Whitefield Hop Yard
East Hardwick, Vermont
-OVERVIEW-

*WHO ARE WE?  
*WHY GROW HOPS?  
*PREPARING THE YARD AND PLANTING  
*BUILDING THE TRELLIS  
*RHIZOMES & PLANTS  
*THE SHED FOR HOP EQUIPMENT  
*THE PELLITIZER  
*IRRIGATION  
*WHAT WE HAVE BEEN SEEING  
*WHAT BREWERS ARE TELLING US
Who We Are

- Karen, my wife and I own and operate the Whitefield Hop Yard and processing equipment with the help of our six grown kids - Vincent, Lydia, Kyle, Taylor, Lillian and Jeremy.
- Karen is a lab tech at Copley Hospital and I am a 6th grade teacher at Hardwick Elementary School.
- We have 6 kids and a dog.
WHY START GROWING HOPS IN HARDWICK VERMONT?!?
A HOP-FIELD IN WINTER. - SEE PAGE 153.
Hops Farming Returns to Hardwick After 100-Year Hiatus

by Doug McClure

EAST HARDWICK — It is a crisp August morning, just a week before harvest begins. Kevin and Karen Broderick, the owners of Whitefield Hop Yard, are surveying the work that needs to be done in the interim. They are pleased with how the crop looks.

The field is unusual in appearance. It is just over an acre. A series of eighteen-foot tall poles stand in rows, with wire strung between each, like an enormous trellis. Ropes lead down from the wire and the hops vines rise from landscape-fabric-clad black mounds to coil around the ropes and spiral straight up. Karen notes that the plant’s root system extends almost as deep as the plant is tall.

An interesting aside is the vines have to be trained to coil clockwise to ensure that they attach to the rope properly.

When fully mature, at three years of age, this plot will yield approximately 1,000 pounds of hops in three different varieties. To put that in context, it only takes a half-ounce to seven ounces of hops to make five gallons of any variety of India Pale Ale (IPA).

Whitefield Hop Yard is on the leading edge of a burgeoning trend in Vermont farms, but not a recent trend, he points out — it is a revival.

In the 1850s, Vermont was the second-largest producer of hops in the United States, with 288,023 pounds produced, according to Adam Krakowski’s A Bitter Past: Hop Farming in Nineteenth-Century Vermont. Ten years later, that number had increased to 638,857 pounds, with the largest amount produced in Orleans County, according to the agricultural census of 1860.

Broderick points out a historical map showing the large number of hop farms in this area as evidence that the crop was popular.

“The Hardwick area was one of the largest producers in the 1830s,” he says.

Hops were a profitable crop for farmers. But the climate proved challenging to the early agrarians, especially when competing against California. Krakowski states that New Hampshire’s Daniel Flint brought most of the hops that started the West Coast farms from Vermont stock. With a more favorable climate, California had no trouble surpassing Vermont production.

A series of years plagued with poor weather and insect problems did not help, Krakowski says. He attributes the final nail in the coffin to Prohibition, as the main use for hops was producing alcoholic beverages.

In 1836, according to Vermont historical archives, the Vermont Temperance Society was founded. The 1830s saw a rise in petitions from towns to the legislature to ban liquor. In 1850, the legislature acted, first by permanently banning the licensing of alcoholic beverages with Act 30. Two years later, Act 24 banned production and Vermont went dry statewide for fifty years.

The end of the state ban did not end the local ones; according to the state records, fifteen Caledonia Residents — most women, all Italians, and most from Hardwick— received nine to twelve months’ prison time and fines of $400 for liquor violations in 1918. Adjusted for 2017 prices using the Consumer Price Index, the biggest fines were equivalent to $8,325 today.

The 1830s had hit at the peak of hops production in Vermont. By 1900, Vermont produced just 4,400 pounds of hops, most from Derby; by 1910, it was almost zero.

The great Vermont hops boom that began in the early 1840s ground to a halt.

Ready for a Hopping Good Time

Kevin and Karen Broderick survey their hop field, just a week before harvest.

by Doug McClure

“ALL ENTrees at Hazel’s are $8, and 9th grade open house

HARDWICK — Under shifting in and out of cooler temperature sliding intoinal crispness, Hazen Union open house for the 7th, 8th, and 9th grades on Thursday, Aug. 18. This time, it isn’t just the new classes. Hazen has new guidance counselor, principal Jack McCarthy, a month ago. McCarthy met the arriving sixth graders by Matt Rama, new guidance counselor, sixth and ninth grades.

McCarthy lets the kids know that they can be open about them, their shaming every hand. So they are surprised when he says it is time to greet each student.

Students show up, mothers, fathers, brothers, sisters, and friends. Some are not.

photo by Doug McClure
- You have to start somewhere -
Hop Shed
**PRO FORMA INVOICE**

**DATE:** April 5, 2016

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<tr>
<th>Description</th>
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<tr>
<td>20' Pallet Conveyor</td>
<td>($9,450.00)</td>
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<td>- Gear, air blower and air package</td>
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<tr>
<td>- 10' Wide Box Belting</td>
<td></td>
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<tr>
<td>Take Away Surge Tank In-Feed Conveyor</td>
<td>($8,490.00)</td>
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<tr>
<td>Discharges onto Hammer Mill mounted on top of Surge Tank.</td>
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<tr>
<td>- 5hp Motor, Single Phase Input with variable frequency drive</td>
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<td>- 9’ wide Box Belting</td>
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<tr>
<td>System Control Panel &amp; Wiring</td>
<td>($10,390.00)</td>
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<tr>
<td>- Components are pre-wired to the control panel.</td>
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<td>- Wiring to the control panel from the power source is required.</td>
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<tr>
<td>Stem Platform</td>
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<tr>
<td>- System assembly is placed on (1) ns. 5' x 5', and shipped complete.</td>
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| Sub Total | $ 56,805.00 |
| Crating/Loading Charge | $ 500.00 |
| Freight to East Harwick VT | $ 1,897.00 |
| Total Due | $ 59,202.00 |
| Total Due if Paid in Full | $ 56,212.00 |
| Paid in Full 4-05-2016 | ($ 56,212.00) |
| Balance Due | $ 0.00 |

1ST 900 NORTH OSSIAN INDIANA 46777
Vacuum Sealer and Packaging
Harvesting
INVOICE

WHITEFIELD HOP YARD
1349 CENTER RD.
EAST HARDWICK, VT 05836

DATE: NOVEMBER 21, 2017
ATTN: KEVIN BRODERICK

WOLVERINE AIR-1, COMPLETE WITH LATEST UPDATES

PRICE FOB OUR SHOP: $30,000
DEPOSIT DUE: $15,000
BALANCE DUE ON COMPLETION: $15,000

MADE AT OUR SHOP IN USA. 2-YEAR WARRANTY ON PARTS AND WORKMANSHIP.
REPLACEMENT PARTS WILL BE AVAILABLE FOR MAINTENANCE AND REPAIRS.
ALL MATERIALS ARE NEW AND OF THE HIGHEST QUALITY.

BY

Patrick Comerford,
Wolverine Hops Harvester
Irrigation

1. bucket and hose
2. pump and drip line (1740 gallons per hour/ 4 HOURS EACH WEEK)
2in. High-Pressure Water Pump

• Designed to push water long distances or to great heights.
• Ideal for sprinkler systems, remote area firefighting and washing down equipment.
• Pumps 8,120 GPH.
• Regressed, dependable 180cc Honda GX160 engine with 82-gallon steel fuel tank and 0V Ecart®.
• Strong 20-ft. max. suction lift; 214-ft. max. total head.
• Engine has an adjustable throttle to control pressure.
• Silicon carbide mechanical seal outperforms customary aluminum oxide seals.
• Fully welded 1.64-in. steel roll cage with durable DeWalt® Black Wrinkle TSC polyester finish.
• Check valve prevents prime while pump is not running.
• 2-year limited warranty on engine.
• 2-year limited warranty on pump.
• Includes strainer.
• Optional wheel kit (Item 100466, sold separately).

Item: 106470

2-YEAR LIMITED WARRANTY
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<td>$300.00</td>
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**Total:** $4,605.10
SPRAYERS

- BACKPACK/ 4 GALLONS
- OESCO-REARS/ 100 GALLON
**Bill To**

Whitefield Hop Yard  
4349 Center Road  
East Hardwick, VT 05838

**Ship To**

Same as Billing address

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<th>Contact</th>
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<tr>
<td>Kevin Broderick</td>
<td>(802) 472-6221</td>
<td>(0)</td>
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**Shipping Instructions**  
**TERMS:** 10% DEPOSIT REQUIRED TO SCHEDULE ORDER. BALANCE DUE BY CHECK ON OR BEFORE DELIVERY.

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<td>K8100255-ELC</td>
<td>REAW</td>
<td>100 Ft/Acre Case Slices</td>
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**Wholesale Note**

3 ft airblast sprayer w/SS tank & fan housing, mechanical agitator, AR813 diaphragm pump, pressure gage. 28" variable pitch fan. 14 check valve nozzle, ceramic tips, electric single control, FIO shaft, anti-egg chains, and deflectors.

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**Invoice**

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| Payment Total | ($1,025.00) |

**Balance Due**

$9,217.00
Oasts
1. UVM
2. Sea Container
# Invoice

**Date**: 8/3/2016  
**Invoice #:** 21863

**Bill To**
WHITESEALED HOP YARD  
4349 SENSOR ROAD  
EAST HARDWICK, VT 05836

**Ship To**
WHITESEALED HOP YARD  
4349 SENSOR ROAD  
EAST HARDWICK, VT 05836

**P.O. No.**  
**Terms**  
**Ship To P.O. No.**  
**Ship Date**
CREDIT CARD  
8/4/2016

**FOB**  
**Ship Via**
AMERIVACS  
FED-EX

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<td>CAVN-20</td>
<td>AMERIVACS CAVN-20, 20&quot; RETRACTABLE NOZZLE VACUUM SEALER WITH GAS PURGE AND BUILT IN AIR COMPRESSOR, 20&quot; X 1 1/4&quot; SEAL</td>
<td>1</td>
<td>3,495.00</td>
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<td>VF</td>
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<td>100.00</td>
<td>100.00T</td>
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<td>S&amp;H</td>
<td>SHIPPING AND HANDLING</td>
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**Subtotal** $3,682.00  
**Sales Tax (0.0%)** $0.00  
**Total** $3,682.00

**Payments/Credits** -$3,682.00  
**Balance Due** $0.00

**NOTE:** PAST DUE ACCOUNTS SUBJECT TO INTEREST CHARGE OF 1.5% PER MONTH COMMENCING ON INVOICE DATE.
Problems and Plagues
WHAT WE'VE BEEN SEEING AND HEARING FROM GROWERS AND BREWERS

- DRY AND NOT SO DRY HOPS
- NO LEAVES AND LEAVES
- VERMONT HOPS?
- LATE HARVEST/EARLY HARVEST
- TERROIR
Beer

- We sold to 7 Vermont breweries
- Our hops were sold-out by January
-FUN FACTS-

- Our farm’s namesake moved here with his wife, Sally in 1797. Whitefield lived on the farm until his death in 1856. Their son, Harvey was born here in 1823 and continued working the house. The farm until his death in 1898.

- 2013: Started growing hops in our garden
- In 2015 we started building the trellis
- Trellis has 16 rows that are each 200’ long.
- Planted rhizomes in 2016
- Expanded the yard in 2017 with planted and rows.
- In 2015: Started building the trellis
- Finished new section trellis in 2018
What we would do differently:

- Have soil tested and condition it the year before planting.
- Purchased new refrigerator condenser etc. and put in a much larger unit.
- More coordination with local brewers the year before first harvest before
• 1,120 Hills and 2,240 Bines in the Hop Yard

• We harvested 400 pounds of hops in 2017 (PLH)

• In 2018 we harvested 800 pounds and sold out by January.

• Our hops went to 7 different Vermont breweries.