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Hops: Planting and Training

Rob Serrine
MSU Extension
Leelanau County, MI

MSU IPM Academy
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MICHIGAN STATE
UNIVERSITY

Extension



Climbing bines

- Bine climbs with the aid of “Trichomes”
- In the wild-they climb up companion species
- Commercial production- Requires a trellis system for support
- Typical set-up
 - 18’ tall
 - Plants spaced 3’ x 14’
 - 1000-1200 plants/acre
- Vine wraps around string-clockwise-function of phototropism (light) and thigmotropism (touch)





Hop Production Stages

- Stages of Growth
 - Dormancy
 - Spring regrowth
 - Vegetative growth
 - Reproductive growth
 - Preparation for dormancy
- Each stage requires its own unique management regime



Dormancy (October-March)

- In late summer the plant allocates photosynthetically derived starches to the storage roots
- Starch is converted into soluble sugars
- Sugars are the energy needed for spring-regrowth
- **In the field**
 - Not much happening
 - **Planning for next season**



Spring Regrowth (April-May)

- Increasing day lengths and temperatures -signal for end of dormancy
- Plant uses soluble sugars as energy to emerge from dormancy and begin regrowth
- Initial regrowth occurs-rapidly producing vines unsuitable for production
- Plant relies on energy reserves of the root until end of May, when the starches and sugars reach their lowest points of the year
- Supplemental nutrient management is needed to maximize plant health



Source: Jason Perrault, Perrault Farms

Photo credit: Erin Lizotte



Planting

- Michigan is moving away from rhizomes
 - Disease
 - Reliability
 - New local supplies of certified plants
- Plant starts can be planted throughout the growing season but generally in spring
- Have your trellis and irrigation in place before planting

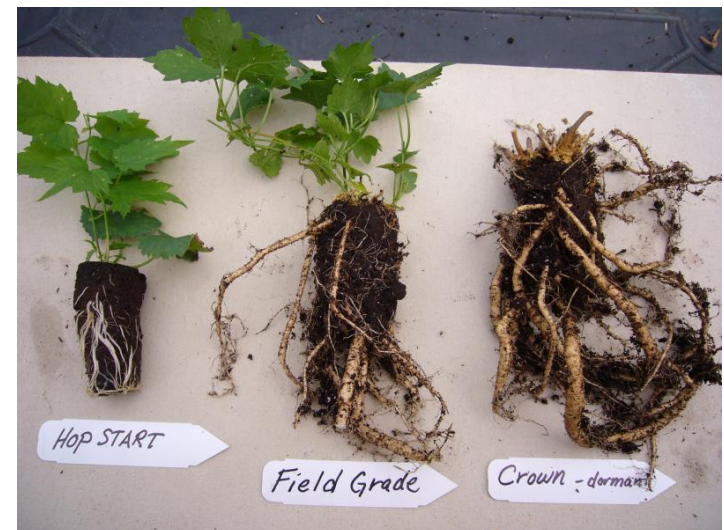


Photo Credits: Great Lakes Hops



Spring Regrowth (April-May)

• In the Field

- Spring pruning-April (removing initial growth)
 - Encourage more hearty secondary growth
 - Reduce disease
- Weed Control
- Fertilizer application
- **Stringing**
- **Training-one of most important aspects of hop production**
 - **Timing is varietal specific**
 - **Generally 3 vines per string**
- Irrigation begins

Source: Jason Perrault, Perrault Farms



Sri Lanka coconut husks

- Coir Twine for hops, come in compressed bales 3200 - 3400 strings.
- Breaking strength of 75-100 lbs.
- Can be pre-cut to 22'



Photo credit: Michiganhops.com



Twisted Paper

- Wet strength bio-degradable twisted paper strings and ties (Kerr supply)
- Wet strength of over 80 - 100lbs and can be cut to any desired length
- Strings are Palletized for delivery
- Easier to handle than compressed bales
- Each pallet contains 13,200 strings bundled in hanks of 300 strings.
- Treated if using in-ground w/ clips
- Untreated if organic (different above ground clips that can be reused)
- Michigan supplier-American Twisting Co.





- At least 2000 strings/acre (2 per plant)
- [Video](#)



<http://roguefarmsblog.wordpress.com/category/crops/hops-crops/>



Meanwhile In Michigan





<http://roguefarmsblog.wordpress.com/category/crops/hops-crops/>



2 options for stringing

1. W clips





2 options for stringing

2. Tie strings to a lower wire



<http://onspecialtycrops.wordpress.com/2013/05/14/hop-update-may-14-2013-stringing-trellising-and-irrigation/>



<http://roguefarmsblog.wordpress.com/category/crops/hops-crops/>



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Training

- 3-4 bines
- Clockwise only
- Timing-Cultivar and weather dependent
- Will likely have to re-train



Training Date



- Early training can lead to reduced yield (ex. Galena)
- Training date is variety-specific but usually occurs during May in the Willamette valley.
- Very little information in the literature as research results have been inconclusive

- Source: Townsend, S. Factors affecting hop production and quality.



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