

Are feral Hops in Your Future?

New York, New England, Michigan
Wisconsin, and Eastern Canada

Aroma Varieties Submitted for Sampling

Alpharoma/Rakau

Cascade

Cluster

Centennial

Crystal

Fuggle

Glacier

Hallertau

Liberty

Mt. Hood

Perle

Saaz

Sterling

Tahoma

Ultra

Willamette

Yakima Gold

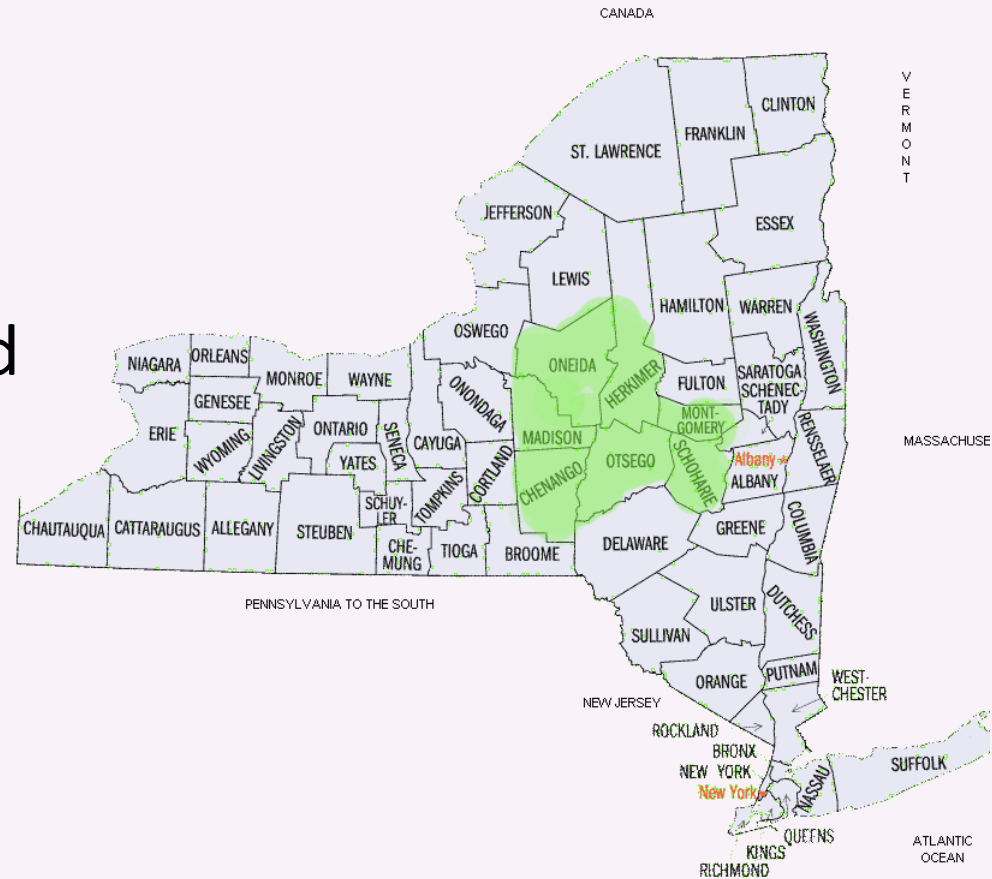
(Feral hop)

Bittering Varieties Submitted for Sampling

Columbus/Zeus
Brewer's Gold
Centennial
Chinook
Galena
Horizon

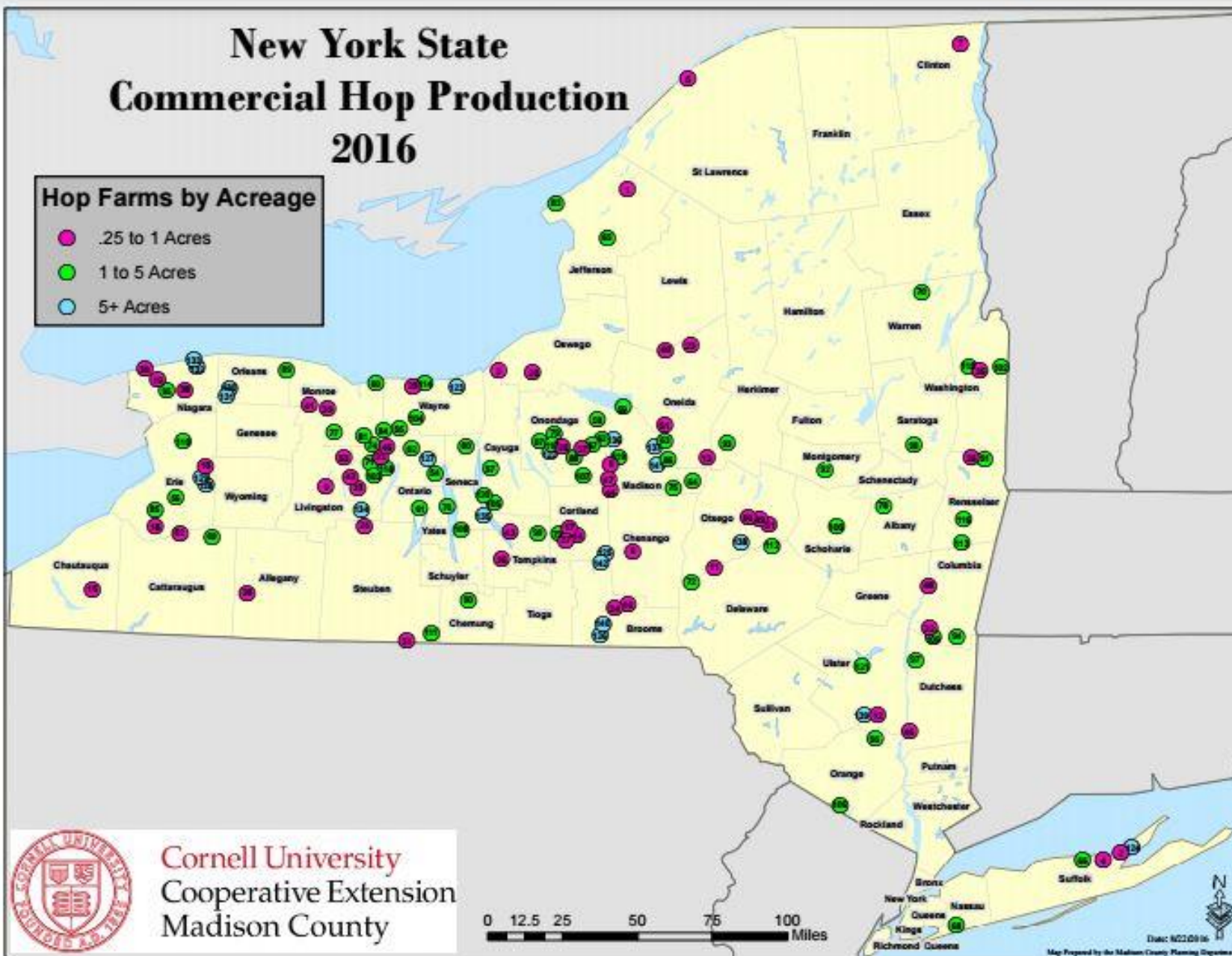
Magnum
Newport
Northern Brewer
Nugget
Prohibition
Michigan Copper

19th Century Concentrated
but almost every county
had hopyards



2016

Hop Farms by Acreage



Cornell University
Cooperative Extension
Madison County

0 12.5 25 50 75 100 Miles

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Map Prepared by the Madison County Planning Division

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Humulus

- *Sp japonicus*
- 5-7 lobes on the leaf
- An annual, reproducing by seed
- Noxious weed/ invasive plant
- *Sp yunnanensis* China
- A perennial with 3-5 lobes on the leaf





Humulus

- Sp *lupulus* var. *lupulus* Europe/West Asia
- Sp *lupulus* var. *cordiformis* east asia
- Sp *lupulus* var. *lupuloides* eastern N Amer
- Sp *lupulus* var. *neomexicanus* arizona/NM
- Sp *lupulus* var. *pubescens* western N Amer

- All of above have 3-5 lobes on the leaves

dioecious

- Male and female flowers are on separate plants
- Sometimes we see females with male flowers , but they are sterile (no seed is produced)

















HGIC, U of MD





Drying and Analysis



203 Division Street Yakima, WA 98902
Phone: 1-877-875-6642 | Fax: 1-509-895-7968
E-mail: info@alphanalyticstesting.com

Certificate of Analysis

Date Issued: September 19, 2015

Analysis Results Issued To: Cornell Cooperative Extension Madison County

Brewing Values and Oil

Sample ID	Analysis Date	Variety	Description	Alpha Acids	Beta Acids	HSI	Oil %
H150464	9/18/2015	Perle	Brewery Ommegang 15	6.9	4.3	0.209	0.54
H140465	9/18/2015	Cascade	Brewery Ommegang 14	6.8	7.6	0.230	0.61
H140466	9/18/2015	Nugget	Brewery Ommegang 1	12.0	4.7	0.211	0.53
H140467	9/18/2015	Crystal	Brewery Ommegang 2	3.7	7.3	0.147	0.41
H140468	9/18/2015	Other	Brewery Ommegang 13	9.0	3.8	0.189	0.43
H140469	9/18/2015	Brewer's Gold	Brewery Ommegang 3	5.8	4.1	0.203	0.61
H140470	9/18/2015	Chinook	Brewery Ommegang 4	10.7	3.8	0.203	0.51
H140471	9/18/2015	Mt. Hood	Brewery Ommegang 5	5.4	3.4	0.189	1.08
H140472	9/18/2015	Centennial	Brewery Ommegang 6	9.9	3.7	0.205	2.03
H140473	9/18/2015	Saaz	Brewery Ommegang 7	4.7	6.7	0.202	0.26
H140474	9/18/2015	Willamette	Brewery Ommegang 8	7.5	6.8	0.199	1.31
H140475	9/18/2015	Cascade	Brewery Ommegang 12	8.6	8.3	0.203	1.39
H140476	9/18/2015	Fuggle	Brewery Ommegang 9	4.0	3.6	0.187	0.99
H140477	9/18/2015	Horizon	Brewery Ommegang 10	8.5	6.1	0.198	0.69
H140478	9/18/2015	Cashmere	Brewery Ommegang 11	7.1	6.9	0.219	0.25

Evaluate for Sensory Quality





National Clean Plant Network-Hops

Clean-up program helps hop industry by providing:

- Research on diseases that cause economic loss
- Diagnostics & therapy to develop virus-free plants
- Clean planting stock: over 50 cultivars in program (36 currently available for distribution)
- NCPN funding by USDA-APHIS through Farm Bill



Hops Screen + Carlavirus CR.

Agdia Pricing

- 1) First sample/4 ELISA (ApMV, ArMV, Phytophthora and PNRSV)=\$89
- 2) Each additional sample after the first=approximately \$15
- 3) First sample/Carlavirus Group PCR Test=\$243
- 4) Each additional sample after the first=approximately \$23
- 5) Carlavirus DNA sequencing \$35

Hop Stunt ?

Is it unique?

Genetic background

Dr. Paul Matthews



Meet the Wild Hop Hunters Saving Your Beer from Climate Change

Trained collectors are trekking into remote parts of the Southwest in hopes of discovering hardy new hops that can withstand warming temperatures

By AC Shilton Dec 14, 2016



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 southwesternresearchstation
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♥ chiefbenderr, clausenolivia, caveman.on.a.spaceship, lesliegale, scottstuk, whimbrells, tooter_mcnary, ashleewolf, anifran, roth11

