The Market Potential for Northeastern-Grown Hops

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NORTHEAST
Hop Alliance

What are hops?

- *Humulus lupulus*
- Hardy perennial “bine”
- Adds bitterness and aroma to beer
- Alpha acids; beta acids; essential oils
- Impossible to replace
- Grown in Germany, England, France, Eastern Europe, Pacific NW U.S.

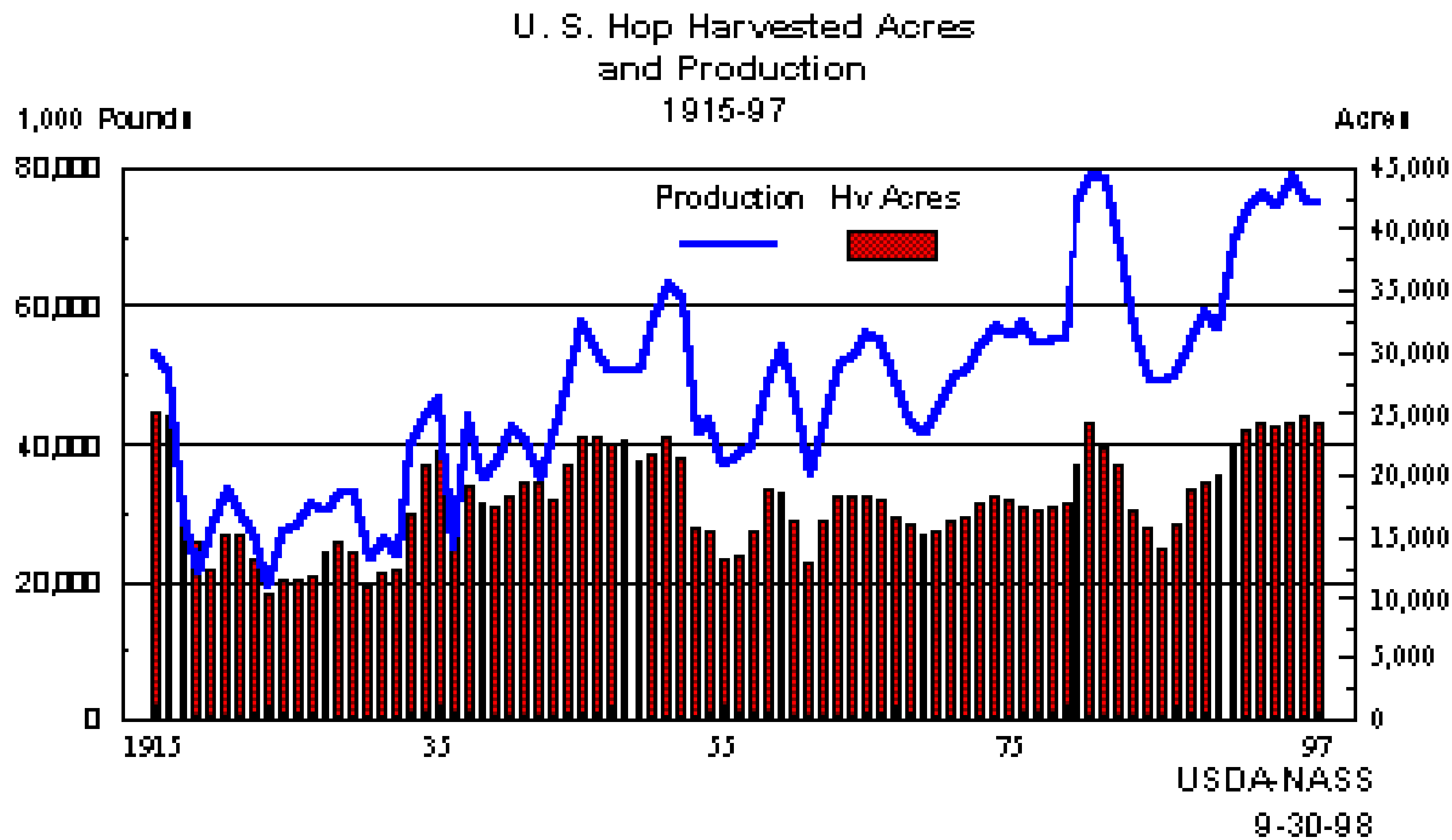
World-Class Hop Varieties

- “Cascade”
- “Fuggle”
- “Spalt”
- “Tettnanger”
- “Liberty”
- “Willamette”
- “Chinook”
- “Hallertau Mittelfrueh”
- “Nugget”
- “Tomahawk”

Other Uses for Hops

- Medicinal teas and pillows
- Decorative material
- Minor ingredient in shampoo, cheese, soap, chocolate, aftershave, etc.

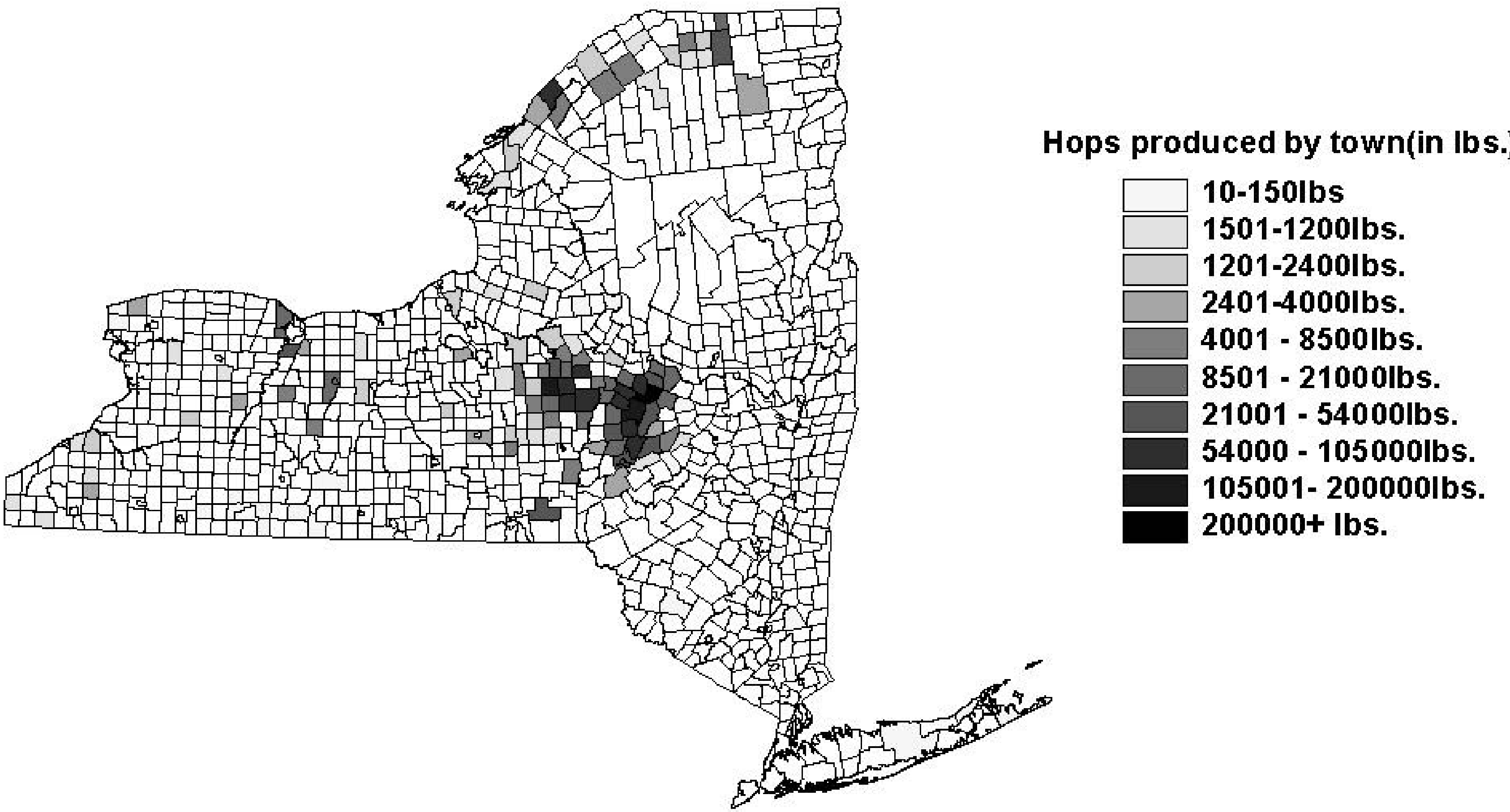
U.S. Hop Production, 1915–1997



History of Hops in Central N.Y.

- Dutch colonies (1612)
- Massachusetts Company (1629)
- James Coolidge (1803)
- Otsego, Oneida, Franklin, Ontario, Herkimer, Schoharie
- Cooperstown and Waterville
- 1859: NY = 80% of U.S. production
- Peaked in 1880 @ 21 million pounds (40,000–70,000 acres)

Hop Production in New York State - 1850



Decline of N.Y. Hops Production

- Down hill after the turn of the century…
- Improved varieties (Alpha Acid)
- Pacific Coast (higher yields, lower wages, economies of scale)
- Plant pests and diseases (aphids, powdery mildew, blue mildew)
- Prohibition (1920)

So, Why Hops Now?

- Times have changed…
  - New cultivars
  - New technology

- New markets — new opportunities
  - Microbreweries/brewpubs, regional breweries
  - “Decommodification”
  - American culinary maturity
  - New regional awareness
  - “Terroir”

Terroir

- Climate (water in spring);120 frost-free days; cool winters; mild summers
- 15 hours of daylight in summer
- Soil (gravelly-loam; limestone)
- History
- Culture
- Tradition

Additional Modern Advantages

- Integrated pest management (IPM)
- Organic methods of production
- Highly educated and motivated farm population
- Little competition
- Proximity to markets

Market Research

Research Objective

Conduct a survey of microbreweries, brewpubs and regional breweries to learn about potential sales of regionally grown hops in the Northeast. Data was collected in 2002.

Partnership

Conducted by the Community Food and Agriculture Program in the Department of Rural Sociology at Cornell University, in cooperation with the Northeast Hop Alliance (NeHA).

Methods

- A list of over 400 small (subnational) breweries in the Northeastern United States and Ohio was compiled through exhaustive state-by-state web research.
- List cross-checked with a mailing list provided by *American Brewer Magazine*. Duplicates were eliminated.
- A questionnaire was drafted by the NeHA board and shared with several brewers for input (see Appendix 1).
- The questionnaire was then mailed to all 442 brewers on the list along with a cover letter explaining the study and a self-addressed stamped envelop to return the completed survey to Cornell. Approximately ten days later a reminder card was mailed to those who had not responded.
- Due to financial limitations, a second wave of reminder cards was not sent out, nor were phone calls made to nonrespondents.

The Northeast U.S. includes ME, NH, VT, MA, CT, RI, NY, NJ, PA, MD, DE, WV, and Washington, DC.

Results

- The questionnaire yielded 112 useable responses for a response rate of 25.3 percent.
- Given this response rate and the potential for nonresponse bias, caution should be exercised in generalizing about the whole population of small breweries in the region.

Types of Respondents

As table1 shows, brewpubs and microbreweries constituted the lion's share of respondents (85%).

Table 1. Respondents by Type of Brewery and Use of Hops

Type	# and % of respondents	Mean barrels of beer produced (mean and # of respondents)	Hops used (pounds) (mean and # of respondents)	% using Hop Pellets (responses and % within type)
Multiple type	10 (8.9%)	1,971.4 (7)	917.0 (5)	80.0% (8)
Brewpub	59 (52.7%)	877.0 (51)	572.1 (32)	76.3% (45)
Microbrewery	36 (32.1%)	3,799.7 (31)	1721.0 (21)	71.4% (25)
Regional brewery	7 (6.3%)	46,333.3 (3)	19333.3 (3)	85.7% (6)
Total	**112 (100.0%)**	**3,427.3 (92)**	**1918.6 (61)**	75.7% (84)

Top Ten Hop Varieties in Use

	Frequency	Pounds used (mean)	Satisfaction rating
Cascade	60	873.3	4.40
Tetthang	28	1,441.19	4.25
Hallertau	27	252.06	4.29
Saaz	26	212.5	4.33
WIllamette	23	726	4.37
E. Kent Goldings	22	188.71	4.11
Fuggle	20	484.43	4.33
Perle	19	110.08	4.44
Northern Brewer	18	270.75	4.29
Centenial	16	251.27	4.60

Brewer Interest in Regional Hops

Table 3. Interest in Regionally Grown Hops

Type	Interest in Regional Hops	Percent (and number) of Breweries who perceived an advantage in using regional hops in terms of Sales, Visibility, Profit and Customer Loyalty			
		Sales	**Visibility**	**Profit**	**Loyalty**
Regional brewery	4 (57.1%)		1 (14.3%)	1 (14.3%)	1 (14.3%)
Microbrewery	27 (75.0%)	6 (17.1%)	9 (25.7%)	6 (17.1%)	10 (28.6%)
Brewpub	38 (65.5%)	9 (15.8%)	13 (22.8%)	6 (10.5%)	15 (26.3%)
Multiple type	9 (90.0%)		1 (11.1%)	1 (11.1%)	2 (22.2%)
Total	78 (70.3%)	15 (13.9%)	24 (22.2%)	14 (13.0%)	28 (25.9%)

How Much More Will Brewers Pay?

Table 4. Percent Premium Pay for Regional Hops

Type	Mean response* (# of respondents)
Regional brewery	.80 (5)
Microbrewery	1.48 (25)
Brewpub	1.85 (47)
Multiple type	2.00 (8)
Total	**1.69 (85)**

* Codes for this response are: 0 = 0%; 1 = 5%; 2 = 10%; 3 = 15%; 4 = 20%; 5 = 25%

Conclusions

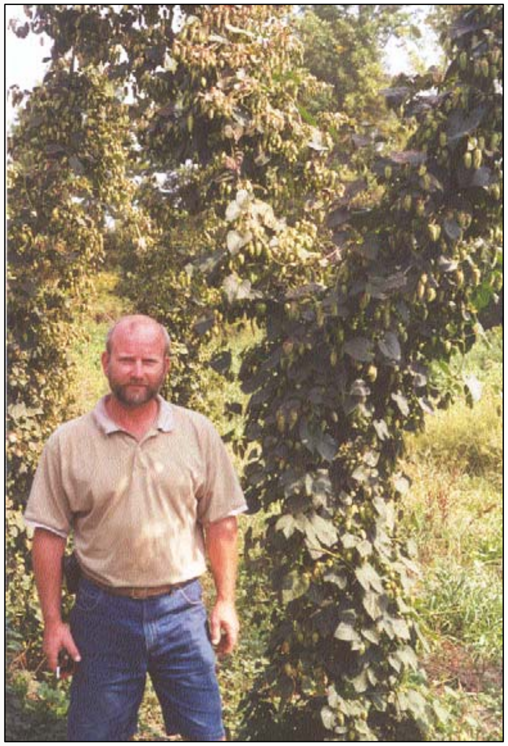
- Cautious Optimism.
- Brewers see no strong advantage.
- They seem very satisfied with their current hop products and suppliers.
- They see no big downside.
- Brewers likely to try; will pay small premium.
- Sales will depend on quality, service and price.

How Many Hop Yards?

HOW MANY HOP YARDS?	Senario 1	Senario 2	Senario 3	Data Source
No.Micro/Brew Pubs in NE	400	400	400	Web sources
Annual Ave lbs of Hops used	572	917	1721	
Total Hops used (lbs)	228800	366800	688400	
Market Share	10%	15%	20%	
Total lbs used	22880	55020	137680	
% Actual NE hops purchased	10%	20%	30%	
Actual pounds of NE hops	2,288	11,004	41,304	
Lbs per acre	1800	2200	2400	USDA National Hop Report
Total acreage	1.27	5.00	17.21	
Average Hop Farm (ac)	1	1	1	
Total Farms	1.27	5.00	17.21	
Price per pound	$ 5.00	$ 5.00	$ 5.00	Washington State Extension
Gross sales/farm	9000	11000	12000	(total lbs * Price/lbs divided by total # of farms)


Pedersen Farm

Harvesting at the Pedersen Farm, September 2001



Next Steps

- Unveil a new microbrewed beer with all–New York hops
- Encourage small experimental yards
- Work on production issues
- Develop our own hop variety
- Increase brewer knowledge about regional hops
- Encourage sales

We’ll know we have arrived…

…when the maker of Samuel Adams beer (Boston Beer Company) comes to us begging for the latest world-class specialty hop cultivars:

“LEATHERSTOCKING”

and

“MOHAWK GOLD”

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