



# Ice Cider Production

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Eleanor Léger, Eden Specialty Ciders  
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# Eleanor Léger

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- Founder and CEO – Eden Specialty Ciders, Vermont USA
- First to receive Federally approved label to produce ice cider in USA, 2008
- Largest ice cider producer in the USA
- Founder, Vermont Cider Makers Association
- President of the Board, American Cider Association



# Where??



















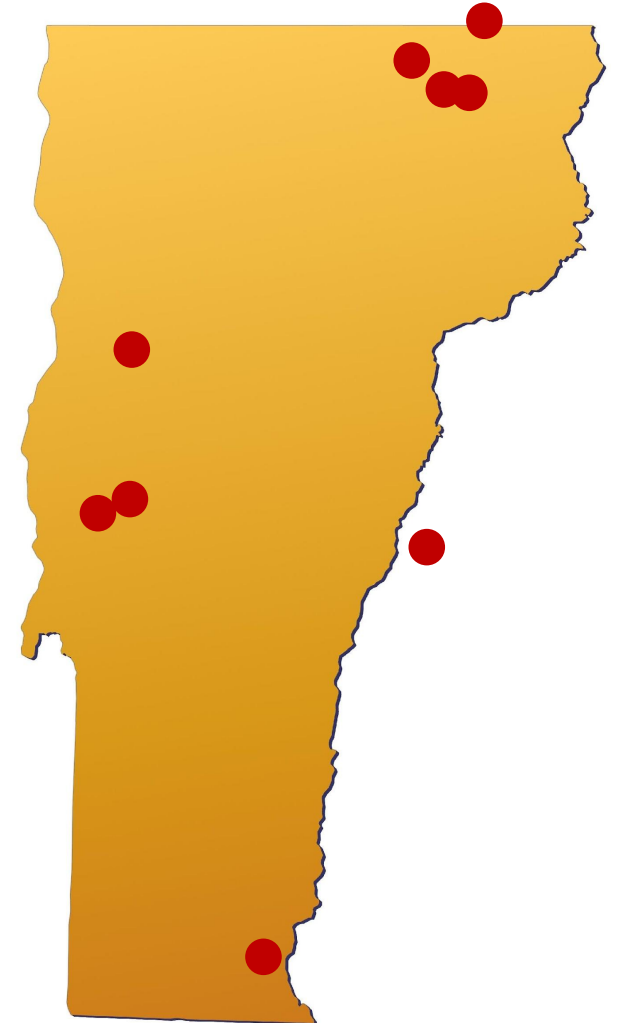




# Our mission: Supporting a better world through cider

- Support local, small scale orchards
- Keep our Vermont working landscape working
- Practice and spread regenerative orchard care
- Prioritize long-term sustainability

Orchard Harvest Partner Network







Many different styles, one approach:  
Express the quality of the fruit without adulteration

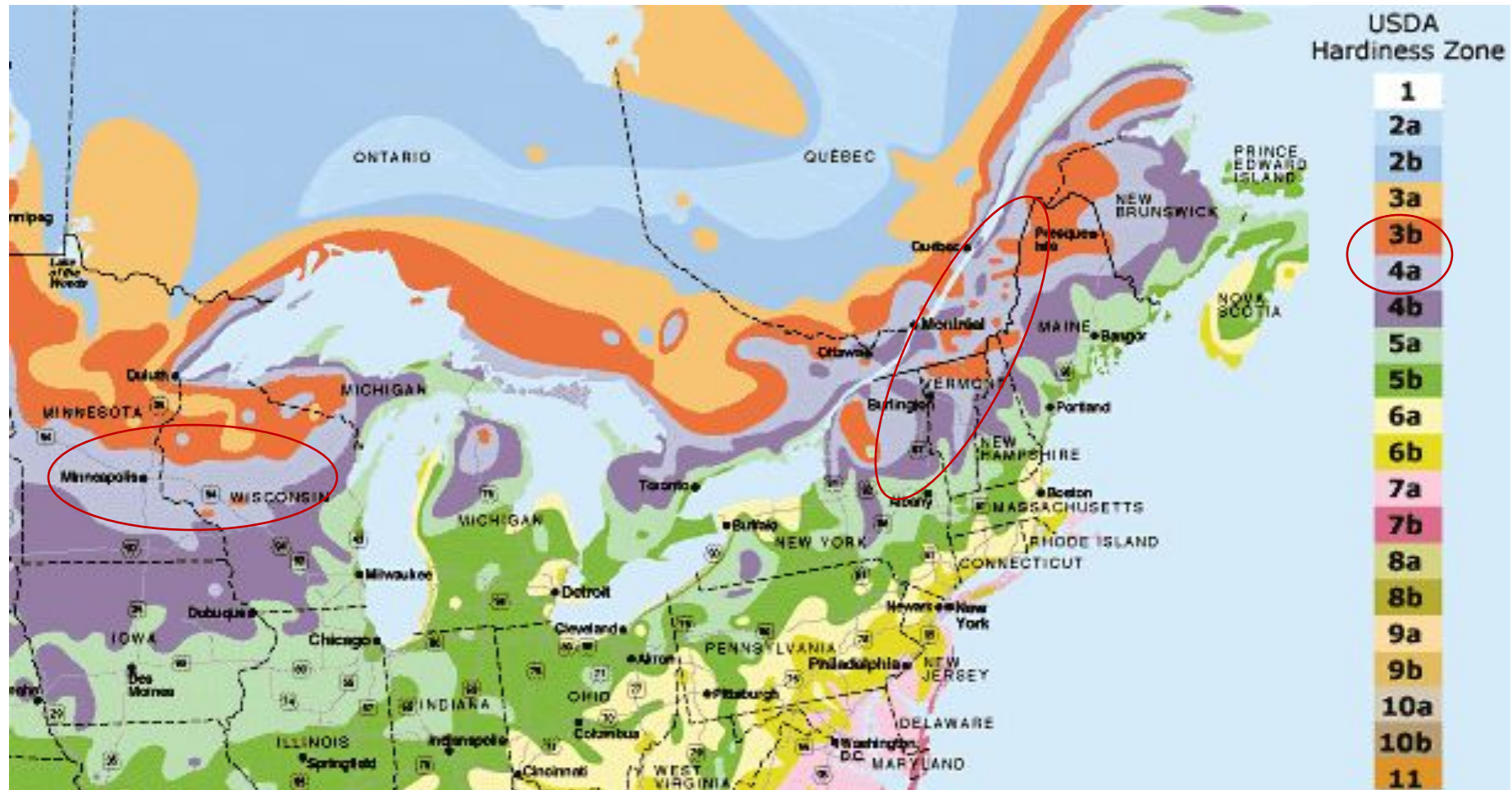


# About Ice Cider

- Developed in Southern Quebec ~ 10 years ago
- Now a recognized classification in Canada
  - 30+ producers
  - > 1 million bottles annual production
  - Distributed in Canada, Europe and Japan
- Regulated by Quebec government
  - Local apples
  - Natural cold weather concentration – either cryo-extraction or cryo-concentration
  - Concentrated to at least 30 Brix
  - Final product must have at least 130g/L residual sugar, and at least 7% alcohol by volume



# Where else could it be made naturally?





# Cold Concentration

- 4 – 6 weeks outside
- Target is 22F | -5C
- Yield is 20 – 25%





# Some ratios

- ~ 4,500 Kg of apples =
- ~ 2,270L of juice =
- ~ 510L of concentrated cider =
- ~ 450L of finished ice cider =
- 100 cases [1,200 bottles] of 375ml bottles of ice cider

*It takes 3.5Kg of apples to make one  
beautiful bottle of ice cider!*



# Important decisions in ice cider production

1. Apple varieties – sugar/acid/flavor (tannin?)
2. Method of concentration (cryo extraction, cryo concentration, natural/not)
3. Brix of concentrated juice at start of fermentation
4. Desired residual sugar / alcohol (when to arrest the fermentation)

**Who are your target customers, and what do they like / expect?**

**And what are they willing to pay?**

# 1. Apple varieties

- Grocery store varieties have a good balance of sugar and acid for ice cider, and the processing apples are cheap
- Old varieties can have more sugar, more flavor, more complexity
- Tannin can be interesting but is not an expected characteristic of dessert wine
- If you are using natural cold weather to concentrate, you need varieties that can hold / develop peak flavor during the time between harvest and winter



# Some of our favorites



Ashmead's Kernel



Esopus Spitzenburg



Calville Blanc



McIntosh



Roxbury Russett



Northern Spy

## 2. Method of concentration

- Cryo-Concentration - natural cold weather vs refrigeration:
  - Yield, flavor intensity – better with natural
  - Energy usage and cost – better with natural
  - BUT uncertain timing, weather dependent, and not an option in most climates!
- Cryo-extraction
  - Requires very high pressure hydraulic press
  - Easier using a freezer – harvest at regular time, know exact juice brix, avoid decomposition and methanol, preserve 'apple flavor'





## 3 & 4: Starting brix and ending RS/Alc

- Roughly 17g/L of sugar is needed to produce one degree of alcohol
  - Example: Start at 350g/L, ferment to 12% alcohol requires 204g/L, leaves 146g/L residual sugar
- Think also about the acidity
  - Concentration process also concentrates acidity, can be 12g – 16g/L!!! Manage the balance of your ice cider through selection of your apples, but also through decision of when to arrest fermentation
- Aging also impacts balance
  - Quick market cycle favors less acid
  - Long barrel aging favors more acid





# Keys to production success

- SLOW, COLD fermentation, 10 – 12C
- Measure specific gravity every 1 or two days through fermentation
- Know what your target Alcohol/Sugar balance is, and be ready to arrest the fermentation when it gets there (might be Saturday night!)
- Make sure you can arrest the fermentation successfully – temperature control, sulfite, filtration or racking
- DO NOT use a saccharomyces ***bayanus*** yeast (Champagne) – very hard to stop

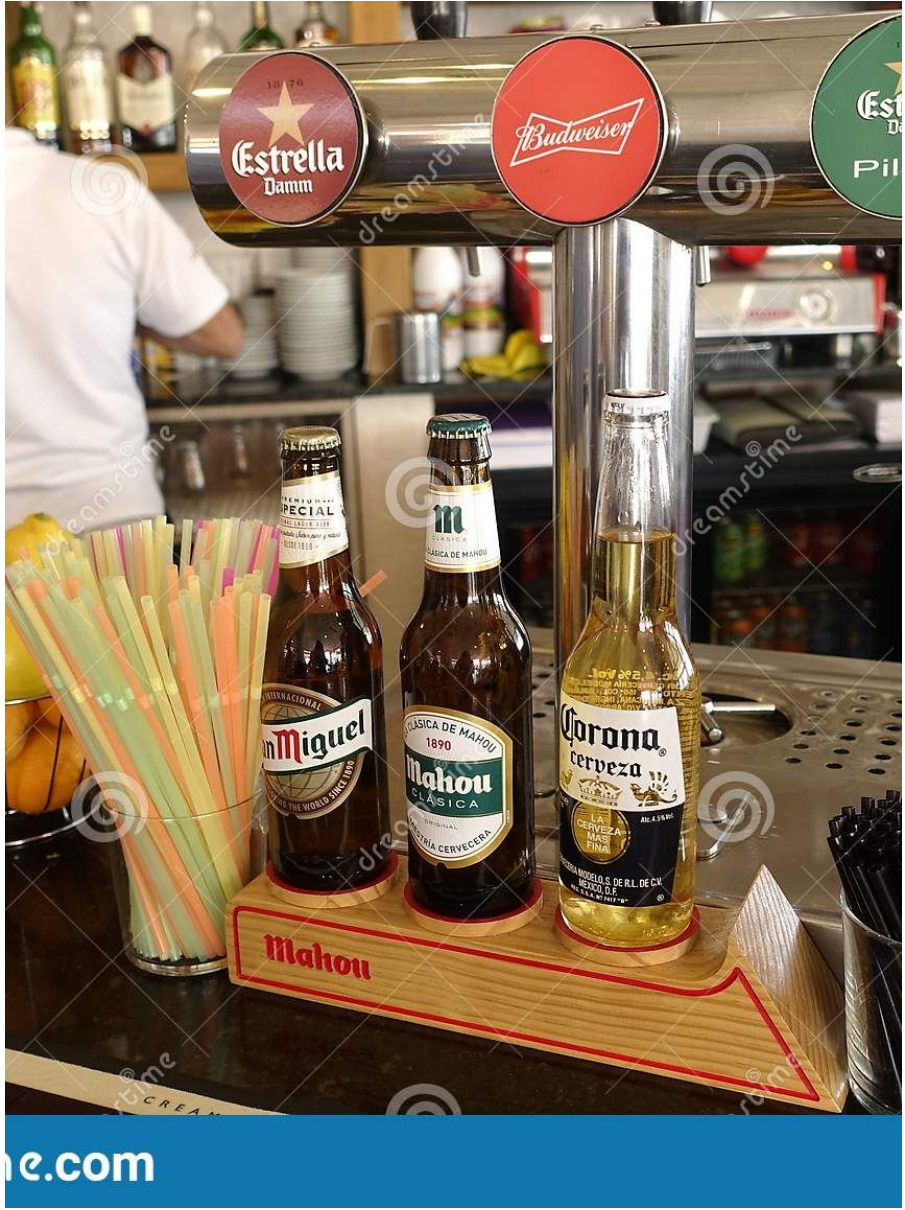




# Market considerations

- Dessert wine is a luxury 'special occasion' purchase
- High price point and gross margin, but low volume potential
- Is there enough business in your market area?
- Does it match your current distribution presence – are you already talking to these buyers or will it require a whole new sales effort?
- Need to make sure your packaging presentation matches your quality and price point
- Historically, restaurants are best at introducing specialty wines like this to consumers, but...COVID







# Tasting Today

## Heirloom Blend Ice Cider

- 2018 Harvest
- 15+ varieties
- Stainless steel aging
- Bottled October 2021

## Northern Spy Ice Cider

- 2018 Harvest
- Single variety
- Stainless, then 6 mos. in French oak
- Bottled October 2021





A large pile of apples in various colors (yellow, red, green) on a wooden surface.

eden

SPECIALTY CIDERS

Thank  
you!