2017 ANNUAL DINNER

Thursday
November 30, 2017
5:30 p.m. Social Hour
6:00 p.m. Program and Dinner

Bath Country Club,
330 May Street, Bath, New York

Help us Kick Off our Centennial Celebration!

HONOREES
Jackie Knoll
Charlie Fausold
Karr Dairy Farms
Steuben Veterinary Clinic

COST
FREE (suggested donation $15)

REGISTRATION
Please call CCE-Steuben at
607-664-2300
or email steuben@cornell.edu

PutKnowledgeToWork.org

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Loan Forgiveness Program Pg. 2
Manual Provides Instruction For Growing Product In A High Tunnel Pg. 2
Still Time To Sign Up For On Line Courses Pg. 3
Veterans In Agriculture Conference Pg. 4
Pest Alert-Spotted Lanternfly Pg. 5
Women Farmers Invited To Learning Circle Pg. 5
4-H Tractor & Machinery Operation Certification Program Offered Pg. 6
Managing Flood Damaged Crops Pg. 7
Dealing With Flooded Vegetable Fields Pg. 8
Federal Grant To Fight Potato Pest Pg. 11
Empire State Producers Expo Pg. 12
Down Corn: Problem Or Opportunity For Cattle Producers Pg. 12
Dairy Market Watch Pg. 14
Loan Forgiveness Program

The New York State Higher Education Services Corporation (HESC) requests your assistance in informing New York State’s new and early-stage farmers, who play a central role in the State’s economy, about the State’s loan forgiveness program for recent college graduates pursuing farming careers.

Applications are now being accepted for the New York State Young Farmers Loan Forgiveness Incentive Program. This program provides loan forgiveness awards to individuals who obtain an undergraduate degree from an approved New York State college or university and agree to operate a farm in New York State, on a full-time basis, for five years.

Please share this important opportunity with anyone who may be eligible for this program through your newsletters, websites and other communications. Thank you for helping spread the word about this program and supporting New York State in its efforts to sustain and enhance new entrants in the agricultural industry. The deadline for submission is December 1, 2017.

New York State Higher Education Services Corporation
99 Washington Avenue, Albany, NY 12255
www.hesc.ny.gov
Friend us on Facebook: New York Student Financial Aid

Manual Provides Instruction for Growing Produce in a High Tunnel

High tunnel construction, management and crops to be grown are topics contained in ISU Extension and Outreach publication

Joe Hannan
Extension Commercial Horticulture Specialist

AMES, Iowa – High tunnels are inexpensive, passive solar structures that are designed to extend the growing season and intensify production. While relatively new to agriculture in the United States, high tunnels can increase profits for producers when properly managed.

To help producers understand how to use a high tunnel and what crops can be profitable in it, Iowa State University Extension and Outreach has released the “Iowa High Tunnel Fruit and Vegetable Production Manual” (HORT 3060), a 17-chapter guide to its use.

“We wanted the information to be very specific to high tunnels and there really wasn’t anything else out there that we thought was good enough,” said Joe Hannan, commercial horticulture specialist with ISU Extension and Outreach. “We also tried to make the information as easy to read and understand as possible, especially with the wealth of new research into high tunnel production.”
Chapters in the manual are written by ISU Extension and Outreach specialists Hannan, Linda Naeve, value added ag specialist; Lina Rodriguez-Salamanca and Laura Iles, Plant and Insect Diagnostic Clinic; Ajay Nair, commercial horticulture specialist; Craig Chase, local foods program manager, and Patrick O’Malley, horticulture specialist.

“Having authors from so many areas within ISU Extension and Outreach was a priority right from the start,” Hannan said. “We wanted the book to be all-inclusive, and the production side is only one part of growing in a high tunnel. We wanted to have a full discussion of economic issues, how to properly put up a building, controlling pests and marketing crops.”

The manual also discusses in great depth which crops should be grown in a high tunnel. Each chapter covers not only how to grow that crop, but what levels of production are needed for it to be profitable.

“For many people, this is their first foray into growing fruits and vegetables so they don’t have a background knowledge of what is profitable, especially if they are coming from gardening for home consumption where profitability isn’t something they think about,” Hannan said.

Deciding what crops to plant, as well as when and how often, can make the difference between making and losing money when using a high tunnel.

“If you want to make money and pay for building the high tunnel then you have to plant something that will generate revenue or brings in extra value,” Hannan said. “No matter what, profitability has to be the number one driving factor for decisions.”

Leafy greens, tomatoes, peppers and cucumbers are discussed in detail in the manual, and are some of the crops that provide the most value in a high tunnel. Chapters on site selection, plant disease and insect management, irrigation, soil management and cover crops are also included.

Information on how to best manage the challenges presented in a high tunnel are presented as well.

“There are different challenges inside a high tunnel compared to a field and it is much easier to proactively manage these issues right away than to wait for a disaster to occur and try to fix it then,” Hannan said.

Funding for the Iowa High Tunnel Fruit and Vegetable Production Manual was made possible by the Iowa Fruit and Vegetable Growers Association and ISU Extension and Outreach.

Still Time to Sign up for Online Courses starting Nov 6!

The Cornell Small Farms Program offers over twenty courses to help farmers improve their technical and business skills. Students connect with other farmers, work on farm plans, and gain practical tips without leaving their home. Course content can be accessed anywhere with a high-speed internet connection.

Most courses are six weeks long. Each week features an evening webinar and follow-up readings, videos, and activities. Students and their instructors connect through online forums and live chat. If you aren’t able to attend the webinars in real-time, they are always recorded for later viewing.

Course tuition entitles two people from a farm to attend. Discounts for early sign up and multiple course sign ups are available.

ABOUT
The Small Farms Program helps farmers get expert assistance to facilitate all phases of small farm business development, from initial growth to optimization to maturity. We are a joint effort of the College of Agriculture and Life Science and Cornell Cooperative Extension.

From aspiring to experienced farmers, there is a course for nearly everyone. There’s a handy chart on the course homepage to direct you to
the right courses for your experience level. Courses starting soon include Veggie Farming, Berry Production, Poultry Production and more!

Course Calendar
Week of Nov 6 – Dec 15

**BF 120: Veggie Farming 1 – From Planning to Planting**
This course helps new and aspiring vegetable producers answer basic questions about site selection, crop rotation, seeding and transplanting, and financial aspects of veggie production. Topics including variety selection, pre-plant preparation, and cultivation will be covered.

**BF 122: Berry Production**
If you’re exploring the idea of adding berries and bramble fruits to your farm, this course will help you consider all the aspects of this decision, from varieties and site selection all the way through profit potential and marketing.

**BF 130: Poultry Production (BF 130)**
Many new farmers get started with poultry, because it’s a relatively low-investment enterprise with a fairly quick turnaround time from investment to revenue. The margins can be slim though, and farmers need to develop the necessary skillset in order to produce a product that is both safe and profitable. This course will help you get started with all the basic information to build a successful poultry enterprise.

**BF 152: Introduction to Maple Syrup Production**
Maple syrup production is rapidly growing around the Northeast and offers a sound financial opportunity to utilize woodlots. This course explores the range possibilities of maple sugaring on your land – be it for supplemental income or for your livelihood. Also discussed are “alternative” trees for production, including Birch and Black Walnut.

**BF 205: Developing and Using an Effective Marketing Plan**

Check out the listings at [http://smallfarms.cornell.edu/online-courses/](http://smallfarms.cornell.edu/online-courses/) for more information on a particular course and the instructors.

**Questions?**
Contact Erica Frenay, ejf5@cornell.edu or Steve Gabriel, sfg53@cornell.edu or call 607 – 255 – 2142

Week of Jan 15 – Feb 23
- BF 102: Markets and Profits
- BF 107: Climate Smart Farming
- BF 121: Veggie Farming 2 – From Season-Long Care to Harvest
- BF 151: Woodland Shiitake Mushroom Cultivation
- BF 203: Holistic Financial Planning
- BF 223: Tree Fruit Production
- BF 232: Commercial Sheep Production

Week of Feb 26 – April 6
- BF 103: Taking Care of Business
- BF 153: Oyster Mushroom Cultivation
- BF 160: Introduction to Beekeeping
- BF 202: Writing a Business Plan
- BF 220: Season Extension with High Tunnels
- BF 231: Grazing Management

**Veterans in Agriculture Conference**

Calling all veterans interested in farming and the service providers that support them. A Veterans in Agriculture Conference will be held in late fall in central New York. Don’t miss the chance to attend this one-day event featuring educational workshops, networking opportunities, and updates about resources that are available to veterans in New York State. Date and details will be announced by the publication of this paper on the website below.

For more information, or to register, visit the FarmOps website at: [smallfarms.cornell.edu/projects/farm-ops/](http://smallfarms.cornell.edu/projects/farm-ops/)
Pest Alert - Spotted Lanternfly
Julie Urban, Department of Entomology, Penn State

Spotted Lanternfly is an invasive sap-feeding planthopper and was first discovered in the United States in Berks County in September, 2014. Upon confirmation of the presence of this pest, the Pennsylvania Department of Agriculture began working with faculty in Penn State’s Department of Entomology, Penn State Extension, USDA, and other scientific experts across the US and in Asia, to understand the threat posed by this insect, in order to prevent its spread and potential impact to Pennsylvania’s agricultural economy and natural resources.

Credit: photo by Erica Smyers, PhD student, Penn State Department of Entomology

Although these collaborative efforts are increasing our understanding of this insect and allowing us to develop short and long term research-based management strategies, the Spotted Lanternfly (*Lycorma delicatula*) population size has increased. As nymphs and adults, we have observed these insects feeding upon cultivated and wild grape. As adults this fall, we very recently observed them flying into orchards and feeding on apple trees as well.

In order to monitor and control this insect, your help is needed. Now in the fall, adult Spotted Lanternflies are dispersing, mating and laying egg cases. These are colorful insects and easily recognized. PDA has issued a quarantine zone. Please check your vehicle for hitch hiking insects if you drive from or through the quarantine area and keep the windows rolled up when your vehicle is parked.

Females lay eggs on any smooth surface including vehicles, trash barrels, outdoor furniture, and other man-made items, as well as on tree trunks, limbs, and loose bark. Given that eggs cases are deposited on such a wide variety of surfaces, this is the life stage that may have the greatest potential for spread via accidental transport to new areas. Presently, Spotted Lanternfly has been detected only in the southeastern region of Pennsylvania. To prevent its spread, please check your vehicles for egg cases, especially if you travel through the quarantine zone.

For further information on Spotted Lanternfly and what you can do to help control this insect visit: National Pest Alert - Spotted Lanternfly Penn State Extension

Women Farmers Invited to Learning Circle
‘Soil Health and Your Land’ will be held on November 9 in Mt. Morris

American Farmland Trust

While women increasingly are the primary decision makers on farms, data shows they are underrepresented in conservation programs. (U.S. Department of Agriculture, Flickr/Creative Commons)

MT. MORRIS, N.Y. — More than one million women now operate American farms, as a growing number of women inherit, start or take charge of working farms every day. Research shows that many women farmers and landowners have a strong conservation and
stewardship ethic, but face gender-related barriers to managing their land for long-term sustainability. While women increasingly are the primary decision makers on farms, data shows they are underrepresented in conservation programs.

To reach the growing number of women landowners interested in farming practices that benefit the health of their land, American Farmland Trust (AFT) is partnering with Cornell Cooperative Extension’s (CCE) Northwest New York team to offer three learning circles for women to learn from other women landowners and conservation professionals. The first learning circle, ‘Soil Health and Your Land,’ will be held on November 9, 2017 from 9 a.m. to 3 p.m. at the Livingston County Center for Emergency Operations and Training (3360 Gypsy Lane, Mt. Morris, NY 14510).

“Women who own farmland that they do not farm themselves often rent their land to local farmers,” says Joan Sinclair Petzen, CCE Northwest New York team. “Research has shown that women are particularly interested in conservation, and want to ensure that practices that improve soil health and enhance the environment are implemented on their land. These learning circles will help landowners to better understand how these practices impact farmers, and how they can work together for the benefit of the farmer and the land.”

Subsequent learning circles will be offered on January 25, 2018, ‘Conservation Values – Your Land is Your Legacy,’ and February 15, ‘Conservation and Farmland Leasing: Talking with Your Farmer,’ at the same time and location. Registration will begin at 8:30 a.m. and the meeting will begin at 9. Lunch is provided at no additional cost, and the program will end at 3 p.m. Cost to attend is $10, or $25 to attend all three sessions.

Interested women landowners can register online at www.farmland.org/women-for-the-land-calendar or by calling 1-866-792-

6248. If you need accommodations, please notify us when you RSVP. New York Women’s Learning Circles are supported by the Great Lakes Protection Fund.

4-H Tractor and Machinery Operation Certification Program Offered

Youth who will be 14 and over as of March 1, 2018 can take the course for certification. Participants who want to earn their certification must pass both the written exam and the driving test. The cost for this course is $20.00 for 4-H members to cover the cost of materials and is payable to CCE by Monday, January 8th with the registration form, the Tractor Acknowledgement of Risk Form, the CCE permission Slip/Medical Release form found at http://putknowledgetowork.org/4-h-youth/4-h-program-areas/tractor-machinery or by contacting Kim Randall at Cornell Cooperative Extension at ksb3@cornell.edu or at 607-664-2571.

Non 4-H members are eligible to take this course but in addition they will need to complete a 4-H enrollment form as an independent member by Monday, January 8 which is found at www.putknowledgetowork.org and pay the $10.00 4-H enrollment fee.

Managing Flood Damaged Crops

Springwater Agricultural Products
8663 Strutt Street, Springwater NY
585-315-1094 or 607-759-0405

Crop Production Materials, Foliar Nutrition & Adjuvant Sales
SeedWay, NK&WL, Seed Sales:
Corn, Soybeans, Small Grains, Forage & Pasture Grasses
Sun up until Sun down! Dave & Penny
Farm tested with friendly farm prices.
How to manage crops in lowland fields and when damaged by floods.

- Affected fields will contain a lot of debris and plants will have a lot of soil on them.
- Conditions will be dusty and dirty during harvest.
- Farmers can experience extra costs from wear on shear bars, knives and bearings. The silage made from flood damaged fields can range from acceptable to black or rotten.
- Decreased milk production and performance is likely when flood damaged crops are fed. If fields sustain flooding and significant damage, contact the crop insurance adjuster to document the loss before taking action to remedy the situation. Consider contacting the local FSA office to report losses as well.

Below are some recommendations and observations that may help in making harvesting and marketing decisions.

**Corn for Silage**
- Corn destined for silage will be more at risk for fungal and bacterial contamination. Take steps to promote good fermentation, such as heavy inoculation and extra packing in the silos. A good fermentation will kill many (but not necessarily all) pathogens in the silage.
- Target the least affected fields for silage and harvest above the silt line to avoid soil contamination.
- Avoid chopping corn for silage that has considerable dirt or silt on it.
- Segregate any corn chopped for silage so that it can be evaluated before feeding. Forage should be tested before feeding, paying particular attention to dry matter percent, starch, ash, mycotoxins and fermentation profile.
- Silage and high moisture corn from these fields should be evaluated at feed-out and animal health should be closely monitored. Soil contamination alone may not be a serious animal health factor, but contamination from manure, sewage treatment plants and other chemicals is unknown and could vary from one situation to another.
- In all cases try to minimize the soil contamination and during feed-out, attempt to dilute these forages with normal quality forages as much as possible.

**Hay and Pasture Crops**
- Soil and organic matter on forage crops can also lead to fermentation issues, increased ash, decreased digestibility, and animal health problems, especially for horses.
- Avoid pasturing or harvesting silt laden forage crops if at all possible.
- If pastures are grazed, don’t allow the animals to graze the plants too close to the ground because the majority of the contamination will be in that area of the plant.
- It might be best to mow the previously flooded pastures and wait for them to regrow before grazing.
- Mowed forage that has been lying in the field for more than one week should simply be chopped and blown back onto the field, particularly if it is showing signs of molding (forage is slimy).
- Roots in soil flooded for 2 to 3 weeks may die from suffocation (no oxygen available for the roots to respire).
- Root diseases such as Rhizoctonia or Phytophtora can increase in wet soils and lead to thinned stands next year.
- Avoid pasturing or harvesting silt laden forage crops if at all possible.

**Corn for Grain**
- Harvesting for grain is likely a better option than for silage where flooding has occurred.
- Combine air filters likely will need to be changed more frequently. Operators should take steps to avoid breathing the dust.
- Harvest when the fodder is dry to help limit the dirt in the grain. Monitor the dirt in the corn
coming into the bin and avoid the worst sections of fields.

- Harvesting high-moisture corn at the drier range of acceptable levels could improve the ability to clean dirt from the corn.
- The expected quality of grain is uncertain and should be monitored. The potential for crop contamination by flood waters could affect the marketability of grain and silage. Check with grain brokers for more information on marketability as it becomes available.
- Monitor for sprouting. Some river bottom fields are prone to bird damage and often have some sprouting risk. The flood may exacerbate the problem. Try to adjust the combine to remove most of the sprouted grain.
- Monitor for molds. Corn from flood-damaged fields should be evaluated for grain quality and kept separate if there are indications of molds. Mold and mycotoxin levels can be determined by most feed testing laboratories and used as guidance in marketing.
- The risk of molds and sprouting is likely a function of the exposure to the water and stage of growth. Corn that was under water will have an increased risk for molds and bacterial rotting. This may be more pronounced in corn that was already drying down (<40% grain moisture) and then took on moisture during the flood.
- Monitor for bacterial stalk rots. Fields that remained flooded for more than 12 hours are most at risk for stalk rots.
- The crop may mature more rapidly under these conditions, since corn that has been stressed when near maturity often seems to dry down fast.
- If the grain is deemed unfit for animal use, then it will be necessary to pursue crop insurance claims. If producers expect a claim, they should consult with an adjuster prior to harvest.

**Other Crops**

- Soybean crops likely will experience increased harvest losses and increased machinery problems during harvest. Many soybeans may be impossible to harvest due to lodging and debris. Monitor grain quality prior to harvest.

In summary, flood-damaged crops are at risk for quality and harvest losses, but by monitoring and managing carefully, we may be able to salvage some of them, reduce losses and obtain resources for recovering from the situation.

**Dealing With Flooded Vegetable Fields**

**Steve Reiners** Associate Professor in Horticultural Sciences Cornell University

Record breaking rains in parts of New York State have left many vegetable growers in dire straits. What had been shaping up to be an excellent season has quickly turned into a nightmare with crops under water in many locations. Growers have been asking many questions as to what they can do in the short and long term. The following are recommendations pulled from many sources including Michigan State University, Ohio State University, Texas A and M, Florida State University, as well as Cornell.

**FLOODS AND FOOD SAFETY**

There are two types of flooding. The first is more typical and occurs after a heavy downpour when fields become saturated and water pools on the soil surface. This type of flooding can reduce yields and even kill plants but usually will not result in contamination of produce with human pathogens. The second type of flooding is more severe and seen less often. Standing water in fields that is runoff from stream/river overflows will more likely be contaminated with human pathogens. Unless flooding was light and there is no danger of bacterial contamination from floodwater, do not use fruits and vegetables that were ready for harvest at the time of flooding. Some fruits and vegetables are more susceptible than others to bacterial contamination.

Leafy vegetables (such as lettuce, cabbage, mustard, kale, collards, spinach, and Swiss chard) along with strawberries were at or near harvest and more likely to be contaminated. Silt and other contaminants may be imbedded in the leaves, petioles, stems, or other natural openings of fleshy structures and can be difficult to remove. Do not use if mature when flooded.

Root, bulb, and tuber crops such as beets, carrots, radishes, turnips, onions, and potatoes are less susceptible to bacterial contamination. With the exception of radish, most of these crops should
not be near harvest. Produce with a protected fruit or impervious outer skin such as peas, melons, eggplant, sweet corn, or winter squash may be contaminated on the surface.

It is extremely important that produce be properly washed to reduce contamination. To control postharvest losses, it is recommended that produce be washed in chlorinated water before storage or shipping (see table below). The wash temperature should be about 10°F warmer than the produce temperature to ensure that decay organisms are not sucked into the tissue. Since chlorine is most effective at a slightly acidic pH, it is important that wash water is buffered to adjust the pH to between 6 and 7.

Chlorine in the wash water is often inactivated when the wash water becomes dirty. Use filtering devices to remove soil and organic material, and check the chlorine concentration often. Produce should be subjected to the chlorinated wash from one to ten minutes. After it is removed, allow it to drain for several minutes before packing. NOTE: Leafy vegetables at or near harvest that were flooded with stream/river overflows should not be harvested or consumed. Chlorinated wash water will not eliminate likely human pathogens on their surface.

Amount of sodium hypochlorite to add to wash water for 50-150 PPM dilution.

<table>
<thead>
<tr>
<th>Target PPM</th>
<th>ml/L</th>
<th>Tsp/5gal</th>
<th>Cup-50 gallons</th>
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<tr>
<td>50</td>
<td>1.0</td>
<td>3.66</td>
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<td>75</td>
<td>1.4</td>
<td>5.5</td>
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<tr>
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<td>7.25</td>
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<td>125</td>
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<td>2</td>
</tr>
<tr>
<td>150</td>
<td>2.9</td>
<td>11</td>
<td>2.25</td>
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<table>
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<tr>
<th>Sodium Hypochlorite, 12.75%</th>
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<tbody>
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<tr>
<td>75</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>125</td>
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<td>150</td>
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PLANT SURVIVAL UNDER WATER

Many growers have asked how long a crop can live once it is flooded and what may be the effect on yield. There has not been much work done on vegetable crops but we may learn some lessons from field corn and soybeans. In field corn, measurable short term reductions for root and leaf growth rates begin immediately within 1-12 hours, but tend to recover quickly, 2-3 days after the water has drained. Most of our sweet corn was at least twelve inches tall which means the growing point is well above the soil line, which improves the chance of survival. If flooding in corn lasts less than 48 hours, crop injury should be limited. Look for new leaf growth 3 to 5 days after water drains from the field.

Even if flooding doesn’t kill corn plants outright, it may have a long-term negative impact on crop performance. Excess moisture during the early vegetative stages retards root development. When six-inch corn was flooded for 24, 48 and 72 h corn yields were reduced 18, 22, and 32% at a low N fertilizer level. At a high N level, these reductions ranged from 19 to 14 % one year and <5% in another year. When corn at a height of 30 inches was flooded for 24 and 96 h, yields were reduced 14 to 30%. With a high level of N in the soil, very little yield reduction occurred even with 96 h of flooding. When flooded near silking, no reduction in yield occurred at a high N level, but yield reductions up to 16% occurred with 96 h of flooding at the low level of N.

In soybeans, studies showed yield losses of 20% when soybean fields were flooded for greater than 2 days, but it should be noted they still had a yield.

In vegetable crops, we should expect to see similar trends. Flooding of a short duration, less than 48 hours should have a minor impact on yield. Flooding for 48 to 72 hours may result in more significant yield losses. The two most important things growers can do to aid recovery is 1) as soon as the soil can be worked, till the soil to break up sealed surfaces and allow air to enter the soil, and 2) side dress with nitrogen, up to 50 pounds of N per acre, perhaps during the tillage operation or, if conditions do not allow for soil applications, apply a foliar application (see below). Please note, many plant diseases will be much worse following flooding rains. It is important that growers closely monitor their crops and manage these diseases.

FLOODING AND SOIL FERTILITY
That "gasp ing" sound you hear in some vegetable fields is the plant roots trying to get some oxygen. Many of the vegetable plants in fields across parts of New York have an off-green or yellowish color. These plants are suffering from a complex of nutrient deficiencies, nitrogen, phosphorus, potassium and perhaps others, even though the soil contains adequate amounts. But the main deficient element is oxygen. Plant roots need oxygen to take up nutrients and water to utilize the photosynthate from the tops and to grow. With the heavy rains we have had, soils are near saturation; that is, nearly all of the pore space is filled with water, leaving little room for air. Ideally, for good root growth 50 percent of the pore space should be filled with air. As soils drain, air is drawn into the soil, but when it rains, the water forces the air out of the pores. As is obvious to all, what is needed now is several rain-free days so the soils can drain and draw in air to stimulate root growth. Unfortunately, the flooded fields often develop a hard surface layer that prevents air from entering. Any tillage that can be done to break that seal will be beneficial. Once the plant roots get adequate oxygen they will begin to grow and take up the nutrients present in the soil.

Plants can absorb nutrients through their leaves. Spraying the plants with nitrogen, phosphorus and potassium can help plants through stress periods. Use a low salt liquid fertilizer to supply 4 to 5 lb nitrogen, 1 lb phosphate (P2O5) and 1 lb potash (K2O) per acre. Since nitrogen is the key nutrient to supply, spraying with urea ammonium nitrate (28 % N solution) alone can be helpful. These can be sprayed by aerial or ground application. Use 5 to 20 gallons of water per acre. The higher gallons per acre generally provide better coverage. However, before investing money in trying to salvage root crops check to be sure that the main root that develops into the marketable product is still healthy. Flooded fields often kill the large tap root resulting in a fibrous root and an unmarketable product. This is especially true for fresh market carrots.

Tests were conducted in Florida to determine the effectiveness of different foliar fertilizers in recovering flood damaged vegetable crops and found that potassium nitrate performed the best, urea the second best, and calcium nitrate the third. See table below for details.

### Nitrogen Fertilizer Application Information

<table>
<thead>
<tr>
<th>Fertilizer</th>
<th>Formula</th>
<th>N%</th>
<th>Application* (lb/100 gal)</th>
<th>Rate (gal/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Nitrate</td>
<td>KNO₃</td>
<td>13</td>
<td>15</td>
<td>50-100</td>
</tr>
<tr>
<td>Urea</td>
<td>CO(NH₂)₂</td>
<td>46</td>
<td>9</td>
<td>50-100</td>
</tr>
<tr>
<td>Calcium Nitrate</td>
<td>Ca(NO₃)₂</td>
<td>12</td>
<td>35</td>
<td>50-100</td>
</tr>
</tbody>
</table>

*Pounds of product, not pounds of N
Even assuming fields could be worked and planted today, it is too late to replant many vegetables. At best, we are looking at only 80 to 90 days before a likely frost. Crops that should not be replanted now include processing beets, carrots, pumpkin, winter squash, melons, eggplant, onions, peppers, potatoes, and tomatoes. It is probably too late for sweet corn.

Crops that could be planted for a fall harvest include snap beans, fresh market beets, broccoli, cauliflower, cucumbers, summer squash, zucchini, leafy crops (lettuce, spinach, etc.), and radishes. Detailed information on these crops is available in the 2006 Cornell Vegetable Guidelines, available on the web at http://www.nysaes.cornell.edu/recommends/.

Before planting, growers need to take a step back and think this through. Just because a crop can be planted does not mean it should be. Do you have the proper equipment to grow the crop? Any experience with the crop? Are you aware of the crop’s potential pests and what to look for in terms of damage? Do you have the chemicals needed to control these pests? Was a herbicide used in a field this spring that could cause injury in a newly planted crop? Perhaps most importantly, how will you market the crop? Don’t spend two or three thousand dollars to grow a crop only to have no market at the end. Work the numbers. Will you be better off with a partial payment from crop insurance and possibly disaster relief from the federal government rather than losing more money with an unfamiliar crop?

There are some cover crop options that growers may want to consider for their flooded fields. Rather than let productive fields go to weeds for a season, use the opportunity to plant a cover crop or green manure. Many growers are familiar with cover crops planted in the fall. But this year you can plant a crop that you may not have had the opportunity to use previously. Some of our most productive cover crops can be planted in the summer. Choose from crops that are effective at reducing weeds, minimizing pathogens, supplying nitrogen and phosphorus or generally improving overall soil health.

**Choices include;**

**Non-legumes** - Sudangrass or sorghum-sudan hybrids

- **Seeding rate** – 30-50 lb/Acre
- **Seeding time** – late spring through August 1

**Benefits** – Heat loving annual. Apply supplemental nitrogen to encourage growth (especially in soils where N has been leached). Mow when three feet tall to encourage greater rooting and manage top growth. Incorporating green prior to frost may suppress some diseases and nematodes. Produces large amounts of organic matter and roots penetrate compacted soils.

**Buckwheat**

- **Seeding rate** – 60 lb/Acre
- **Seeding time** – Late spring through summer

**Culture and Benefits**

- Heat loving annual. Apply supplemental nitrogen to encourage growth (especially in soils where N has been leached). Mow when three feet tall to encourage greater rooting and manage top growth. Incorporating green prior to frost may suppress some diseases and nematodes. Produces large amounts of organic matter and roots penetrate compacted soils.

**Cowpeas**

- **Seeding rate** – 70 – 100 lb/Acre
- **Seeding time** – Late spring through mid-summer

**Legumes**

- Legumes have the ability to fix nitrogen from the air so they are a very valuable as a “free” source of nitrogen. Unfortunately, most legumes do poorly when sown in warm summer weather. There are however, a couple of exceptions.

**Annual Alfalfa**

- **Seeding rate** – 15 – 20 lb/Acre
- **Seeding time** – Late spring through early summer

**Federal Grant to Fight Potato Pest**

Schumer Announces $400,000 Federal Grant to Fight Potato Pest “Our great potato crop, so economically important to New York and to the country, ... is at risk,” said U.S. Sen. Charles E. Schumer (D-NY) in a visit to campus Sept. 1. To help alleviate that risk, Schumer announced a
Commitment of $400,000 in federal funds to the Federal Golden Nematode Laboratory at Cornell. The funds, administered through the U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS), will pay for upgrades to facilities and equipment. The 60-year-old lab, which is used by USDA-ARS and Cornell scientists to control potentially devastating golden nematodes and pale cyst nematodes, is “the front line of defense … against this terrible infestation,” said Schumer, who is the Senate minority leader. Without intervention, the pests pose a threat to New York’s $65 million potato industry and potato crops across the country. The microscopic worms feed on roots of potatoes and other crops, dramatically reducing yields. The lab, a partnership between the USDA and the College of Agriculture & Life Sciences (CALS), maintains a federal quarantine, which protects New York’s potato industry, while also making it safe for NY farmers to ship other vegetables, including soybeans and such root crops as carrots, turnips and beets. “The Federal Golden Nematode Laboratory here at Cornell University is the only research program in North America with expertise in the biology, in the resistance breeding and the management of the potato cyst nematode,” said Kathryn J. Boor, the Ronald P. Lynch Dean of CALS. “Through vigilant monitoring, through soil testing and through research to develop resistant potato cultivars along with appropriate on-farm management strategies, this program has successfully quarantined the golden nematode, a pest that has been here in the United States for quite a long time,” Boor said. Schumer said the potato industry is a crucial sector of the upstate New York economy, with over 20,000 acres of cropland on more than 1,200 farms. New York State approved $1.2 million last year to renovate and modernize the Federal Golden Nematode Laboratory, which helps researchers and farmers stay ahead of nematodes that constantly adapt to control measures. The lab also collaborates with Cornell potato breeders to develop high-quality resistant potato varieties. The facility provides USDA-ARS and Cornell researchers with a biosafe area to address other nematode challenges, such as the soybean cyst that infects the roots of soybeans. Said Cornell President Martha E. Pollack: “Sen. Schumer fights every day for us, for our funding at the big research agencies at the [National Institutes of Health], [National Science Foundation] and so on, and also … advocating for a lab like this – a small but incredibly important lab – and for that we are very, very grateful.”


Empire State Producers Expo

Empire State Producers Expo The 2018 Expo will be held January 16-18 and the Becker Forum will be January 15 at the SRC Arena in Syracuse, NY. This annual show combines the major fruit, flower and vegetable associations of NYS in order to provide a comprehensive trade show and educational conference for NY producers, as well as neighboring states and Eastern Canada. In years past, over 100 presentations were given by CCE personnel and highly regarded speakers from across the country. Panel discussions feature some of the top industry experts and growers in NY. Between educational sessions, attendees can visit the trade show with over 150 commercial vendors and non-profit exhibitors. Session topics include commodity specific programs in berries, cabbage, snap beans, peas, beets, carrots, fruiting vegetables (tomatoes, peppers), cut flowers, tree fruit, sweet corn, tomato, onion, Cole crops, root crops, vine crops, and emerging markets (hops, malting barley, mushrooms, hemp, hard cider); and multidisciplinary programs in precision irrigation, weed management, soil health, biopesticides, beginning farmer operations, marketing, greenhouse production, climate and forecast models, GMOs, and wildlife management. DEC pesticide recertification credits & Certified Crop Advisor (CCA) credits offered during appropriate educational sessions.

Down Corn: Problem or Opportunity for Cattle Producers?

Mary Drewnoski, Beef Systems Specialist, University of Nebraska-Lincoln

With the delayed harvest and the wind over the last few weeks a lot of corn ears are on the ground in the state. This means a lot of energy remains in corn fields, creating potential issues with founder/acidosis. Founder can have long-term consequences of reduced cow longevity.

Opportunity: Capitalize on the grain (energy)
by grazing calves.

Calves do not initially seek out ears in the field as this is a learned behavior. They are more likely to self-adapt by slowly increasing the amount of gain they consume each day. Although there is some risk of acidosis, feeding them corn and working them up to 5 lbs/calf of grain before turnout should help. Calves eating only corn grain and residue will not have enough protein in the diet to make full use of the energy available. Feeding 2 lbs of distillers can increase gain substantially and increase returns. Using the calves to glean the majority of grain and moving them from field to field before the cows may be a great way to reduce risk and make money at the same time.

Opportunity: Using cull cows to glean the fields?

Putting weight on cull cows can increase revenue and using them in corn fields ahead of the rest of the cow herd can reduce the risk of long-term negative effects of founder/acidosis in the remaining cows in the herd. It might even be worth buying thin cull cows, grazing them through, and selling fat cull cows at the end. Before turnout, producers should start feeding grain and work them up to at least 7 to 10 lbs/hd of grain over a week to 10 days. Then give them access to the number of acres to limit to 10 lbs/cow for five to seven days (see table). After this point, they can have unlimited access to the field. These cows can be moved to the next field once most of the corn grain has been grazed. There is still risk of acidosis-founder, but it will be less with this adaptation period.

<table>
<thead>
<tr>
<th>Ears in 300 ft</th>
<th>Grain (bu/ac)</th>
<th>Grain (lb/ac)</th>
<th>Limit 10 (lbs/day)</th>
<th>Limit 15 (lbs/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>10</td>
<td>560</td>
<td>1.8</td>
<td>2.7</td>
</tr>
<tr>
<td>30</td>
<td>15</td>
<td>840</td>
<td>1.2</td>
<td>1.8</td>
</tr>
<tr>
<td>40</td>
<td>20</td>
<td>1120</td>
<td>0.9</td>
<td>1.3</td>
</tr>
<tr>
<td>50</td>
<td>25</td>
<td>1400</td>
<td>0.7</td>
<td>1/1</td>
</tr>
<tr>
<td>60</td>
<td>30</td>
<td>1680</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>70</td>
<td>35</td>
<td>1960</td>
<td>0.5</td>
<td>0.8</td>
</tr>
<tr>
<td>80</td>
<td>40</td>
<td>2240</td>
<td>0.4</td>
<td>0.7</td>
</tr>
<tr>
<td>90</td>
<td>45</td>
<td>2520</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td>100</td>
<td>50</td>
<td>2800</td>
<td>0.4</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Problem: Feeding spring-calving cows.

In addition to the concern with having cows founder or get acidosis, there is also an issue with cows getting fat. Not weaning before turnout is an option to help increase the cow’s energy requirement. The best option, regardless of whether you wean, is to limit access to corn by strip grazing daily. Those with a pivot fence can readily use this system. Allowing the pairs access to 10 lbs of corn and feeding 2 lbs of DM from distillers grains should allow the cows to maintain bodyweight and the calves to gain 1.0 to 1.5 lbs/day. If cows are weaned, limiting cows to no more than 10 lbs/day of grain will allow them to increase their body condition score (BCS) by 0.5 to 1 over the winter. Before turnout, producers should start feeding grain and work cows up to at least 7 lbs/head of grain over a week to 10 days.

If daily allotment is just not an option, the next best option is to work cows up to a full grain diet as suggested above with the cull cow feeding. However, if you are going to need to move to a new field over the winter (based on stocking rate and the amount of residue in the field), there will likely be an issue when all the grain has been grazed and the cows are eating only residue. When they are moved to a new field, they will have full access to grain again but their rumen will no longer be adapted. Thus, there are two options:

1. Once cows are acclimated to full grain, they could be split into groups on multiple fields that they will graze for the rest of the winter.
2. All cows could be quickly moved through all fields, allowing them to harvest most of the grain. Once most of the grain has been gleaned from all the fields, the cows can be moved back through the fields to make use of the rest of the residue.

Regardless of the class of animals grazed or the method used, providing monensin can be beneficial. If no supplemental feed is provided, using a free-choice mineral with monensin in it can help.

For information on how to estimate the amount of ear drop, see: Estimating Bushels of Corn on the Ground by Counting Ears Prior to Grazing with Cattle. For more information on using a pivot fence to limit access, see: Feeding Cattle Forage Using Electric Fence as a Management Tool.
## Dairy Market Watch

### Milk Component Prices

<table>
<thead>
<tr>
<th>Month</th>
<th>Butterfat</th>
<th>Protein</th>
<th>I (Boston)</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>Jamestown, NY</th>
<th>Albany, NY</th>
<th>Milk Margin minus Feed Costs ($/cwt)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 16</td>
<td>$2.31</td>
<td>$2.56</td>
<td>$19.81</td>
<td>$14.66</td>
<td>$16.39</td>
<td>$14.25</td>
<td>$16.55</td>
<td>$0.16</td>
<td>$1.38</td>
</tr>
<tr>
<td>Oct 16</td>
<td>$2.04</td>
<td>$2.29</td>
<td>$19.85</td>
<td>$14.09</td>
<td>$14.82</td>
<td>$13.66</td>
<td>$15.68</td>
<td>$0.86</td>
<td>$1.35</td>
</tr>
<tr>
<td>Nov 16</td>
<td>$2.10</td>
<td>$2.80</td>
<td>$18.03</td>
<td>$14.60</td>
<td>$16.76</td>
<td>$13.76</td>
<td>$15.79</td>
<td>$0.97</td>
<td>$1.36</td>
</tr>
<tr>
<td>Dec 16</td>
<td>$2.34</td>
<td>$2.69</td>
<td>$20.13</td>
<td>$15.26</td>
<td>$17.40</td>
<td>$14.97</td>
<td>$17.13</td>
<td>$0.27</td>
<td>$1.43</td>
</tr>
<tr>
<td>Jan 17</td>
<td>$2.53</td>
<td>$2.18</td>
<td>$20.70</td>
<td>$16.36</td>
<td>$16.77</td>
<td>$16.19</td>
<td>$17.66</td>
<td>$0.89</td>
<td>$1.52</td>
</tr>
<tr>
<td>Feb 17</td>
<td>$2.42</td>
<td>$2.23</td>
<td>$19.98</td>
<td>$16.52</td>
<td>$16.88</td>
<td>$15.59</td>
<td>$17.22</td>
<td>$0.34</td>
<td>$1.48</td>
</tr>
<tr>
<td>Mar 17</td>
<td>$2.42</td>
<td>$1.82</td>
<td>$20.15</td>
<td>$16.21</td>
<td>$15.81</td>
<td>$14.32</td>
<td>$16.75</td>
<td>$0.94</td>
<td>$1.44</td>
</tr>
<tr>
<td>Apr 17</td>
<td>$2.35</td>
<td>$1.69</td>
<td>$19.30</td>
<td>$14.81</td>
<td>$15.22</td>
<td>$14.01</td>
<td>$15.84</td>
<td>$0.62</td>
<td>$1.37</td>
</tr>
<tr>
<td>May 17</td>
<td>$2.41</td>
<td>$1.77</td>
<td>$18.45</td>
<td>$14.84</td>
<td>$15.57</td>
<td>$14.49</td>
<td>$15.96</td>
<td>$0.39</td>
<td>$1.38</td>
</tr>
<tr>
<td>June 17</td>
<td>$2.71</td>
<td>$1.75</td>
<td>$18.56</td>
<td>$16.15</td>
<td>$16.44</td>
<td>$15.89</td>
<td>$16.98</td>
<td>$0.54</td>
<td>$1.41</td>
</tr>
<tr>
<td>July 17</td>
<td>$2.95</td>
<td>$1.22</td>
<td>$19.84</td>
<td>$17.48</td>
<td>$15.45</td>
<td>$16.60</td>
<td>$17.46</td>
<td>$2.01</td>
<td>$1.51</td>
</tr>
<tr>
<td>Aug 17</td>
<td>$3.01</td>
<td>$1.55</td>
<td>$19.97</td>
<td>$17.56</td>
<td>$16.57</td>
<td>$16.61</td>
<td>$17.78</td>
<td>$1.21</td>
<td>$1.48</td>
</tr>
<tr>
<td>Sep 17</td>
<td>$2.86</td>
<td>$1.70</td>
<td>$19.96</td>
<td>$16.80</td>
<td>$16.36</td>
<td>$15.86</td>
<td>$17.34</td>
<td>$0.98</td>
<td>$1.49</td>
</tr>
</tbody>
</table>

### September Utilization (Northeast):

- Class I = 34%
- Class II = 24%
- Class III = 26%
- Class IV = 16%

*At a milk margin minus feed costs of $8 or less, payments are possible depending on the level of coverage chosen by the dairy producer.

### Cheese:
Cheese production in the East has eased, but it is fairly steady in the West and Midwest. Eastern milk intakes have slightly declined. Spot milk prices ranged from $1 under to $1 over Class. Some contacts suggest increased NDM fortification within the cheese making process has put some downward pressure on spot milk prices. Demand is seasonally strong throughout the regions, particularly for mozzarella and provolone producers. Although cheese stocks remain a concern, the overall cheese market tone is fairly bullish.

### Fluid Milk:
Farm milk output is balanced in the Pacific Northwest and in the mountain states of Idaho, Utah and Colorado. In most cases, milk production is steady to increasing nationwide. Bottling orders in the East are active. In the rest of the country, bottling activity is balanced. Cream availability is reported to be tightening in most areas. Cream is being utilized for a variety of processes in the East.

### Dry Products:
Low/medium heat nonfat dry milk (NDM) prices in the West, East and Central remained steady on the range, but decreased on both ends of the mostly price series. Low/medium heat NDM inventories vary.
Unless cheese prices rally more like prices did last year the Class III price for November and December will stay in the $16’s and average about $16.25 for the year compared to $14.87 last year. Looking into 2018 Class III prices could stay in the high $15’s for the first half of the year and reaching the $16’s during the second half. The Class IV price will stay in the higher $14’s November and December, averaging about $15.40 for the year compared to $13.77 last year. The Class IV price for 2018 may stay in the $14’s for most of the year. But, milk prices can change a lot from rather small changes in milk production, domestic sales or dairy exports. So final 2018 milk prices could end up quite different.

Relatively high stocks of cheese have dampened the increase in prices this fall. August 31st stocks of American cheese was 7.8% higher than a year ago with total cheese stocks 7.4% higher. But, cheese stocks did decline some from the July 31st level. Dry whey prices have fallen from heavy stocks with August 31st stocks 68.6% higher than a year ago. Likewise, nonfat dry milk prices have fallen with August 31st stocks 31% higher than a year ago. But, it is surprising that butter prices have not increased more with August 31st stocks declining from July to 12.1% lower than a year ago.

Dairy exports have supported cheese and butter prices. Cheese exports for August were 35% higher than a year ago and up 24% year-to-date. August butterfat exports were 177% higher than a year ago and 12% higher year-to-date. But, August nonfat dry milk/skim milk powder exports were 9% lower than a year ago, the second straight month of decline. August Dry whey exports were also lower than a year with a decline of 10%. Both nonfat dry milk/skim milk powder and dry whey are experiencing strong market competition for exports from the EU. Competition for markets will remain strong in 2018 as milk production is expected to increase in the two largest exporters, EU and New Zealand with also some milk production recovery in Argentina and Australia. Any major changes in trade agreements, in particular NAFTA could also impact exports. But, world demand is expected to increase as China and other major importers expand their imports of dairy products. This will help to absorb some of the increase in world milk production.

Milk prices for the remainder of this year and into 2018 will depend upon the level of milk production. USDA’s report for September milk production showed the increase in milk slowed to 1.1% compared to increases of 2% for the previous two months. Milk cow numbers decline 4,000 head from August but were still 69,00 head or 0.7% higher than a year ago. The slowdown in milk production was due to milk per cow which was up just 0.3% from a year ago.

USDA is forecasting 2018 milk production to increase 1.9% from this year, the result of 0.5% more cows and 1.4% more milk per cow. This is a lot of milk that will put downward pressure on milk prices. It would take higher than expected domestic sales of milk and dairy products or higher dairy exports to push 2018 milk prices higher than what is now forecasted.
COMING EVENTS

November 9, 2017-9:00am-3:00pm-New York Learning Circles-Soil Health & Your Land, Livingston County Center for Emergency Operations & Training Center, 3360 Gypsy Lane, Mount Morris, NY. Cost $10.00 Lunch will be provided, (Or 25.00 for all three Learning Circles, lunch provided), Contact: Joan Sinclair Petzen, 585-786-2251

November 16, from 6:30-8pm-Integrated Pest Management in Hops Webinar-Online webinar to cover hop insects, disease, and weed management The webinar will be presented through Cornell Zoom program and you can participate on your computer or phone. Once you register for the webinar at https://reg.cce.cornell.edu/IPMHopsWebinar_225 you will receive an email with information on how to log into the webinar. The program will include an emailed handout on scouting procedures for some of the major pests. There are many minor pests that we will cover but there are no specific scouting procedures in place for them at this time but we will discuss when you might be watching for them. For more information, view the Northeast Hops Newsletter

December 1, 2017-10:00am-2:00pm-Feed Dealer’s Meeting, CCE-Genesee County, 420 E. Main St., Batavia, NY.- The Feed Dealer Seminars are specifically targeted for nutritionists, veterinarians, crop and management consultants, extension educators, and dairy producers with specific interest in nutrition-oriented topics. They are designed to blend the latest concepts in feeding and other management aspects of dairies with field level application. They have been conducted annually as a road show with multiple sites in New York for many years with an additional Vermont location held during the past several years in collaboration with the Northeast Agribusiness and Feed Alliance. Cost is $30 per person and $25 for each additional person from the same farm. Register by contacting Brittany Griffin at 315.536.5123 or bg393@cornell.edu.

December 2, 2017-9:30am-12:00pm-Southern Tier Maple School, hosted by CCE Schuyler: Cornell Cooperative Extension’s State Maple Specialist, Steve Childs, will lead this annual refresher to help maple producers of all levels improve the productivity, efficiency and profitability of their operations. The workshop will conclude with a maple syrup tasting and grading demonstration. Light refreshments provided. $5 donation at the door. For general information on maple syrup production, please visit: www.cornellmaple.com For additional questions, contact Brett Chedzoy of Schuyler CCE at 607-535-7161, or by email at: bjc226@cornell.edu. Held at the Tyrone Volunteer Fire Company 3600 State Route 226 Tyrone, NY 14887.

December 6, 2017-10:00 am-9:00pm and December 7, 2017-6:30am-4:00pm-2017 Calf & heifer Congress, Doubletree Inn, East Syracuse, NY For more information and to register contact: Northwest New York Dairy, Livestock & Field Crops, Cathy Wallace, 585-343-3040 x138.

FOR LEASE

Attention Christmas Tree Farmers I have 40-60 acres to lease at a reasonable rate. The property is located in Steuben County between Bath and Hornell. Contact Merwyn Crane at 1-315-591-8104.