There has been an increase in the incidence of Southern Sclerotium root rot in beets in NY. The disease causes wilted plants, root rot and decay.

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Growing Brussels sprouts in our climate can be challenging. Here are some tips for improved management.

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Soil electrical conductivity measurement can help growers make nutrient management, seeding rate, seeding depth, and irrigation scheduling decisions.

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Here's a brief primer on the history of produce auctions in NYS and the re-development of these market channels, benefitting local farmers & rural communities.

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VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

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Photo: J. Reid

Cornell Cooperative Extension
Cornell Vegetable Program

Beet Wilt and Decay: Could it be Southern Sclerotium Root Rot?

Julie Kikkert, CCE Cornell Vegetable Program; Ethan Grundberg, CCE ENY Commercial Horticulture Program; and Sarah Pethybridge, Cornell

The acreage planted to table beets in New York has increased over the past several years due to increased popularity with consumers seeking health benefits, attractive new cultivars, and the availability of fresh convenience packs, juices and other products. The storage of beets for winter markets and processing has also increased, setting the stage for increased root rots.

Southern Sclerotium root rot or "Southern Blight" caused by the fungus *Sclerotium rolfsii* (syn. *Athelia rolfsii*) has historically only been a concern to growers in southern states. However, we have seen an increase in the incidence of this disease over the past several years in New York. Wilted plants, root rot, and decay in several beet fields across New York were observed. In storage, the pathogen will continue growing and producing the characteristic brown balls (Fig. 1) on the outside of the roots when present at low temperatures (< 50 F), whereas other fungi may slow down further or not grow at all. The balls are sclerotia, which are resting structures of the fungus. In two situations in different regions and years, the beets looked perfectly fine going into storage, but later became covered with the fungus in storage.

Figure 1. Table beet from storage exhibiting signs of Southern Sclerotium Root Rot caused by Sclerotium rolfsii. Note the white mat of fungal mycelium and white to brown balls (resting structures called sclerotia) that are characteristic of this disease. *Photo: J. Kikkert, CVP*

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VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension partnership between Cornell University and CCE Associations in 14 counties.

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

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

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The most common symptom observed in the field is wilting or collapse of the plant. Upon closer inspection, affected plants often have reddish-brown dry lesions at the soil line. Fungal mycelium is also usually present as a thick white mat around the base of the stem or roots in storage. The sclerotia formed by *S. rolfsii* are a key identifying feature; they are small balls (1 to 2 mm diameter) similar in appearance to Dijon mustard seeds that change in color from white to golden to reddish-brown (Fig. 1). These sclerotia can survive in the soil for years and endure temperature extremes and drought. Sclerotia are the primary source of inoculum and they are transported from field to field by soil, machinery, or groundwater movement. Therefore, strict farm hygiene protocols to prevent introduction into a field are likely the most critical intervention point.

Given the broad host range of the pathogen that includes over 1,200 crops and weeds, it is imperative that growers who suspect a possible Southern Blight infestation on their farm contact Cornell Cooperative Extension to confirm the diagnosis and to assist with optimizing crop rotations to reduce soil-borne inoculum. Crops that are most commonly affected by Southern Blight are tomatoes, peppers, snap beans, onions, garlic, and Jerusalem artichokes; however, the pathogen can grow and reproduce on a much broader range of plants. Like with most diseases, early detection and proper identification are critical! Infested plants should be removed and destroyed if possible. Symptomatic plants should NOT be placed in compost, as they may contain sclerotia that will then be spread with the compost to other fields. Some small grains and corn are less susceptible to Southern Blight and can be used in rotation in heavily infested fields, but crop rotation is typically not a viable strategy for management of this pathogen given its broad host range. Initial research in New York suggests that deep plowing of infested fields to bury sclerotia and infested residue at least 6-inches deep can lower the pathogen's survival rate.

Several effective chemical controls are available to conventional growers, but they must be applied preventatively. Labeled formulations of azoxystrobin (Quadris), pyraclostrobin (Cabrio), and penthiopyrad (Fontelis) have been effective for growers in the south. Some research has suggested that OMRI-approved biocontrol agents, such as Trichoderma harzianum (RootShield, TerraGrow) and Gliocladium virens (SoilGard), may also help reduce the number of Southern Blight sclerotia and prevent colonization of host plant tissue by the pathogen.

Brussels Sprouts: Heat Stress and Other Challenges

Jan van der Heide, Bejo Seeds

[In the Cole crops session at this year's Empire State Producers Expo in Syracuse in January, Jason Plate gave an excellent presentation on behalf of Jan van der Heide, both from Bejo Seeds, on understanding heat stress and implications for improved management. Since the information was so well received by the growers in attendance, I asked Jan to write an article for Veg Edge. ed. C. Hoepting, CCE CVP]

We are all familiar with the "Kale Craze" of the past few years. Consumers have discovered the health benefits of Kale, and this is helping draw attention to those same health benefits that can be found in other members of the Brassica family. Cauliflower, Brussels Sprouts, Chinese Cabbage, flat cabbage, and many other members of the Brassica family are enjoying increasing popularity.

While Kale is quite easy to grow, some of the other Brassicas are quite a bit trickier. Brussels Sprouts, in particular, can be challenging. Here are some tips.

Brussels Sprouts like a moderate climate for steady growth. Brussels is a city in Belgium, in Northern Europe. This area is surrounded by the warm waters of the Gulf Stream, and the summers are long, cool and wet, with very little heat stress. This allows the Brussels Sprouts to grow at a nice, even pace (Fig. 1). Growers are able to learn how to grow this crop, and then apply the same practices every year to get the same results.

Our climate, by contrast, is a Continental Climate, with long and cold winters, a very short spring, and a hot and stressful summer. The heat stress in summer makes a nice, even pace of growth very difficult.

Figure 1. Perfection! Nice, even growth with the right fertility management gives straight stalks, even sprout development and sizing and green and healthy sprouts. Notice the shed leaves (brown and dead) on the ground (no green leaves on the stalk!) Note: This photo was taken in Holland. *Photo: Bejo Seeds*

Heat stress disturbs normal plant development.

During normal growth, the top bud (growing tip) on the plant produces hormones that stimulate the development of a tall stalk, while at the same time suppressing the development of side buds. These side buds eventually become

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the Brussels Sprouts themselves, of course. Too much heat stress can stop the plant growth, and this can lead to uneven plant growth and development.

Uneven growth leads to loss of control of plant development by the top bud (loss of "apical dominance"). This can have the following effects:

- Reduced stalk length.
- Premature development of side buds (sprouts).
- Elongation of the lower sprouts when growth resumes.

Heat stress causes physiological problems: Summer Frost.
Brussels Sprouts are like any other plant. The leaves evaporate water to create suction to bring up nutrients with water through the roots, but evaporation is also needed to cool the plant during hot weather. When the weather is hot the leaves will draw most of the water from the vascular system at the expense of water flow to the sprouts, and the young developing sprouts will not get many nutrients. This can lead to calcium deficiencies in the sprouts (Summer Frost) (Fig. 2). This is very similar to calcium deficiencies that lead to tip burn in cabbage, lettuce and other leafy crops and blossom end rot in tomatoes and peppers. The weak tissues are invaded by Alternaria, and sometimes by bacteria that cause soft rot. As with tomatoes, be sure to provide irrigation when the weather gets hot and dry. You will get better sprouts later in the year.

Figure 2. SUMMER FROST in Brussels Sprouts is caused by Calcium deficiency (lack of water during hot weather). The symptoms are similar to tip burn and internal black in cabbage. The same issue causes blossom-end rot in tomato. *Photo: Bejo Seeds*

Uneven growth produces uneven sprouts.
Anything that stops the plant from growing (too much water, too dry, too hot, etc.) will disturb the normal growth of the plant. The sprouts at the bottom of the plant (the ones that were formed first) are eager to "grow out", just like the suckers on a tomato or cucumber plant. The only thing that keeps them from growing out is the dominance of the top bud. If dominance from the top is weak (because of uneven growth) the bottom sprouts will start to develop and will try to grow out (Fig. 3). The lower sprouts will elongate and stretch. The stretching tears the outer leaves from the stem, and these leaves will wilt and die. Alternaria can move in quickly, turning these weak and dying leaves black (Fig. 4 & 5).

Figure 3. Uneven growth results in the bottom sprouts to grow into side shoots. Notice the little sprouts at the bottom of this side shoot (yellow arrows). *Photo: Bejo Seeds*

Figure 4. This sprout from the bottom of the stalk is "stretching" and has pulled the outside leaf off the stalk. This wrapper leaf is dying and could soon be invaded by Alternaria. *Photo: Bejo Seeds.*

Figure 5. "Funky" Brussels sprouts caused by the same issues as SUMMER FROST. Tip-burned tissues are invaded by Alternaria leaf spot. (Various views provided.) Avoid heat stress by providing constant moisture supply. *Photos: Bejo Seeds.*

continued on next page

Effects of Planting Time.
Planting early (April) will allow the plants to take advantage of relatively good growing conditions in spring and early summer and make a lot of length before the heat stress challenges of July and August. Planting late (July) will put the plants pretty much into the thick of the heat stress at the beginning of their development, and the plants will stay short until the weather cools down by late August. These late plantings will have a lot of catching up to do before cold weather sets in.

Early plantings will produce earlier sprouts, which will need to be picked early. Early plantings will challenge the holding ability of the sprouts, and sprout quality will decline with extended field holding.

Late plantings will not have problems with field holding, but stems tend to be shorter, and sprout development is not complete. Because the sprouts are not (over)mature yet the quality of the sprouts is quite good.

Clearly, we are searching for a happy medium that strikes the right balance of yield and quality. You will have to experiment with planting time and with different varieties. The early-maturing varieties will run into severe quality challenges when planted early, while the late maturing varieties will benefit from early planting. Early varieties could give you nice sprouts when planted late (July) – they can develop quickly when the weather cools down in fall without running the risk of getting over-mature, while late planting of late-maturing varieties will produce only a small crop of sprouts (Fig. 6).

Different planting dates all harvested in mid-October

Lower sprouts are quite mature; good development of sprouts along most of stem. *At this stage, the weight of the plant can cause the plants to lodge a bit. In some varieties, the lower sprouts might be over-mature and get "funky", but MARTE has good field-holding ability. Notice the yellow leaves at the base of the plant – this is a good sign.*

Good quality sprouts, no "funkiness", nice even development.

This plant is still very green, and not much sprout development in the top half of the stalk.

Figure 6. Effect of planting date on Brussels sprouts quality. 'Marte' is an early main-season variety (103 days to maturity). Demonstration planted at Bejo Research Farm in Geneva, NY, 2018. Growers need to experiment with planting date by variety to hit the "sweet spot" for optimum yield and quality. *Photos: Bejo Seeds.*

Front-load Fertility.
The Brussels Sprout plants need to make tall stalks quickly at the beginning of the season, so they will need plenty of fertility to support this rapid growth. Once the plant reaches its maximum length (at about 2/3 of the season) the fertility in the soil should be just about used up to force the plants to re-distribute its nutrients from the leaves into the sprouts. The leaves will turn yellow, starting at the bottom, wilt and fall off while the sprouts increase in size, until the whole stalk is "naked" and stacked with healthy and green sprouts.

Too much fertility late in the season will keep leaves green, and the leaves will not shed. The sprouts will not fill evenly, leaving the top sprouts underdeveloped, and harvest will be complicated by too many leaves.

General fertility recommendations are 200 – 250 pound of N/acre, 200 – 300 # K/acre, and 60 – 100 # P/acre. Earlier maturing varieties will need a little less, and longer maturing varieties will need a bit more. Consider the fertility of your fields, and the previous crops. Soybeans add quite a bit of N, and field corn can leave a lot of fertility in the field for the next crop.

The development of a crop of Brussels Sprouts is more easily managed on a field of moderate fertility: you can always add a little N to help the crop along, but you cannot take away too much fertility. Some varieties will need a small amount of N at the end of the season to prevent the sprouts from yellowing/aging while on the stalk, while others are very effective feeders that need no extra help with late-season fertility. Ask your seed sales representative for tips on how to fertilize individual varieties.

Brussels Sprouts are not easy. Give yourself time to learn.
It takes a few crop cycles to learn how to grow Brussels Sprouts. Don't be discouraged when your first trial does not work out too well. You need to figure out the fertility program for your ground, figure out the best planting time for different varieties, figure out if you should only grow with irrigation or not, figure out the best plant spacing for different varieties, etc. Don't be surprised if it takes you 7 – 8 years to figure it out. Maybe growing kale is not such a bad idea, after all. ☺

What Price Do We Pay for Cheap Food

Robert Hadad, CCE Cornell Vegetable Program

It seems like prices paid to farmers for the food we eat is in a race to the bottom. Complaints overheard at farmers markets is that fresh produce is getting too expensive. Prices paid at the wholesale level are lowering. Contracts are being lost to some growers when buyers reduce prices paid by as little as one or two cents per hundred weight. Discount food stores are advertising locally grown produce available and the prices are generally very low. At a time when inflation, costs of production, costs for implementing food safety, and farm supply prices are all rising, farmers need to be raising their sale prices just to stay afloat.

In an OP Ed article in the online *Growing Produce* newsletter written by editor, Carol Miller (1/8/19), she reports the results from a survey of fresh produce growers. The survey, conducted by the *American Vegetable Grower* magazine consisted of one question: "How do your prices compare to 10 years ago?" More than 44% of the respondents had not seen an increase in crop prices or actually saw prices drop. Just based on the inflation rate alone, fresh produce prices should have increased by 17.5% during that period.

The article also reported that the rest of the produce industry isn't any better. For growers supplying the canning/processor suppliers, nearly 64% of the growers had either no increase in prices or had drop in pricing. Growers selling to major distributor suppliers, 58% had no increase in prices.

According to the American Farm Bureau's newsletter, *Market Intel* (4/18/18) that the farmers' share of the food dollar is at a record low. Based on USDA's own statistics (from 2016) the farmers' share of the food dollar fell to 14.8 cents down nearly 5% from 2015 and the lowest it has been since the date when these statistics were first kept, 1993. If inflation is figured in, then the drop is really down to 12 cents. This is not sustainable.

Technology, innovation, and efficiency can only work if these actions are affordable. Ms. Miller states the future of the vegetable industry is at risk. At the price levels reported, more than 40% of the farms are facing going out of business. Profit is what's left after costs are deducted from income (sales). When costs outpace sale revenue, there is no profit. Without profit, businesses fail. Raising produce prices is the only answer.

Innovations and improving efficiency can provide some short-term price relief. Lowering costs of production can trim to a point. This strategy has limits. New technology can have high price tags. The largest operations lead the charge but smaller farms can't always absorb these costs.

This is a tough battle. Growers need to get better paid for the crops they grow. Prices paid for wholesale must increase. Undercutting on price doesn't help anyone in the long run. Raising the prices for locally grown must be accompanied with educating the buyers to what it really costs to produce the food under the burden of higher operational expenses and state and federal regulations. Call on trade groups, legislative leaders and industry representatives to make them aware of the situation and the need for fair equitable income for the great job farmers do growing this nation's food.

Making Better Decisions Using Soil Electrical Conductivity (EC)

Ali Nafchi, CCE Cornell Vegetable Program and CCE NWNY Dairy, Livestock & Field Crops

Precision agriculture is defined as information-based technology that identifies, procures, analyzes and manages natural variability amongst the fields, which optimizes productivity, profitability and sustainability. Based on characteristics of the field or the crop accurate management zones, prescription maps can be generated. Determining the soil variation within a field is very important for making best decisions. Soil electrical conductivity (EC) measurement, as one of the precision agriculture decision-making tools can help growers decide their nutrient management, seeding rate, seeding depth, and irrigation scheduling. Soil EC is one of the simplest, least expensive soil measurements that reveals information about soil texture, cation exchange capacity (CEC), drainage conditions, organic matter level, and salinity. For example, collecting 50+ soil samples per acre coupled with laboratory analysis could be very expensive, whereas EC mapping would be a nominal cost.

Electrical Conductivity in Soil

Soil electrical conductivity (EC) is the ability of a soil to transmit an electrical current. Soil EC unit is milliSiemens per meter (mS/m). Sometimes EC is given in deciSiemens per meter (dS/m), which is equal to the reading in mS/m divided by 100.

Measuring the Soil EC

There are two types of commercially available electrical conductivity mapping systems in the field: contact and non-contact systems. To distinguish the EC measured by the Veris unit from the soil science definition of EC (based upon conductance of a saturated soil paste extract), we will call the Veris EC measurement apparent EC (EC_a).

Contact Type EC_a Sensor

These types of sensors use coulters as the contact electrodes to contact with soil. In this system, one or more pairs of coulters are mounted on a toolbar; to contact with soil and send electrical current into soil (transmitting electrodes) while the other coulters (receiving electrodes) read the volt-age drop. Soil EC_a data is stored in a data logger with the related location data

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stamp using global positioning system (GPS). For example, Veris 3100 (Fig. 1) provides shallow and deep EC readings from soil (1 foot and 3 feet). Smaller model (Veris iScan) can be mounted to a planter or tillage equipment. The distance between measurement passes ranges from 20 to 60 feet, depending on the desired sampling density or the amount of soil variability within the field.

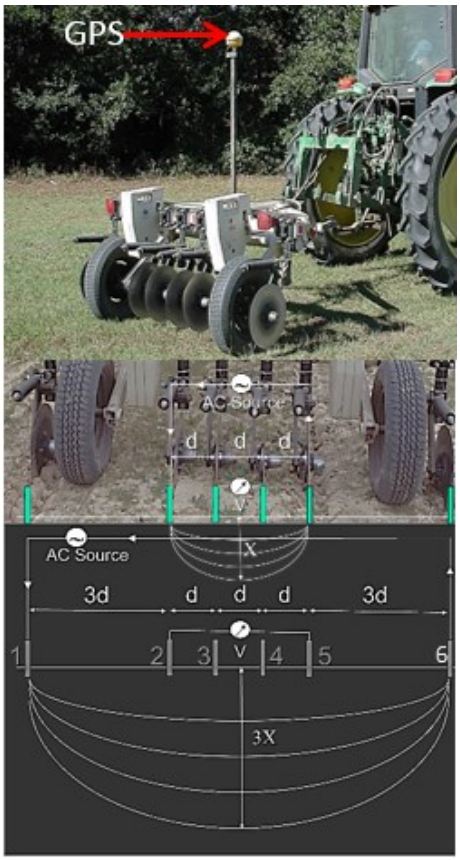

Figure 1. Veris 3100, the contact type EC sensor. The coulters # "2 and 5" act as transmitting electrodes and others as receiving electrodes. (Veris Technologies, Salina, Kansas) *Photos: Ali Nafchi*

Non-contact EC_a Sensor

The non-contact EC_a sensors use the electromagnetic induction principle instead of direct contact into soil, measuring the voltage drop between a source and a sensor electrode. The disadvantage is that metals would cause interference on the performance. EM38 (Geonics Limited), DUALEM, and GEM-2 (Geophex) are popular models of non-contact sensors.

Correlation of Soil EC and Crop Yield

Soil electrical conductivity (EC_a) has shown a good correlation with soil properties that affect crop productivity and yield. After precision farmers create yield maps and conduct a preliminary evaluation of the yield response, they will identify the manageable causes of crop yield response. Differences in soil properties are some of the most obvious reasons for yield variability.

Soil EC_a has the potential to estimate variations in some soil physical properties in a field. Yield maps are frequently correlated to soil EC_a (Fig. 2). In many situations, these similarities are explained through differences in soil. The water-holding capacity of the soil is a major factor affecting yield, and the yield map will likely show a strong correlation to the soil EC. In general, soil EC_a maps may indicate areas where further exploration is needed. Most likely, soil EC_a maps give valuable information about soil differences and similarities, which makes it possible to divide the field into smaller management zones. Zones that have consistent EC_a readings are areas that have similar soil properties and can be grouped together for soil sampling and management.

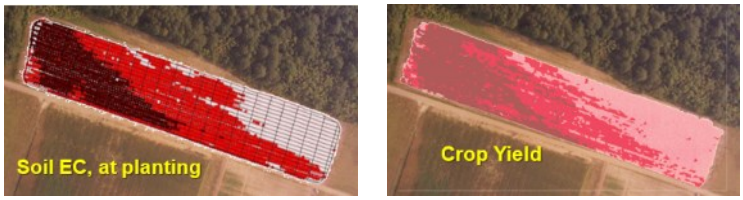

Figure 2. Estimated variations in some soil physical properties in a field are frequently correlated with yield maps. *Photos: Ali Nafchi*

Based on EC data, sandy soils have a low, silts have a medium, and clays have a higher electrical conductivity. EC_a data are often validated by soil sampling and yield data to determine an accurate variable rates of inputs.

Application of Soil Electrical Conductivity Maps

- Identifying management zones, generate prescription maps and decision support
- Yield map analysis and improved generation of prescription maps
- Weed and disease management (less herbicide in sandy soils and identifying disease outbreaks)
- Tillage, drainage, and irrigation decisions
- Research and plot work improvement
- Nematode management (there is correlation between soil type and nematode populations)

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Dualem Products: www.dualem.com

Geonics Limited: www.geonics.com

Geophex: *www.geophex.com*

Grower Success at Produce Auctions

Judson Reid, CCE Cornell Vegetable Program

The following is a condensed portion of a talk I prepared for several produce auction grower meetings this winter. Many people requested this information so I'm sharing here in print.

For many NY farmers, produce auctions are a relatively new wholesale market channel for fruits and vegetables. Produce auctions serve as aggregation points for local, family farms to deliver fruits, flowers and vegetables. Wholesale buyers can purchase multiple lots to fulfill their retail business demand. Growers are assigned permanent consignor numbers to identify their lots to buyers. Auctions are held several times per week, to create a steady, dependable supply of local product.

There are 8 auction throughout the state, with the Finger Lakes Produce Auction in Yates County being established in the year 2000. However most of these New York auctions are less than 10 years old. This approach to wholesale marketing is often credited to enterprising farmers in Pennsylvania who started the Leola Produce Auction in the 1980's. Indeed, most produce auctions in business today are built on this model. However, produce auctions were in existence nearly 200 years ago in New York!

The USDA reported the existence of 'fruit and produce auctions' in New York as early as 1827. These early auctions primarily functioned as an intermediary between 'country assemblers' and distributors and retailers in large cities. These auctions were promoted as price equalizers but functioned with little or no control from producers. Although these sales may have brought some transparency to pricing, they declined as 'consolidation and competition' in the marketplace increased.

The re-development of auction as a market channel in the 1980's has proven successful in allowing small scale farms to participate in wholesale economies and while increasing the supply of local, fresh fruits and vegetables. A key difference in these previous wave of auctions and the current situation is the involvement of growers in governance. Produce Auctions today are run by an elected Board of Directors, usually comprised of growers and buyers, who act in the best interest of creating economic returns.

Those with limited experience challenge the quality of product available at auction. However, with permanent consignor numbers there is an internal competition among growers that favors quality. This was observed by researchers in the early 20th century.

"A relic of ignorance and prejudice on the subject of public sale [auction] as a means of distribution is the feeling held by some of the less informed that the Auction might sacrifice high-class fruit. Nothing could be further from the facts… The results is that these fruits are bid up to the highest price that the market will warrant. …The Auction is the keenest discriminator between the fruit of the careful grower and packer and that of the careless…No system equals the Auction in recognizing what is good and in paying for it accordingly. The Auction is the place above all where each grower's efforts stands on its own merit." (USDA 1925)

Where we do often experience challenges is with low prices. New growers, or those who bring product once or infrequently may be disappointed with prices received. New auctions in particular are susceptible to price volatility. Our experience is that growers who bring product consistently on every sale day will receive better prices. Buyers become acquainted with the grower's varieties and packing standards, developing confidence in their consigner number. This is echoed from other's experience 100 years ago:

"The frequency with which a commodity appears at the auction sales is a factor that has a great influence on the results obtained. A uniform product that is exhibited in volume before the auction buyers regularly during its season, sooner or later will be sought after by them as a regular source of supply. Intermittent shipments cannot be expected to bring the most satisfactory returns. A constant supply will draw more buyers, thereby increasing the opportunities for sale and widening the distribution, and in time should result in higher prices than if the supply is small and irregular." (USDA 1925)

This information stresses the importance for an auction to have a large and stable grower base, preferably with season extension technologies to widen the calendar window of supply. With funding from the NNY Agricultural Development Program, the CVP is collaborating with the CCE Harvest NY program to conduct an analysis of price trends at the St. Lawrence Valley Produce Auction in 2019. We hope this information can help growers make educated decisions on when and what produce to cultivate.

Auctions play an important role in creating markets for New York farms and benefitting rural communities. In previous research we found that buyers spent over $1500 per season on non-auction business while traveling through the county to procure produce. For those interested in greater detail on this subject, we published an article in the peer-reviewed journal Renewable Agriculture and Food Systems under the title "Wholesale produce auctions and regional food systems: The case of Seneca produce auction."

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Upcoming Events

view all Cornell Vegetable Program upcoming events at CVP.CCE.CORNELL.EDU

Designing a Safe and Sanitizable Packing Line

March 6, 2019 | 9:00 AM - 12:00 PM
Hunt County Vineyards, 4021 Italy Hill Rd, Branchport, NY 14418

Join Robert Hadad, CVP vegetable specialist, to learn about how to design a produce packing line that fits your budget and maximizes efficiency and food safety. This workshop will cover what you need to take into account when designing your line, along with how you can modify an existing system to for increased sanitation and efficiency. Robert will also discuss how packing line and packing house design fits in with the new Food Safety Modernization Act requirements.

This event is hosted by CCE Yates County. Cost: $5/person; $10/farm. Pre-register by March 1st. For more information and to register, contact Caroline Boutard-Hunt, Agricultural Educator, CCE Yates County, 315-536-5123 x4375, cb239@cornell.edu.

Soil Health Workshop

March 7, 2019 | 9:00 AM - 2:00 PM
King's Catering, 4031 State Route 5&20, Canandaigua, NY 14424

For full agenda and to register, visit http://www.canandaigualakeassoc.org/get-involved/soil-health-workshop/ or call the Canandaigua Lake Watershed Association at 585-394-5030 or info@canandaigualakeassoc.org by February 21.

Pre-Exam Pesticide Applicator Training and Certification Exam

March 12 and March 14, 2019 (Exam March 15, 2019) | 12:00 PM - 4:30 PM
CCE Wayne County, 1581 Rt 88 N, Newark, NY 14513

For costs and other details, contact Judy Glann at 315-331-8415 x117.

Baskets to Pallets: A Comprehensive Two-Day Introduction to Selling Wholesale

March 14-15, 2019 | 10:00 AM - 4:00 PM
Irondequoit Conference Center, Rochester, NY

The Cornell Small Farms Program 'Baskets to Pallets' course is designed for farmers of all enterprises and will cover building relationships with buyers, customer management and record keeping, pricing, grading and packaging, uniformity and consistency, and food safety, among many other topics! $35 per person includes breakfast refreshments and lunch each day; space is limited. For more information and to register, visit http://smallfarms.cornell.edu/projects/wholesale/

2019 NYS Dry Bean Meeting and Variety Evaluation

March 15, 2019 | 8:30 AM - 12:30 PM
Cornell AgriTech at the NYS Ag Experiment Station, Food Research Lab Conf Rm, 665 W North St, Geneva, NY

Join us for updates on dry bean production and marketing, Western bean cutworm activity, white mold management, breeding, varieties, and the use of dry beans in school lunches. We will also review research priorities and gather suggestions for future educational programs. The second half of the program will feature evaluation of the Cornell dry bean variety trial with 56 dry bean cultivars that were canned by Furmano Foods on display for taste and visual appearance. DEC and CCA credits have been applied for.

Cost: $10 per person, includes lunch. Pre-registration is required by March 12th as space is limited. To pay via credit card, register online at https://cvp.cce.cornell.edu/event.php?id=1116. Or, call Julie Kikkert at 585-394-3977 x404 to reserve a spot and pay with cash or check at the door. For more information or special needs, contact Julie Kikkert.

--> The Food Research Lab is located at the corner of W. North St. and Pre-Emption Rd. From Pre-Emption Rd., enter on Collier Drive, park along Collier Drive or in the rear parking lot and use the Pilot Plant entrance. GPS Coordinates: 42.876667, - 77.009742

Pre-Season Oswego Onion Meeting Featuring Management of Onion Maggot

March 18, 2019 | 10:00 AM - Noon
Canale's Restaurant, 156 W Utica St, Oswego, NY 13126

Local onion growers are invited to an informal discussion of specific topics ahead of the growing season. Brian Nault, Cornell, will review 2016-2018 Cornell onion maggot research trial results. Growers can share their personal experiences controlling onion maggot and we'll discuss novel approaches for control of onion maggot in New York in the future. For more info, contact Christy Hoepting at 585-721-6953.

Upcoming Events

view all Cornell Vegetable Program upcoming events at CVP.CCE.CORNELL.EDU

Pre-Season Onion Meeting Featuring Onion Thrips and IYSV

March 19, 2019 | 10:00 AM - Noon
CY Farm boardroom, 6465 Transit Rd, Elba, NY 14058

Local onion growers are invited to an informal discussion of specific topics ahead of the growing season. Christy Hoepting, Cornell Vegetable Program, will provide a review of 2018 onion scouting and insecticide spray programs. Brian Nault, Cornell, will review IYSV and insecticide trial results. Growers will contribute to a roundtable discussion/brainstorming session to design a management plan to significantly reduce losses from onion thrips and IYSV forever more. For more info, contact Christy Hoepting at 585-721-6953.

Orleans Regional Vegetable Meeting

March 19, 2019 | 1:00 PM - 3:30 PM
CCE Orleans, 12690 NY-31, Albion, NY 14411

Topics will include tomato production, sweet corn weed and pest control, soil borne disease management, and wash/pack line sanitation. 1.75 DEC credits requested in categories 1a and 23. Further details available online or by calling Elizabeth Buck at 585-406-3419.

2019 Garlic School

March 20, 2019 | 9:00 AM - 2:30 PM
First United Methodist Church, 8221 Lewiston Rd (Rt 63), Batavia, NY 14020

Hear about the latest research trial results and insect and disease issues. Open discussion encouraged! Cost: $15 CVP enrollees; $25 all others. The meeting agenda and registration is available online at https://cvp.cce.cornell.edu/event.php?id=1099. Lunch included. For more info, contact Christy Hoepting at cah59@cornell.edu, 585-798-4265 x38, or Robert Hadad at rgh26@cornell.edu or 585-739-4065.

Produce Safety Alliance Grower Training Course

March 21, 2019 | 8:00 AM registration, 8:30 AM - 5:30 training
CCE Wayne County, 1581 NY 88, Newark, NY 14513

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 are encouraged to attend this training. 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.'* Cost: $70 for 2 people from the same NY farm/organization. More info and registration available at https://lof.cce.cornell.edu/event.php?id=1146

Erie/Niagara Regional Vegetable Meeting

March 26, 2019 | 8:30 AM - 12:30 PM
Newell-Faulkner American Legion Post 880, 2912 Legion Drive,
Eden, NY 14057

Topics will include the results of a promising broccoli alternaria trial, precision irrigation scheduling, weed seed bank management, and tarping for weed control in organic settings. There will be a special focus on marketing opportunities, with a comprehensive grower and buyer Farm-to-School panel. 1.5 DEC credits in categories 1a, 10 and 23 are available. Online pre-registration ($15) required by March 24th. Walk-ins accepted. Those with limited internet access may call 585-406-3419 to pre-register.

High Tunnel Workshop for Veterans

March 26, 2019 | 10:30 AM - 2:00 PM
EquiCenter, Inc., 3247 Rush Mendon Rd, Honeoye Falls, NY 14472

This workshop organized by the Cornell Small Farms Program will help veterans interested in growing in high tunnels or greenhouses learn how to select and manage vegetable crops. Led by CCE Cornell Vegetable Program Specialist Judson Reid, attendees will learn about varieties, nutrients, pest management and the 'nuts-and-bolts' of a high tunnel including an onsite tour. For more information about this event, contact Shaun Bluethenthal, Farmer Veteran Program Associate, Cornell Small Farms Program at 607-255-9911.

Upcoming Events

continued...

Produce Safety School

March 27, 2019 | 9:00 AM - 4:30 PM
Cornell AgriTech at the NYS Ag Experiment Station, Jordan Hall, 630 W North St, Geneva, NY 14456

This is a full-day program focusing on putting farm food safety into daily production practices. Topics:

- Surface water testing (how-to) and understanding the results (then what?); How to conduct farm assessments (wildlife, pre-harvest, post-harvest…), why, and next steps; Wash/pack line set up; Wash equipment and food contact surface clean up; Using sanitizers in the wash line

And much more! Stay tuned for further updates. Cost: $20 CVP enrollees; $30 all others. Register online at https://cvp.cce.cornell.edu/event_preregistration.php?event=1084 Lunch included. For more info, contact Robert Hadad at rgh26@cornell.edu or 585-739-4065.

2019 DEC Special Permit Training

April 9, 2019 | English 8:30 AM registration, 9:00 AM - 12:30 PM; Spanish 1:00 PM registration, 1:30 PM - 5:00 PM
CCE Wayne Co, 1581 Route 88N, Newark, NY 14513

April 10, 2019 | English and Spanish 8:00 AM registration, 8:30 AM - 12:00 Noon
Orleans Co. Cooperative Extension Fairgrounds Trolley Bldg, 12690 Rt 31, Albion, NY 14411

Same program format as in 2016-2018. **Special Permits (SP) will only be issued for 11 specific pesticide labels** and **SP trainees will have to pass a test.** This will relieve the certified pesticide applicator from "on-site within voice contact" supervision of non-certified pesticide applicators when they are handling federally-restricted-use pesticides for which they hold a Special Permit. The labels that will be covered include **Lorsban Advanced, Endigo ZC, Warrior II with Zeon Technology, Agri-Mek SC, Beseige, Gramoxone SL 2.0, Leverage 360, Danitol 2.4EC, Mustang Maxx, Asana XL, and Lannate LV.**

New York DEC notes that the **Special Permit process is intended for farm workers with English language skills that are not adequate to pass the DEC private applicators exam.** All others are encouraged to apply for their private applicators license via taking the certification exam.

Workers requiring **general pesticide training/Agricultural Worker Protection Standard Handler training who do not need special permits** are welcome to take the class; they will not be tested and will receive a course participation certificate.

$20 per DEC Special Permit / General Pesticide Training. Pre-registration required by April 5, 2019; After April 5, a late fee of $20 will be required for each registration. Call Kim Hazel, 585-798-4265 x26 to register. Download a registration form at cvp.cce.cornell.edu

Farm Food Safety Training with GAPs

April 10 - 11, 2019 | W 8:30 AM - 4:30; Th 9:00 AM - 3:00 PM
Steuben Co. Civil Defense Ctr, 7220 NY-54, Bath, NY 14810

This course is intended to improve your understanding of GAPs to guide assessment of risks and implementation of practices to reduce risks on fresh produce farms. More info at https://cvp.cce.cornell.edu/event.php?id=1145

Cornell Cooperative Extension
Cornell Vegetable Program

480 North Main Street
Canandaigua, NY 14424

VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

VEGEdge

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

VEGETABLE SPECIALISTS

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food safety & quality, organic, business & marketing, and fresh market vegetables

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

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

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Cornell Cooperative Extension
Cornell Vegetable Program

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