May 2016

Northeast Hops News

Northeast Hops News is brought to you each month by Steve Miller, Hops Specialist and Sarah Ficken, Hops Program Assistant, Madison County Cooperative Extension. Steve researches, writes, and finds articles that would be useful and interesting to the hops community. If you have questions regarding content or would like to contribute to this newsletter, please contact Sarah Ficken at sjs299@cornell.edu

Funding for this publication is provided by grants from USDA Ag Markets, Specialty Crop Research Initiative, and the NY Farm Viability Institute.

Inside this issue:

Cornell University Cooperative Extension Madison County

Building Strong and Vibrant New York Communities

www.madisoncountycce.org
www.northeasthopalliance.org
Phone (315)684-3001
Fax (315)684-9290

Grower alert Powdery Mildew on Hops!

By steve miller

Last year we alerted you to the presence of hop powdery mildew in NY on some newly planted yards. In my April and October newsletters there were articles about this disease. These can be found at: http://madisoncountycce.org/agriculture/hops-program/northeast-hops-news

A young shoot in spring with severe powdery mildew resulting from bud infection the previous year (D.H. Gent)

Growers should be scouting fields right now, looking for downy mildew shoots and powdery mildew shoots in particular. One powdery mildew shoot like the one we have shown here can infect your entire field. If it is the race 6 variety of powdery mildew, it will infect all varieties, even those that are resistant to other powdery mildew races. If you are finding shoots like this please contact David Gadoury at the Geneva experiment station asap. 315 787 -2614 or dmg4@cornell.edu. You can send him samples so he can determine the race of the disease. We have a very important research project which is critical to the success of the hop

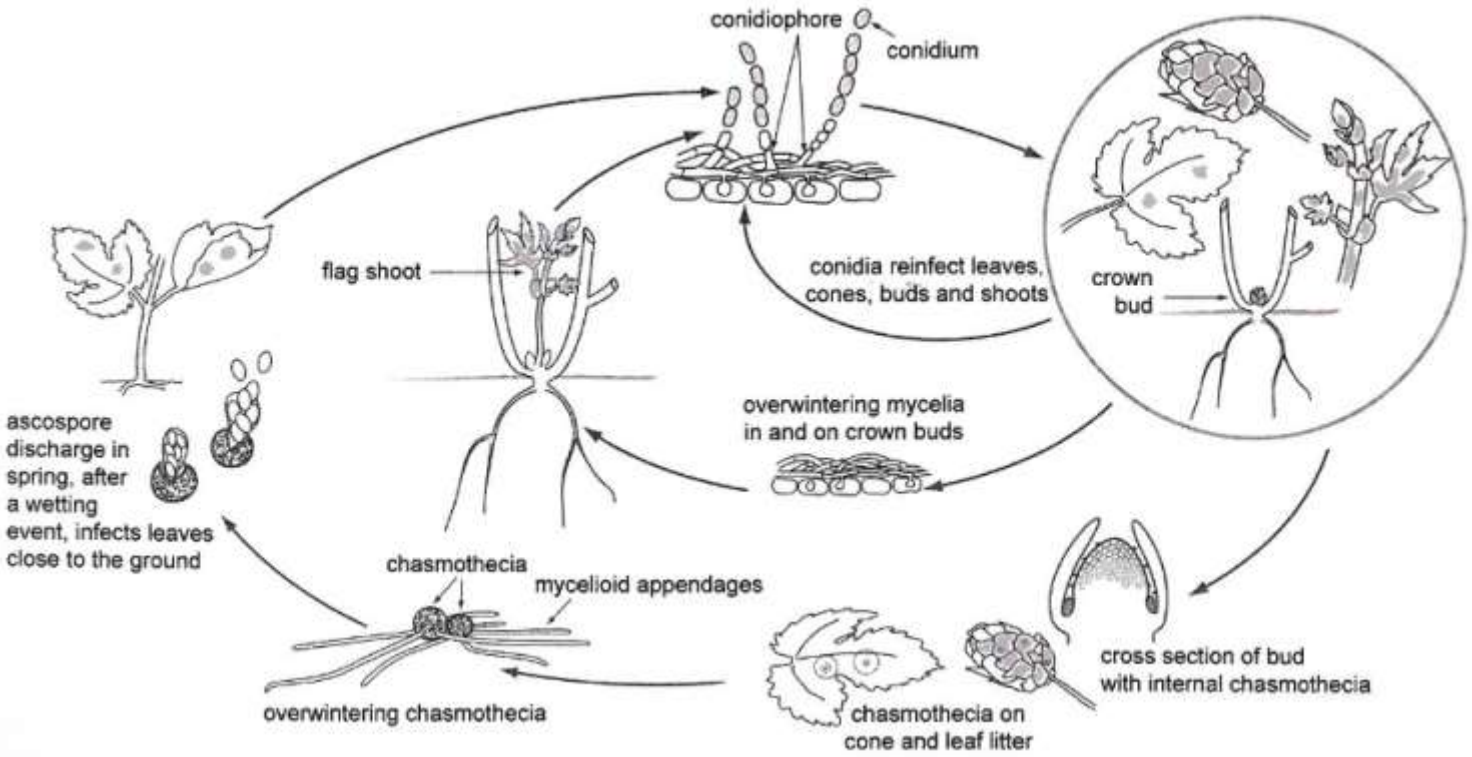
Small, yellow to black chasmothecia of the powdery mildew fungus on a leaf (S.N. Wolfenbarger)

industry in NY and the Northeast. All information is confidential. Please collect the samples before you spray with a fungicide!

The next step is to cut out and destroy any infected shoots and remove them from the field. Hops can be sprayed with Sulfur, Potassium bicarbonate, stylet oil , Quntec, Pristine, or Flint, making sure to alternate spray chemistry so as not to develop chemical resistance. Follow the Cornell Hops Guidelines, the 2016 is online at http://store.cornell.edu/p-193435-2016-cornell-integrated-hops-production-guide.aspx and as always follow the label instructions for each pesticide you use.

Please let us know asap if you have found PM in your hop yard.

As for downy mildew the first thing you will see are the small flag shoots that are infected from the pores that over winter on the buds of the crown (see next page for images). These should be taken out of the field as well and you should put flagging tape on the coir so you can follow the progression of the disease after you have started a spray program. Again follow the Cornell Hops Guidelines and pesticide labels for disease management strategies.



Life cycle of *Podosphaera macularis* on hop. The sexual stage of *P. macularis* (shown by arrows on the bottom and left side of the figure) is not known to occur in the Pacific Northwest. Prepared by V. Brewster for the Field Guide for Integrated Pest Management in Hops, 3rd Edition.

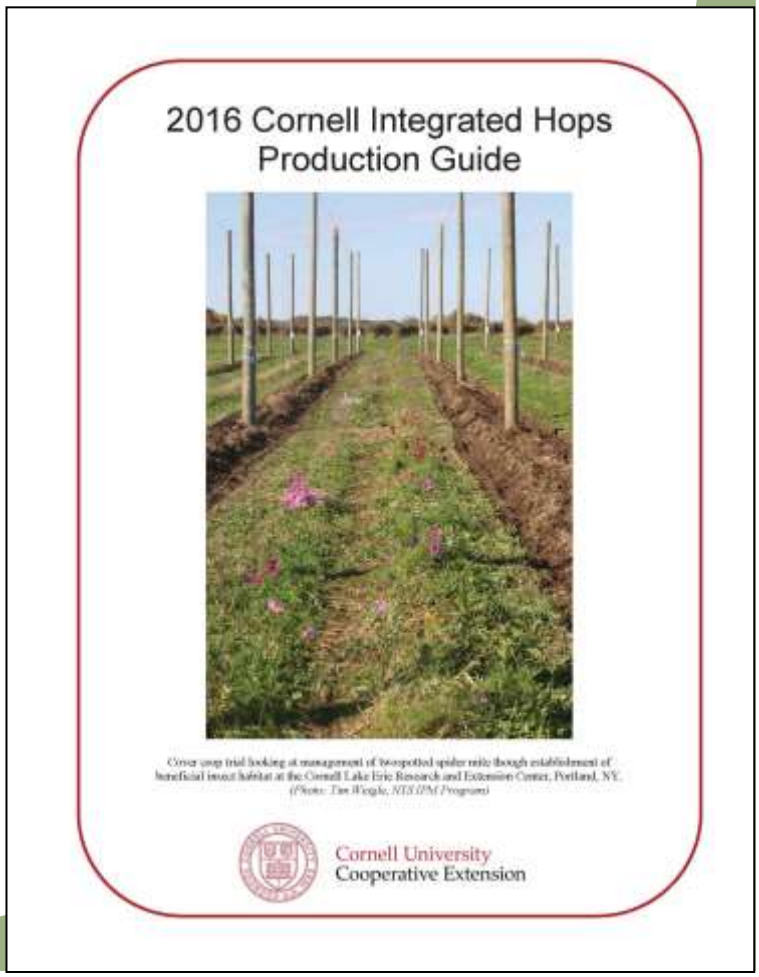
Left: Downy Mildew "spikes" emerging in early spring. Note pale yellow color and down-curled leaves (D. H. Gent)

Right: Characteristic yellowing on young leaves of a shoot recently infected by the downy mildew pathogen. (D.H. Gent)

2016 Cornell Integrated Hops Production Guide Now Available

The Pesticide Management Education Program (PMEP) at Cornell University is pleased to announce the availability of the *2016 Cornell Integrated Hops Production Guide.*

Written by Cornell University specialists, this publication is designed to offer beginning and veteran hops producers practical information on growing and managing hops. Topics covered include site selection, nutrient management, use of cover crops, selecting varieties, and managing common hopyard pests. Also included is information on selecting, operating, and maintaining pesticide spray equipment. As an added feature, the book sports UV-resistant laminated covers and a spiral binding to add to its durability and practicality.



Highlighted changes in the *2016 Hops Guide* include:

- Significantly expanded site selection guidelines.
- New hops IPM scouting protocols.
- Addition of fusarium canker as a disease of concern.

The Cornell Guidelines are available as a print copy, online-only access, or a package that combines print and online access. The print edition of the *2016 Hops Guide* costs $28 plus shipping. Online-only access is $28. A combination of a print copy and online access costs $39.00 plus shipping costs for the printed book.

Cornell Guidelines can be obtained through your local Cornell Cooperative Extension office or from the Cornell Store at Cornell University. To order from the Cornell Store, call (844) 688-7620 or order online at http://store.cornell.edu/c-875-pmep-guidelines.aspx.

What's Hoppening: Musings from the Hopyard!

Gearing up for Training

Our hop bines have finally made an appearance and we are now gearing up for training.

Hops making their spring debut at Borderview Research Farm in Alburgh, VT on April 29, 2016

Hops in the Northeast should be trained as early as possible. Keep in mind that it takes about 30 days after crowning for plants to be ready to train, so if you haven't crowned by now, skip it! In time, our team hopes to identify more precise times to crown and train that are applicable to our region.

Crowning and training dates vary substantially by variety. Aroma hop varieties tend to grow slower than alpha varieties. Therefore, aroma varieties should be trained first and early. Hop farmers in the Pacific Northwest have farm- and variety-specific training dates. Unfortunately, the dates used by farmers out west are way too early for our short growing season (we'd train then if we could!), but they might give use some insight into the relationships between varieties.

Below are typical training dates for Washington:

- Cascade, Centennial: May 1-5
- Nugget, Chinook: May 8-12
- Galena: May 17-21

Last year at Borderview Farm in Alburgh, Vermont, we trained our hops (3 to 4 bines per string) during the week of May 20.

With hop production, we pay attention to the summer solstice. In general, the vegetative part of the season occurs before June 21 — this is the period where hop plants will grow quickly, putting on a large amount of biomass in a short period of time. The reproductive growth phase occurs from June 21 until harvest — this is when we'll see the production of burrs which develop into flowers and then cones. Hop plants are triggered to produce burrs based on a combination of day length, the number of nodes present, temperature, and the environment. Each variety has different sensitivity to day length (photoperiod).

Our training dates last year gave plants 33 days of vegetative growth to reach the top of the trellis and have enough vegetation and developed side arms for cone development. That means plants needed to grow 6" per day, to reach the top of the 192" trellis by June 21. Many did make it by then, but we wish we had been able to train earlier so that all could have made it.

Farms in the Northeast can find the best dates to crown and train hop varieties by documenting when you crowned and trained each variety. Carefully note the day that each variety flowered, and the harvest date. Train Cascade first and as early as possible. Fit in other varieties based on the date they produce burrs on your farm in relation to each other. And, when in doubt, train as early as possible!

Until next time, keep calm and hop on.

2016
Hops Production in the Lake Erie Region Conference

June 11, 2016
9 AM - 4 PM
Cornell Lake Erie Research and Extension Laboratory
Meeting Room and Hop Yards
6592 West Main Road, Portland, NY 14769

Featured Speakers

Brad Bergefurd- Ohio State University
Margaret Kelly - NYS Ag & Markets
Jimmy Walsh- Brewer, Five & 20 Spirits & Brewery
Mario Mazza - Owner, Five & 20 Spirits & Brewery
Stephan Schmidt - Schmidt Farms
Justin & Chris Whipple - Whipple Brothers Farms
Samuel Fuller - Empire State Development
Kevin Martin - LERGP Penn State
Tim Weigle - NYS IPM Program & LERGP

Becoming profitable with Hops Production

This workshop is designed to provide some background information related to hops production as well as tackling some of the techniques that will help you to become profitable with your hops production.

Topics will include choosing the right plants, site selection, trellis layout, and nutrition. Also covered will be how to work with a brewery to give them the hops they are looking for, and in what form.

In-field opportunities to interact with speakers in the CLEREL hopyards

Registration: $75 per person

To Register:

Contact Kate at (716) 792-2800 x201 or kjr45@cornell.edu
For credit cards please visit our website at:
http://lergp.cce.cornell.edu

or use form on back

Class size is limited to 80, sign up early to reserve your spot

Lake Erie Hops At CLEREL

IPM

Lake Erie Regional Grape Program

From the Archives:

E. & E. C. DENIO.

Hop Hook.

No. 80,277.

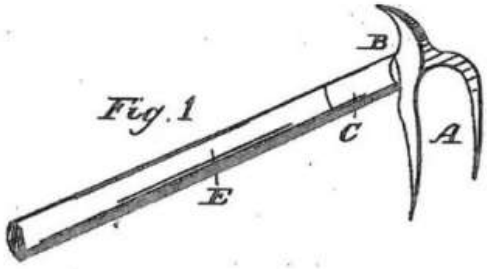
Patented July 28, 1868.

Fig. 5

Fig. 4.

Fig. 3.

Fig. 1



United States Patent Office.

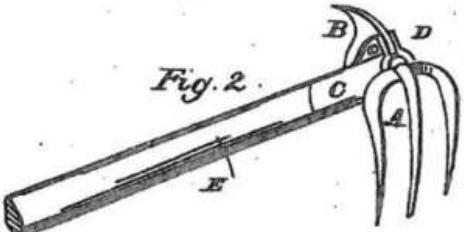
ELON DENIO, OF BALDWINSVILLE, AND ELON C. DENIO, OF NEW HARTFORD, NEW YORK.

Letters Patent No. 80,277, *dated July* 28, 1868.

IMPROVEMENT IN HOP-HOOK.

The Schedule referred to in these Letters Patent and making part of the same.

Fig. 2.



WITNESSES:

Lawrence Hurlbut

Z. Denio

INVENTOR:

Elon Denio

Elon C. Denio

ALL WHOM IT MAY CONCERN:

Be it known that we, ELON DENIO, of Baldwinsville, in the county of Onondaga, and ELON C. DENIO, of New Hartford, in the county of Oneida, each in the State of New York, have invented a new, useful, and improved implement denominated a Hop-Hook; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figures 1 and 2 are perspective views.

Figure 3, a plan view of the knife.

Figure 4, an end view of the ferrule.

Figure 5, a longitudinal section of the ferrule with knife.

Similar letters of reference indicate corresponding parts of the several figures.

This invention relates to an improved implement for the cultivation of hops, berry-bushes, &c.

The usual method of cultivating hops is first to remove all the surplus roots, runners, and sprouts, except such as are immediately around the hill, leaving none but the main vines to grow. The implements usually employed are the grub or common hoe, or strong hook, which raises the roots to the surface of the earth or uncovers them. These are separated with a knife, and removed from the yard, leaving nothing about that may draw the substance from the main vines.

To enable others skilled in the art to make and use our said invention, we will proceed to give a more particular description of the construction and operation, reference being had to the accompanying drawings, and the letters marked thereon, viz:

Fig. 1. Letter A represents a two-tined hook, with a hooked knife, B, formed on the head, having a common shank or tang, to secure it to the ferrule C and handle E.

Fig. 2. Letter A represents a three-tined hook, having a common shank or tang driven into the handle E, surrounded by the ferrule C, upon which there are two raised projections or ears, D, each having a hole through them for a screw or pin. There is also a slot, in part, between the projections or ears D, through the ferrule C, which, together with a pin or screw, secures the knife B in place directly over the hook A.

Fig. 3 represents the form of the knife B, having the hole for the screw or pin, and a notch, *f*, to secure it to the ferrule C.

Fig. 4. Letter C represents an end view of the ferrule, with the raised projections or ears D, on the upper part, for securing the knife B.

Fig. 5 represents a longitudinal section of the ferrule C, with the knife B, as indicated by the red lines, and the raised projection or ear D by dots, showing that the lower part of the knife D passes through the slot in the ferrule C, and into the wood of the handle. The notch *f* in the knife, fig. 3, is pressed against the edge of the ferrule C, in slots at one end, and secured in its place by a screw or pin passing through it, as represented at D, or the knife may be secured by rivets.

There is a notch or recess, *g*, at the smaller end of the ferrule C, into which the head of the hook is placed, directly under the knife.

Whenever the knife is secured by a screw, it can be made of better-tempered steel, and removed at the pleasure of the workmen, to be sharpened for use.

Operation.

The hoe or hook, of one or more tines, combined with the knife, as before described, enables the workmen to loosen up the earth, bare the roots, and separate them smoothly, together with the surplus sprouts or vines, without resort to a separate tool.

We are aware that a hoe or hook, of one or more tines, is in common use, and we are also aware that knives

Classifieds:

Are you a grower looking to sell a piece of hops equipment? Do you provide harvesting or processing services to other growers? Are you looking for equipment or services? Is there a unique opportunity on your farm that you would like to share? If so, send in your information to Sarah (sjs299@cornell.edu) for inclusion in next month's newsletter.

For Sale

Alcott's Garden Center has hop plants available for Spring planting. Call (315)841-8285

Bundschuh's Greenhouses has hop plants available for Spring planting.
Call (315)986-8872 and ask for Ellen

Massi's Greenhouse has hop plants available for Spring planting.
Call (607)329-7459

Zerrillo's Greenhouse has hop plants available for Spring planting. Sales of hop plants from Zerrillo's help support the Hop Education Program
http://madisoncountycce.org/agriculture/hops-program/potted-hop-plants-for-sale

We have a complete hop-to-pellet processing line available due to owner's age and illness. My name is Ulf Nordin in Swampscott MA; a "behind-the-garage" hop grower and hop/beer enthusiast! It includes a complete lab, Hammermill/Pelletizer combo, custom made dryer system, custom cooler system, vacuum/gas bag sealer, some ~500 barrier bags (foil laminate material for O and UV barrier) and ancillary equipment such as conveyors, boxes and lifts. It includes assistance in assembling/set-up of the system, how to run it, take care of the hops and operate the lab. System in excellent working order.
If any interest please email us at ulfkdn@gmail.com or call/message at 781-589-3301

Services

HOPS HARVESTING: How are you harvesting your hops this season? It's never to early to start thinking about how you're going to process your hops. The Bineyard provides full-cycle services for hop farmers including harvesting, drying and even pelletizing. Contact us at hops@thebineyard.com or visit our website www.thebineyard.com to learn more.

Need help setting your hops poles? Let The Brut Claw Grabber set them safely, effortlessly, and faster. The Brut Claw Grabber quickly attaches to your skid steer machine. With its offset claw design it lifts curls and places hops poles into the footing holes. Check out this amazing must have tool at www.thebrutpostgrabber.com. At $2995 you will agree it's a cost effective answer to working smarter not harder! Call or email for discounts on multiple units. Scott 208-964-6666

Facility Design: As the spring weather settles in, you may be starting to think about how you are going to expand your operations. But, before you start digging for a foundation or buying equipment, make sure you have every aspect in order with a strong plan. While in your startup phase, now is the time to create a vision and plan for your facility. Define your costs, lay out your building, develop a strong growth plan – and see your vision become closer to reality. Contact Edge Architecture and ask how we can help plan your vision for your future. (585) 461-3580 | edge-architecture.com

Job Opportunities

A Hop producer in the Lower Yakima Valley is seeking to fill the position of Hop Production Manager. The HPM is responsible for all aspects of growing and harvesting hops. The position requires the ability to use a computer, functionally use excel, to speak, read, and write English clearly. Education in horticulture, agronomy, or experience in hop production required. Compensation and benefits DOE. Please apply at: oasisfarmshr@gmail.com

Upcoming Events

June 11, 2016 @ 9:00 am

2016 Hops Production in the Lake Erie Region Conference

Portland, New York

Topics will include choosing the right plants, site selection, trellis layout, and nutrition. Also covered will be how to work with a brewery to give them the hops they are looking for, and in what form. There will be opportunities to interact with speakers in the CLEREL hopyards.

July 28, 2016 @ 9:00 am

Summer Tips, Pest Issues, Producer Panel, and More

Paul Smith's College

Ted Coughlin, a native son of Malone, and owner of a craft brewery in North Carolina will be on hand to host the event. Dr. Heather Darby of the University of Vermont Extension will be on hand to discuss summer pest problems, growth towards harvesting, and more. We will have a panel of growers to discuss issues being faced in the hop yard and lead in a roundtable of future education needs. The evening will wind up with a beer pairing dinner created by PSC Culinary Department along with beer donated by Coughlin's Iron Clad Brewery.
Register at https://pub.cce.cornell.edu/event_registration/main/events_landing.cfm?event=Hops_July28_216

Renew your NeHA Membership today!
Membership is $40 per farm
Visit www.northeasthopalliance.org
for more information or to download our membership form

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Mission
The Cornell Cooperative educational system enables people to improve their lives and communities through partnerships that put experience and research knowledge to work