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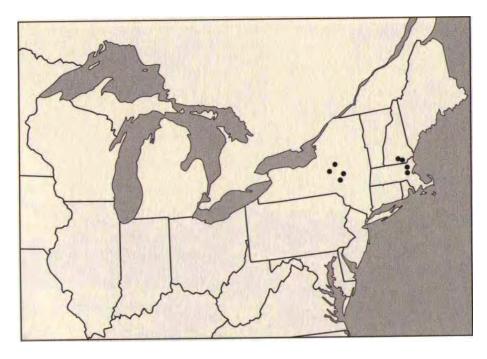
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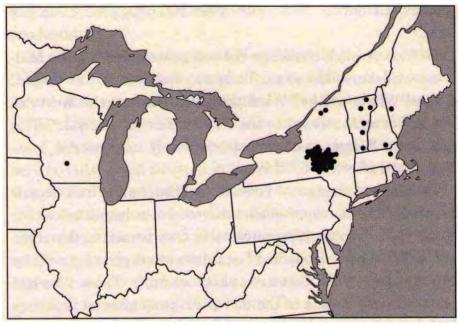
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Hops Gain a U.S. Foothold

1839 1859



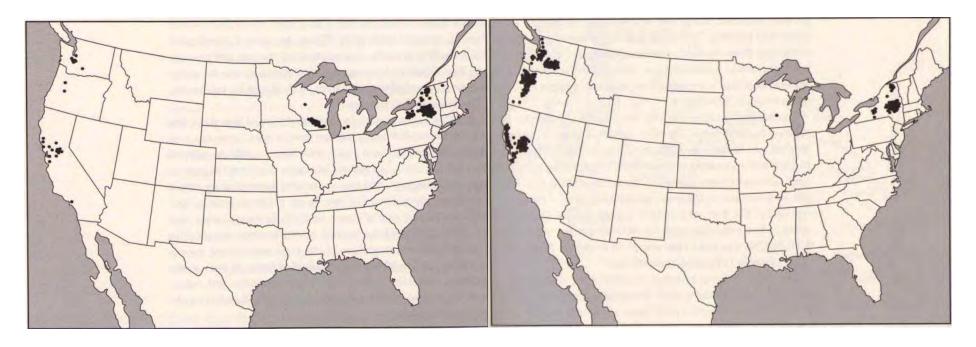


Each dot represents 100,000 bales (1 bale = 200 lbs. dried hops)

Source: Tinged With Gold, Tomlan, 1992

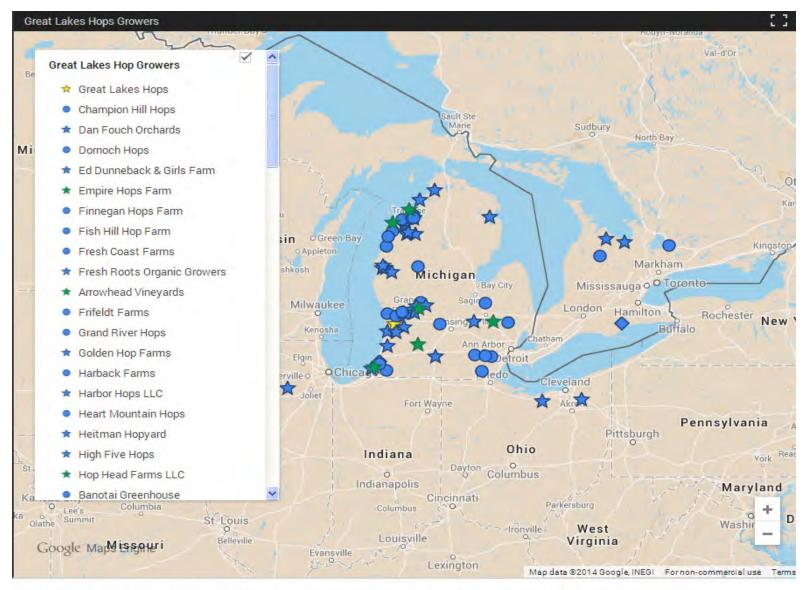
Hops Gain a U.S. Foothold

1879 1899



In 1870 Census of AG- MI produced 266,000 lbs of hops on 400 acres. By 1920's majority of production had moved west

Source: Tinged With Gold, Tomlan, 1992



Blue Stars - Growers who have confirmed hop varieties and contact information.

Green Stars - Growers who have more than 10,000 plants and have confirmed hop varieties.

Yellow Stars - Great Lakes Hops!

Diamonds - Research centers and Universities.

Circles - Growers who have not yet confirmed data. (Turn me into a star!)

Are you a commercial hop grower that bought hop plants from Great Lakes Hops? Want to be listed on this map? Click Here to sign up. It's free!

Did you notice a problem with the map? Is your farm information incorrect? Do you want to be removed from our list? Click Here to report a problem.

Our Town

Monday, December 8, 2008

features@record-eagle.com

AGRICULTURE

Area farmers get hopping

The hardy perennial is a key ingredient in beer

BY USA PERKINS |perkins@record-eagle.com

TRAVERSE CITY — There may soon be a new crop showing up in farmer's fields and backyard gardens throughout northern Michigan — hops.

If the overwhelming response to a sustainable hop production workshop planned by the Michigan State University Extension is any indication, the hardy perennial and essential ingredient in beer, may be a breakout commodity.

"We have had three to four times the number of people register than what we had anticipated," said Leelanau County Extension director, Dr. Rob Sirrine, who coordinated the workshop sponsored by The North Central Region Sustainable Agriculture Research and Education Program.

"We have people coming from all over the state, from Colorado and Canada," said Sirrine, noting that even after changing venues, the Dec. 17 workshop is sold-out.

A national hop shortage is one reason for the new found interest in growing the crop that is in high demand by brewers across the country. In 1997 there were nearly 45,000 acres of hops grown in the U.S., while only 31,000 acres were devoted to the crop last year, according to the Michigan State University Extension office.

"Growers are only putting in the higher yielding varieties and big companies are buying up the supply," said Sirrine, who sees local growers being able to fill a need for the diverse assortment of hops desired by home and specialty brewers.

Russell Springsteen, owner of Right Brain Brewery in Traverse City, welcomes the prospect of buying the ingredient that gives beer its characteristic bitterness, from local growers.

"We are at the very bottom of the pecking list for buying hops and we get what is left over," said Springsteen, who hopes to be using up to 80 percent locally grown hops within three years.

"Having a bigger variety of hops is like a cook having more spices in his cupboard," said Springsteen,



Special to the Record-Eagle/John Niedermaler

Members of the Old Mission Hops Exchange, along with family members and friends, harvested their first crop of hops in September. There is an increased interest in planting the perennial due to a national shortage of the key ingredient used in brewing beer.

who also uses local products including honey and pumpkin in some favorite recipes.

Local hops were the key ingredient in Right Brain's Grahamercy Ale, the area's first 100 percent local hop beer brewed since Prohibition. Grown by Graham Kelly of Old Mission Peninsula, the aromatic hops were the first crop harvested by the Old Mission Hops Exchange

in September.

"We used hops that were harvested by hand and used fresh, giving the product much more complexity," said Right Brain's brew master, John Niedermaier, who helped Kelly and fellow Old Mission Hops Exchange farmers, Rob Manigold and Steve Sobkowski, pick their first crop from the rapid growing vines raised on trel-

lises made from telephone poles.

The partners, who each planted an acre this year after hearing about the shortage, plan to plant 10 to 11 acres next spring.

"This is a very good crop for here. We can plant hops in low areas where you couldn't grow cherries or grapes, but hops take to the marginal land and thrive," said Sobkowski, noting that he had an idea hops would do well because wild hops have been growing in front of his centennial farm house for years.

Brian and Amy Tennis, of New Mission Organics in Omena, are hoping that hops will thrive in their side of the bay as well.

"We were looking to expand our products and had heard friends complaining about not having enough hops and that what was available was very expensive, so we decided why not try planting some ourselves," said Brian, who looks forward to attending the hops production workshop.

"Eight acres are set aside with two acres to be planted in the spring," he said.













Sustainable Hops Production Workshop

December 17, 2008 10 a.m.-5:30 p.m.

The Haggerty Center at Great Lakes Campus, NW MI College

Thank you to our sponsors...







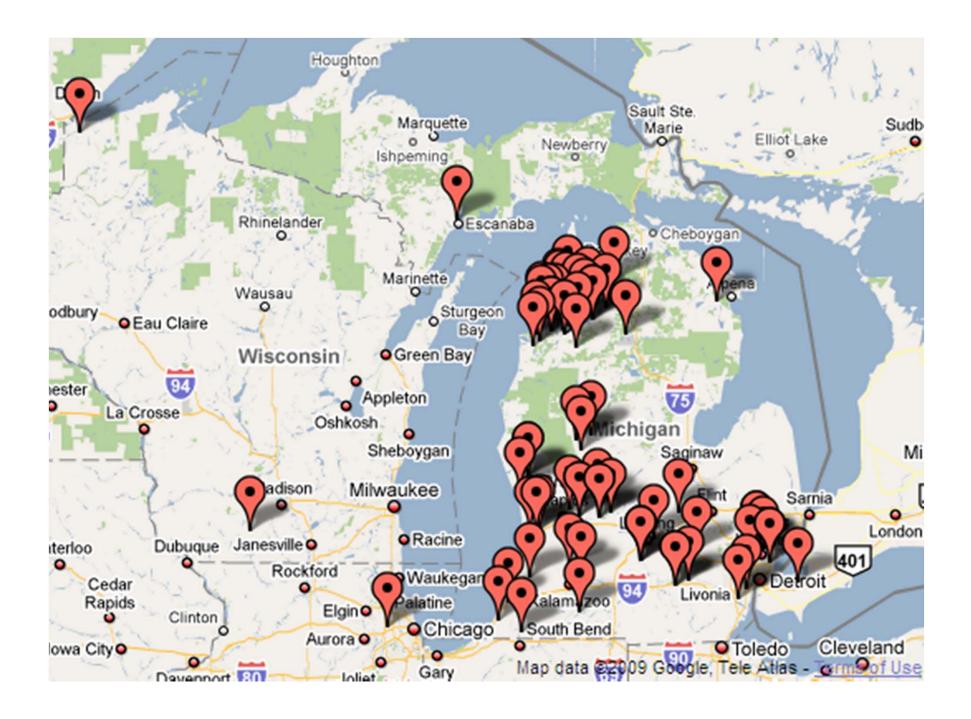




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What is the market?

- 2008
 - 119,000 barrels made
 in MI and sold in MI
 - "40-50k more made in MI and sold out of state"
 - TOTAL ~170,000 bbl Rex Halfpenny-MI Beer Guide (1 barrel=31 gallons)

- Hops/Barrel?
 - 2 oz bud, miller
 - 1lb-12lbs microbrews
- Hops 900-1600/acre
- 1-2 lbs dried/plant (4-6 oz/bine x 4 bines/plant)
- 1600-1800lbs/acre
- 100 acres









June 2009 **Michigan**





Ag Expo comes to MSU July 21-23

H1N1; another issue for hog producers



NEVADA'S Estate Harvest Me

SIERRA

The team at Sierra Nevacta didn't travel far for this new brew's ingredients; in fact. they didn't even leave the compound. Estate, available now in limited 24-nunce bombers nationwide, is made entirely from ingredients grown at the tirewery, including wet, whole-cone Chinook, Cascade, Centennial and Citra hops: deep well water, the brewery's own Chico ale yeast and 2-row harley, which was harvested. for the first time this summer. Clocking in around 7% ABV. this wet-hopped brew is the only 100-percent estate beer distributed on this scale in the country

A VINE GROWS IN MICHIGAN

It's the Midwest's best-kept secret: Michigan farmers are growing hops. Are we just a season away from a slow of Great Lakes IPAst

in the Pacific Northwest's September, copody cares. about fourton barrels. All of the stouts and brown ales. get varied from the tags at Southly boar har Engineer's. and every pint twinkles strades of copper, gold and Jolly Rancho yellow. For a month, the region revels in its embarrassment of riches-hesh, fragrant hops placked from Washington's Yakima and Oregon's Williametti-Valleys and dunied into brew kettles, yielding webhopped beers that smell like no other. The chew-sting from beers live Deschutes Hop, Imp and Full Swil Lapping is something you can only get from tresh hops, and West Coast feer chasers are quick to grin and tell you what you're missing. But while the Northwest is rolling in itsannual horsest, treffices are in bloom on a small peninsula 3,000 miles away. And it smittle like hops.

Specifically, it's a 10-acre collection of Chinoos Cantermal and Cascade hops on Western Michigan's Old Mission Peninsula, planted by a quartet of cherry farmers with land to spare and a vision of providing local brewers with a better way to tritter. This year, Old Mission Hop Exchange's crup marks the state's first commercial harvest since the turn of the contury, when mildew folded hop farmers in apstate New York and parts of the Milmest to the sure-tet irrigated ossert crimiate of the Pacific Northwest. But in the wave of 2007's drastic hop shortage, Michigan's inching its way track cirto hop remitting.

"We have a unique growing environment; the peninsula is surrounded on three sides by Lake. Michigan, and the growing conditions mimic Europe." says Graham Kella, one of Old Mission's bunders. "Far the same reasons we grow some of the world's hest Riesling grapes, we can grow hops." Michigan Shate Universities Dr. Rose Sarine who credits the stadul soil. Adding that with more than 200 commodibins. Michigan tops every state but California in terms of crop diversity, and farmers are constantly seeking ways to treaten production.

Sirrine, the University's Leelandu County Extension director, lugars sensually thinking about hops. after receiving weekly calls from farmers requesting information on growing triem. So, in December 2008.

farmers, brewers and hop experts to explore partnership apportunities and push hope as a cash cite;. Attendance was more than couble what Simila expected.

'We did a salvey of all the brewers in Michigan, and every single one expressed interest in working with a local grower," says Simine. "From the farmers perspective. They are if in dictars, they can get wound \$50 per pound for neps, and the average harvest is anywhere from 1,000 to 2,000 ths, per acre.

Since the summit. Simile's movement received are grant to establish a small hop variety trial at a Incar experimental growing station and another to conduct no Sarm organic hops research with several other universities. His estimates it wouldn't take more than a less hundred acres to supply the entire state's browers with hoos, and soon, growers could market mass in Chicago and Witchnein

Relly doesn't view this rapid development as competition, rather, Old Mission works with other farmers to grow premium most and as the state's only full-scale hop processor, is capable of processing 50 acres of harvest-enough for itself and its neighbors.

Commercial growers are not meeting the needs of craft browers; farmers are paid for alpha (acids, a billering compound), not flavor or aroma," says Kelly. TWA're frying to preserve aromatics, and we'm going to great lengths to do that." Kelly explains when most West Coast outfiles press fresh hops into hales, rdfrigerate them, then process them into polists weeks later, Old Mission can stop whee and refrigerate hops an-site, their process them immediately—a method he says vients a higher-quality hop.

Already, Michigan boet drinkers have begun to profit from their state's burgeowing hop industry, getting a small taste of the Pacific Northwest's harvest. Bell's Brewery and Saugatuck Brewing Co. plan to Split a 200-to, crop from a small local grower for use in flarvest ales this year. And as a thank-you for Kelly's dedication to hop growth, Right Brain Brewery owner Russell Springsteen-the doly brever with a standing contract for Hally's hops-craffled a wet-hopped pale are with Old Mission's 2008 introductory crop. He

Homegrown hops

MANUAL PROBLEMS One rise that 26 observed programming can stree by challe to our

the a relatively small acres. arrest Multiple growers are trained their times of planting the ting that can bring anywhere the Miles Wilger proped.
They negle out to a sections.

William was also present to # Rayre for having a breit.

Beherade him well grows to Northeastern state. Production spinal to Wassesia used Michaeler in the San 1986s.

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New life for crop in state

But Street Walting Side and market Street arm.

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SHOP FOR USED MACHINERY ONLINE Choose from 58,000+ Items Look for this module on... www.MichiganFarmer.com



Brewer Variety Needs Top five varieties used by brewers

- 1. Cascade- 65%
- 2. Centennial-50%
- 3. Perle/Saaz/Simcoe 30%
- 4. Columbus/N. Brewer/Tettnanger 25%
- EK Golding/Willamette 20%
 noted Cascade as #1 variety



Brewer Variety Needs

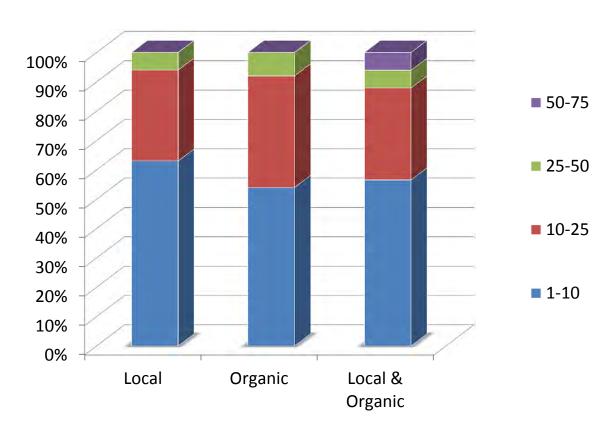
Brewers wish they had more...

- 1. Amarillo/Simcoe- 35%
- 2. Summit/Saaz 15%
- 3. Note: several brewers said "all varieties"



Will brewers pay a premium?

Percent Premium by Hop Category



Hop Category



- 75 people
- Focus: Pest and disease management
- Dr. David Gent
- Brewery Panel

Hops Field Day & Tour



July 30, 2010 8 am - 4 pm

\$25/person-includes lunch & charter bus transportation Some costs are being defrayed by a USDA OREI grant Pre-registration is required and space is limited

- Begin at NW MI Horticultural Research Station (6686 S Center Highway, Traverse City, 49684)
- Travel by bus to Old Mission Hops Exchange tour processing operation, hop yards, and eat lunch
- Travel by bus to New Mission Organics hop yard near Omena
- Travel back to the Research Station for research update and educational beer tasting led by local brewers (New Holland, Right Brain, Shorts)

This field day is for hop growers and anyone interested in hops production and harvesting

Download a registration form at www.msue.msu.edu/leelanau or call the Leelanau MSU Extension office at 231-256-9888 for a registration form. Participants must be prepaid and pre-registered to attend.



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Accommodations for persons with disabilities may be requested by calling Rob Birnie at 231-256-9888 by July 20, 2010 to ensure sufficient time to make arrangements. Requests received after this date will be met if possible.









IPM In HOPS



It is all Connected!

2012 MSU IPM Academy

Lau Ackerman Ag and Landscape Supervisor Sierra Nevada Brewing Co



2012 Northwest Michigan Hops Industry



• 9 growing partners....25 acres



• 9 growing partners... 41 acres



7 growing partners... 50 acres



Research Trials

- Investigating Hop Varieties for Michigan Production (Project GREEN Research Station Variety Trial)
- Plant Breeding and Agronomic Research for Organic Hop Production Systems- Organic Research and Extension Initiative Grant with WSU, MSU, UVM (On-Farm)
- Meeting the Growing Demand for Organic Hops: Low-Trellis Organic Hop Production in the Great Lakes Region -Michigan Hop Alliance on-farm trial



Conventional Hop Variety Trial

















NW and SW Station Hop Variety Trial

- Brewers Gold
- Cascade
- Centennial
- Crystal
- EK Golding
- Glacier
- Perle
- Santiam
- Teamaker
- Tettnanger
- Willamette

Item	Quantity/Price	Cost
Rhizomes	800 @ \$4 each	\$3,200
Poles (21 ft)	100 @ \$32 each	\$3,200
Crushed stone	4 yards	\$550
Env. earth anchors	Manta Ray and Duckbill Anchors	\$2,200
Drip irrigation	Materials	\$800
3/16-inch wire	16,000 ft @ \$.09/ft	\$1,440
5/16-tneh wtre	2,000 ft @ \$.21/ft	8420
Hop twine	Coconut fiber	\$125
Compost	100 yards @ \$10/yard delivered	\$1,000
Mise. supplies	Wire clamps, staples, etc.	\$250
Labor	Hole auger, pole setting, wire	\$3,400
Equipment rental	Installing wire	\$800
Total		\$17,385*

^{*}Note: This figure may be reduced with less expensive products or if a grower chooses to install the hop yard with his/her own equipment and labor.



USDA OREI Trial

8 Cover Crop
 Treatments

• 20 hop varieties





2010 NCR SARE Farmer/Rancher Grant

Objectives

- 1. Determine the growth habits, yields, quality, and market potential of the hop cultivar "Summit" on a low-trellis system under Great Lakes growing conditions.
- 2. Assess the effects of understory nitrogen fixing cover crops on soil quality, soil nitrogen levels, hop leaf nitrogen, and weed control.
- 3. Conduct a cost/benefit analysis of low-trellis vs. hi-trellis organic hop production systems.





2013 Hop Field Day and Tour

Friday, August 9th

8 a.m.-5:00 p.m.

NW MI Horticultural Research Center (6686 S Center Highway, Traverse City, MI-7miles NW of Traverse City in Leelanau County)



8:05 am Depart Northwest Michigan Horticultural Research Center (NWMHRS) by charter bus to Empire Hops Farm

Empire Hops Farm (M-72, Empire, MI, Leelanau Peninsula) 8:45-10:15 am Tour hop yard, startup considerations, do's and don'ts and

coffee and rolls

10:15 -11:00 am En Route to Brewery Terra Firma

11:00 am-12:30 pm Brewery Terra Firma (Hartman Rd, Traverse City, MI)

Tour and lunch by Grand Traverse Pie Company

12:30-1:00 pm En Route to K & K Farm (Suttons Bay)

1:00-1:45 pm K & K Farm (M-22, Suttons Bay) Tour newly established hop yard

1:45-2:00 pm En Route to New Mission Organics (Omena)

2:00-2:45 pm New Mission Organics (Craker Road, Omena)

Hopyard tour, low trellis system, picking/processing, fertigation

2:45-3:15 pm En Route to NW MI Hort Research Center

The influence of hops on beer (NW Mi Horticultural Research Center) 3:15-4:45 pm

Educational tasting with Scott Graham, MI Brewers Guild

4:45-5:00 pm **Program Evaluation**

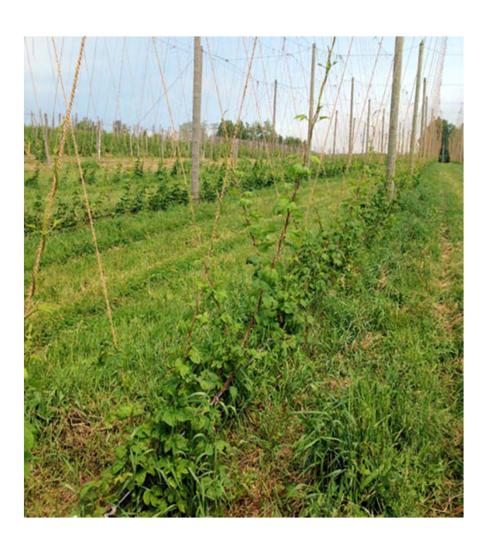








2013 Highlights





- Michigan State University Hop News
- MSU IPM Updates
- Great Lakes Region Hop Workers
- Michigan Brewers Guild/MSUE -Farmer /brewer tour
- Update each year to the MBG at their annual winter conference in Kzoo.
- Development of the Michigan Hop Network

End of 2013 MI Farmer Survey

Acres

30 ac- Barry County

10 ac- Calhoun County

10.5 ac- Genesee

6 ac- Grand Traverse

5 ac- Grand Traverse

12.25 ac -Kent

15 ac- Kent

10 ac- Leelanau

10 ac-Leelanau

30 ac-Leelanau

118 ac- Leelanau

6 ac-Manistee

Pickers

10 + machines



Processors

6-8 pelletizers



+ a lot of smaller start up operations

2014 Michigan Hops Industry



9 growing partners....50 acres



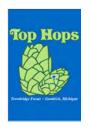




7 growing partners... 30 acres?







• Top Hops....10 acres

Hopyards of Kent....12+



400+ acres

Alliance helps bring back locally-produced beer hops--something everyone can drink to

Howard Lovy | Tuesday, August 23, 2011

















Empire Hops

















http://www.mlive.com/business/west-michigan/index.ssf/2013/08/sen_debbie_stabenow_rallies_su.html



- Matched to the WHE-513, 30-40 Ha
- 180-360kg/per drawer
- Each drying cycle about 4 hours
- Two yr, 2 phased project ~\$3 million dollars
- The interdependence of picking and drying is very difficult to accommodate, it requires a matched efficiency and similar operation rate of both parts.
- The efficiency of the whole centre depends on the drier, which influences the other components.
- The productivity of the drier should be more than matched by the productivity of the
 picking machines, so that there is a certain amount of hops in reserve to ensure a
 continuous and smooth harvesting process even if various unfavourable conditions
 occurred together.

Rybacek, V. (ed). 1991. Developments in crop science 16: Hop Production. Elsevier. Amsterdam.

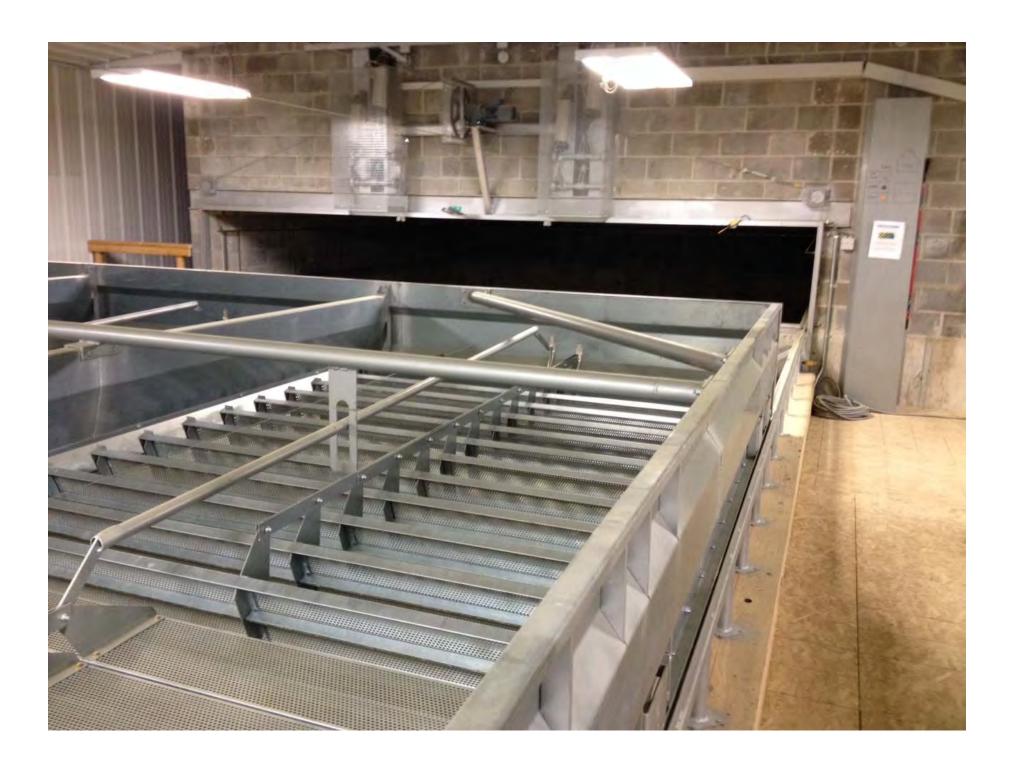






























Hopyards of Kent













MHA 50 lb. Bale



Hops Drying

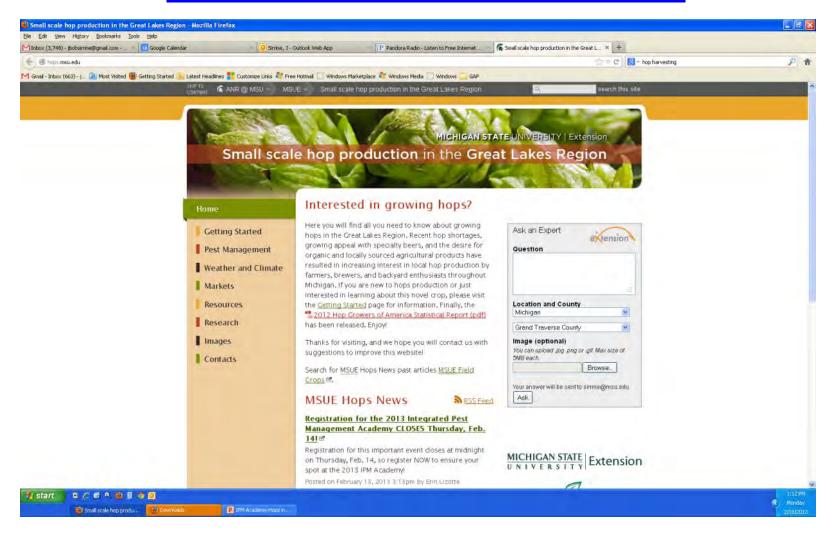
- The basic process around which the hop harvest should be organized, is the drying operation. Therefore, the preceding operations, both in time and volume, should be matched to the speed of the drier.
- Rybacek 1991







http://www.hops.msu.edu







2009 2010 2011 2012 2013

Craft Retail Dollar Value Growth













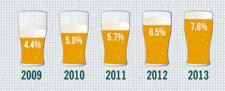
2013 Small & Independent

U.S. CRAFT BREWERS'

Growth in the Beer Category

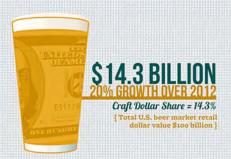
Volume Share for Craft Brewers

U.S. Operating Breweries



Craft Retail Dollar Value Growth











MARKET POTENTIAL

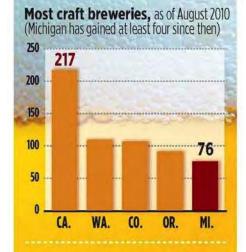


Craft beer accounts for only 4% of total beer consumption in MI and only 2% is made in MI

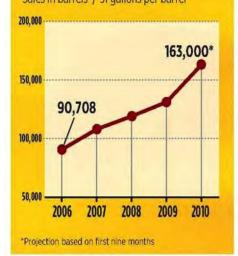
beervanabuzz.blogspot.com

Roll out the barrels

Michigan ranks fifth nationally in craft breweries, and in-state sales are rising sharply.



Michigan craft beer sold in state Sales in barrels / 31 gallons per barrel



SOURCE: Brewers Association, August 2010; Michigan Liquor Control Commission



Marquette

Brewing an industry

Top ten Michigan beer producers (in barrels, overall sales):

- D Bell's Brewery Inc.: 153,973
- Founders Brewing Co.: 28,516
- New Holland Brewing Co.: 12,314
- Michigan Brewing Co.: 9,856
- Arcadia Brewing Co.: 8,759
- O Short's Brewing Co.: 8,420
- Dark Horse Brewing Co.: 6,179
- Keweenaw Brewing Co.: 5,420
- Atwater Block Brewery: 4,700
- Arbor Brewing Co./ Corner Brewery: 4,057

MICHIGAN'S NEWEST BREWERIES

- Blackrocks Brewery
- Midland Brewing Co.
- Odd Side Ales
- Michigan Beer Cellar
- Brewery Vivant
- Jaden James Brewery (Cascade Winery)
- Paw Paw Brewing Co.
- (B) Fenton Winery & Brewery
- Wolverine State Brewing Co.
- Frog Island Brewing Co.
- MillKinglt Productions



(3) Belitaire

Soult Ste. Marie

COMING SOON

Harmony Brewing Co., Grand Rapids Soo Brewing Co., Sault Ste. Marie The Local Pub & Brewery, Jackson

MI Craft Beer Sector Flying High

- 2013 Demeter Group Investment Bank Report
- U.S. craft beer sector grew by 13.9% from 2009-2011
- State of Michigan as the #1 "high growth state" in terms of increase in number of breweries.
- January/February 2014 <u>Michigan Beer Guide</u>: 164 craft brewery licenses have been approved in Michigan



Michigan: The Great Beer State.

Beer Creation = Job Creation

 "While the state's unemployment rate stood around 12 percent entering this year, breweries, microbreweries and brew pubs from West Michigan to Detroit to Bellaire and Bay City are adding jobs, increasing production and investing in expansions and renovations totaling more than \$70 million." M-Live

A Healthy Guild Makes for Healthy Beer Culture

- Nearly 100 breweries
- Contributing over \$24 mill in wages & total economic activity >\$133 mill.
- MI-#5 in the nation in terms of overall number of breweries, microbreweries and brewpubs



2012/13 FESTIVALS

SUMMER BEER FESTIVAL JULY 27-28, 2012 YPSILANTI'S RIVERSIDE PARK U.P. FALL
BEER FESTIVAL
SEPT. 8, 2012
MARQUETTE'S
MATTSON
LOWER HARBOR
PARK

OCT 27, 2012 LOCATION TBD WINTER BEER FESTIVAL FEB. 23, 2013 FIFTH THIRD BALLPARK GRAND RAPIDS







SATURDAY, MAY 26

Kick off the summer with this Memorial Day Weekend tradition at Crystal Mountain Resort and Spa. Enjoy live entertainment while sampling over 50 of Michigan's finest microbrews, local hard cider and mead, and gourmet brats from northwest Michigan markets.

Packages from \$99° per adult, per night. Includes lodging, breakfast, admission and 10 tickets toward beer or brats.

More details at crystalmountain.com/beerfest

*Minimum two night stay. Rate is based on double occupancy in hotel accommodations. Tauss and service fee are additional. Food and beverage tickets available for purchase separately.



CRYSTALMOUNTAIN.COM I 800.YOUR.MTN



Join us and our brew team, along with the representatives from

Michigan Malt Co. and Empire Hops Farm

to celebrate the release of:

MICHIGAN Wheat Ale

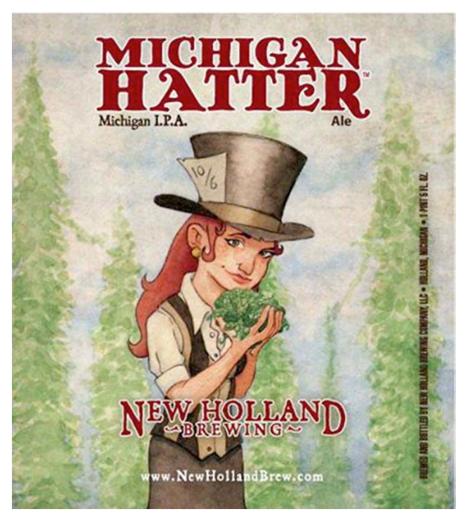
Brewed exclusively with Michigan grown wheat, barley and hops.

Available on tap and in bottles!



Every sip of this beer is like getting a high five from Michigan.

PURE MICHIGAN





94 • Top of the Hill Restaurant & Brewery Ram's Head India Pale Ale.

Copper color with a rocky white head. Aromas of kale, honey roasted chestnuts, fig bread, and pine bark with a supple, dry medium body and a nicely astringent bitter greens, dried citrus and pepper finish. A nice dry English IPA that will excel as a session beer or with oily foods. (tasted on Mar-17-2014)

93 • Rogue Ales Rogue Farms 7 Hop IPA.

Hazy deep amber color. Bold lemon marmalade and pine sap aromas and flavors with a supple, dryish medium body and a honeyed kumquat, radish sprouts, nut, and dried mango finish. Nice fruit hop intensity and balance. (tasted on Mar-17-2014)

92 • Grand Rapids Brewing Company New Mission Organics IPA. Certified Organic

Rich copper color with a khaki lace. Aromas of caramelized citrus and stone fruits and honey butter on cinnamon rolls with a supple, fruity-yet-dry medium-to-full body and a rich, frothy, grilled carrot, nut, brown sugar, strawberry preserves, and peppery greens flourish on the finish. Impressive richness and dimension. (tasted on Mar-17-2014)

92 • The Boston Beer Co. Samuel Adams Juniper IPA.

Lustrous copper orange color. Aromas of orange spice cake, pink peppercorn, lemon custard, and lavender with a supple, dry-yet-fruity medium-to-full body and a frothy, bitter finish with a notes of juniper jelly, pepper, radicchio, and violet gelato. Quite a clever and uniquely flavorful brew. Try with goat cheeses (tasted on Mar-13-2014)

92 • The Boston Beer Co. Samuel Adams Latitude 48 IPA.

Amber copper color. Aromas of orange blossom honey on peach-pineapple cake with a crisp, dry-yet-fruity medium-to-full body and a dried apricot, pepper, grapefruit, and kale accented finish. Vibrantly delicious. (tasted on Mar-13-2014)

Proposed Farm to Glass legislation: A boon to Michigan farmers?

HB 5275 provides tax incentives for brewers, cider, wine and mead makers to purchase Michigan-grown products.

The bill would offer a tax credit for wine, beer, mead or cider that is manufactured and sold in Michigan between January 1, 2015-December 31, 2019 if:

- Beer must be produced with at least 20 percent of its hops grown or produced in Michigan and at least 40 percent of the other ingredients.
- Wine, mead or cider must be made with at least 40 percent of its ingredients grown or produced in Michigan. Beginning in 2020, the percentages increase, further spurring the growth of the brewing and winemaking industry in Michigan.
- \$0.08 per gallon tax credit for the first 500,000 gallons produced and sold
- \$0.04 per gallon tax credit for the next 14,500,000 gallons produced and sold
- no credit allowed after 15,000,000 gallons.

March 25, 2014 hearing that would amend the bill and increase required percentages of Michigan hops to 51% in year one, increasing to 90% by year five.



Lessons Learned

- Growing quality hops-primary focus
- Harvesting capacity too small-formed groups to purchase wolf
- Drying capacity too small
- MDARD food processing rules (pelletizing)
- Most sales of quantity through harvester/processors
 - It's a big pain for a picker
- Just now getting close to being able to contract with brewers
- Hops take up space-you will need a walk in cooler
- And a larger vacuum sealer than you think
- Rhizomes from anywhere-mislabeled, diseased, of varying quality
- Future-look at how you as a grower will differentiate yourself from other growers-coopetition. Everyone has planted cascade. Which is fine. But many of the innovative brewers are looking for something different, unique to MI, increasing focus on essential oils –not just alpha.



Lessons Learned

- Marketing/Sales
- MI just formed statewide organization important for several reasons
 - brewers don't know who is their nearest grower
 - don't know how many growers, acres, or lbs. produced in MI.
- Differentiate- organic? By variety? Quality? Sell to homebrewers? Medicinal market?
- Join OHGA-share resources and knowledge

"Strategic co-opetition: The value of relationships in the networked economy"

The traditional concept of business as a "winner takes all" contest is giving way to a realization that in the networked economy, companies must both cooperate and compete.

Termed "co-opetition," this new perspective requires companies to create business strategies that capitalize on relationships in order to create maximum value in the marketplace.

Julie Bowser, IBM Global Services Consultant

Business is both competition and cooperation

In the past, people saw business as a "winner takes all" or "zero-sum" game. The networked economy moves away from these purely competitive plays to recognize cooperative relationships that leverage value created by those in the network. Competition -- the other aspect of co-opetition -- occurs after businesses have created value in the market and seek to allocate market share, price, cost and other finite benefits.



Without support of craft brew industry there would be minimal hop production in MI.

