



BEER WORTH FINDING
**VERMONT CRAFT BREWERS
CONFERENCE**
VERMONT BREWERS ASSOCIATION

November 11-12, 2024

**Doubletree by Hilton
Burlington Vermont**

**Everything You Ever
Wanted To Know About
Getting Into
DISTILLING**



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Phil Markowski - Two Roads Brewing Co.

Chris Kesler - Black Flannel Brewing & Distilling Co.

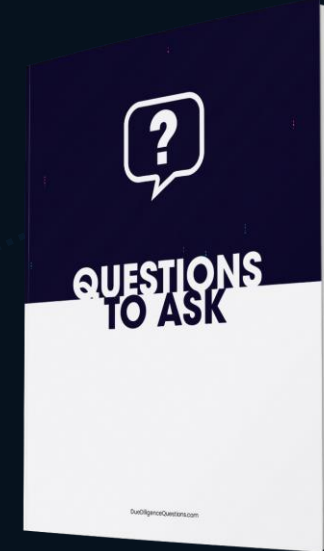
Craig Wilkinson - Switchback Brewing Co.

Denise Jones - Fermentis

Does It Make Sense to Diversify Into Spirits?

QUESTIONS TO ASK...

- ◉ Is it worth it?
- ◉ Can you justify the numbers?
- ◉ Do you have the time and resources?
- ◉ Will it detract or distract from your current revenue stream?
- ◉ Do you have the passion?



Product Overview - Spirits

GIN - Genever, London Dry, Plymouth, Flavored

VODKA - Wheat, Rye, Barley, Potato, Beets, Sugars, Flavored

RUM - White, Amber, Dark, Spiced, Agricole

WHISK(e)Y - Scotch, Irish, Bourbon, Canadian, Japanese, Indian

TEQUILA / AGAVE - Blanco, Reposado, Añejo, Muy Añejo, Mezcal

BRANDY - Cognac, Armagnac, Brandy de Jerez, Pisco, Grappa,
Calvados, Eau De Vie

ANISE / BOTANICAL - Absinthe, Ouzo, Pastis, Aquavit, Amaro

LIQUEURS - Fruit, Herbal, Nuts & Beans, Cream



* US & Vermont Market for SPIRITS in growth until 2022, now declining



Product Overview - RTDs

R&D PRODUCT DEVELOPMENT

- Classic Cocktails
- Creative Riffs
- Shelf Stability

PRODUCTION MODELS

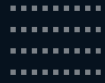
- In-House
- Co-packing

DISTRIBUTION

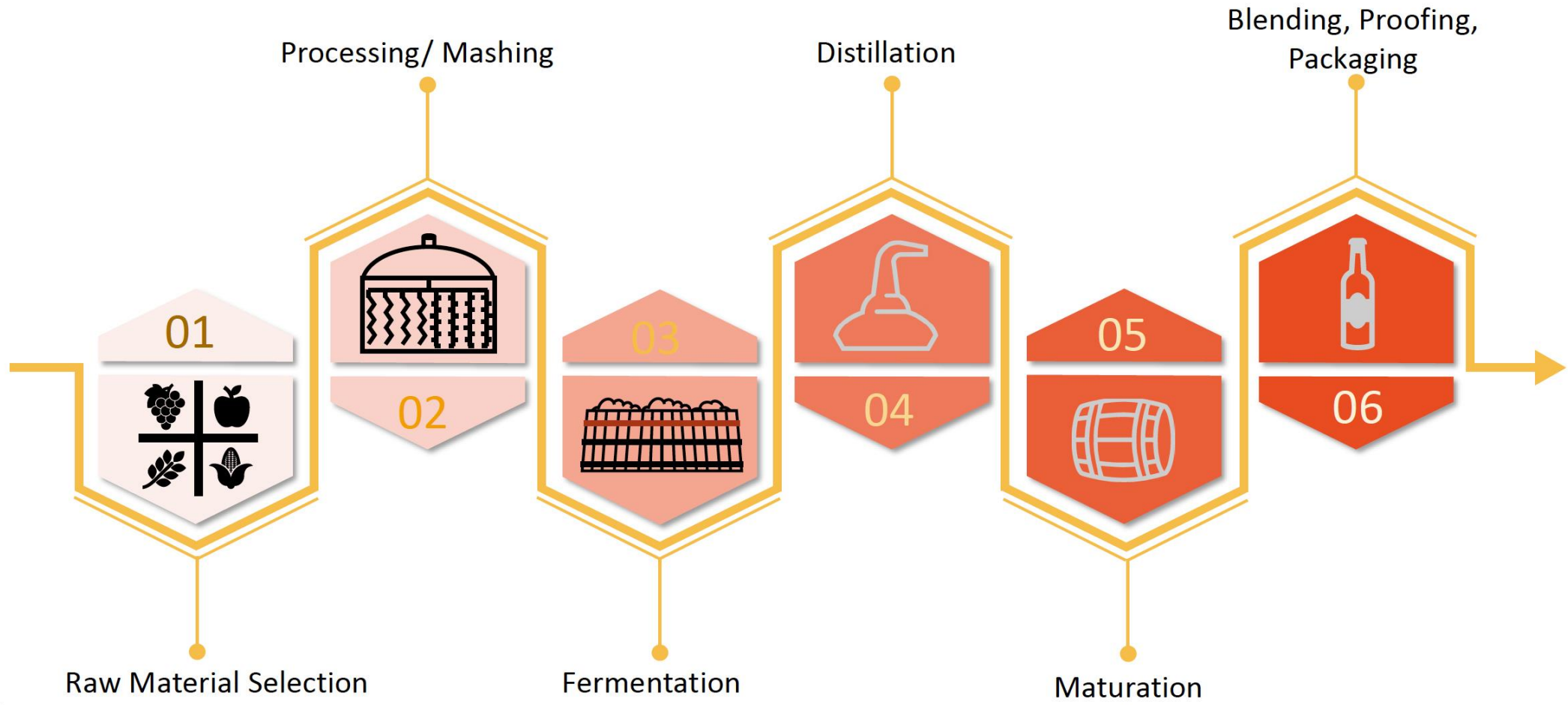
- ABV Content

MARKET OPPORTUNITY





The Craft of Distilling



The Craft of Distilling – Beer vs. Whisk(e)y

BEER BREWING AND WHISK(E)Y MAKING

Table 1. Five main types of whisky.

	Production region				
	Scotch malt whisky ^a	American whiskey	Canadian whiskey	Irish whiskey ^a	Japanese malt whisky ^a
Materials	Malted barley	Corn, Rye, Malted barley	Rye, Malted barley	Malted barley, Barley	Malted barley
Distillation	Batch	Continuous or Batch	Continuous or Batch	Batch	Batch

^aIn addition, grain whisky is produced from corn, wheat, malted barley and so on with continuous distillation in Scotland, Ireland and Japan. This is not mentioned in the table to simplify.

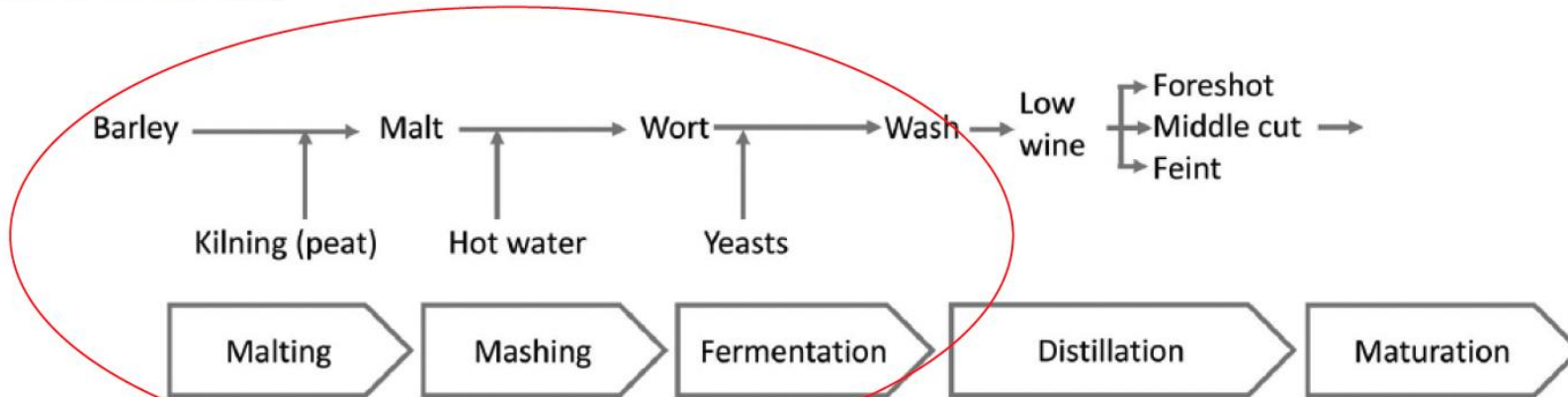


Figure 1. Production process of malt whisky.



The Craft of Distilling – Processing & Mashing

DIFFERENCES IN THE PROCESS

BREWER'S WORT VS. DISTILLER'S WASH

GRAIN PREPARATION

Beer grist milled to preserve husks for filtration/separation of wort in mash tuns

vs

Distiller's malt is higher in diastatic power and is usually milled to a coarse flour

Primarily malted barley grist with high enzyme potential

vs

Multiple grain grists, malted and un-malted. Use of enzymes and different processes



MASH PREPARATION

Single infusion or decoction temperature protocols

vs

Gelatinization at high temperatures and reverse temperature mashing protocols

Separated worts boiled to sterilize the wort and volatilize sulfur compounds

vs

Separated worts and cooled grain mashes are both employed



The Craft of Distilling - Fermentation

DIFFERENCES IN THE PROCESS

BREWER'S WORT VS. DISTILLER'S WASH

FERMENTATIONS

Separated wort
cooled to
fermentation
temperature

VS

Mash cooled to
fermentation
temperature

Separated worts
fermented with
specific temperature
control

VS

Fermentations on grain
that generally ferment at
slightly higher
temperatures

POST FERMENTATION

Selected yeast strains for
positive flavor attributes
and flocculation

VS

Selected yeast strains for high
temperatures, increased gravity,
increased pH and resistance to
osmotic pressure from increased
ethanol

Cooled to maturation
temperature for
conditioning

VS

Transfer fermented wash
directly to the still



The Craft of Distilling - Distillation

DISTILLATION is the separation of compounds in a mixture based on their relative volatilities

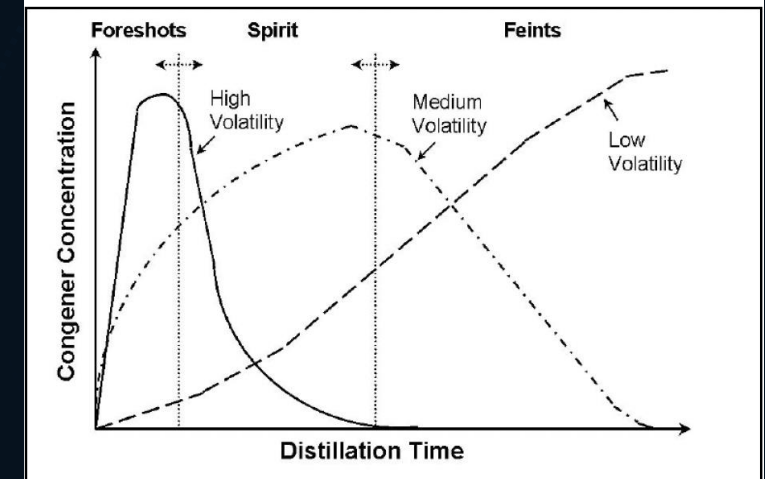
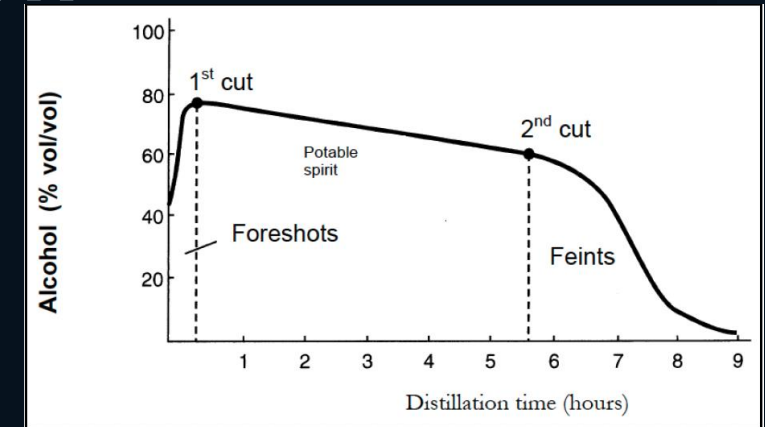
DISTILLERS separate Ethanol from a fermented mixture

- ◉ Water Boils at 100 C (212 F)
- ◉ Ethanol Boils at 78.4 C (173 F)

Fermentation contains many by-products of yeast metabolism = **CONGENERS** (Flavor both good and bad)

DISTILLERS make “cuts” to separate good from bad. The cuts are known as:

Foreshots (**HEADS**). Spirit (**HEARTS**). Feints (**TAILS**).

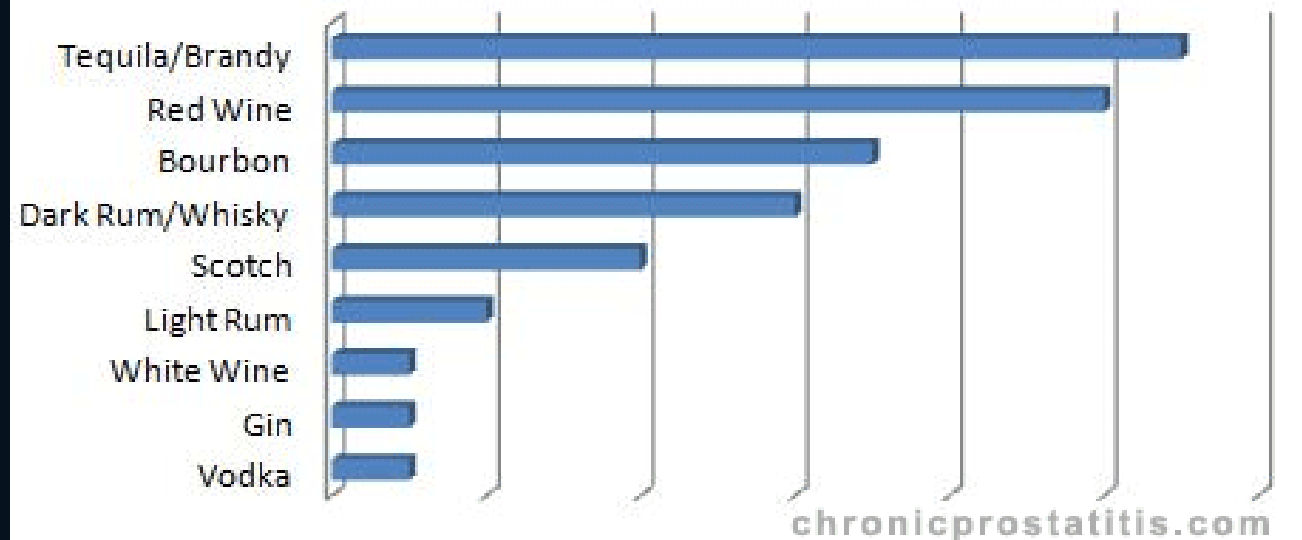


The Craft of Distilling - Flavor

CONGENERS

- Methanol
- Ethyl Acetate
- Isoamyl Alcohol
- Acetaldehyde
- Diacetyl
- Phenethyl Alcohol
- Ethyl Hexanate
- DMS/DMTS
- Phenolics
- Fatty Acids/Ester Oils

Congener Levels in Different Types of Alcohol



*Distilling fractionalizes and concentrates**

** Both desirable and undesirable*



Distilling Business Models for Brewers

BUY IN BULK

- The “dirty little secret” of distilling
- Engages in 2 of 6 Parts of the Craft of Distilling (Maturation + Blend/Proof/Package)



RUN A BREWERY & DISTILLERY SIDE BY SIDE

- Close Collaboration Opportunities
- Utilize all 6 parts of the Craft of Distilling
- Share Barrels for aging spirits & beer



PARTNER WITH EXISTING DISTILLERY

- Collaborative Partnership
- Level of Craft Engagement Depends on partners



Common Equipment

You have most of what you need to distill spirits...
(Minus a Still)
... already in place in a functioning brewery!

- Boiler
- Chiller / Wastewater
- Mash vessel
- Fermentation Vessels
- CO2 Detectors & Air Handling
- Same or separate footprint?

BREWER ADVANTAGES:

- Specialty Grains
- Fermentation management
- Affects on final flavor
- Parti-Gyle



Business / Start-up

SAFETY ISSUES

- CO2 & Ethanol Detection
- Air Handling
- State & Local Fire Departments

WASTEWATER / CHILLING

- Glycol
- Condenser water

SUSTAINABILITY

- Side streaming chaff (backset) & fermenter solids
- CO2 & Condenser Water Reclamation

LICENSING – TTB, State, Local



The Feds, Politics & Distribution

PARITY

- Direct to Consumer (DTC)
- Taxation

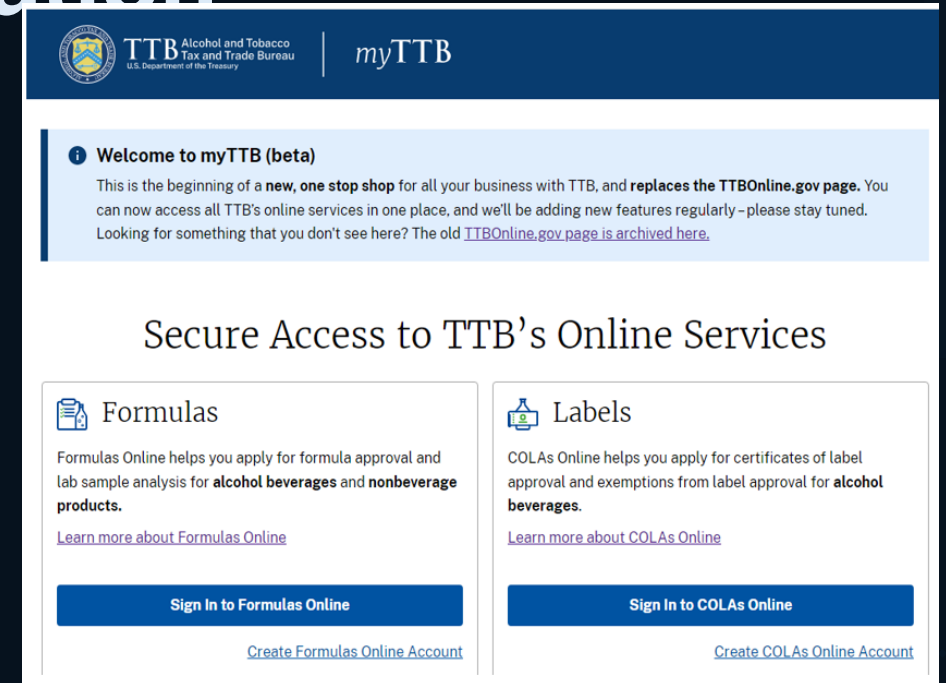
INDUSTRY SUPPORT

- Legislative
- Consumer

DISTRIBUTION

- Control State (Spirits, RTDs, High ABV Cocktails to go)
- Self vs. 3rd party & distribution agreements

FORMULA & LABEL APPROVALS



THANK YOU

Q&A

FOR FOLLOW-UP QUESTIONS:

- ◉ Phil Markowski – Two Roads Brewing Co. – phil@tworoadsbrewing.com
- ◉ Chris Kesler – Black Flannel Brewing & Distilling Co. – chris@blackflannel.com
- ◉ Craig Wilkinson – Switchback Brewing Co. – craig@switchbackvt.com
- ◉ Denise Jones – Fermentis – d.jones@fermentis.lesaffre.com

