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UPCOMING MEETINGS

Winter Wednesday Lunch Series: Vegetable and Small Fruit Production Webinars - Cornell Cooperative Extension and Penn State Extension team up to present a series of webinars to keep you informed on critical production issues. The series provides convenient access to timely updates in commercial vegetable and small fruit production for extension educators, producers, and industry representatives in Pennsylvania, New York and surrounding states. All you need to participate in the webinar series is access to a computer with internet access, and speakers or headphones. DSL or higher internet speed is recommended. Concerned that you might miss a session? Don't worry. Links to recordings of each session will be provided. See: <http://extension.psu.edu/plants/vegetable-fruit/news/2013/winter-wednesday-lunch-series-vegetable-and-small-fruit-production-webinars> for more information.

Organic management of spotted wing drosophila Webinar - Those interested in organic management of spotted wing drosophila may participate online on February 11, 2014; 2:00-3:30pm (Eastern Time). To register go to: <http://www.extension.org/pages/70121/biologically-based-organic-management-strategies-for-spotted-wing-drosophila#.Up91JGzTm1s>

New England Vegetable & Fruit Conference – 2013: The NEV&F Conference is just around the corner; Dec. 17-19, 2013 in Manchester NH. You don't want to miss it. Go to www.newenglandvfc.org to check out the program and register.

STRAWBERRY

More on Watering and Fertilizing New Plants

Jeremy Pattison, NC State University

Fertigating plug trays to correct for nutrient deficiencies is best accomplished using a proportioner such as a brass venturi siphon type (i.e. Hozon) that easily attaches to a standard 3/4" hose bib. These operate on a 16:1 ratio (for every 16 gallons of output, 1 gallon of stock fertilizer is injected). To achieve a 100ppm nitrogen solution using a 15% N water soluble fertilizer (15-5-15) add 1.35 oz (38g) of fertilizer per gallon of stock water. Proper proportioning requires a minimum pressure of 35 psi. Siphoning rates vary with pressure (higher pressure will result in more fertilizer and a higher finished ppm). It is recommended to include a 35 psi pressure regulator on the supply line in front of the siphon to keep constant pressure and therefore a consistent rate of fertilizer delivery. Other proportioners such as Dosatron, DosMatic or Chemilizer, maintain a constant nutrient output if bulk flow varies due to pressure changes. These are much more expensive but deliver greater precision. Consult your irrigation supplier to discuss flow rates and pressure specifications of your system to select the best option.

Water wheel transplanters are commonly used to punch holes and deliver either water or a dilute fertilizer solution to “seal in” plug plants. There is no data to support any plant growth or yield increase by using a fertilizer solution in the transplanter. The main caution is not to use a solution that is too “hot” that has the potential to cause

damage. One pound of water-soluble 20-20-20 dissolved in 100 gallons of water will produce a solution containing approximately 240 ppm N, P and K. Therefore, if 8 oz of fertilized water are applied to each planting hole (12” spacing), an additional 2 lb of N/A will be applied via the transplant water.

Overhead irrigation for plug establishment is still the favored approach, especially in red clay soils which have large mass particles (i.e. clods!). The objective of overhead irrigation during plant establishment for any soil type is to seal in the plant by minimizing air spaces and maximizing soil to plug/root contact. A common schedule for “seed bed” type beds is to irrigate plugs 5 hours the first day, 3 hours the second and 2 hours the third day using a frost protection type setup (5/32nd, one sided impacts). Higher irrigation rates and durations (larger nozzles and run time) may be needed if soil is cloddy or if conditions are excessively hot and sunny. (*Source: The Strawberry Grower, Vol. 20. No. 8, October 2013*)

RASPBERRIES/BLACKBERRIES

Disease Snapshot – Spur Blight of Raspberries and Blackberries

Zachary Frederick and Kerik Cox, Cornell University

Causes: *Didymella applanata*

When to watch for it: Ascospores infect in April-May, and symptoms begin to appear in June.

First line of defense: Plant resistant cultivars.

Summary: *D. applanata* overwinters within infected canes, and discharges ascospores from these canes in the following spring to infect the leaves of developing primocanes. Ascospore discharge occurs from April through August, and peaks in May. Foliar lesions only occur on mature leaves, and begin to develop in June. Younger



Above, A: Infected node showing purple lesion development. B: Node infections are more severe on the lower portion of the cane, and can reduce the number of leaves per cane the incidence of *D. applanata* is high enough. Photo Credit: Cathy Heidenreich

leaves appear to be resistant to infection, which restricts *D. applanata* infections to the lower half to third of the cane. Foliar infections advance toward the midvein of the leaf, which results in the development of a brown, V-shaped lesion with a yellow margin. Infections progress through the leaf petiole and into the node, which usually results in the defoliation of infected leaves. Brown to purple lesions on nodes are also symptomatic of the disease. Foliar infections can be differentiated from Botrytis infections by the diagnostic brown

discoloration of *D. applanata* lesions.

Spur blight caused by *D. applanata* can be reduced by pruning rows to facilitate rapid drying to decrease the length of wetting periods. This pruning practice also ensures uniform fungicide application coverage and may facilitate the removal of weeds in and between rows. The use of biennial cropping varieties has also reduced the severity of spur blight, as well as removal or burning of older canes that might potentially be harboring *D. applanata*. A lime sulfur application prior to bud break in

spring is strongly recommended. In season applications of azoxystrobin (Abound) and pyraclostrobin (Cabrio) are effective controls options, but no more than two sequential applications should be applied to avoid the development of a QoI resistant population. A premix product of pyraclostrobin and a boscalid (Pristine) would also provide effective control.

(*Source: New York Berry News, Vol. 11, No. 11. Dec. 13, 2012*)

BLUEBERRY

US Highbush Blueberry Council's Spotted Wind Drosophila Industry Research Priorities *USHBC Press Release*

Statement of explanation: US blueberry growers and their supporting industries are facing a critical pest management issue caused by the recent introduction into North America of the exotic vinegar fly, *Drosophila* 'Suzukii'.

In response to this, the USHBC has developed the following list of research priorities to direct as many resources as possible toward projects that can best minimize the immediate economic impact this insect is having on our growers.

Listed in order of Importance

- 1) Accelerate the development and implementation of regional insecticide management programs as the best short term response to this exotic insect pest.
- 2) Develop practical monitoring and risk forecasting/assessment tools.

- 3) Address pesticide residue management issues regarding:
 - a. Export markets and MRL standards.
 - b. Worker and food safety standards.
 - c. Effects of weather and spray additives on residues and efficacy.
- 4) Address post harvest handling and develop practical 'kill step' protocols.
- 5) Expand organic production management options.
- 6) Improve coordination of research projects and communication between all stakeholders and researchers both within the various regions and nationally.

(*Source: Peerbolt Small Fruit Update, Week 48. Nov. 26, 2013*)

GRAPE

Venue (pyraflufen-ethyl) Herbicide and its Use in Grapes *Jeffrey Derr, Virginia Tech*

I recently received a question about Venue herbicide and its potential uses in grape production. The active ingredient, pyraflufen-ethyl, is a rapid-acting, contact herbicide for controlling small broadleaf weeds. It ideally is applied to broadleaf weeds 1 to 4 inches tall. This herbicide is very similar in use to carfentrazone (Aim), an herbicide I already have in the Grape chapter of the Pest Management Guide for Horticultural and Forest crops (http://pubs.ext.vt.edu/456/456-017/Section-3_Grapes-3.pdf).

Both Aim and Venue have the same mode of action and the same basic use. Since these are contact herbicides, they will not control the underground portions of

established perennial weeds. They can be combined with systemic herbicides, such as glyphosate (Roundup, etc.), for improved control of perennial weeds. What is the benefit of combining one of these herbicides with a systemic such as glyphosate? One is faster control of weeds. Injury to weeds will appear within a few days of application, compared to the week or two before effects are seen with an herbicide like glyphosate. Addition of one of these contact herbicides may improve control of certain weeds species. Annual morning glory species, for example, are often not effectively controlled by glyphosate, especially at lower application rates. Addition of a contact herbicide like Venue or Aim would assist in morning glory control. With the development of

glyphosate-resistant weeds, such as horseweed, addition of Aim or Venue would assist in controlling those resistant weeds.

Where would one use applications of Aim or Venue applied alone? One place would be if a grape grower desired control of small broadleaf weeds and did not want to apply a systemic like glyphosate due to injury concerns. If Aim or Venue contacted a grape shoot, it will injure or kill that shoot but would not cause systemic injury to the rest of the vine. This leads to another use - sucker management. One could control young, succulent grape suckers with one of these herbicides.

These herbicides cause little to no injury to grasses, especially perennial grasses. So another potential use for these herbicides is selective broadleaf weed control in grass cover crops, either within or between grape rows. Since these are contact herbicides, though, perennial weeds like dandelion will regrow from roots or rhizomes after application. Repeat applications would be needed for perennial broadleaf weed control.

One needs to keep sprays containing Venue off green or thin bark of desired plants. So avoid applications to young grape vines established less than one year unless one uses nonporous wraps or grow tubes to protect the grape bark from injury. Use rates for Venue are 1 to 4 fluid ounces per acre for broadleaf weed control, and 3 to 4 fluid ounces per acre for sucker control.

One is limited to a total of 3 applications with 6.8 fluid ounces per acre total for all applications made dormant, pre-bloom, or post-harvest. One can make up to 2 applications in-season, with a maximum of 6.8 fluid ounces total. Addition of an adjuvant, such as a nonionic surfactant, may improve weed control. Since Venue does not have residual activity, one could plant grapes or a number of other crops 1 day after application. The preharvest interval is zero days, so an application will not interfere with grape harvest. (*Source: Virginia Vit Notes, Vol. 28, No. 8 Oc. 2013*)

GENERAL INFORMATION

Cover Crops Part 1: Valuable Cultural Component Of Your Organic Weed Management Toolkit

James DeDecker, Michigan State University Extension

This article is part one of a two-part series. This first installment highlights how cover crops can suppress weeds by diversifying and filling gaps in a crop rotation and by competing with weeds for light, nutrients and moisture. The [second article](#) will address how some cover crops release chemicals that inhibit the germination and growth of weeds (allelopathy), while others attract beneficial organisms that feed on weeds and weed seed.

Cover crops are crops grown between harvest and planting of commodity or feed crops, usually not for harvest, but used instead for the production of biomass and the various agroecological benefits this additional biomass can provide. While cover crops are most often thought of as a means of preventing erosion and improving soil health, they can also be applied as an effective weed management tool. The ability of cover crops to suppress weeds is especially valuable in organic production systems where restriction of synthetic herbicide use leaves growers without any simple weed control solutions. Organic weed management can be so challenging, in fact, that organic farmers frequently cite weeds as the greatest barrier to organic production.

Cover crops can suppress weeds in four primary ways:

- Diversifying and filling gaps in a crop rotation.
- Competing with weeds for light, nutrients and moisture.
- Releasing chemicals that inhibit the germination and growth of weeds (allelopathy).

- Attracting beneficial organisms that feed on weeds and weed seed.

The following explains how the first two of these suppressive mechanisms function and can be successfully applied.

Diversifying and filling gaps in a crop rotation

Diverse crop rotations suppress weeds by forcing them to grow in different crops with varying lifecycles, growth habits, spatial arrangements and management requirements. Rotating dissimilar crop species also allows the application of a wide range of control measures and exposes weeds to more natural mortality factors. For example, adding a year or two of a perennial legume crop like clover between annual vegetable crops can reduce the germination of annual weeds normally triggered by soil disturbance and also permits regular mowing that can suppress problem perennial weeds like Canada thistle

It is also important to remember that many weeds are pioneer species that tend to establish quickly and thrive in disturbed habitats. Gaps in a crop rotation that leave bare soil exposed create the ideal environment for weed growth. While mechanical control methods like cultivation can knock back weeds for a period of time, any farmer knows that this effect is only temporary. Disturbing the soil essentially resets the successional clock, bringing new weed seed to the soil surface and initiating more weed germination and growth. While it may be possible to till frequently enough to keep weeds

down, tillage degrades soil health and tillage equipment is costly to operate.

Cover crops can be grown in short windows before and after cash crops to fill gaps in a rotation and minimize the exposure of bare soil. Filling out a crop rotation, keeping fields green year-round, limits the ability of most weeds to germinate and become established. For example,

research at [MSU's Kellogg Biological Station](#) found that oilseed radish grown following snap beans reduced weed biomass 98.5 percent compared to plots left bare after beans were harvested (Figure 1). Weeds able to gain a foothold in a growing cover crop will be much less vigorous as they are forced to compete for the necessities of life.

Fig. 1. Cover crops following snap beans suppress weeds. LSD at 0.05 weeds-990, cover crops-1020.

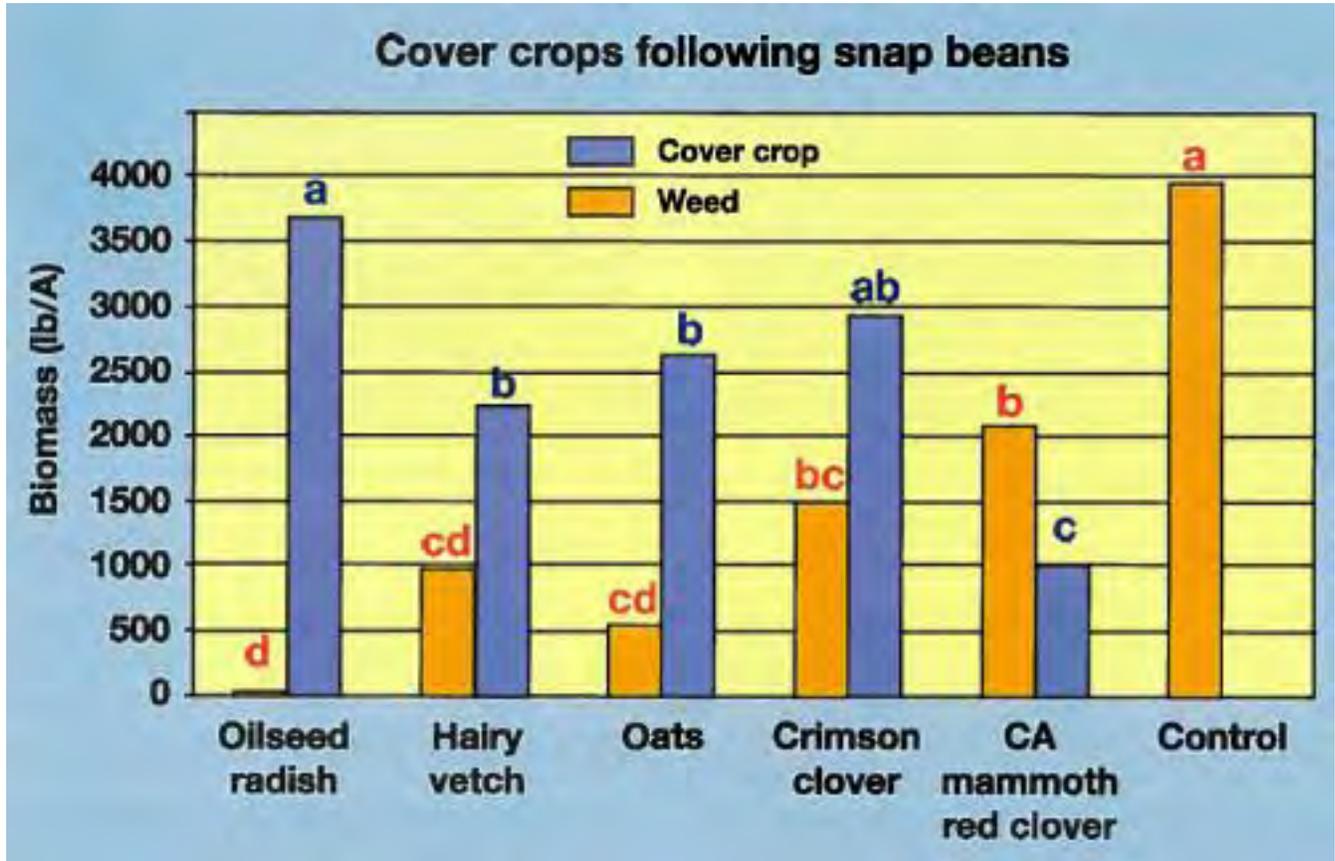


Figure credit: Mutch and Martin, KBS, MSU

Competing with weeds for light, nutrients and moisture

Plants need light, nutrients, moisture and CO2 to survive. The more plants present in a field, the less of each there will be available to go around. A vigorously growing cover crop, whether alone or interplanted with a cash crop, can prevent weeds from germinating and growing to the point that they produce seed or compromise cash crop yields. However, successfully applying this strategy requires knowledge of weed ecology, careful selection of cover crop species and favorable conditions for cover crop establishment and growth.

For example, a [2005 study](#) by [Michigan State University Extension](#) specialist [Dan Brainard](#) found that sorghum-sudangrass, a tall tropical grass, planted in July following

an early season vegetable crop reduced overall weed biomass 91 percent and the seed production of Powell amaranth (pigweed) by 95 percent compared to a bare ground control. However, in the same study, soybean used as a cover crop only reduced weed biomass by 59.3 percent and Powell amaranth seed production by 57 percent.

Why such dramatically different implications for weed control based on cover crop choice? The most basic issue in that comparison was cover crop stature. Sorghum-sudangrass grows quickly in mid-summer to form a full canopy that blocks light from even tall weeds like pigweed. Conversely, soybeans can be slow to establish in dry summer soil and will never grow tall enough to shade rapidly developing pigweed plants. Sorghum-sudangrass

is also one of the cover crop species known to produce allelopathic compounds, but more on that later.

Unfortunately, the competitive impact of cover crops is not restricted to weed species. Research has shown that cover crops capable of out-competing weeds will likely also suppress an interplanted cash crop. For example, a 1998 study by Brandsaeter et al. found that a white clover living mulch suppressed both weed and cabbage growth. In the case of living cover crops, cash crop suppression is most often the result of competition for water. Cover crop residues can also negatively impact the establishment of a cash crop. This is usually related to physical interference with seed placement in the soil, prevention of soil warming, tie-up of nitrogen, or the release of allelopathic compounds.

For more information on using cover crops as a weed management tool, view the [second article](#) in this series

and consider attending the [Great Lakes Fruit, Vegetable and Farm Market Expo](#) Dec. 10th-12 at [Devos Place Convention Center](#) in Grand Rapids, Mich. Visit [Error! Hyperlink reference not valid.](#) for session and registration information.

References

- [Grass-Legume Mixtures and Soil Fertility Affect Cover Crop Performance and Weed Seed Production](#), Dan Brainard et al.
- Yields, Weeds, Pests and Soil Nitrogen in a White Cabbage-Living Mulch System, Brandsaeter et al.
- Third Biennial National Organic Farmer’s Survey, E. Walz

(*Source: Michigan State Fruit Crop Advisory, Dec. 4, 2013*)

How Integrated Pest Management Saved A Hop Farm From Downy Mildew

Mallory Fournier, MSU IPM Program

The effects of downy mildew on a farm can be devastating, causing substantial yield and quality losses. By implementing a strong integrated pest management (IPM) program with diligent and regular scouting, it is possible to stop an initial infection before it stems into a significant outbreak. Luckily, this was precisely the case for Brian Tennis at [New Mission Organics](#).



Photo: Hopyard at New Mission Organics.

Located in Omena, Michigan, a small community in Leelanau County, New Mission Organics is a 30-acre certificated organic farm with 10 acres in certified organic hops. It is owned and operated by Brian Tennis and his wife, Amy. In the spring of 2013, it was confirmed that one of their Centennial varieties was infected with downy mildew. “The last thing you want in your hopyard is

downy mildew,” said Tennis. “It can really destroy your entire field.”

Tennis relies heavily on the help and guidance of [Michigan State University Extension](#). In fact, it was Michigan State University Extension’s IPM educator Erin Lizotte that confirmed the infection was downy mildew. She found it on the Tennis’ farm while inspecting some newly planted hops. “As with many plant diseases, downy mildew of hops has to be treated on a protectant or pre-infection basis and can spread quickly once established,” said Lizotte. “By identifying the issue early through scouting, the Tennis’ were able to avert a potentially devastating epidemic.”

When it comes to diseases like downy mildew of hops, Lizotte says you don’t want to mess around. Timely and aggressive treatments are necessary to save infected plants and protect healthy tissue and plants. Being on top of your scouting game is a must for Michigan hop growers.

“There is no substitute for spending time scouting in your hop yard, particularly when it comes to managing for insect and disease pests,” said Lizotte. “Consistent and thorough scouting can save growers from applying unnecessary pesticide applications and crop loss due to pest damage.” Scouting for insect pests and disease involves deliberate and thorough evaluation of the hopyard and includes closely inspecting a subsample of leaves for pest and disease symptoms as well as an overall appraisal of the yard.

Tennis was blunter. “If we didn’t scout, we probably wouldn’t have had a crop. And if it wasn’t for Michigan State University Extension, we wouldn’t be farming.”

The Tennis' were able to utilize an organic copper formulation to protect healthy plants from becoming infected with downy mildew. They also used renovation techniques like removal of infected bines to fight established infection. As part of their IPM plan, they will be preparing to treat protectantly in the spring as soon as the first shoots begin to expand.

Aside from discovering downy mildew, Tennis' IPM program plays a very important role on the farm. "By proper scouting, we're able to increase our yields and quality of hops tremendously," said Tennis. "We're able to be proactive in sprays and react quickly enough to pests before they get out of hand. We've had very few outbreaks because of scouting and spray protocols."

Tennis went on to explain how crucial it is to keep a detailed spray log and to be proactive with sprays to have a successful IPM program. He also believes it's

imperative to have a scout. "A scout pays a lot more attention and they have a lot better background when it comes to being out there every day," said Tennis. "You've got to be proactive with a lot of these insect pests. By the time you see them on the plant, it's almost too late. They will show up – it's just a matter of time."

Looking for new ways to step up their IPM program is always on the forefront. In the spring, New Mission Organics will be adding a couple dozen sheep to the farm to help with weed management. The sheep will eat the weeds and defoliate the bottom 2-3 feet of plants. Tennis got the idea from a trip to New Zealand recently as part of the USDA's Beginning Farmers and Ranchers program. In fact, he's even writing a grant with Sustainable Agriculture Research and Education (SARE) to study sheep in hopyards usage.



(Left) Sheep in a hopyard, like in this picture taken in Sierra, Nevada, will help with weed management. (Right) Hopyard in New Zealand.

(Source: Michigan State Fruit Crop Advisory, Dec. 4, 2013)

Updated New England Vegetable Management Guide Available Now!

Ruth Hazzard, UMass Extension



Planning for 2014 is underway, as many of you purchase inputs before the start of the new year. Make sure you have all the tools you need for next spring, including a copy of the **New England Vegetable Management Guide**, just updated for 2014-15. A collaborative project of the Cooperative Extension vegetable programs in the six New England States, this guide provides both conventional and organic commercial vegetable growers, on small and large farms, with up-to-date production and pest management information. Among its many features, this new edition includes:

- A completely revised section on Soil Health, Soil Testing, Fertility, & Nutrient Management
- Updated nutrient recommendations for each crop, based on your soil test results.
- Revised section on Vegetable Transplant Production, covering everything from media and nutrition to disease and insect management.

- More on high tunnels, season extension and greenhouse production
- Pesticide information was updated, and there are clear labels indicating which are organic (listed by OMRI) or federally restricted use, and their level of bee toxicity.
- The **Northeast Vegetable and Strawberry Pest ID Guide** was also revised and expanded to include 36 new, high quality images including invasive pests, high quality photos and improved organization. This guide can be purchased separately or comes free with your purchase of the Vegetable Guide.

Where to get the Guide. The guide is available for sale at the University of Massachusetts Extension Bookstore (call them at 413-545-5537 or visit their website <http://www.umassextensionbookstore.com/store.php?cm=238>), or through any of the other New England states' Extension Offices. In Massachusetts, the cost of the 2014-2015 Vegetable Guide is \$25 and comes complete with the Northeast Vegetable and Strawberry Pest ID Guide. The 2014 Pest ID Guide can be purchased on its own for \$12.

Get a **free copy** of either the New England Vegetable Management Guide or the New England Small Fruit Production Guide with membership in the **New England Vegetable & Berry Growers Association (NEV&BGA)**. You can also pick up a copy at the 2013 New England Vegetable and Fruit Conference, December 17-19 in Manchester, NH, sponsored by the NEV&BGA, regional Extension services, and the New England Berry growers Association.

Experts Discuss Ways To Boost Honeybee Forage

Christine Souza, California AgAlert

At a first-of-its-kind meeting in Sacramento, beekeepers, farmers and representatives of public and private organizations gathered to discuss how to improve honeybee populations by allowing beekeepers access to more sources of bee forage.

During the meeting, held last week at the California Farm Bureau Federation, beekeepers and bee experts said increased access to forage on both public and privately managed lands would promote the long-term health and sustainability of managed honeybee populations.

California State Beekeepers Association President John Miller, a beekeeper from Newcastle, described the past 30 years in the bee business as "tumultuous."



Bee specialists say honeybees benefit from a mixture of pollen sources, such as the forage planted on this private land in Glenn County. Photo/Kathy Coatney

"We're at a juncture here where we must address some fundamental issues of forage and access," Miller said, thanking those who attended the meeting for efforts to "collaborate and work on a toolbox of access and forage that might enhance the ability of honeybees to find clean forage, safe forage, and recover from the many challenges they are experiencing."

CFBF President Paul Wenger said that, as an almond grower whose crop depends on bees for pollination, he knows firsthand the importance of honeybee health.

"This is a key issue, not only to the bee industry, but also to those of us who depend upon the bees to produce a crop. The general public is also concerned about pollinator health, because we know how dependent our food supply around the world is on bees," Wenger said.

Miller noted the national number of beehives has shrunk to less than half of what it was 70 years ago and the 2013 honey crop could be the smallest ever recorded.

"We're actually losing this war," he said. "We can do better. We have to do better."

Eric Mussen, an apiculturist with the University of California, Davis, said it takes about 50 pounds of mixed pollens to keep a bee colony alive for a year.

"There's no one pollen out there that is particularly suited to keep the honeybees going. What they really require is a mix (of floral sources)," Mussen said.

Natural food that bees need, he said, includes wildflowers, weeds, shrubs and trees. Though beekeepers provide bees with supplemental feed,

nothing comes close to the mixed pollens found in nature, Mussen said. But he said beekeepers find there are fewer places to store bees where they can have access to the necessary, diverse floral sources.

Suggested examples of potential locations where good bee forage might be found include state and national parks, forests, Bureau of Land Management lands and other public lands, as well as private land. Many agencies that could be partners in providing forage land for bees were represented at the meeting, including the U.S. Fish and Wildlife Service, U.S. Department of Agriculture, BLM, California Department of Food and Agriculture, state Department of Fish and Wildlife, state Department of Parks and Recreation and the State Lands Commission.

A partnership between beekeeper Miller and Justin Wages, land manager for the Placer Land Trust, was held up as an example of a successful venture between a non-profit organization and a beekeeper. Wages told the meeting that he realized the bees fit into the land trust's small farm program.

"We acquired the property and the bees were already out there. We decided to keep the bees out there because it seemed like the right thing to do," he said, adding that the project includes apiary research.

"We want to study what the bees are actually eating, what they are collecting, what are the most important plants to focus on and, for me, to hone that down to the native plants I'm allowed to use," Wages said. "We want to be one of those (bee) yards where we can be that blooming feed source."

Wages said he does not charge the beekeepers to be on the land because he views the bees as a benefit to the land, but there is a liability contract that beekeepers must sign.

"For us, it's easy, but if you were working with some bigger agency where it's got to go through 10 people and contracts have to be done, that could be a hurdle," he said.

Participants such as Laurie Davies Adams, executive director of the San Francisco-based nonprofit Pollinator

Partnership, suggested that beekeepers develop a general framework that could be used as a starting point by various land managers to evaluate possibilities for forage access.

This would include information about what the beekeeper's use of the site would entail—including physical size of an apiary site, number of colonies, security information, seasonal use patterns, beekeeper selection process and length of stay for bees—plus information about the benefits and risks of having honeybees on public lands and the attributes of sites that would provide good honeybee forage.

Cathy Johnson of the U.S. Fish and Wildlife Service, who works with managers of wildlife refuges, recommended that beekeepers start by contacting a local refuge manager. Those managers enjoy partnerships, Johnson said, although she cautioned that refuges are short-staffed and some managers may be concerned about the added workload of accommodating bee colonies.

Some participants at the meeting expressed concern about potential impacts by honeybees on protected wild species, about requirements that land managers face under state and national environmental laws, and about potential competition between managed bees and native bees.

Robbin Thorpe, UC Davis native pollinator specialist and professor emeritus, said honeybees are more likely to compete with each other than they are with native bees.

Paramount Farming Co. bee biologist Gordon Wardell said he has demonstrated in Southeast Asia that honeybees can be instrumental both in maintaining a natural system and as a tool to help foster stewardship over the land.

"I think we need to start to look at bees—instead of as an invader—look at them as a way we can really make this system whole," Wardell said.

(*Source: California Farm Bureau Federation AgAlert, Nov. 13, 2013*)

UPCOMING MEETINGS:

December 9, 2013 – *2013 Chautauqua County Small Fruit Meeting*. 1:00PM – 3:30 PM. CLEREL, 6592 West Main Rd., Portland NY. For more information see: <https://chautauquacce.shutterfly.com> or call 716-664-9502.

December 10-12, 2013. *Great Lakes Fruit, Vegetable and Farm Market EXPO and Michigan Greenhouse Growers Expo*. More information: <http://www.glexpo.com/> .

December 13, 2013. *Getting the Most from Your High Tunnel*, 9:00 – 3:30. CCE Albany County 24 Martin Road Voorheesville, NY 12186. \$25. See: <http://cdvsfp.cce.cornell.edu/event.php?id=148> for more information

December 17-19, 2013 – *New England Vegetable & Fruit Conference*. Radisson Hotel, 700 Elm St., Manchester NH. For the full program and registration information, go to: <http://www.newenglandvfc.org>.

January 3, 2014 – *New England Vegetable & Berry Growers' Association Winter Meeting*, 9:30-4:00. Clarion Hotel, 1 Atwood Dr, Northampton, MA 01060. For more information please contact John Howell at Howell@umext.umass.edu or see: <http://nevbga.org/AboutNEVBGA.html>.

January 11, 2014 – *27th Annual NOFA/Mass Winter Conference*. All day. Worcester State University, 486 Chandler Street, Worcester, Massachusetts. This year's Winter Conference will offer a diverse line-up of more than 60 workshops, exhibits by numerous regional vendors, an all-day seminar (see seminar details below) and keynote and all-day seminar by Mark Shepard, perennial agriculture and permaculture design expert and author of *Restoration Agriculture*. The children's conference (for ages 3-12) provides a lively, interactive way for your kids to get educated. Also in 2014, the NOFA/Mass Organic Land Care program will hold their annual Lawn and Turf Course at the Winter Conference. Veteran instructors Chip Osborne and Bernadette Giblin - along with a host of others - will offer practical, applicable information about organic lawn and turf management techniques. For more information and to register, go to: <http://www.nofamass.org/winterconference#.UqUUBKUuflI>.

January 15, 2014 – *Growing Spring Crops in Greenhouses*. 10-3. Cranberry Experiment Station, 1 State Bog Rd., East Wareham, MA. University of Massachusetts Extension specialists will present information on managing plant height, plant nutrition and managing pests for spring crops being grown in commercial greenhouses.. For more information and to register, see <https://extension.umass.edu/floriculture/events/growing-spring-crops-greenhouses-0>.

January 16, 2014 – *Connecticut Vegetable and Small Fruit Growers' Conference*, 8am – 4pm. Maneley's Conference Center, 65 Rye St., Windsor CT. 06074. \$35. For more information contact Jude Boucher at

January 21-22, 2014 – *Michigan Wine Grape Vineyard Establishment Conference*. **To be held at 3 locations;** Benton Harbor - Michigan State University Research and Extension Center, Traverse City - Northwest Michigan Horticultural Research Center, Novi - Tollgate Education Farm Center. \$115 Preregistration fee; No walk-in Registrations accepted. For more information go to <http://events.anr.msu.edu/event.cfm?folder=winegrape14>

January 22, 2014 – *Harmonized Good Agricultural Practices (GAP) Training Program*. 10-4. Massachusetts Farm Bureau Offices, 249 Lakeside Dr., Marlboro, MA. For more information and to register go to: <https://extension.umass.edu/vegetable/events/harmonized-good-agricultural-practices-gap-training-program-0>.

January 22-23, 2014 – *2014 Empire State Producers Expo Berry Sessions*. Oncenter Convention Center in Syracuse, NY. For more information see: <http://nysvga.org/expo/information/>.

January 27, 2014 – *Vt. Vegetable and Berry Growers Assoc. Annual Meeting*. Montpelier VT. More info to come.

January 28-30, 2014. *Mid-Atlantic Fruit and Vegetable Convention and North American Raspberry and Blackberry Growers Association Annual Meeting*. Hershey, PA. More information: <http://www.raspberryblackberry.com/>.

February 1, 2014 - *New England Vegetable & Berry Growers' Association Winter Meeting*. *More information to come.*

February 15-17, 2014 – *NOFA-VT Winter Conference*. Burlington VT. More info to come.

June 18-25, 2015 – *11th International Rubus & Ribes Symposium* , in Asheville, NC, June 21-25, with preconference tour to farms and research sites June 18-20. More info to come. If you are interested in being a sponsor of this event, contact gina.fernandez@ncsu.edu.

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