound, with prices strongest in the fall, but an overall slight declining trend (Figure 4). These values are based mostly on 6 ounce clamshell units sold in grocery chain stores.

NARBA also reported recent prices received by growers for fresh pre-picked blackberries. These ranged from $3.00 to 6.00 per pound in the upper Midwest and $4.00 to $11.00 in the Northeastern states. Like raspberries, blackberry prices vary a great deal based on the marketing approaches and the demographics and supply/demand conditions for each location.

STRAWBERRIES
Fresh strawberries have become a staple fruit in US grocery stores over the last decade due in large part to the advent of day neutral cultivars. Total

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strawberry volume in US markets has far exceeded that of any fresh berry, reaching approximately 25,000 ten thousand pound units in 2015 (Figure 5). Producers remain concentrated in North America with peak volumes occurring April through July and California producing the vast majority of fruit followed by Mexico and Florida. The relative consistency in annual volume of fresh strawberries available in the US market for the last ten years has contributed to flat retail price trend in Midwest grocery stores. While prices do vary by month with the highest prices between $3.00 and $3.50 per pound during winter, the overall average monthly price per pound has remained at just under $2.50 per pound since 2010 (Figure 6).

WHAT DOES THIS ALL MEAN FOR BERRY PRODUCERS IN THE MIDWEST AND NORTHEAST?

First, the increasing consumption and demand for fresh berries is encouraging for local producers. Continual availability and increasing volumes have also tended to temper prices and remove some of the seasonal highs and lows. For Midwest/Northeast growers, this means that some of the advantages of producing during certain market windows have diminished, so growers need to take advantage of techniques and technologies that help them efficiently produce high quality berries, such as mulches and protective structures such as high and low tunnels. A bright note is that demand for locally produced berries is high, as evident from the strong pricing local growers report for many locations. Growers should devise marketing approaches that take advantage of the “buy local” trend, but keep in mind that consumers are unlikely to support local growers with inferior quality. Fresh berry production presents many exciting opportunities for growers in the Midwest and Northeast.

References:

Highlighted Sessions.....

2017 Becker Forum: GAPs/Produce Safety Alliance (PSA) Training
Monday, January 16, 2017 | 9:00 AM – 5:00 PM
Holiday Inn Syracuse-Liverpool, 441 Electronics Parkway, Liverpool, New York 13088
Pre-registration requested as space is limited to 50 on first-come basis
The New York State Vegetable Growers Association in conjunction with the Produce Safety Alliance (a collaboration between Cornell University, FDA and USDA) are pleased to announce that one of the first producer trainings to meet the requirements of Food Safety Modernization Act (FSMA) will be offered during the Becker Forum on January 16, 2017 in Liverpool, NY. This 7-hour training will provide the required training for farms to meet the Produce Safety Rule.

Amber Waves on the Horizon:
Grain Growing for Emerging Value-Added, Local Small Grains Markets
Tuesday, January 17, 2017 | 11:00 am – 12:15 pm
Session organized by Justin O'Dea, CCE Ulster County
There is a grain renaissance growing in New York State. Craft bakers, chefs, brewers, and distillers are creating new value-added market opportunities for NYS-grown grain. Recent farm brewery and distillery legislation is further bolstering this trend. In this Empire State Producers Expo session, attendees will gain an overview of malting barley production in NYS and general considerations for getting involved in producing grain for value added markets in NYS. Cornell and farmer session speakers will include aspects informative to both beginning small grains growers and those who have already begun to produce grain.

Cut Flower Production
Tuesday, January 17, 2017 | 11:00 am – 12:15 pm
Session organized by Dana Dore-Hadad, Chicory Blue Gardens
Mike and Polly Hutchison of Robin Hollow Farm, in Saunderstown, RI, will discuss how they created, and operate a successful cut flower farm. If you are interested in growing and selling flowers, or are a veteran grower, come listen and later take part in a grower discussion. There's a lot to learn from Mike and Polly Hutchison, of Robin Hollow Farm!

Weed Management
Tuesday, January 17, 2017 | 1:45 pm – 3:00 pm
Session organized by Darcy Telenko and Julie Kikkert, CCE Cornell Vegetable Program
This afternoon session will feature Dr. Antonio DiTommaso from Soil and Crop Sciences, Cornell University as he discusses the influence of weed seed banks and what can be done to lower their impact in our cropping systems. He will discuss the importance of understanding weed biology and the roles different reproductive strategies play in persistence of weed species. If weeds are a problem on your farm you won’t want to miss this session.

Biopesticides: What are They? Will They Work? How to Incorporate Them on Your Farm
Tuesday, January 17, 2017 | 3:45 pm-5:10 pm
Session organized by Darcy Telenko, CCE Cornell Vegetable Program and Megan Burley, CCE Erie
Biopesticides are defined by the EPA to “…include naturally occurring substances that control pests (biochemical pesticides), microorganism that control pests (microbial pesticides), and pesticidal substances produced by plants containing added genetic material (plant-incorporated protectants) or PIPs.” These include biochemical pesticides, microbial pesticides, and plant-incorporated protectants. Join Debbie Palumbo-Sanders, BioWorks Inc., who will discuss the truths and myths of biopesticides. Abby Seaman from the NYS IPM Program, Cornell University will discuss her biopesticides research -what they’ve tried and what has worked. In addition, Mark Zittel, Amos Zittel & Sons Farm, will give a grower perspective on using biopesticides on their farm.

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**Labor**
Wednesday, January 18, 2017 | 1:15 pm - 2:30 pm
Session organized by Megan Burley, CCE Erie County

Without a viable labor force agriculture as we know it may cease to exist. This session has been developed to encourage conversation about the labor sources that we have and what information and services are available to farmers seeking farm labor. Mary Jo Dudley, Director of the Cornell Farmworker Program, will be giving an overview of a collaborative project between Cornell, farmers and their workers, to develop culturally appropriate training tools that can bridge differences between cultures and strengthen the workforce. In addition, Laura Cardoso and Belen Ledzema, Agriculture labor specialists for the NYS Department of Labor, will give an introduction to the NYS Department of Labor Employment Services and programs they have in place for agriculture producers. Topics will include the H-2A Program, recruiting assistance and referrals the NYS Career Centers, supplementing your labor, and time available to answer any questions related to agricultural labor in New York State.

**Tree Fruit – Technology in the Orchard**
Thursday January 19, 2017 | 8:30 am - 9:45 am
Session organized by Matt Wells, CCE Lake Ontario Fruit Team

Technology in orchards continues to evolve and “high-tech” tools are becoming more common. There is a lot of excitement in agriculture around the potential use of drones and drones offer a new way to move and work in an orchard setting. However, the technology that is moving Agriculture into “high-tech” is sensory technology and data analysis. Jim Meyers, Senior Vice President of Technology and Operations of Noukatech, Inc. will be giving a two-part presentation on the present and future states of high-tech in orchards using advanced sensors, robotics and data processing. Matt Wells from Cornell Cooperative Extension will be sharing his research and knowledge on the present and future states of harvest mechanization. Harvest labor is the single largest cost to farms today and sourcing highly skilled seasonal labor is difficult. Today there are labor savings options for tree fruit growers and the future may be brighter as robotic pickers are no longer far-fetched.

**Beginning Farmer**
Thursday, January 19, 2017 | 8:30 am – 9:45 am
Session organized by Megan Burley, CCE Erie County

As a beginning farmer there are many options to explore when it comes to marketing. During this session two farmers will provide information about the challenges and successes in selling through different models. Dan Roleofs, owner of Arden Farm, a certified organic farm in East Aurora, will lead a discussion about his CSA and his expansion of sales to the WNY Food Hub. Mayda Pozentides, the owner of Groundwork Market Garden, a two-acre urban farm on Genesee Street in Buffalo, will discuss why she choose urban farming and her model for marketing including a CSA and restaurant sales.

**Onions: Ensuring High Quality in Small-Scale Production**
Thursday, January 19, 2017 | 11:00 am to 12:15 pm
Session organized by Christine Hoepting, CCE Cornell Vegetable Program

This year we are taking a break from large-scale onion production and will focus on ensuring high quality onions on a small-scale. The feature presentation will be on producing high quality plug transplants, which will be presented by Kevin Vander Kooi, from the University of Guelph, who has been growing high quality onion plug transplants for the Muck Crops Research Station for over 20 years. The remainder of the program will focus on harvest and post-harvest handling with presentations by CCE Allium Specialists, Crystal Stewart and Christy Hoepting and small-scale onion grower, Jean-Paul Courtens from the Hudson Valley Food Hub. Onion physiology as it relates to onion maturity and storability will be reviewed and many tips on how to achieve high bulb quality during these phases of production will be shared.

**Hard Cider**
Thursday January 19, 2017 | 1:45 pm – 4:30 pm
Session organized by Matt Wells, Lake Ontario Fruit Team

The NY Hard Cider Industry continues to grow due to strong consumer demand. There are many hard cider start-ups and many more folks considering giving it a go. Micah Martin from Cornell University will discuss his research on using NY dessert varieties to make an excellent hard cider. Greg Peck also from Cornell will be sharing his knowledge of cider apples and giving and introduction to tannins, an important component to make traditional tasting ciders. For those attendees considering growing their own cider apples or growing for the cider industry, Alan Cummins from Cummins Nursery will discuss the growth aspects (both good and bad) of the more popular hard cider varieties. Following these talks there will be a tasting of NY's best hard ciders.
GROWING TABLE GRAPES FOR PROFIT WORKSHOP

Thursday, December 1st
CCE Albany County
24 Martin Road
Voorheesville, NY 12186

Fee: $20 for ENYCHP enrolled
$30 for non-enrolled

To register online visit:
http://enych.cce.cornell.edu/events.php

Registration Deadline: November 28th

Workshop Agenda

9:00 am – Welcome
9:05 – Overview of Grape Biology – Jim O’Connell, CCE ENYCHP
9:40 - Site Selection – Jim O’Connell, CCE ENYCHP
10:20 – Cultivar Selection and Planting – George Hamilton, University of NH Cooperative Extension
11:00 - Break
11:15 - Trellis Selection and Construction – George Hamilton, UNH
11:30 - Overview of Vineyard Management Considerations - George Hamilton, UNH
12:10 pm – Practical considerations from a grower perspective – Andy Farmer, Northeastern Vine Supply
12:30 – Lunch
1:15 - Plant Nutrition and Fertilization – Tim Martinson, Cornell University State Viticulture Specialist
1:45 - Pest Management Overview – Anna Wallis, CCE ENYCHP
3:15 - Growers’ Perspectives on Table Grape Production and Marketing – Angus Thomson, Bellvale Community, Chester, NY and Nicolas Bozzo, Nostrano Vineyards, Milton NY
3:45 - Evaluation and Q&A
4:00 - Adjourn

Who Should Attend?
New growers and / or veteran growers looking for a new and profitable crop

Table Grape Registration Form

Name(s): ___________________________________________ Phone Number: ___________________________________________

Farm Name: _________________________________________ Email: _____________________________________________

# of Enrolled Members: _____ x $20 = _____ # of Non-Enrolled Members: _____ x $30 = _____

Please make checks payable to CCE ENYCHP. Registrations should be mailed to: ENYCHP, CCE Washington County, 415 Lower Main Street, Hudson Falls NY 12839
Contact Abby Henderson: 518-746-2553 with any questions or to register over the phone

Topics Will Include
Grape biology and nutrition
Site Selection
Trellising
Pest Control and Cultivar Selection
Orchard Management
Starting a New Enterprise
Marketing Strategies

THE PRODUCE PAGES
USDA to Survey New York Onion Growers

NASS NORTHEASTERN REGIONAL FIELD OFFICE

During November 2016, the U.S. Department of Agriculture’s National Agricultural Statistics Service (NASS) will conduct its biannual Onion Grower Inquiry. NASS will reach out to more than 100 New York onion growers in order to gather information for the November Onion Grower Inquiry. The survey will collect information on acreage, production, and value of the 2016 summer dry onion crop. NASS will compile, analyze and publish the survey results in the Annual Vegetable Report, to be released in January 2017.

“Participating in this survey is a convenient and effective way for farmers to analyze and compare the different practices of production, acreage and values within their own communities, as well as at the National level. Data from the survey will benefit farmers, processors, and agribusinesses, by providing timely and accurate information to help them make crucial business decisions for the next growing and marketing season. Furthermore, policymakers use these statistical reports to update their understanding and to make decisions,” said King Whetstone, USDA/NASS Northeastern Regional Director.

The November Onion Grower Inquiry will be available online for sampled respondents starting November 1st, 2016. This database and all NASS reports are available on the agency’s website: www.nass.usda.gov. As with all NASS surveys, information provided by the respondents is confidential, as required by Federal Law. NASS safeguards the privacy of all responses and publishes only aggregate data, ensuring that no individual operation or producer can be identified. For more information on NASS surveys and reports, call the NASS Northeastern Regional Field Office at 1-800-498-1518.

New York State Berry Growers Association

Winter Regional Workshops

As dramatic weather events increase, pest pressure intensifies, and local markets vitalize, New York berry growers are looking for ways to protect their crop and lengthen their season. Growers and educators are experimenting with techniques for growing berries under cover. These day-long workshops will feature multiple short presentations, interactive activities, and words from growers discussing the newest research in tunnels and exclusion netting. The price for the workshop is only $25 for NYSBGA members and $50 for Non-Members. The workshops are offered in the following locations:

**WESTERN NEW YORK**
Wed., December 14, 2016
8:30 AM - 4 PM
CLEREL (Cornell Lake Erie Research and Extension Lab)
6592 West Main Road
Portland, NY, 14769
Register by December 7th

**CENTRAL NEW YORK**
Tues., January 17, 2017
8:30 AM - 4 PM
Oncenter Convention Center
Syracuse, NY
https://nysvga.org/expo/information/

**LONG ISLAND**
Tues., March 7, 2016
8:30 AM - 4 PM
Cornell Cooperative Extension
Suffolk County Extension Education Center
423 Griffing Avenue, Suite 100
Riverhead, New York 11901
Register by February 28th!

Questions? Call: (646) 284-7762 or email
Calendar of Events


November 17, 2016. Farm to Institution Market Readiness: A Workshop for Farmers. CCE Saratoga County, Ballston Spa, NY. $25, includes lunch 9:00AM-3:00PM. Interested in taking advantage of the growing demand for New York foods in schools, colleges, hospitals, child care, and senior meal centers? Registration: Ellie Hackett - (518) 885-8995 or eah29@cornell.edu.

December 1, 2016. Table Grape Workshop, CCE Albany County, Voorheesville, NY. See p. 22 for more information and registration.

December 6&7, 2016. 8-Day Farm Food Safety Workshop. 8:30am-3:00pm. Training covers the basic USDA GAPs and Harmonized GAPs programs. CCE Broome, 840 Front St., Binghamton, 13905. $65. Call Anna Wallis at 607-772-8953. RSVP by 12/2.


December 8, 2016. Business Succession Planning for Farms (Part 1 of 2) CCE Ulster County, Hudson Valley Lab, 3357 US HWY 9W, Highland, NY. 11:00AM-3:00PM $50 for up to 2 people per farm. Lunch included. Part 2 date TBD, end of February.

December 14, 2016. Cover Crops Grower Discussion, Informal grower discussion about fitting cover crops into vegetable rotations. AARCH Building, 1745 Main St., Keeseville, NY, 12944. 6:30-8:30 PM. No registration fee. E-mail or call Amy at adi2@cornell or 518-570-5991 to sign up.
