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Berry "To Do" List:

All crops

- Rain came at perfect, and critical, time. Unfortunately it can't be banked – and strawberries and blueberries require 1-2" of rain per week during shoot elongation and fruit sizing.
- Spotted Wing Drosophila traps will be deployed around the region by mid-June. We will report any evidence of them ASAP. Our cold winter may have initially meant a slow start to the season, but the heat we had during early May has the potential to negate that. We will see!

Blueberries

- Blueberry fruit set is extremely variable throughout the region. The winter injury seen is mostly limited to tip burn, but in many plantings differences in varietal hardiness is very evident. Lack of pollinators is also a worry for some growers. Crop load may be 50% in a few areas, but most plantings seem to be at the 75-80% of full crop, with a few younger plantings showing strong set.
- Second application of fertilizer should be in mid-June. See the tables in this newsletter; and call if you have questions about this. Fertilizing too late could set you up for winter injury, but not fertilizing could slow your plants progress significantly.
- LOTS of miscellaneous caterpillars feeding on all kinds of plants this year – including blueberry. Keep your eye on them – but hopefully they are incidental.

Raspberries/Blackberries

- Bloom is quite strong on the canes that had no winter injury. It also seems that bloom may be a week or two early in many locations. This may result in a short, condensed fruiting period, but weather conditions during the next few weeks will control that to a large extent.
- Good opportunity to do some thinning – make sure cane density is appropriate and will foster good air movement.

Strawberries

- Early season June bearers coloring in all but northern locations. Lower Hudson Valley should be opening U-Pick early next week. Bloom for later varieties is just about done.
- Day-Neutrals that overwintered are in full production in most areas. Fruit looks good even if in some areas plants looked pretty stressed to begin with.
- More bud weevil damage seen last week. If you haven't included an insecticide and are planning one more gray mold spray – put it in. they are out and clippers can cause a lot of damage. Lorsban, Brigade, Danitol or Molt-X are recommended.
- Very little leaf diseases this year, and at this point wait to spray for these diseases in

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Berry “To Do” List, continued from previous page

- the early fall.
- Opportunity for a last bloom spray may still exist. If you haven’t sprayed for fruit rot – now is the time!
- If you grow sweet corn or if you are near lots of forage corn, be on the lookout for corn earworm larvae feeding in the berries a bit later on. Midwest growers are reporting this as a problem, although we haven’t seen it yet.

Promising New Berries from USDA

USDA breeding programs in Maryland and Oregon have introduced berry cultivars that could work well for growers both East and West. Here’s what you need to know about Flavorfest and Sweet Sunrise strawberries.

FLAVORFEST

Flavorfest, a new release from the USDA-Agricultural Research Service (ARS) breeding program in Beltsville, MD, led by Kim Lewers, is a mid-season high-yielding strawberry variety with large, firm berries.

Staying true to its name, key features of this variety are its flavor, as well as its resistance to anthracnose fruit rot. The shape of the strawberry is “overfull,” according to Lewers.



Flavorfest (Photo credit: Chad Finn, USDA-

“It’s like each berry is all puffed up trying to get your attention ... as if it’s trying to tell you it’s bursting with flavor,” she says.

Flavorfest is best adapted to growing conditions in the Mid-Atlantic, Northeast, and surrounding areas. The berry performs well in both plasticulture and matted row systems. Shawn Wright of the University of Kentucky said it grew well for him in an annual plasticulture system and perhaps could work well in Ohio or western Virginia.

Flavorfest also does well in cold storage. It will develop some botrytis after a week, but if fungicides are used, very few berries will show symptoms.

“Unlike some varieties, it does not change physiologically in cold storage. Some varieties turn dark and soft in even a day of storage, but Flavorfest does not,” Lewers says.

Flavorfest is widely available to commercial growers. Wright encourages you to try this variety because of the excellent flavor, color, and shape of the berry, and yields that were equivalent to Chandler in his trials.

“I would suggest growers contact their favorite nursery to help them obtain Flavorfest plants,” Lewers adds.

SWEET SUNRISE

Sweet Sunrise is a new strawberry variety from the USDA-ARS Horticultural Crops Research Unit in Corvallis, OR. The unit’s breeding program is led by research geneticist Chad Finn. This cultivar, developed primarily for the process berry market, has a good, intense color internally and externally, as well as a good flavor.

Finn has trialed the variety for the past few years, and says he has seen it produce the highest yields in every trial compared to other varieties. The plants lasted about three years. Although the yields declined a bit over the years, the size of the berry didn’t drop as dramatically as the others.

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Promising New Berries From USDA, continued from previous page

Sweet Sunrise is ready to harvest one week earlier than industry standards like Tillamook and Totem. It is also a large berry which helps make picking more efficient.

Since it does harvest a week early, obtaining labor that early might be an issue.

Finn says there's no reason it wouldn't work in the East although an annual plasticulture system is typical in the West while a perennial matted row system is typical in the East. Western growers face a lot of virus pressure and Sweet Sunrise proves to adapt well to those pressures.



Sweet Sunrise (Photo credit: Chad Finn, USDA-ARS)

This variety is available through distributors in the West and is available to ship to the East.

Blueberry Fertilization

| Plant Age | Amount/timings (actual N) | N source | Comments |
|-----------|--|--------------------------|---|
| 0 | Do not fertilize newly planted blueberries | | Adjust soil pH to 4.5 before planting |
| 1 | 15 lb/A, split between May and June | ammonium sulfate or urea | Use ammonium sulfate where soil pH is >5.0. |
| 2 | 20 lb/A, split between May and June | ammonium sulfate or urea | Use ammonium sulfate where soil pH is >5.0. |
| 3 | 25 lb/A, split between May and June | ammonium sulfate or urea | Use ammonium sulfate where soil pH is >5.0. |
| 4 | 35 lb/A, split between May and June | ammonium sulfate or urea | Use ammonium sulfate where soil pH is >5.0. |
| 5 | 45 lb/A split between May and June | ammonium sulfate or urea | Use ammonium sulfate where soil pH is >5.0. |
| 6 | 55 lb/A split between May and June | ammonium sulfate or urea | Use ammonium sulfate where soil pH is >5.0. |
| 7+ | 65 lb/A split between May and June | ammonium sulfate or urea | Use ammonium sulfate where soil pH is >5.0. |

| Nitrogen sources and calculation of actual N. | | | |
|---|--------------------------|----------------------|--------------------------|
| Fertilizer | % actual N in fertilizer | Fertilizer | % actual N in fertilizer |
| Ammonium nitrate | 34 | Diammonium phosphate | 17 |
| Ammonium sulfate | 20.5 | Potassium nitrate | 13 |
| Calcium nitrate | 15 | Urea | 46 |

Welcome Eastern NY Commercial Horticulture Program Technicians!

We are all very happy to announce that all of our technicians have been hired for the 2015 season. We will have information about the most recent hires in future newsletters, but many of you may have already met the two individuals pictured above, hard at work in the strawberry root weevil trial.

Lindsey Pashow rejoined the team this spring and is working primarily with Dr. Elson Shields on the entomopathogenic nematode study. Lindsey is also helping us with newsletter layout and many other duties when she has the time. She brings several years of experience to the team, not only as a technician but also as seasoned grape grower. Welcome back Lindsey!



She is joined in the north country by David Wilfore. David joined the team as a field technician in March. His primary responsibilities will be to work with Anna Wallis on apple and grape projects but he enthusiastically offers his help anywhere he's needed. He grew up in Clinton County and has a degree from SUNY Plattsburgh in Environmental Science.

Tips for Hiring Youth in Agriculture

Editors' note: this is the third installment in a 3-part series written by Maire Ullrich re: hiring youth. Please read it closely and if you have any questions, give Maire a call or refer to the labor websites included in the article.

Part 3: Keeping Youth Safe

Young workers want to do a good job but they need help to work safely. Their inexperience works against them and they may not feel comfortable asking questions.

Employers should take the following four steps to help prepare youth to work safely. What they learn, they will take with them throughout their working lives.

Double Check Tasks Supervisors and co-workers can help compensate for inexperience by showing teens how to do the job correctly. What may be obvious to an experienced employee may not be clear to a teen tackling a task for the first time. Time spent showing a young worker the best way to handle a job will be paid back three-fold through work done right and without harm to products or injury to the worker. Training youth to work safely is a multi-step process:

- Give them clear instructions and tell them what safety precautions to take.
- Ask them to repeat your instructions and give them an opportunity to ask questions.
- Show them how to perform the task.
- Then watch them as they do it, correcting any mistakes.
- Finally, ask if they have any additional questions.

Once young workers know what to do and have demonstrated that they can do the job right, check again later to be sure they are continuing to do the task correctly. Don't let them take short cuts with safety. Be sure, too, that supervisors and co-workers set a good example by following all the appropriate rules as well.

- **Show Them How to Use Safety Equipment** The FLSA prohibits young workers from doing tasks identified as particularly hazardous (See pages 5 and 6 of this guide). This does not eliminate every hazard, however, and some youth may still need to wear personal protective equipment (PPE) such as safety shoes, hard hats, or gloves, depending on the nature of the work. Be sure that the teens know when they need to wear protective gear, where to find it, how to use it, and how to care for it.
- **Prepare Teens for Emergencies** Every worker needs to be ready to handle an emergency. You should prepare your young workers to face any risks that may affect your business. Youths also need to know who to go to if an injury should occur and they need first aid or medical care.
- **Set up a Safety and Health Program** A strong safety and health program involving every worker at your business is your best defense against workplace injuries. Let everyone know you are serious about complying with all youth employment provisions.

Sources/Resources:

- Agricultural Employers Pocket Guide to Youth Employment : http://www.youthrules.dol.gov/documents/for-employers/ag_pocket_guide.pdf
- YouthRules! DOL website for youth, parents and employers: www.youthrules.dol.gov

Regulations and recommendations for federal and state compliance:

- Federal DOL Agricultural Youth Employment Website: <http://www.dol.gov/dol/topic/youthlabor/Agriculturalemloyment.htm>

Haskap Variety Trial

As previously mentioned in the April 23, 2015 newsletter, Laura McDermott and Jim O'Connell proposed to evaluate Haskap berries in the Hudson Valley (e.g. how they perform in soil and climate conditions here). The project has been funded. We will evaluate six cultivars at four different sites: at the Highland Lab, and farms in Orange, Dutchess and Columbia counties. Planting has already started, with Haskaps in the ground at three of the four participating farms. Planting at the fourth is planned for later in the week of June 1, 2015. Updates on the plants will follow in future newsletters. -JO



Controlling Spider Mites with Predators

Written by Nate Nourse, Nourse Berry Farm

Editors Note: In early May, Nate Nourse of Nourse Berry Farms shared his strategy for spider mite predator release with a group of extension specialists. This technique is useful for early season mite control in strawberries, but can also be used for high tunnel raspberry mite control. And given that my crystal ball is failing me in terms of predicting the weather, this same strategy might prove handy for later in the season if it gets terribly dry again. The predators don't reliably overwinter, although Nate has said they overwinter for him in South Deerfield Mass., but don't rely on those populations for early season control.

Since 1992, Nourse Farms has been releasing mite predators in strawberry fruiting fields. In that time, we have only seen Two Spotted Spider mites (Two Spots) cause economic damage to the point of needing a miticide application during 2 of those seasons. I have gotten so comfortable with this program that I don't even bother to scout for Two Spot most of the time.

This year was unique and as it started later than normal, I release only slightly later and I thoroughly scouted to determine where the Two Spot populations were in the field. Normally I release predators on the windward edges and next to dusty roads. (There were a lot of dusty roads this year, Two Spots love this condition.) Predator application is similar to setting a brush fire. I start at one corner and apply on 2 connecting sides of the field. By concentrating the release in 1-2 rows and the equivalent space on the ends on the rows, the predators will clean up and move across the field. Be very gentle with the predators. Roll the bottle to mix them and put on the outside edges of dusty rows and hot spots. I use mite predators for strawberries and raspberries.

Most predator suppliers recommend application rates from 10-20,000 predators per acre. Depending on the pressure I will only use 3-5,000 per acre in my system. I usually order ½ Persimilis (*P. persimilis*) and ½ Californicus (*N. californicus*) or Fallacis (*A. fallacis*). The Persimilis are like rabbits and will move across an area very quickly. The Californicus and Fallacis are like turtles and move slow and steady. The combination works well for both reasons. If I end up with a few extra, I will apply to the ends of some cane berry rows. Most of the time, the predators will find the Two Spot in other crops on their own. They will move from strawberries to raspberries if the plantings are contiguous. In tunnels, you should release predators on a 30 day schedule with a couple thousand every month.

I usually try to time the application after the first or second bloom spray, just 2-3 days later. Then we wait a minimum of 7 days before the next pesticide application. Most predators will lay 1-2 eggs per day, increasing population quickly. Most insecticides don't bother predators or their eggs, but it has been my experience that Brigade, Asana and Lannate can flare mites. I never spray a lighter rate of insecticide just because the predators are present, but usually try using materials like Agrimek or Portal first and then release predators 2-3 days later.

When dealing with multiple pests, it is most important to control Tarnished Plant Bug prior to focusing on predator control of mites. In the same vein, if Two Spot populations continue to grow quickly and I'm not seeing the predators doing their job, I will apply a Miticide. I waited for the predators one year and lost a lot of production. Hopefully, this never happens again.

Mite predators can be ordered from Griffin Greenhouse Supply company and Biotactics in Riverside, California and many other companies including IPM Labs.

SAVE the DATE!!

July 14th – High Tunnel Raspberry Field Day, Geneva, NY. More details to follow

July 21st – Blueberry Variety Review Field Day, Winney's Farm, Schuylerville, NY.
More details to follow.

September 16th—Strawberry Low Tunnels, Stanton's Feura Farm, Feura Bush, NY. More details to follow

2015 Weather Table—The weather information contained in this chart is compiled using the data collected by Network for Environment and Weather Applications (NEWA) weather stations and is available for free for all to use. For more information about NEWA and a list of sites, please visit <http://newa.cornell.edu/> This site has information not only on weather, but insect and disease forecasting tools that are free to use.

| 2015 Weekly and Seasonal Weather Information | | | | | | |
|---|---|--|--|--|---|--|
| | Growing Degree Information Base 50⁰ F | | | Rainfall Accumulations | | |
| Site | 2015 Weekly Total 5/25 - 5/31 | 2015 Season Total 3/1 - 5/31 | 2014 Season Total 3/1 - 5/31 | 2015 Weekly Rainfall 5/24 - 5/31 (inches) | 2015 Season Rainfall 3/1 - 5/31 (inches) | 2014 Total Rainfall 3/1 - 5/31 (inches) |
| Albany | 159.1 | 553.9 | 371.0 | 0.60 | 3.36 | 6.86 |
| Castleton | 149.1 | 522.8 | 353.4 | 1.06 | 3.54 | 7.25 |
| Clifton Park | 144.6 | 531.5 | 333.4 | 2.01 | 4.00 | 8.19 |
| Fishkill | 148.2 | 529.0 | Na¹ | 0.25 | 4.01 | Na¹ |
| Glens Falls | 141.7 | 443.3 | 362.5 | 1.18 | 3.89 | 10.89 |
| Griffiss | 132.1 | 390.7 | 309.0 | 0.88 | 9.44 | 13.33 |
| Guilderland | 135.0 | 477.1 | 350.5 | 0.61 | 3.76 | Na² |
| Highland | 149.9 | 574.2 | 418.8 | 1.24 | 7.14 | 10.92 |
| Hudson | 154.7 | 570.4 | 399.0 | 0.79 | 4.86 | 8.53 |
| Marlboro | 143.9 | 524.3 | 371.7 | 1.24 | 6.16 | 11.15 |
| Montgomery | 146.7 | 538.3 | 384.5 | 1.90 | 6.22 | 10.96 |
| Monticello | 125.1 | 389.3 | 256.5 | 0.69 | 7.09 | 6.65 |
| Peru | 128.9 | 412.2 | 295.5 | 0.87 | 3.66 | 8.11 |
| Red Hook | 148.8 | 529.3 | 409.4 | 1.11 | 6.39 | 2.97³ |
| Shoreham, VT | 139.8 | 458.8 | 302.5 | 0.90 | 4.92 | 7.54 |
| Wilsboro | 131.8 | 390.7 | 273.3 | 1.55 | 5.80 | 4.13 |
| South Hero, VT | 124.1 | 403.4 | 275.5 | 2.34 | 6.29 | 9.13 |
| N. Adams, MA | 132.5 | 381.9 | 264.5 | 0.95 | 4.38 | 7.77 |
| Danbury, CT | 137.2 | 455.3 | 320.5 | 1.22 | 5.89 | 11.94 |

Na¹: The Fishkill site is new for 2015 so there is no historical data to report.

Na²: The Guilderland weather station was not properly reporting precipitation data in 2014 so no data will be shown for this site.

³: Precipitation data for this site did not began until May of 2014.

Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide. This material is based upon work supported by Smith Lever funds from the Cooperative State Research, Education, and Extension.

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