



# **Building the Local Brew:** Opportunities and Challenges for Expanding Local Brewing Ingredients

Vermont Craft Brewers Conference  
Friday November 10th 11:30am



© Joseph Kayne



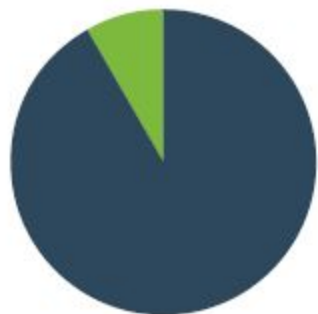
## Percent of Vermonters that Have Purchased Local Food in the Past Year



**87%**  
bought local food directly  
from a farm, farm stand,  
CSA or farmers market.



**81%**  
bought local food at  
a restaurant.



**92%**  
bought local food at  
a grocery store or  
supermarket.



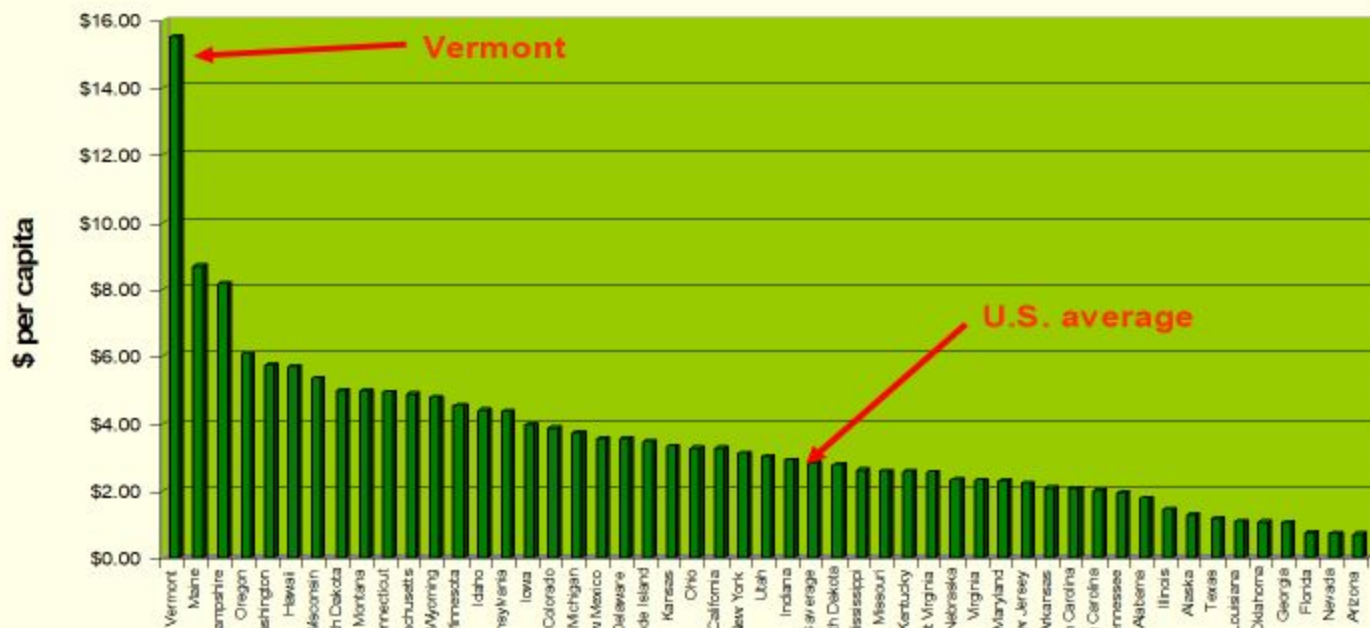
# Vermont Leads the Nation

IN FARMERS MARKETS, ORGANIC PRODUCERS, CSA'S AND DOLLARS SPENT ON LOCAL FOODS PER CAPITA.



# Measuring Local Food: Direct Sales

source:  
USDA 2002





# Craft Beer & Local Food Movement



- Environmental Stewardship
- Sustainability
- Support Local Farms
- Knowing origin of food source
- Food Security
- Slow Food Movement



## Milk

1 Gallon, Fat Free

Retail: \$4.39

Farmer: \$1.54



## Eggs

1 Dozen

Retail: \$2.29

Farmer: \$1.51



## Beer

12 Packs, Cans

Retail: \$14.99

Farmer: \$0.07

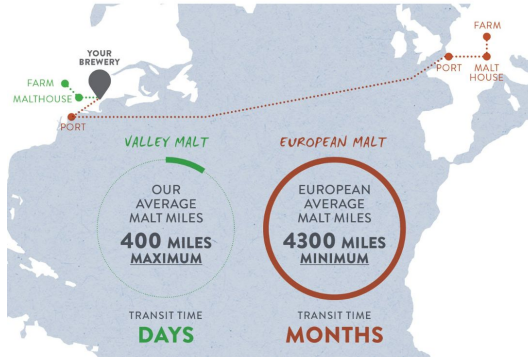


## Wheat Bagel

1 - 4 oz. Bagel

Retail: \$0.83

Farmer: \$0.02



## 90% reduction in malt miles traveled

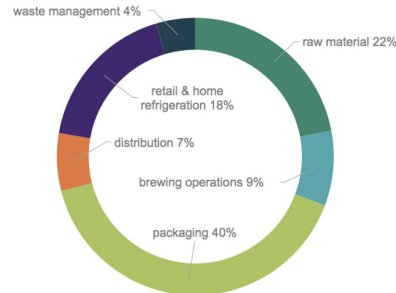


FIGURE 2. Average contribution of each life cycle phase to the overall CF of beer production.



## Typical 6-Pack

Farmer's Share:  
**\$0.04**

Data from National Farmers Union:  
[nfu.org/farmers-share](http://nfu.org/farmers-share)



## 6-Pack using Valley Malt

Farmer's Share  
**\$0.40**



# Building a VT Malt Grain Supply

- ❑ Taking a Slow approach
- ❑ Securing a market demand
- ❑ Making commitments to growers
- ❑ Growers investing in storage and other infrastructure
- ❑ At least once a year, discussing future projections with maltsters/growers



## QUINTIN FARM, NORTH HERO, VT

### BARLEY:

- Conventional
- Spring
- Variety: Connect
- Germination: 99%
- Quality: Good - high PHS but malting ASAP
- Potential Uses: VT Pilsner, Pale, Golden Valley, Voam (dextrine)



### Newdale 2-Row Spring

Grown: NEK Farm Waterford VT  
Farm just put in silos, cleaner, and dryer

Amount: 75 acres (75T) \*contracted

Quality: Good to excellent (harvest in 2-3 weeks)  
High protein, high enzymes

Uses: Pilsner, Pale, Munich, Vienna, blend with low protein winter to NE Blend

# One acre at a time, the Northeast has the opportunity to build a regional supply chain for craft beer and spirits.

Valley Malt can now process up to 2,000 acres of locally grown grains each year.

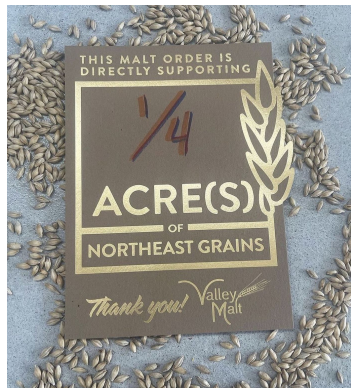


According to the Northeast Grainshed calculator, a single pint of beer supports four square feet of land growing grain.

# Think In Acres



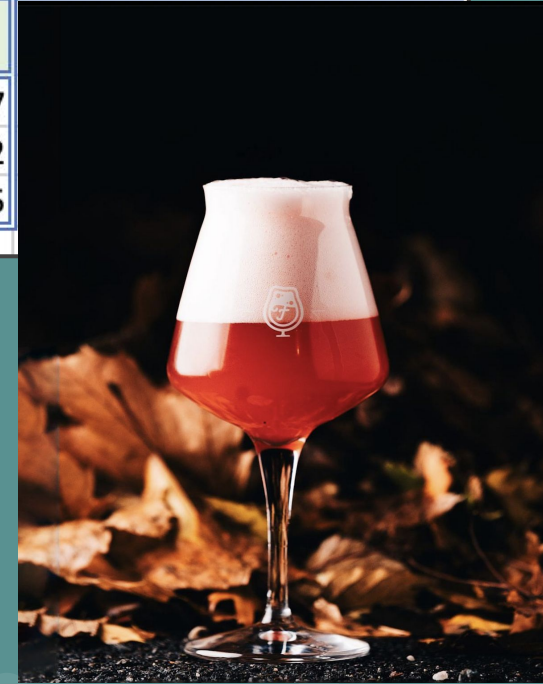
Supporting 10 Acres  
of Northeast  
Farmland



State	BBL	Malt Useage '22	Acres Needed
VT	324,505	22,293,494	7,431
% of malt		Acres Supported	
2%	434,836	217	
5%	1,114,674	372	
15%	3,344,024	1,115	

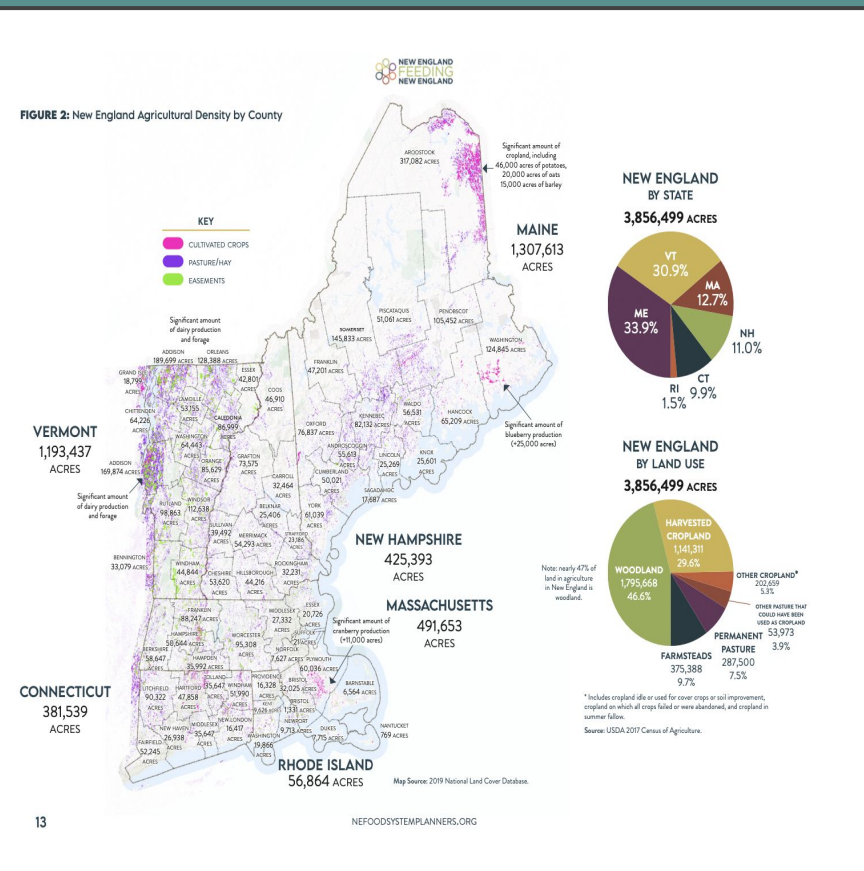
## VT Barrels to Acres

Year	VT Acres Harvested	VM Malted (lbs)	Barrels of Craft Beer
2021	10 acres NEK	12,000	176
2022	30 acres NEK	45,000	661
2023	32 acres Andre	45,000	661
2024	60 acres Andre	100,000?	1,470
2025	150 acres		
2026	250 acres		
2027	350 acres		
2028	500 acres		



State	BBL	Malt Usage '22	Acres Needed
CT	313,547	21,540,679	7,180
MA	493,365	33,894,176	11,298
ME	376,702	25,879,427	8,626
NH	115,145	7,910,462	2,637
NY	1,368,763	94,034,018	31,345
RI	85,154	5,850,080	1,950
VT	324,505	22,293,494	7,431
<b>Total</b>	<b>3,077,181</b>	<b>211,402,335</b>	<b>70,467</b>

Craft Malt Size	
VM '23	Craft Malt '22
1,365,000	24,700,000
0.6%	11.7%
Assumptions	
Grain Yield 4,000 lb ac / Malt 3,000 lb ac	
VT Yield 3,000 lb ac / Malt 2,000 lb ac	
83 bu barley /ac	68 lb malt /bbl



# Regional Supply & Demand



Website: [northerngraingrowers.org](http://northerngraingrowers.org)

**Mission: *To Encourage and Support the Production, Processing, and Marketing of Local Grains***

The **Northern Grain Growers Association (NGGA)** is “farmer grown”. Since 2004 many of the grain growers in VT have been gathering for information exchange, networking, and camaraderie.

- The NGGA focuses on organic seed saving, plant breeding, and variety improvement, as well as the various aspects of grain production, processing, and end-users.
- The group meets throughout the year and contains both conventional and organic growers, bakers, consumers, localvores, researchers, and more.
- Gatherings include summer on-farm field days/workshops, and the winter **Grain Growers Conference** with UVM Extension which features bake sessions and guest speakers from around the U.S. and beyond.



THE UNIVERSITY OF VERMONT  
**EXTENSION**



**VERMONT BREWERS  
ASSOCIATION**

2008 - Hop Outreach

2009 - Hop Research

2010 - Development of mobile hop harvester



**Organic Hop Variety Trial  
Final Report**



Dr. Heather Darby, UVM Extension Agronomist  
Julian Post, Lily Calderwood, Julia Cubins, Erica Cummings,  
Alba Gupta, Scott Lewins, Lindsey Ruhl and Sara Ziegler  
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## UVM - Grains Research

- Our goal is to give them the information they need to be able to grow higher yielding and quality grains for livestock and human consumption.
- Corn, soybean, dry beans, small grains, oilseeds, other
  - Variety trials
  - Planting date & harvest date trials
  - Nutrient management
  - Pest & disease management
  - Weed control
  - Soil health





## Grains Research – 17 years

- Grain research since 2006
- 180+ varieties Wheat – winter, spring, heirlooms, crosses
- 50+ varieties Barley – winter spring - 2-row and 6-row
- 30+ varieties Oats – hullless, feed, food
- 15+ varieties Rye
- 20+ varieties Flint corn
- 20+ varieties of Dry beans
- 40+ varieties of Soybeans
- 50+ varieties of Oilseeds

[www.uvm.edu/extension/nwcrops/](http://www.uvm.edu/extension/nwcrops/)

NORTHWEST CROPS & SOILS PROGRAM



2019 Organic Spring Wheat  
Variety Trial

NORTHWEST CROPS & SOILS PROGRAM



2019 Rye Harvest Date

NORTHWEST CROPS & SOILS PROGRAM



Impact of Cover Crops on No-Till Spring  
Grain Production

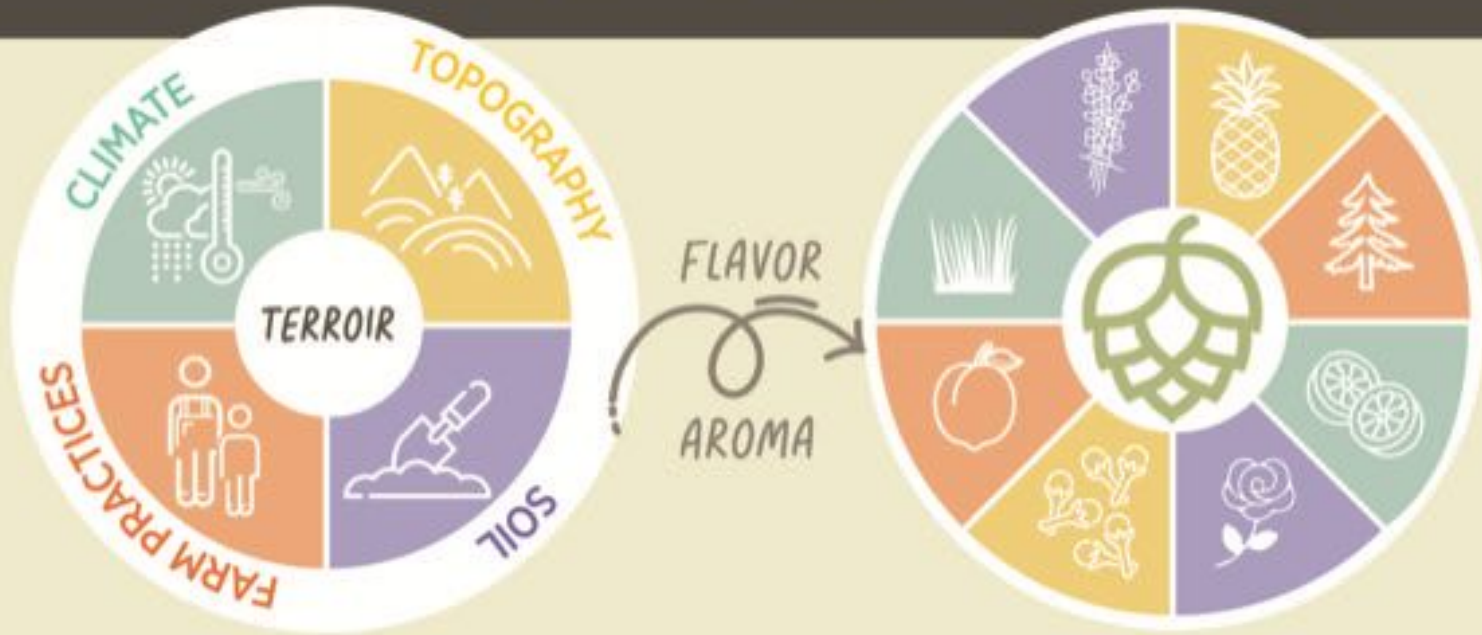


# Wine Is An Agricultural Product...Is Beer?



# Terroir - Not Just a Fancy Word

## HOW PLACE AFFECTS TASTE



**FACT:** Where and how hops are grown affects their flavor. Hop flavor in turn affects beer flavor.

# Benefits of Brewing with Local Ingredients

**Marketing local is good for business** - Consumers (especially Gen Z's) are willing to pay more for local products and causes they support

**Know your farmer and where your ingredients come from** - Understand and have an impact on how your ingredients are produced and have a genuine story to relay to your customers

**Economic** - Support your community by keeping money in the hands of small local businesses (like yourselves)

**Simplified and diversified supply chain** - Diversify flavors and varieties; save on shipping; don't put all your hops in one basket!

**Unique flavors** - Local ingredients are not a commodity

**Help bring back a culture of farmers and producers working together to feed their communities!**



# Challenges

- **Proprietary Hops**

- Most popular hops are not locally available (~70% of US hops are proprietary)
- Do you need them to make quality beer?

- **Contracts**

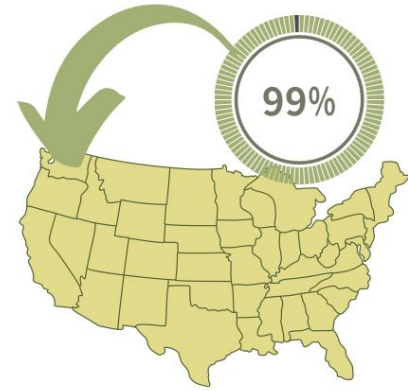
- 40+ million pound hop surplus!

- **Sales/Marketing Capacity and the Buyer Experience**

- No multi-million dollar marketing budgets and large sales teams
- Not a one stop shop (more like a butcher/baker than a grocery store)

- **Price**

- What does it actually cost to grow hops?
- Scale - Germany = 1,087 farms (~40 acres) vs 69 PNW (~800 acres)
  - Can breweries get paid more for brews with local ingredients?
  - Is local supporting local a value that you want for your business?
  - Impact on bottom line?



# What Would Buying Local Actually Cost Me?

What does your brewery pay for most hop varieties?

<b>CVH avg pellet price (2023)</b>	<b>\$12.81/lb</b>
Hoppy IPA hop cost per bbl (4 lb/bbl hopping rate) using CVH	\$51.24
Number of 4-packs per bbl (assuming 10% beer loss)	55.8
Hoppy IPA hop cost per 4-pack using CVH	\$0.92
Hoppy IPA hops cost per 4-pack @ \$8/lb (non-local)	\$0.57
<b>Difference in cost 4/pack @ \$8/lb</b>	<b>\$0.35</b>
<i>Difference in cost 4/pack @ \$6/lb</i>	<i>\$0.49</i>
<i>Difference in cost 4-pack @ \$10/lb</i>	<i>\$0.20</i>

**\*Most proprietary hops are priced similarly to local hops**

# Local Potential



New England breweries use over 2.5 million pounds of hops annually.

New England hop farms can supply about 80k lb of hops annually ~ 3% of local demand.

**Imagine what it would look like if every brewery committed to purchasing 5% of their ingredients from local farmers!**