

YAKIMA CHIEF & SÖRSE™ TECH: INTRO TO CBD & BREWING WITH WATER-SOLUBLE INGREDIENTS

Presented by:

Michael Flemmens, EVP Research & Technical
Business Development of SörSE Technology





WHO IS SÖRSE TECHNOLOGY?

Leader in Water-Soluble Emulsion Technology for Functional Ingredients

- Established in 2016
- Based in Seattle, WA
- 30+ employees in R&D & Operations
- Specializes in Hemp-Infused Beverage Formulation
- Over 100 clients
- Global presence

But you might know us as Yakima Chief Hemp's
latest partner!

DE [2]13
DE [2]15

Yakima Chief Hemp
POWERED BY SÖRSE™



Slide 2

DE [2]13 Megan - please format add the Yakima Chief Hemp, Powered by SoRSE Wordmark with and small mockup of the packaging we created for them

Diana Eberlein, 8/13/2021

DE [2]15 Also adjust text formatting

Diana Eberlein, 8/13/2021



MARKET PLATFORMS



- #1 THC Beverage in the US
- 3 out of Top 5 THC Beverages in WA
- Expanding to other States: California, Nevada, Illinois
- International Presence: Canada, EU, Australia, Mexico

THC

- 60+ Clients
- 3 of 5 Top 5 CBD Beverages in US
- Implemented Food & Bev Industry Safety Standards
 - Self-Affirmed GRAS Status in US (in progress)
 - Novelty Food Approval in EU/GB (in progress)



CBD



- Patent-pending for Hop Oil Technology Application
- 100+ leads generated from Craft Brewers' Presentation

TERPENES & BOTANICALS

- Wellness Product Development
- Pharmacokinetics Study
- Pascal Research: Sörse 5-10x better than 400+ Compounds
- Medical Community and Researcher Outreach



MEDICAL



THE TECHNOLOGY



Water-Soluble Emulsion Technology for Functional Ingredients

- Oils
- Flavors
- Terpenes
- Adaptogens



STABLE



SAFE



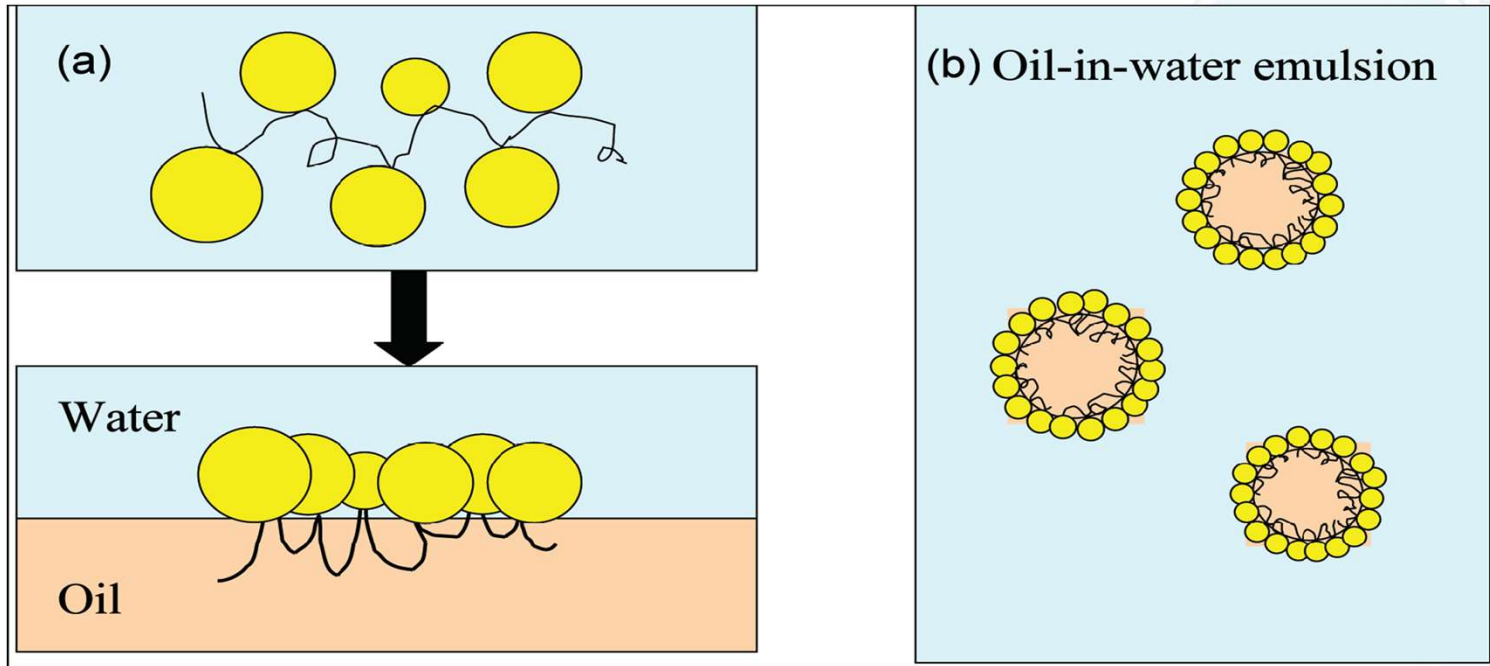
IMPROVED
SENSORY



SCALABLE

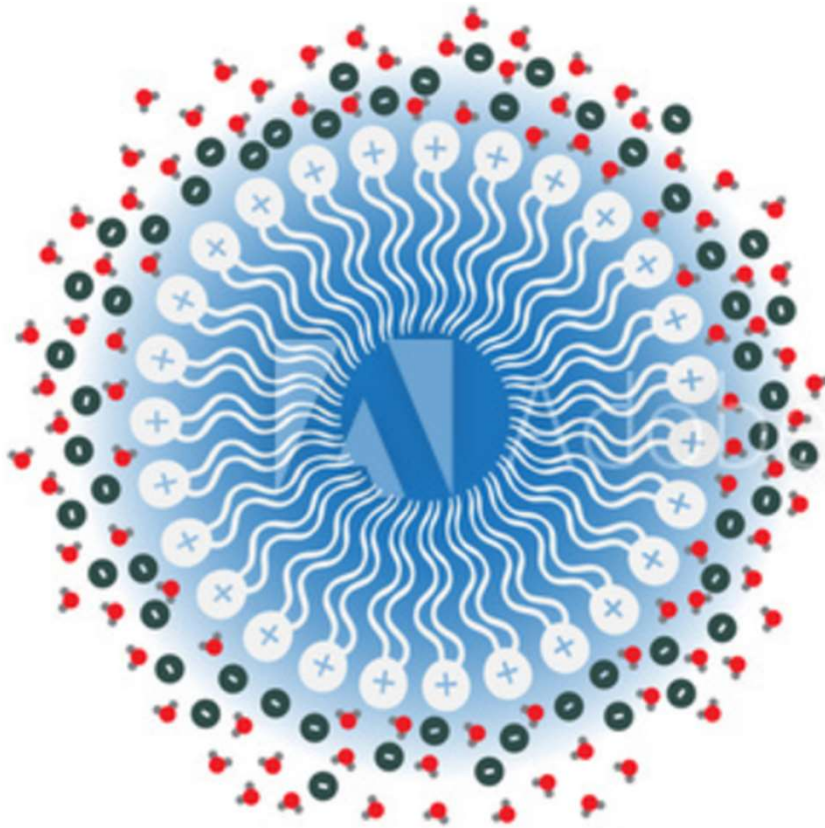


THE TECHNOLOGY: MICELLULAR EMULSION **SORSE**







EMULSIFIED DROPLET CHARGED REPULSION



MICELLE

CATIONIC MONOMER

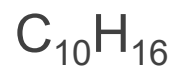
-  HYDROPHILIC HEAD
-  HYDROPHOBIC TAIL
-  COUNTER ION
-  WATER



A VERSATILE TECHNOLOGY

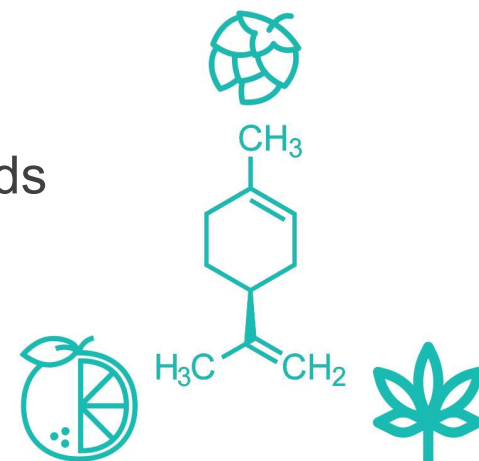
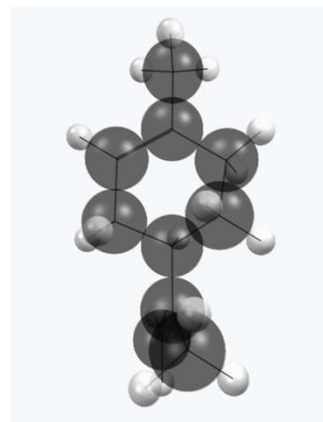
A molecule is a molecule is a molecule –
the tech is agnostic to the source of the compounds

Aliphatic Hydrocarbon – cyclic monoterpene



Limonene

Hops, Cannabis, Citrus





OUR MISSION

- Make working with and consuming functional ingredients easier, safer, and more fun – **starting with CBD and Hops.**
- Stage 1: 6 generations of hop grower knowledge + leading water-soluble ingredient technology
- Stage 2: Hop-derived water-soluble solutions to add haze, mouthfeel, and hops to beer and other beverages.

SÖRSE™

Yakima Chief Hemp

POWERED BY SÖRSE™



A STEP BACK: WHAT ARE CANNABINOIDS & WHAT IS THE ECS?

Cannabinoids

- Chemical Compounds Secreted by the Cannabis Flower
- CBD is one of 110+ Cannabinoids & the ECS (Endocannabinoid System)

Endocannabinoid System (ECS)

- A physiologic system involved in establishing and maintaining human health
- Endocannabinoids and their receptors are found in the:
 - Brain
 - Organs
 - Connective tissues
 - Glands
 - Immune cells



SORSER™



CBD, HEMP, AND THE REGS



HEMP

Product

- CBD oil
- Hemp oil
- Cannabis oil (made from hemp)

Contains

- 0.3 % or less of tetrahydrocannabinol (THC)

Characteristic

- Hemp and industry hemp refer to the strain of cannabis plant that is grown for agricultural products such as textiles, seeds and oils.
- Can grow in most climates, bunched together with other plants, requires little care.
- Can grow as high as 20 feet with leaves bunched near the top of stem.
- No intoxicating properties.
- Naturally has strong, bitter taste

*Lifecannmd

Beverages:

- Average dosage 10 – 35mg of CBD
- Accepted by health, wellness, and non-alcoholic beverage verticals
- Price range - \$4.99 - \$12 per 12 fl oz
- Broad spectrum solutions preferred due to desired Entourage effect”

Agriculture Improvement Act of 2018 (the “2018 Farm Bill”)

- Permitted
 - Hemp cultivation broadly
 - Transfer of hemp-derived products across state lines
 - The sale, transport, or possession of hemp-derived products

Slide 10

DE [2]17 Megan - Let's keep the hemp side and on the right we can summarize the farm bill - I've reduced the copy on the next side, hoping it will fit in this one. Just put everything on the next slide on the right hand side.

Also, under "No Intoxicating Properties" please add another bullet "Naturally has strong, bitter taste"

Diana Eberlein, 8/13/2021

DE [2]18 TITLE OF SLIDE - CBD, HEMP, AND THE REGS

Diana Eberlein, 8/13/2021

DE [2]24 After the info is added, please remove the next slide.

Diana Eberlein, 8/14/2021

MB5 [@Diana Eberlein] Updated!

Megan Butler, 8/17/2021

DE11 Looks good.

Diana Eberlein, 8/22/2021



SORSE & YAKIMA CHIEF

Premium Water-Soluble Solution

- Great taste
- One step integration
- Better non-alcoholic options
- For Brewers





WHAT CAN WATER-SOLUBLE TECH DO FOR BREWERS?

HOP-DERIVED ADDITIONS:

Hop solutions that provides brewers with a better tasting beer – and without a sweat!

- ✓ Haze
- ✓ Mouthfeel
- ✓ Hops Integration



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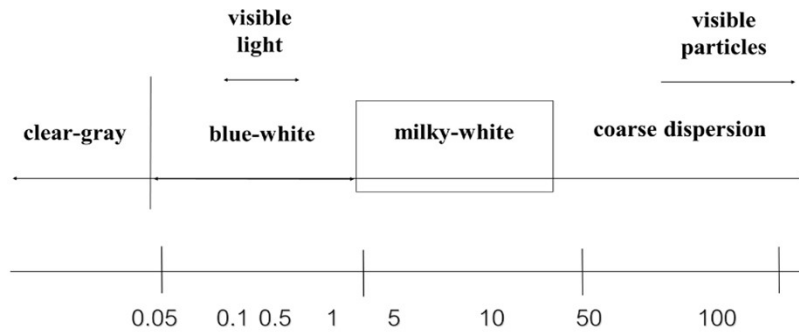
DE [2]28

Slide 12

DE [2]28 Megan - Add checkmarks in front of Hops, Mouthfeel, and Hops Integration
Diana Eberlein, 8/14/2021



WANT A LITTLE HAZE?



Clear Version



Hazy Version

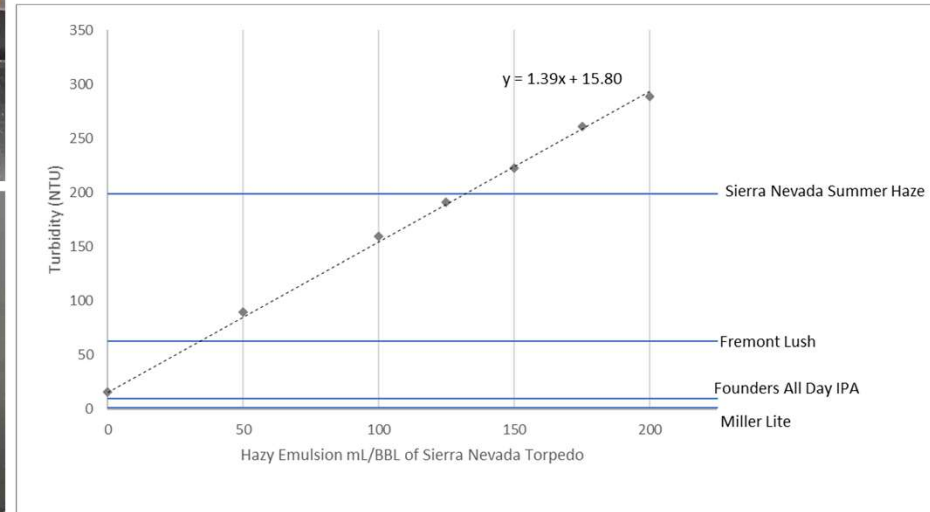
clear-gray

blue-white

milky-white

coarse dispersion

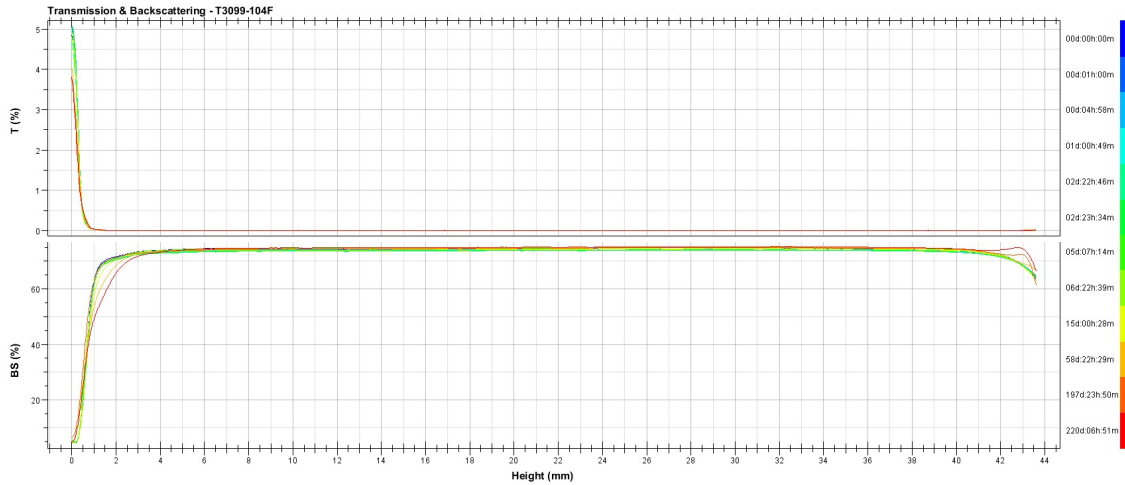




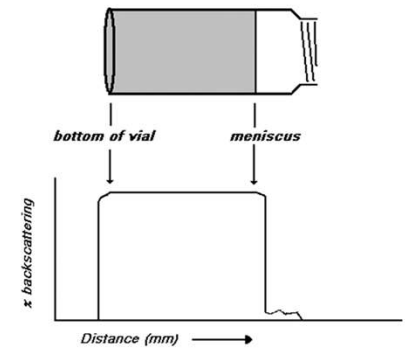
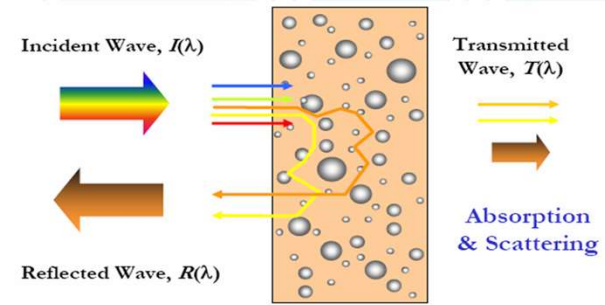


HAZE STABILITY

Determining Stability



Shelf life - 12+ months & still going





WATER-SOLUBLE BENEFITS

Key Benefits

- Great tasting beer, consistently!
- Seamless integration – 1 step!
- Reduces capital expenditures on plant investment and equipment
- Reduces maturation time
- Increased production yields by 5+%
- Shelf life increased by 3 – 6 times
- First sip as good as the last



SÖRSE™



SAFE INGREDIENTS & PRODUCTION



- GSFI (Global Food Safety Initiative) Certified
- FSMA (Food Safety Modernization Act) Compliant
- **U** Kosher Certified
- Organic* & Gluten-Free Certified*
- Halal Certified
- Non-GMO & Non-PHO Products
- TTB Approvals & Pending Applications

Multiple Production Lines currently - 1L/min & 6L/min (Chicago)





DESIGNED FOR BEVERAGE FORMULATION

- CBD/ HEMP BEVERAGES
- NON-ALCOHOLIC BEVERAGES



- HOPPY BEERS
- BEER WITH ENHANCED HAZE AND/OR MOUTHFEEL

SORSE™

THANK YOU!

Any questions?

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