Caring For Your Real Tree

Your real Christmas tree will last the entire Christmas season if you follow these few simple tips:

- Choose a fresh cut tree. The best way to ensure you have the freshest Christmas tree is to head out to your local New York State Christmas tree farm or lot.
- Fresh water - make sure you get your tree in water within the first 12 hours of bringing it home. If you're unable to do this, make sure you make a fresh cut one quarter inch up the trunk with a sharp saw. This reopens the tree stem so it can drink up water immediately. Your tree should have 1 quart of fresh water for each inch in diameter of your tree trunk.
- Monitor the water in your tree stand bucket daily and make sure your bucket never runs dry. Trees are very thirsty. They may drink up to a gallon of water a day. Don't allow your water level to drop below the fresh cut of your tree or the trunk may seal over.
- Keep your real Christmas tree away from sources of heat. This will dry the tree out quicker and you might have needle loss toward the end of the season.
- There is no reason to add preservatives. The National Christmas Tree Association doesn't recommend adding any type of manufactured preservative, Sprite or sugar to tree water. There are no studies that prove that adding any of these prolongs the freshness of your real Christmas tree. Subsequently, there is no need to drill holes in the base of your tree as it does not help in the uptake of water.
- Use lights that are low heat such as LED's or miniature lights. This will reduce the drying of your tree, keeping it looking fresh and beautiful.

Visit Christmas Tree Farmers Association of New York to find a tree farm near you!
http://christmastreesny.org/index.php

Cornell Cooperative Extension

Steuben County
NY FarmNet presents
*Who Will Manage Your Farm Tomorrow?*

Doubletree Hotel
East Syracuse, NY
January 13-14, 2015

Choosing and developing future farm managers is the focus of, “Who Will Manage Your Farm Tomorrow,” slated for January 13th-14th at the DoubleTree Hotel in East Syracuse. This conference provides farm families and their advisors critical information for helping the next generation find success on the farm and identifies effective management transfer strategies to implement.

Danny Klinefelter, Ph.D is the conference keynote speaker. In 2013, Top Producer magazine named him one of 30 innovators who have had the biggest impact on agriculture during the past three decades. Dr. Klinefelter is a Professor and Extension Economist with Texas AgriLife Extension and Texas A&M University and founder and former director of The Executive Program for Agricultural Producers (TEPAP). In addition, Klinefelter is co-director of the Texas A&M Family and Owner-Managed Business Program and serves as executive secretary for the Association of Agricultural Production Executives (AAPEX).

At dinner on January 13th, author and consultant Mark Andrew (Andy) Junkin will lead a discussion based on his book, “Farming with Family Ain’t Always Easy”. Based in Canada, Junkin is passionate about evangelizing the need for farmers to rethink how they make decisions together in the context of operating and managing a family business.

“Farmers need to have in place a plan for their farm business that will ensure a successful transition of management and ownership to the next generation,” said Ed Staehr, executive director of NY FarmNet and a senior extension associate with the Dyson School at Cornell University.

NY FarmNet provides free and confidential technical assistance in farm management and family relationships. NY FarmNet is an extension and outreach program of the Charles H. Dyson School of Applied Economics and Management at Cornell University.

The New York State Department of Agriculture and Markets, Crop Insurance Education Program; and Farm Credit East are platinum-level sponsors of this meeting.

Program sponsorships are still available. For more information, go to [http://www.nyfarmnet.org/](http://www.nyfarmnet.org/).

Registration, including all meals and materials is $85. To register, go to [http://www.nyfarmnet.org/](http://www.nyfarmnet.org/).

For more information, contact 1-800-547-3276 or email dlw56@cornell.edu.

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4-H Tractor and Machinery Operation Certification Program Offered

Youth who will be 14 and over as of March 1, 2015 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 5th or the registration form that can be found on the website at** [www.putknowledgeforwork.org](http://www.putknowledgeforwork.org) **and click on 4-H Youth Development and then click on program overview and then Tractor and Machinery or by contacting Kim at Cornell Cooperative Extension at 607-583-3185 or by email at ksb3@cornell.edu. 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 5 which is found on the above website and pay the $5.00 4-H enrollment fee.**

The Hazardous-Occupation Order for youth under 16 makes it unlawful to hire or even permit without pay any youth under the age of 16 to participate in any work activities listed as hazardous, unless:
1. The youth is employed, either with or without compensation, by their parents or legal guardian, or
2. The youth 14-15 years old has a training certificate which provides an exemption from certain hazardous work activities.
3. The Tractor and Machinery Operation Program allows for youth under the age of 16 who successfully completes the program to engage in agricultural work activities below if they are 14-15 despite the fact the activities are listed as “agricultural work activities classified as hazardous for youth under 16”.

**Tractor Operation** - This training allows youth who successfully complete requirements to: operate a tractor over 20 PTO horsepower, or connect or disconnect an implement or any of its parts to or from such a tractor. **Equipment Operation** This allows youth who successfully complete requirements to operate or assist to operate the following equipment: hay mower, hay baler, forage harvester, forage blower, feed grinder, crop dryer, auger conveyor, the unloading mechanism of a non-gravity type self-unloading wagon or trailer, corn picker, cotton picker, grain combine, power post-hole digger, power post driver, a non-walking rotary tiller, potato digger, or mobile pea viner. This includes starting, stopping, adjusting, feeding, or any activity involving physical contact associated with the operation of the equipment listed.

The 9 classroom sessions will be offered Monday evenings from 7:00 p.m. – 9:00 p.m. starting January 12 – March 9 at the Steuben County Office Building, Bath. There will be a hands on Sunday Session in January and February from 1-4 p.m. with the locations to be announced. The Driving Test will be on Sunday, March 8 from 1-4 p.m. with the location to be announced.

**Springwater Agricultural Products**
8663 Strutt Street, Springwater, NY
Farm: 585-728-2386 Cell: 585-315-1094
Name Brand & Generic Pesticide Sales
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Open Everyday – Dave Votypka-Owner
Quality products with farmer friendly prices.
A potentially yield-reducing disease called ‘brown stem rot’ (BSR) was confirmed for the first time in New York soybean fields in 2013, and was found again in 2014. It showed up in some plants from soybean fields in Cayuga, Herkimer, Niagara, and Yates Counties collected by Cornell Cooperative Extension Educators Kevin Ganoe, Keith Severson, Michael Stanyard, and Bill Verbeten, with support from the New York Soybean Check-off Program. The disease was diagnosed in the Field Crops Pathology Laboratory at Cornell based on characteristic symptoms and the laboratory isolation of the causal fungus and confirmation of a portion of its signature DNA sequence. So far, BSR has not been detected outside of the four counties mentioned above. It is noteworthy that BSR was not detected in soybean fields in northern New York scouted in 2013 and 2014 by CCE Educators Michael Hunter and Kitty O’Neil, with support from the Northern New York Agricultural Development Program.

Brown stem rot is caused by the fungus Cadophora gregata (syn. Phialophora gregata) and occurs in most soybean production regions of the US, but this is, to our knowledge, the first confirmation in New York or the northeastern U.S. Reported yield losses in the Midwest have ranged from minor to in excess of 25%, so the presence of the pathogen is considered a significant factor for soybean production. Yield loss is often a function of the relative susceptibility of varieties that are planted; varieties vary from susceptible to resistant. BSR is a disease of priority to soybean seed companies. Resistant varieties are widely available, and most seed catalogs provide resistance ratings for BSR. If BSR becomes more prevalent in New York, selection of resistant varieties may become more important for New York producers.

The foliar symptoms of BSR are similar to those of other soilborne diseases that restrict the movement of water and nutrients to the leaves. So BSR can be confused with northern stem canker and sudden death syndrome, all of which result first in yellowing and then browning of leaf tissues between the veins during pod-filling stages. However, not all soybean varieties exhibit foliar symptoms when infected with the BSR fungus. What is distinctive about BSR is the browning of the internal tissues of infected plants (Figure 1). This discoloration is often most obvious near the nodes when stems are split lengthwise. Dead leaves may remain attached to the plant. Stem discoloration symptoms may be confused with those caused by white mold, northern stem canker, or Phytophthora stem rot.

Infection by the fungus occurs early in the season, through the roots, from where the fungus continues to grow throughout the plant’s water-conducting tissues. Temperature has the greatest impact on disease development, and is favored by temperatures between 60 – 80F. But, temperatures above 80F may halt BSR development and spread. Because infection occurs at early stages (around the three leaf stage) of the crop, foliar fungicides applied during flowering and pod-filling stages will not be effective in suppressing BSR.

The fungus survives on soy residues and in the soil in the field for many years. Luckily, the pathogen survives on few other plant species, and in severely infested fields, a rotation of at least 3 years out of soybean and deep plowing of infected soybean residues would reduce the incidence of BSR in a subsequent soybean crop.
The most important thing that a New York soybean producer can do at this time is to learn to recognize the symptoms of BSR and other soilborne diseases and to get a diagnosis of problems that they observe in their fields. If BSR or other soilborne diseases are confirmed, producers should talk to their seed supplier and order soybean varieties with appropriate levels of resistance for the soilborne diseases observed on their farm.

Acknowledgements: This research received financial support from the New York Soybean Check-off Research Program, the Northern New York Agricultural Development Program, and Cornell University Hatch Project NYC153473.

Starter Grain Pointers

Calves can be discerning eaters when it comes to starter-grain. University of Minnesota researchers Hugh Chester-Jones and Neil Broadwater have developed a presentation covering the basic principles, concepts and management practices when feeding calf starter to dairy calves.

Their information is based in part on research studies conducted at the Southern Research and Outreach Center (SROC) in Waseca, Minn. on various calf-starter physical forms, formulations and feeding programs to provide the opportunity for rumen development and growth of the young calf.

They said variables that contribute to differences in calf starter intake include:

- Milk feeding programs
- Water intake
- Calf starter formulation and physical form
- Calf genetics, gender, birth weight
- Calf housing, management and environmental conditions

“Ideally, from birth through weaning, a reasonable average daily gain target is 1.76 lbs. per day, with a dry-matter intake of 2 lbs. per day,” they said.

They noted water intake is critical to rumen development, because water goes directly into the rumen and creates an aqueous environment needed by rumen bacteria.

Calves prefer some physical forms of starter grain over others. The researchers said pelleted formulations that are too hard or too soft will not be consumed as readily by young calves. Also, calves do not like starters that are finely ground mixtures. Molasses or molasses-based products help promote starter intake.

Their weaning targets for large breeds, including Holsteins, are to wean when the calf is consuming more than 1.5 lbs. of starter grain per day for at least 2-3 consecutive days. For the Jersey breed, the calf should be
consuming more than 1 lb. of starter for 2-3 consecutive days. “As calves get close to the time of weaning, feeding a half rate of milk replacer will encourage starter consumption, which will increase rapidly after weaning,” they said.

They concluded: “Calf starters should be relatively simple formulations that promote optimum intake, rumen development and meet target growth goals as economically as possible.”

**Glyphosate-Resistant Weeds Likely in NY**

Russell R. Hahn, School of Integrative Plant Science, Soil and Crop Sciences Section, Cornell University

The number of herbicide resistant weed biotypes has increased from 404 to 437 in the past 12 months. A summary of resistant biotypes for various herbicide site-of-action groups is shown in Table 1. There have been 13 new cases of ALS (acetolactate synthase) inhibitor resistance (Group 2 herbicides) and 7 new cases of glyphosate (EPSP inhibitor) resistance (Group 9 herbicides) around the World during the past year. Along with these newly documented cases of herbicide resistance, there continues to be much media attention to this problem, especially related to glyphosate-resistant (GR) weeds.

### Table 1. A summary of resistant weeds by site-of-action herbicide group as of December 1, 2014 is shown below with information from [http://www.weedscience.org](http://www.weedscience.org)

<table>
<thead>
<tr>
<th>Herbicide Group</th>
<th>Group #</th>
<th>Example Herbicide(s)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALS inhibitors</td>
<td>2</td>
<td>Resolve Q</td>
<td>146</td>
</tr>
<tr>
<td>Triazine</td>
<td>5</td>
<td>Atrazine</td>
<td>72</td>
</tr>
<tr>
<td>ACCase inhibitors</td>
<td>1</td>
<td>Fusilade DX</td>
<td>46</td>
</tr>
<tr>
<td>Cyclic</td>
<td>9</td>
<td>Roundup, Touchdown, etc.</td>
<td>31</td>
</tr>
<tr>
<td>Bipyridilium</td>
<td>22</td>
<td>Gramoxone SL 2.0</td>
<td>31</td>
</tr>
<tr>
<td>Synthetic Auxin</td>
<td>4</td>
<td>2,4-D</td>
<td>30</td>
</tr>
<tr>
<td>Ureas and Amides</td>
<td>7</td>
<td>Lorem</td>
<td>25</td>
</tr>
<tr>
<td>Dinitroaniline, etc.</td>
<td>3</td>
<td>Prowl</td>
<td>12</td>
</tr>
<tr>
<td>Thiocarbamate, etc.</td>
<td>8</td>
<td>Eptam 7E</td>
<td>9</td>
</tr>
<tr>
<td>PPO inhibitors</td>
<td>14</td>
<td>Sharpen</td>
<td>6</td>
</tr>
<tr>
<td>Chloroacetamide, etc.</td>
<td>13</td>
<td>Dual II Magnum</td>
<td>4</td>
</tr>
<tr>
<td>Nitrites and others</td>
<td>6</td>
<td>Bustran</td>
<td>4</td>
</tr>
<tr>
<td>Glutamine synthesis inhibitors</td>
<td>10</td>
<td>Liberty 280 SL</td>
<td>2</td>
</tr>
<tr>
<td>HPD inhibitors</td>
<td>27</td>
<td>Callisto</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>-</td>
<td>-</td>
<td>-17</td>
</tr>
<tr>
<td>Total Herbicide Resistant Weed Biotypes</td>
<td>-</td>
<td>-17</td>
<td></td>
</tr>
</tbody>
</table>

**WSSA Takes Action**

In response to the growing concern about herbicide resistance, the Weed Science Society of America (WSSA) sponsored a national scientific summit on this topic September 10, 2014 in Washington D.C. This summit built on the insights and perspectives developed at a similar event in 2012. Dr. David Shaw, a past president of WSSA and Chair of the WSSA Herbicide Resistance Education Committee said “We want everyone to walk away with a clear understanding of specific actions they can take to help minimize the devastating impact of herbicide resistance on agricultural productivity”. In addition, WSSA issued a new fact sheet to address the media attention/hysteria about herbicide resistance on October 8, 2014. The fact sheet discusses the truth behind two common misconceptions about “superweeds”. According to WSSA, the first misconception is that “superweeds” are the product of rampant gene transfer from genetically modified crops creating herbicide resistant weeds. The second misconception is that “superweeds” have supercharged abilities to muscle out competing plants in new and more aggressive ways". The WSSA fact sheet is posted online at [http://wssa.net/weed/wssa-fact-sheets](http://wssa.net/weed/wssa-fact-sheets).

**Glyphosate-Resistant Weeds**

While ALS inhibitor-resistant weeds account for one-third of the documented cases, GR weeds get more attention because of the connection to the vast acreages of GR crops and because of the rapid spread of GR Palmer amaranth across the U.S. A summary of GR weeds in the U.S. is shown in Table 2.
Table 2. Documented cases of glyphosate resistance in the U.S. as of December 1, 2014.

<table>
<thead>
<tr>
<th>Year</th>
<th>Weeds</th>
<th># of States</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>Rigid ryegrass</td>
<td>1</td>
</tr>
<tr>
<td>2000</td>
<td>Horseweed aka Marestail</td>
<td>24</td>
</tr>
<tr>
<td>2004</td>
<td>Italian ryegrass</td>
<td>7</td>
</tr>
<tr>
<td>2004</td>
<td>Common ragweed</td>
<td>15</td>
</tr>
<tr>
<td>2004</td>
<td>Giant ragweed</td>
<td>12</td>
</tr>
<tr>
<td>2005</td>
<td>Palmer amaranth</td>
<td>24</td>
</tr>
<tr>
<td>2005</td>
<td>Tall waterhemp</td>
<td>15</td>
</tr>
<tr>
<td>2007</td>
<td>Kochia</td>
<td>7</td>
</tr>
<tr>
<td>2007</td>
<td>Hairy fleabane</td>
<td>1</td>
</tr>
<tr>
<td>2007</td>
<td>Johnsongrass</td>
<td>3</td>
</tr>
<tr>
<td>2008</td>
<td>Junglerice</td>
<td>1</td>
</tr>
<tr>
<td>2010</td>
<td>Goosegrass</td>
<td>2</td>
</tr>
<tr>
<td>2010</td>
<td>Annual bluegrass</td>
<td>3</td>
</tr>
<tr>
<td>2012</td>
<td>Spiny amaranth</td>
<td>1</td>
</tr>
</tbody>
</table>

Although there are no documented cases of GR weeds in NY, it’s likely that there are isolated GR weed populations in the state. Several years ago, there was a situation in western NY where a grower noticed giant ragweed that had not been controlled with a normal glyphosate application in soybeans on newly purchased land. The previous landowner had purchased a combine from Ohio where there have been documented cases of GR giant ragweed. Seed from the surviving giant ragweed were grown in the greenhouse and treated at 3 or 6 inches in height with from 22 to 88 fl oz/A of Roundup PowerMax. Some of the 3- and 6-inch giant ragweed survived up to 88 fl oz/A of Roundup PowerMax. There are also reports of horseweed (marestail) that is not controlled with normal glyphosate applications, usually in zone/no-tillage fields. See the accompanying photo of a no-tillage soybean field that shows surviving horseweed plants following burndown and postemergence applications of glyphosate.

Several Midwest states believe that GR Palmer amaranth was introduced on contaminated cotton seed imported for dairy rations. This was cause for alarm last summer when an astute crop advisor noticed an unfamiliar pigweed that was not controlled with a normal glyphosate application in Wayne County. According to Anna Stalter, Associate Curator and Extension Botanist of the L. H. Bailey Hortorium Herbarium, Palmer amaranth (Amaranthus palmeri) is not native in NY. However, there are two Palmer amaranth specimens from NY in the herbarium collection. One was from Corona on Long Island in 1936 and the other from Albany in 1949. It is believed that the strange pigweed was tall waterhemp (Amaranthus tuberculatus). Stalter says that tall waterhemp is considered native throughout NY, having spread from the Midwest. There are 17 specimens of tall waterhemp from NY in the herbarium collection dating from 1891 near Fort Ann in Washington County to 2005 near DeKalb in St Lawrence County. None are from west of Cayuga and Tompkins. Ten of the Wayne County tall waterhemp plants were sprayed with a normal rate of glyphosate when they were 12 inches tall and actively growing. Nine of these plants died, but one survived, making one believe there may be GR tall waterhemp plants in this population.

Herbicide Resistance Management
Effective herbicide resistance management, to avoid or control herbicide resistant weed populations, involves engagement of all involved in weed management decisions. Primary responsibility falls on the grower or crop consultant who must scout fields to determine if weed control practices are working and to identify and determine the reason(s) for weed escapes. Key elements of an effective grower/crop consultant weed management plan includes some, or all of the following practices;

1. Crop rotation and the use of hybrids/varieties with different genetic traits for herbicide resistance.
2. Cultivation of row crops to control escaped weeds.
3. Rotate or use herbicides with different sites-of-action over the course of the crop rotation.
4. Use tank mixes/premixes or sequential herbicide applications with different sites-of-action.
5. Scout fields to identify weeds that survive herbicide application and then determine why.

Chemical and seed companies, which are often one and the same, provide information and products that reinforce management practices for those who are on the front lines in this battle. Among these are: 1) including site-of-action group numbers on all herbicide containers, 2) developing and marketing premixes of herbicides with different sites-of-action, and 3) developing and marketing crops with multiple types of herbicide resistance/tolerance. It is this last item that is receiving much attention in this battle against herbicide resistant weeds. There are examples of crops with multiple types of herbicide resistance in the marketplace. Most everyone is familiar with SmartStax corn hybrids with resistance to glyphosate (Roundup etc.) and glufosinate (Liberty 280 SL) as well genetic traits for resistance to insects. In addition, there are recently deregulated herbicide resistant crops with new combinations of herbicide resistance/tolerance traits and others under development.

**Does Soybean Planting Depth And Planting Date Matter That Much In New York?**

Bill Cox, School of Integrative Plant Science, Soil and Crop Sciences Section and Phil Atkins, New York Seed Improvement Program, Cornell University

It is generally recognized that the optimum soybean planting date range in NY is from ~May 10-May 25 and the optimum seeding depth is ~1.5 inches on most planting dates. Some growers, however, have had success by planting soybeans in late April, before planting the corn crop. In addition, a late April or early May soybean planting date greatly improves the probability of timely wheat planting, if soybean growers are in a corn-soybean-wheat rotation. We conducted small-plot research at the Aurora Research Farm in 2013 and 2014 to answer three questions concerning soybean planting: 1) Can soybean be safely planted in late April in the Finger Lakes region and western NY (regions where there is typically no frost after May 15) without a yield penalty, 2) does the 1.5-inch seeding depth fit all planting dates, and 3) should a Group II or Group I variety be selected, if the planting date is delayed until mid-June.

We planted a mid-Group II (AG2431) and a late Group I (AG1832) variety on April 19, May 6, May 17, June 1 and June 15 in 2013 and on April 21, May 7, May 20, May 29, and June 11 in 2014 at 1.0, 1.5, 2.0, and 2.5 inch seeding depths at the Aurora Research Farm in Cayuga County. Soybeans were planted in 15-inch rows with a White row crop planter at ~170,000 seeds/acre. We evaluated early plant establishment at ~1st-2nd trifoliate stage (~V2-V3) about 10 to 35 days after planting, depending upon planting date. Each planting date x variety x seeding depth plot was harvested when moistures were less than 16% (September 27, October 3, and October 15 in 2013; and September 29 and October 13 in 2014.). Growing conditions were mostly similar across years, with 2013 somewhat warmer and wetter, but drought stress did not occur in either year (Table 1).

**Table 1.** Monthly precipitation and average monthly temperatures at the Aurora Research Farm in Cayuga Co., NY during the 2013 and 2014 growing seasons.

<table>
<thead>
<tr>
<th>Month</th>
<th>Precipitation</th>
<th>Avg. Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td>3.39</td>
<td>4.29</td>
</tr>
<tr>
<td>July</td>
<td>3.23</td>
<td>4.61</td>
</tr>
<tr>
<td>August</td>
<td>5.97</td>
<td>4.46</td>
</tr>
<tr>
<td>September</td>
<td>3.96</td>
<td>2.34</td>
</tr>
</tbody>
</table>
Early plant populations had a significant year x planting date x seeding depth interaction (P=0.09), indicating that the optimum seeding depth varied across planting dates within years (Table 2). In 2013, the 1-inch seeding depth consistently had the highest early plant populations at ~135,000-145,000 plants/acre (~80-85% early plant establishment) for all planting dates. In 2014, however, the 1.0 inch seeding depth had early plant populations of only ~103,000 plants/acre on the May 20 planting date (~60% establishment) because of an extended dry period after this planting date. Likewise, the 2.5 inch seeding depth at the late April planting date had the lowest early plant populations in 2013 (~102,000 plants/acre or ~60% establishment) and in 2014 (~119,000 plants/acre or ~75% establishment), associated with the cool conditions after planting, but mostly similar early plant populations on all May planting dates. The 2.5 inch depth also had the lowest early plant populations on the June planting dates (~111,000 plants/acre or ~65% establishment in 2013 and ~119,000 plants/acre or ~70% establishment in 2014) probably because heavy rains after planting resulted in significant soil crusting before emergence on those dates.

Table 2. Plant populations of soybean at ~the 1st trifoliate leaf stage (~V2)) at five planting dates and four seeding depths, when averaged across two varieties (AG1832 and AG2431), in the 2013 and 2014 growing seasons.

Seed yield did have a year x planting date x seeding depth interaction, but mostly because of the mid-June planting dates (Table 3). Seed yields did not vary with planting depth across the first four planting dates in either year, despite early plant populations of only 101,800 plants/acre at the 2.5 inch seeding depth on the April 19 planting date in 2013 and of only 103,075 plants/acre at the 1.0 inch seeding depth on May 20 in 2014. Seed yields, however, were lower on the June planting dates at the 2.5 inch depth in 2013 and 2014 (~20% in 2013 and ~8% in 2014) and at the 1.0 inch depth in 2014 (9% less), probably associated with low early plant populations.

Table 3. Seed yield of soybean at five planting dates and four seeding depths, when averaged across two varieties (AG1832 and AG2431) in the 2013 and 2014 growing seasons.

Seed yield also had a year x planting date x variety interaction (Fig. 1 and Fig.2). The Group II variety yielded the highest at the April planting date and June planting date in both years. The Group I and Group II varieties yielded the same on all three May planting dates. Yield showed a quadratic response to planting date in 2013 with lower yields at the April planting date, maximum yield observed between the May 6 and May 17 planting dates, and the lowest yield for the June 15 planting date (Table 3 and Fig.1). In 2014, yield showed a negative linear
response to planting date with maximum yield observed at the April planting date, similar yields among the May planting dates, and the lowest yield for the June 11 planting date (Table 3 and Fig.2). Soybean yields planted in late April compared to mid-June averaged ~30% higher in 2013 and ~20% higher in 2014.

**Fig. 1** Yield of a Group I (AG1832) and a Group II (AG2431) soybean variety, averaged across four seeding depths, at five planting dates in 2013.

**Fig. 2** Yield of a Group I (AG1832) and a Group II (AG2431) soybean variety, averaged across four seeding depths, at five planting dates in 2014.

**Conclusion**

When averaged across years, varieties and planting dates, a negative linear relationship existed between early plant populations and seeding depth, indicating that the 1.0 inch seeding depth had the highest overall early plant populations (~133,000 plants/acre compared with ~123,750 plants/acre at the 2.5 inch depth). Nevertheless, the year x planting date x seeding depth interaction, in part because the 1.0 inch seeding depth had the lowest early plant populations compared to all seeding depths on the May 20 planting date in 2014, indicates that the 1.0 inch depth may result in poor early stand establishment when an extended dry period follows planting. Likewise, lower early plant populations at the 2.5 inch depth on the April and June planting dates, but similar early plant populations on the May planting dates, indicates that 2.5 inch depth is too deep under cool conditions, or if soil crusting occurs after planting before emergence. Consequently, the 1.5 to 2.0 inch depth range appears to be the optimum for early plant establishment for most planting dates.

Plant populations, however, do not correlate with yield in most situations, unless final stands are less than ~114,000 plants/acre under NY growing conditions (Cox and Atkins, What’s Cropping Up, Vol.21, No.2, p. 5-6). Consequently, the relationship between yield and seeding depth was neither linear nor quadratic when averaged across years, varieties, and planting dates. Soybeans have a tremendous ability to compensate or fill in when early plant populations are low, which is reflected in similar yields among seeding depths, despite low plant populations at the 2.5 inch depth for the April planting dates in both years and for the 1.0 inch depth for the mid-May planting date in 2014. Soybeans, however, did not compensate for the low plant populations at the June planting dates, as evidenced by lower yield at the 2.5 inch depth in 2013 (~20% less than the highest yield on that date) and at the 1.0 inch and 2.5 inch seeding depths in 2014 (8-9% lower than the highest yield on that date). Perhaps, soybeans have less time to compensate for lower plant populations if planted in mid-June in NY.

When averaged across years, varieties, and seeding depths, yield showed a quadratic
yield response to planting date with maximum yields occurring at the late April and early May planting dates. The year x variety by planting date interaction for yield indicated that a Group I or Group II variety planted in early or mid-May yielded highest in 2013 but a Group II variety planted in late April yielded highest in 2014. Yields decreased for both varieties at the late May planting date in 2013 but yields were the same across all May planting dates for both varieties in 2014. Yield of the Group II vs. Group I variety was higher for the June planting date in both years. The yield data indicate that a Group II variety planted sometime between April 25 and May 10 appears to be the optimum range compared to the general belief of the May 10 to May 25 range. Growers who have a corn-soybean-wheat rotation in some fields may wish to consider planting a Group II variety ahead of corn or simultaneously with corn in late April or early May in those fields, especially if timely planting of wheat is a concern. The 20- to 30% higher yields for late-April compared to mid-June planted soybeans may prompt growers who do not have wheat in their rotation to consider planting soybeans in late April or early May, simultaneous with corn planting. Keep in mind that this study was conducted on a well-drained soil in a region of the state where spring frosts do not typically occur after May 15. Late April-planted soybeans are not recommended for poorly drained soils or on farms where frost can occur after May 15.

This show combines the major fruit, flower, vegetable, and direct marketing associations of New York State in order to provide a comprehensive trade show and educational conference for the fruit and vegetable growers of this state, as well as the surrounding states and Eastern Canada.

JANUARY 19-22, 2015

This year hops and barley production will be discussed. See below for topics covered:

HOPS
- Weed management and herbicide updates for hops –
- Hops scouting: Procedures and findings in 2014 –
- Fertility practices for optimum hop production –
- What’s new with Powdery Mildew on hops? –
- Hops research at the Geneva Experiment Station –

BREWING SUCCESS – NYS MALT BARLEY: FROM THE FURROW TO WHAT ALES YOU
- Surf’s up: Considerations for catching the amber wave and avoiding a wipe-out –
- A little TLC: The art and science of growing NYS malt barley for NYS markets –
- Rounding 3rd base: Post-harvest considerations for malt barley –
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Butter: Milk component prices include butterfat and protein values in Class I milk. Wholesale butter prices are lower, as the market tone is steady. Cream tightened as Class II manufacturers are pulling stronger on cream supplies. Domestic butter interest is strong in both the retail and food service segments. The market tone is steady.

Cheese: Cheese production is comfortably meeting active sales demand focused on holiday retail buyers, as well as food service customers. Milk is adequate and in some areas there is surplus milk available. Most manufacturers do not have inventory concerns. Some western cheese manufacturers are encountering difficulties in getting already sold cheese moving into export due to a work slowdown in some ports along the Pacific. This is causing some inefficiencies in trucking the cheese to cold storage facilities pending the resumption of normal export flows.

Dry Products: Nonfat dry milk prices are lower throughout all regions. Manufacturers are seeing steady to marginal increases in production. Demand is light. Dry buttermilk prices continue to decline. The market is growing weaker, as holiday production climbs and buyer interest remains stagnant. The dry whey market tone is weakening, as export markets pressure prices lower. Lactose prices are stagnant. The dry whey market tone is weakening, as export markets pressure prices lower. Lactose prices are stagnant. The dry whey market tone is weakening, as export markets pressure prices lower. Lactose prices are stagnant.

Fluid Milk: Milk distribution was brought to a virtual halt as cold wintery weather produced an unanticipated monster snow storm in parts of the Northeast region. Seasonally cold temperatures are factoring significantly and causing mixed levels of farm milk production across the country. Bottlers have ramped up production to keep pace with increased retail orders, prior to the holiday week. Manufacturers are expecting heavier volumes of milk intakes next week as schools close for the Thanksgiving holiday.

Milk Production: Milk production in the 23 major States during October totaled 16.0 billion pounds, up 3.9% from October 2013. Production per cow averaged 1,868 pounds during October, 51 pounds above October 2013. Production per cow averaged 1,868 pounds during October, 51 pounds above October 2013. Production per cow averaged 1,868 pounds during October, 51 pounds above October 2013.

| Dairy Market Watch |

<table>
<thead>
<tr>
<th>Milk Component Prices</th>
<th>Milk Class Prices</th>
<th>Statistical Uniform Price &amp; PPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month</td>
<td>Butterfat</td>
<td>Protein</td>
</tr>
<tr>
<td>-------</td>
<td>------------</td>
<td>----------</td>
</tr>
<tr>
<td>Oct13</td>
<td>$1.66</td>
<td>$3.41</td>
</tr>
<tr>
<td>Nov13</td>
<td>$1.63</td>
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<tr>
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<td>Oct14</td>
<td>$2.85</td>
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Friday CME Cash Prices

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<tr>
<th>Dates</th>
<th>10/24</th>
<th>10/31</th>
<th>11/7</th>
<th>11/14</th>
<th>11/21</th>
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<tbody>
<tr>
<td>Butter</td>
<td>$1.81</td>
<td>$1.89</td>
<td>$2.01</td>
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<td>$2.00</td>
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<tr>
<td>Cheese (40# Blocks)</td>
<td>$2.14</td>
<td>$2.14</td>
<td>$2.20</td>
<td>$1.94</td>
<td>$1.73</td>
</tr>
</tbody>
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October Utilization (Northeast): Class I = 38%; Class II = 24%; Class III = 24%; Class IV = 14%

Class I = fluid milk; Class II = soft products, cream, and yogurt; Class III = cheese (American, Italian), evaporated and condensed products; Class IV = butter and milk powder.
Despite the 2014 Average U.S. All Milk Price being $4 higher than 2013, near $24, milk prices have continued to show weakness since their peak in August and September. A major cause has been increased milk production here in the U.S. which has moved up 3.8% since this time last year. Almost 3% more milk was produced per cow with relatively similar cow numbers, which have only increased 0.8% over the past year. In New York, this milk production increased by 3% as compared to October 2013. The relative completion of holiday orders of cheese and butter have also contributed to milk price declines. The sales of these products are typically high during the holidays. However, retail buyers need to build inventory levels for peak sales by early November, and these purchases will decline as we finish out the month (Cropp, Bob. Memo to Dairy-L. 19 November 2014).

A continued decline in U.S. dairy exports was also a key factor in price decline this past month. World milk production is well above what it was a year ago, in particular for New Zealand, Australia, and the EU-28 countries. China, who in the beginning of 2014 was aggressively importing, has backed off as they have built their own dairy product stock pile. Russia’s ban of EU-28 imports has disrupted EU exports. World dairy product prices have dropped by about 50% from earlier in the year, and US exports have declined from a year ago - butter dropped by 79%, non-fat dry milk by 29%, and whey protein concentrate by 19%. However, cheese is up by 9% from last year, although it will likely drop as orders decline, and lactose is up 7% (Cropp, Bob. Memo to Dairy-L. 19 November 2014).

Looking into 2015, milk prices will continue to slide, however it remains unclear exactly how low they will become. USDA is still projecting a 3% increase in milk production in 2015 as cows are added and feed costs remain lower. However, with cow slaughter prices continuing to remain high, replacement costs are high and cattle inventory is tight. Many producers are also wary of a milk price decline for 2015 and will post-pone expansion plans or pursue them slowly. There is still uncertainty surrounding dairy export levels going into 2015 and they are likely to be lower than they were in 2014. Class III prices are projected to be below $18 by January and in the low $17’s for February – June. It may drop below $16 in the summer months if milk production continues to increase and exports continue to weaken (Cropp, Bob. Memo to Dairy-L. 19 November 2014).

Many producers are still determining whether or not to sign up for MPP-Dairy for the 2015 year (the deadline is December 5th). Projections are showing a 30% probability that margins could drop below $8 and trigger a payment in the Mar/Apr and May/Jun cycles. Forecasters warn of worrisome international prices and the tendency for projections to be optimistic in down markets. Participation estimates remain low, but are expected to increase after the holiday week with the approaching deadline (Novakovic, Andrew. Dairy Markets and Policy Information Letter Series. 24 November 2014).
December 20–Maple Confection Workshop
9am – 3pm, Arkport American Legion
The Cornell Maple Program is featuring maple confections trainings conducted by Stephen Childs. The workshop will feature training and hands-on experience in making maple confections, in particular maple sugar, maple cream, molded maple sugar and crystal coating. The participants will be trained in using the diabetic glucose meter to measure invert sugar in maple syrup, how to properly blend syrups to a desired level of invert sugar and the factors that control crystal size in maple confections. The program will also focus on the machinery and techniques that can improve a producer’s time efficiency when making these value added products.

These workshops will be suitable for very experienced as well as novice confection-makers. Each participating maple farm will receive a New York State Maple Confections Notebook. Each participant will need to bring one quart of syrup to be used in the program. Cost is $10 per person. RSVP’s encouraged, contact CCE at 607-664-2300.

January 14 - Basics of Marketing
Civil Defense Center
Bath, NY 14810

Marketing Specialist Kristin Park from Cornell University will discuss the basic principles of marketing including pricing, how to properly display your product, and advertising.

January 31 – Beginner Beekeeping
10am – Noon, Civil Defense Center, 7220 State Route 54, Bath
Interested in getting started in beekeeping? This introductory class will go over the basics of establishing hives and making honey and honey products. Cost is $10 per person.

February 24 – Crop Symposium
Civil Defense Center, Bath

Happy Holidays!
COMING EVENTS:

December 10, 2014 - Swine Enteric Coronavirus Diseases
7:00 PM. Alfred State College Farm, 1254 Route 244
Alfred, NY 14802. To register: Contact Lynn Bliven, Cornell Cooperative Extension of Allegany County at 585-268-7644 Ext. 18, or lao3@cornell.edu.
This includes Porcine Epidemic Diarrhea (PEDV) and another recent disease, Porcine Delta Coronavirus (PDCoV). These diseases have caused large losses in swine breeding facilities across the United States since their introductions and led to a suspension of the piglets and sows exhibit at the 2014 Great New York State Fair. The presentation will address swine breeders’ and veterinarians’ questions and concerns about PED. It will also interest feed dealers, machinery dealers, and others who regularly go to facilities housing breeding swine.

December 11 – Late-Season Grazing Pasture Walk at Angus Glen Farms
Thursday December 11th from 3:00 to 4:30 pm. 3050 Station Road; Watkins Glen, NY. Join the Tri-County Graziers for a unique early-winter pasture walk to see innovative grazing practices that improve the “bottom line” through reduced winter feeding costs, while improving animal and pasture health. Angus Glen Farms, LLC is an “Animal Welfare Approved” 300-acre grazing operation that raises over 100 head of Angus cattle year-round on pasture. Participants will learn about: pasture stockpiling; bale grazing, “living barns” and tips for winterizing a grazing operation. This pasture walk is free and open to the public. Light refreshments will be served. The walk will take place rain, sun or snow and expect moderate walking in pasture conditions. Sponsored by the NY NRCS Grazing Lands Coalition, and organized by Cornell Cooperative Extension and the Upper Susquehanna Coalition. Please RSVP to Brett Chedzoy of Schuyler CCE: bjc226@cornell.edu or by phone: 607-535-7161.