

# bevie

partners in craft





# Malt & Extract : Sales & Management

Aaron Hyde, International Sales Manager

# CONTENTS

---

1. The Malting Process
2. Making Malt Extract
3. Malt Storage – Best Practices
4. Malt Sensory
5. Malt Milling
6. Malt Extract Storage
7. Sales Tips



# Malting Process : The Quick Rundown

Why do we malt grain?

1. Storage – shelf stability
2. Flavor development
3. Enzyme accessibility
4. Starch solubility
5. Make the malt friable





# Malting Process : Step #1 - Steeping

---

We start the growth of the barley plant.

Over the next 40-48 hours the grain is soaked and drained, until 40-45% water uptake.

Grain develops visible external growth in the form of a chit (start of rootlets.)



# Malting Process : Step #2 - Germination

Where barley undergoes 'modification'.

Modification continues the growth of the barley, breaking down proteins, allowing enzymes to develop, and making the starches available to us.

Typically a 3-5 day process.

Maltsters check acrospires and rootlet growth.

Acrospires  $\frac{2}{3}$ <sup>rd</sup> the length of husk. Acrospires would be the actual plant itself.



*Overmodified barley, acrospires out.*

# Malting Process : Step #3 - Kilning

---

This is the usual drying step after germination.

The growing process is halted with heat, and our enzyme and starch package is 'locked in'.

Flavor and color develops.

Kiln time is often 12-24 hours.



# Malting Process : Step #4 (or #3) - Roasting

Caramel malt comes directly from germination wet and rooty as 'green malt'.

Other malts like amber, biscuit, and black malt move from the kiln to the roaster for additional high heat to further develop color and flavor.





# Malting Process : Step #4 (or #3) - Roasting

Caramel malt comes directly from germination wet as 'green malt'.

Other malts like amber, biscuit, and black malt move from the kiln to the roaster for additional high heat to further develop color and flavor.



# Extract Process : Evaporating Liquid Malt

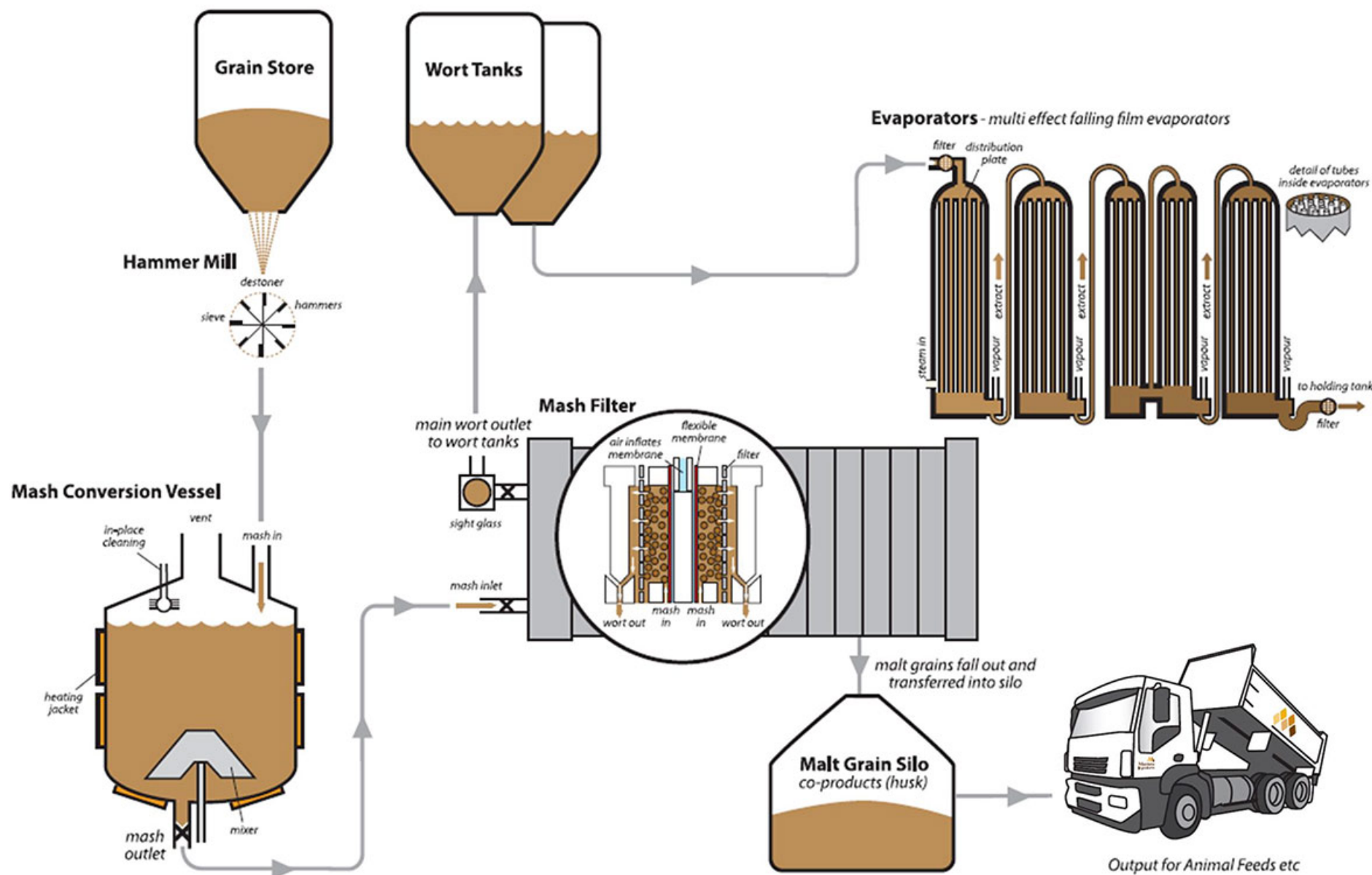
---

Making extract is the same first step as brewing, except from the mash vessel, the wort goes to an evaporator.

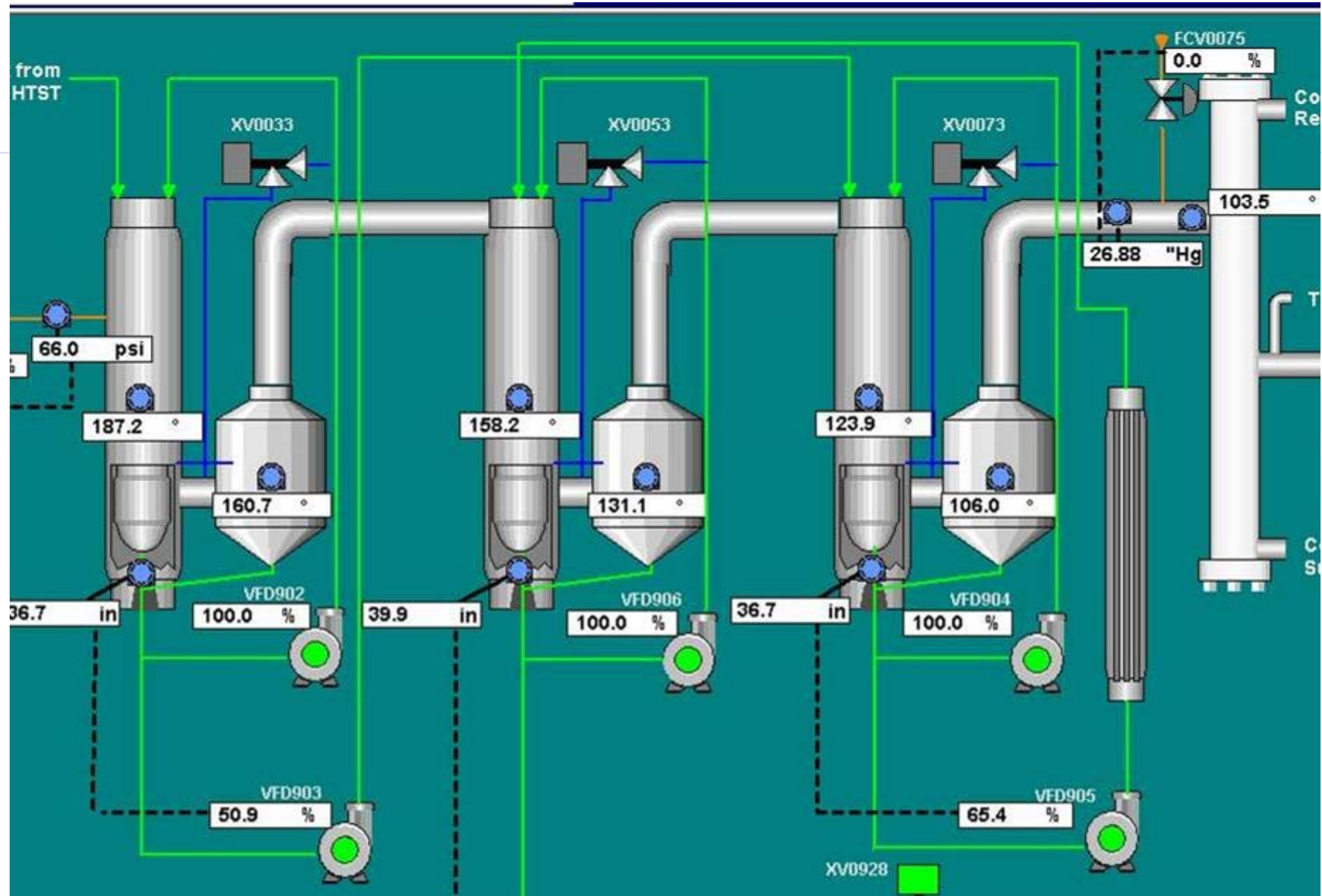
Many evaporators are falling film vacuum evaporators, allowing for evaporation below boiling temperatures.



# MUNTONS LIQUID EXTRACT PRODUCTION 1









# Extract Process : Spray Drying Malt

---

Malting companies use a spray dryer specifically designed for food, dairy and malt powders.

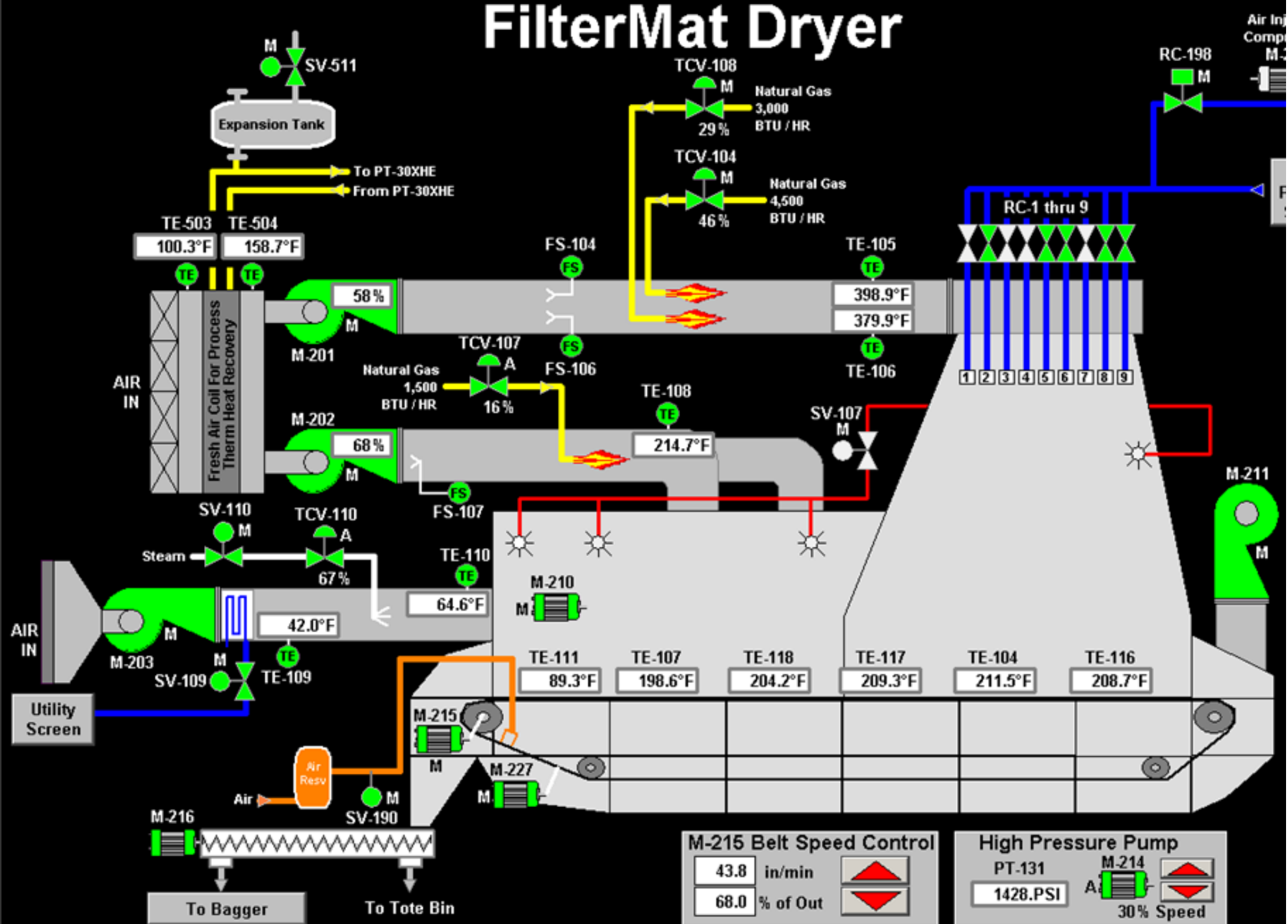
Nozzles at top create small particulate as it's sprayed within the unit.

The hot dry air wicks the water out of the malt as the particles fall.

Particles form a "sponge" on conveyor belt.



# FilterMat Dryer



# Extract Process : Spray Drying Malt

## FilterMat Dryer

Malting companies use a spray dryer specifically designed for food, dairy and malt powders.

Nozzles at top create small particulate as it's sprayed within the unit.

The hot dry air wicks the water out of the malt as the particles fall.

Particles form a "sponge" on conveyor belt.





# Malt Storage : Don't Slack, Jack





# Malt Storage : Don't Slack, Jack

---

- Rotate and track inventory (bottom bags can get buried)
- Air tight matters : if humid, grain can go slack in about a week. Look for containers with o-rings.
- Moths and weevils can typically be traced to one source, if you're air tight, you can isolate and destroy the nuisance grain with minimal damage.
- Dehumidify your grain storage area.
- Grain with higher moisture (flakes) can respire and mold during large temperature swings (worse than high temperatures.)
- Keep grain area less than 90F.
- Buy only what you need.



# Malt Storage : Shelf Life

---

If stored properly, if it reaches your shop with 6 months of manufacture:

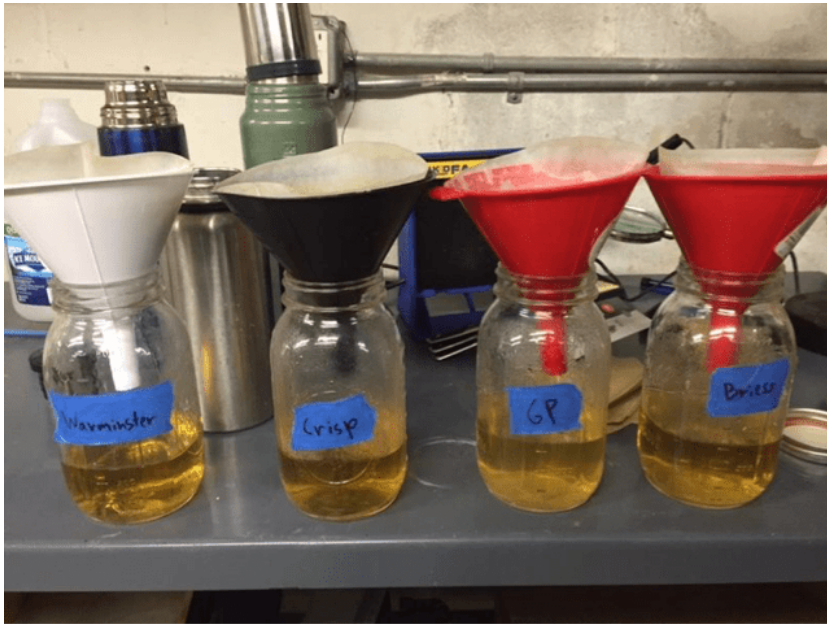
- Base Malt- 24 months (diastatic power can be effected 6 months+)
- Specialty Malt- 16 months (flavor loss)
- Premilled Base Malt- 6 months (diastatic power effected)
- Premilled Specialty Malt- 3 months (flavor loss)
- Flakes- 3 months (glucan and protein breakdown)



# Malt Sensory : A Great Tool

Do it yourself for malt evaluation and broadening knowledge base, or turn it in to a customer education event!

There's an app for that: Draughtlab is a malt and beer sensory session tool.



# Malt Sensory : A Great Tool

---

## Mini Mash Sensory Method:

- Place about 50 grams of malt in your electric coffee grinder. (50% base malt for roasted and caramels, 80% base malt for dark/black roasted malts.)
- Grind for 10-15 seconds, or until you have a flour consistency.
- Add your malt flour to a thermos (at least 24 oz.)
- Pour 400 mL of 150 °F (65 °C) water into thermos. This should be the same water you brew with. Close and shake contents of thermos for 20-30 seconds to ensure malt flour is completely wet and mixed.
- Let thermos sit and mash for 20 minutes.
- Place filter paper (I recommend Hario #03 filter paper, or a thick coffee filter paper) inside funnel and position over mouth of 1 liter glass jar (or a glass jar that's larger than 20 ounces) to sparge and collect wort.
- Swirl contents of thermos for a few seconds to bring settled particles back into solution, then open and pour all of the mixed mash liquid into the filter paper.
- You may want to collect and pour first 100 mL of filtered wort back into the thermos and then swirl thermos to collect any grist that remains inside. Gently re-pour back into the filter.
- Allow wort to filter until dripping has ceased. This typically takes between 15-30 minutes, but may take longer.





# Malt Sensory : A Great Tool

---

## Sensory customer event:

- Side by side malts
- Or, new malts
- Try to do a max of 4
- Unsalted saltines and water
- Can do along side hop sensory (<https://byo.com/article/ingredient-sensory-methods/>)
- Gets folks actively involved in shop, any feedback on ingredients is good!
- Just be sure the malt isn't very old or off!



# Malt Milling : Your Customers Count On You

---

## The Importance of a Good Mill:

- You never want to make brewing harder on the customer (fine flour, or no mill.)
- You never want the customer to get less than what they paid for (extract/efficiency.)
- Make your mill easy to use, and spare yourself the time.
- Provide instructions, and even recommended settings- empower the customer.
- Malt can always go through a second time, start wide. Too much flour can be worse. Typical ratio is 20% flour.
- If you move enough grain and have good storage, you can always purchase preground, and educate your customers on shelf life. This has become misunderstood.



# Malt Milling : Consider A 3-Roller Mill

---

## Why?

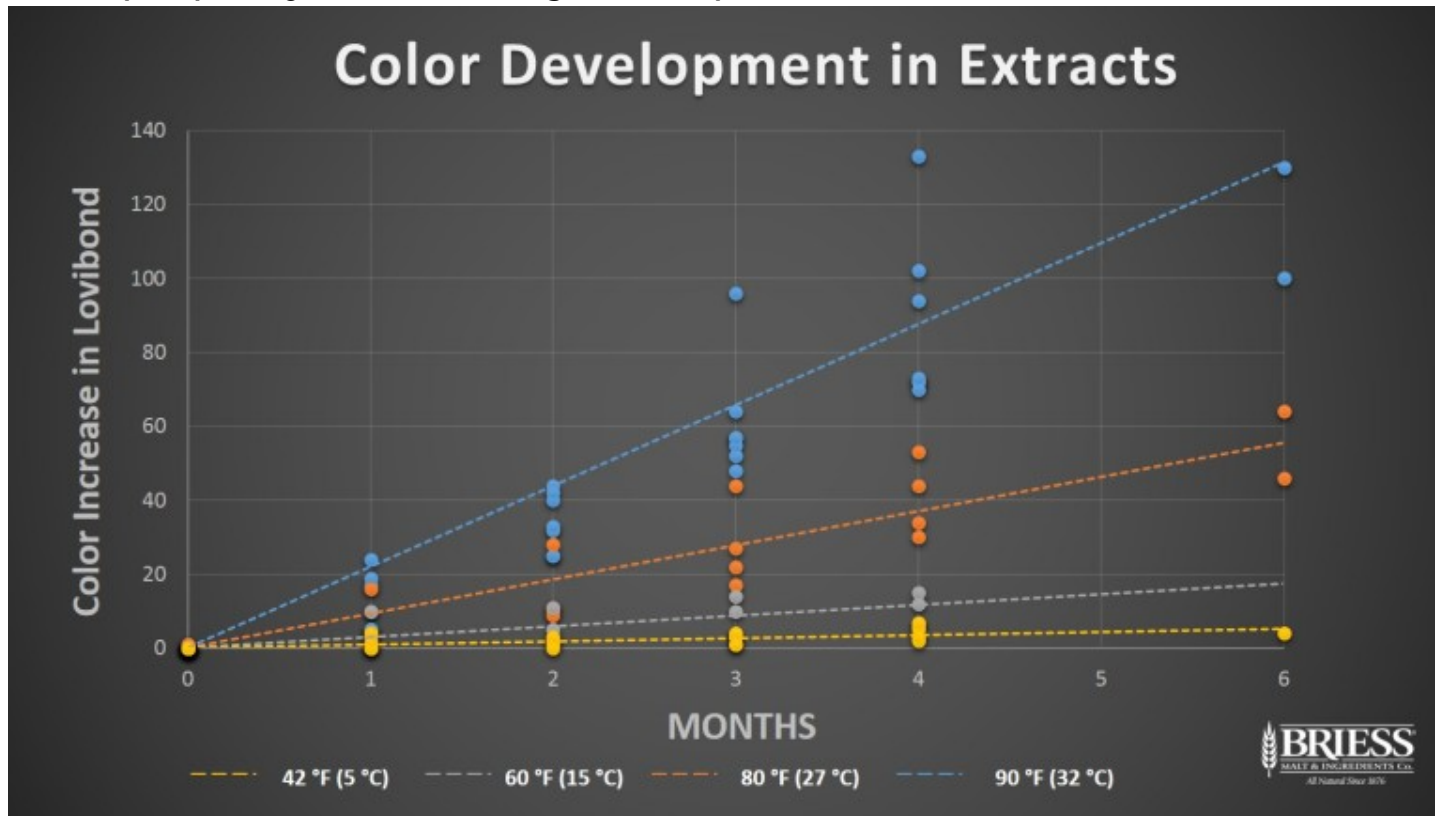
- American homebrew shop owners crush more varieties of grain than anyone else in the world!
- Grain is not uniform, and a pre-crush can be quite valuable.
- Less adjusting of your mill.
- Can benefit older malt that may be going slack.
- Gentle precrush can help keep hulls intact for better lautering.
- Your first gap is typically set at .055" or .060".
- Your second gap should be adjustable from .038" and .045" for standard barley products.



# Malt Extract : Storage

## Liquid Malt Extract (LME)

- Color develops quickly in LME at higher temperatures





# Malt Extract : Storage

---

## Malt Extract

- Store LME cool, 60F is recommended, but below 80F is critical.
- Dry malt extract (DME) is not temperature dependent (no water,) but can humidify quickly!
  - Dry malt extract, if packed and stored properly, has an indefinite shelf life.
- LME is generally dated for two years, but is completely storage and temperature dependent.
- Hot storage will create extract twang in LME. Poor processing of DME seems to as well?
  - This the Maillard Reaction occurring in the malt can. Fresh extract does not have a twang. The freshest malt extract is only discernible by color, not by flavor.
- Malt extract can be frozen, but should be used or refrozen shortly after thaw.
- Mold can safely be scraped from extract. Malt is too thick to have mold develop anywhere but the moisture on top. If you're finding it mixed in,



# Malt Extract : Storage

---

## Malt Extract

- Hot storage will create extract twang in LME.
  - This the Maillard Reaction occurring in the malt can. Fresh extract does not have a twang. The freshest malt extract is only discernible by color, not by flavor.
  - DME that has been poorly processed or humidified may have off flavors as well.
- Malt extract can be frozen, but should be used or refrozen shortly after thaw.
- Mold can safely be scraped from extract. Malt is too thick to have mold develop anywhere but the moisture on top. If you're finding it mixed in, than the containers been moved, and you should discard.



# Malt Extract : Storage

---

## Malt Extract

- Be responsible for the dates on your canisters.
- Check to make sure you're receiving fresh product.
  - Newer deliveries may contain older product (depending on supplier.)
- Coopers and Muntons provide best buy dates.
- Briess provides two lot numbers, the one with the time stamp is the date of manufacture in a MMDDYY 00:00 format.
- Best buy dates are estimates, if malt has been shipped and stored improperly, malt extract may arrive in date 'damaged.'



# Malt Grain & Extract : New Product (To You!)

---

- It's better practice to highlight new products in store than to discount old products.
- Even if the product isn't new to market, calling out a new in-store or catalog product gives the customer a logical reason to try.
- Product placement of new products matters to customer.
  - A display shows that you are generally excited about having the product.
- Get point of purchase materials for new to shop items.
- Use it, gain real world experience with it.
  - You can rattle off manufacturer info, but people genuinely want to know your personal thoughts.





# Malt Grain & Extract : Improving Sales

---

- Label products and be accurate (German Munich doesn't cut it for many folks anymore.)
  - Use the maltster's correct malt name and color rating.
- Place a recipe on the malt bin or shelf of a slow moving product (think cereal boxes.)
  - Or a tag to redirect the company to your in shop recipes, or even to a page in a recipe book.
- Combo the product (sell it in an extract and grain kit, a natural upsell.)
- Have fresh wort to sample in store (can keep for a couple days in your fridge.)
- Store contest, ingredient specific.
- Free samples (8oz bag of malt.) Gets it out of store.
- Dust. Do your best- it settles on day old product and year old product (negative perception will never go away.)
- Other thoughts, ideas?





**Malt & Extract : Sales & Management**

**Thanks!**  
**[aaron.hyde@bevie.co](mailto:aaron.hyde@bevie.co)**