

HOMEBREW


Andy Keep



Beer

Beer

Beer



Ale

Beer



Ale

— Pale Ale

— Dubbel

— Stout

— Barley Wine

— Hefeweizen

⋮

Beer



Ale

Lager

— Pale Ale

— Dubbel

— Stout

— Barley Wine

— Hefeweizen

⋮

Beer

Ale

- Pale Ale
- Dubbel
- Stout
- Barley Wine
- Hefeweizen
- ⋮

Lager

- Pilsner
- Doppelbock
- Helles Lager
- Schwarzbier
- Pale Lager
- ⋮

Beer

Ale

Hybrid

Lager

— Pale Ale

Pilsner —

— Dubbel

Doppelbock —

— Stout

Helles Lager —

— Barley Wine

Schwarzbier —

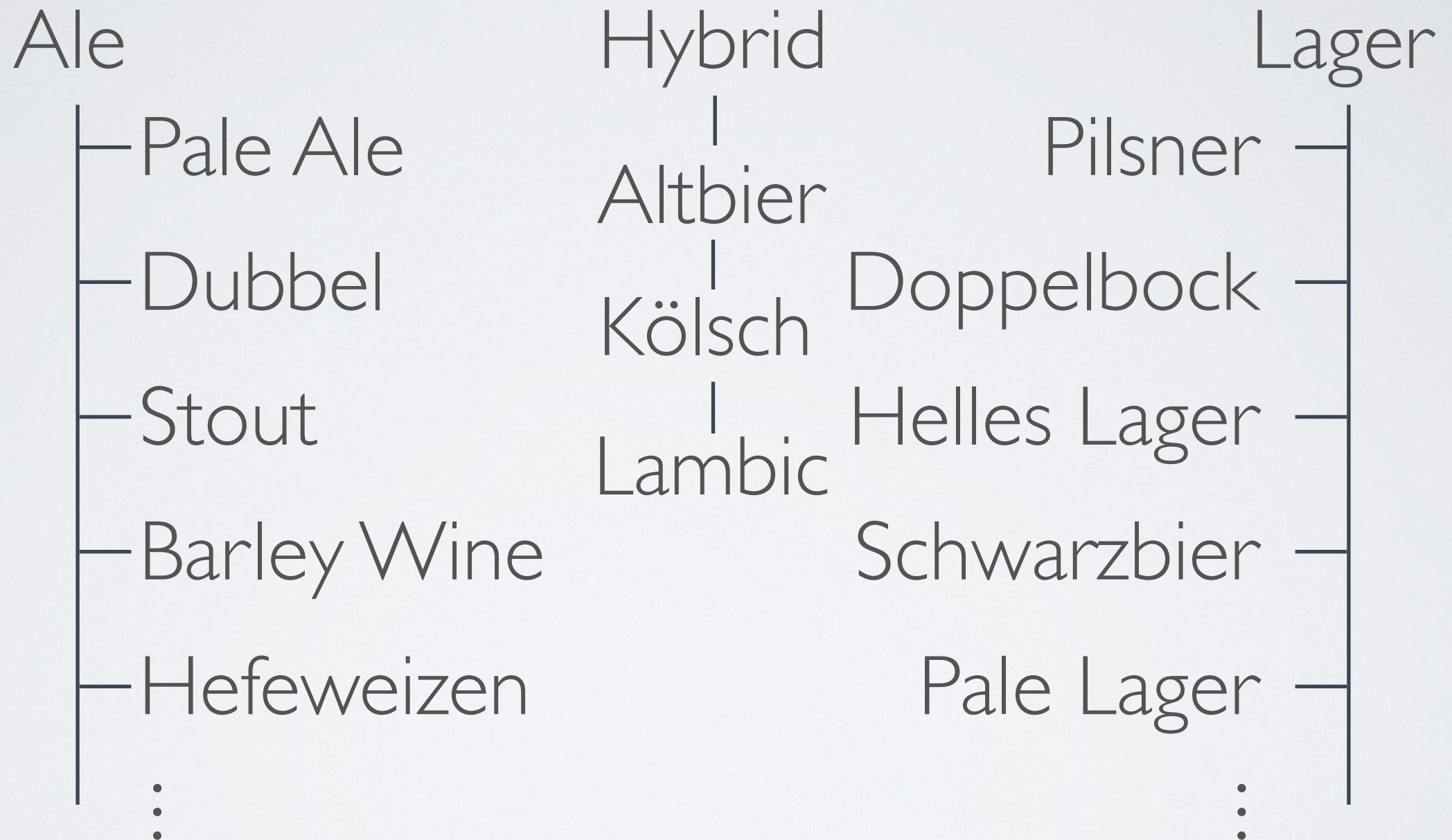
— Hefeweizen

Pale Lager —

⋮

⋮

Beer



Beer

Ale

— Pale Ale

— Dubbel

— Stout

— Barley Wine

— Hefeweizen

⋮

Hybrid

|
— Altbier

|
— Kölsch

|
— Lambic

Lager

— Pilsner

— Doppelbock

— Helles Lager

— Schwarzbier

— Pale Lager

⋮

INGREDIENTS

BASIC INGREDIENTS

- Malted Barley
- Hops
- Water
- Yeast

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-
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Rheinheitsgebot

BASIC INGREDIENTS

- Malted & unmalted wheat
- Malted Rye
- Adjuncts (other cereal grains like corn)
- Select bacteria

TRADITIONAL FLAVORINGS

- Coriander
- Caraway
- Grains of Paradise
- Dried bitter & sweat orange peel

MODERN FLAVORINGS

- Ginger
- Sage
- Basil
- Vanilla
- Chili Peppers
- Chocolate
- Fruits
- Apples
- Cherry
- ...

VOCABULARY

BREWING VOCABULARY

- Malting - germinates grain to release sugars
- Roasting - stops grain growth and imparts flavor
- Mash - steeping grains and water
- Sparging - rinsing steeped grains with hot water

BREWING VOCABULARY

- Wort - water with sugars extracted from grains
- Pitching (yeast) - adding yeast to cooled worts
- Specific gravity - sugar content of the wort
- Fermentation - converting of sugar to alcohol

EQUIPMENT



BREWING VESSEL(S)

Used to create the mash, steep grains, and boil the wort.



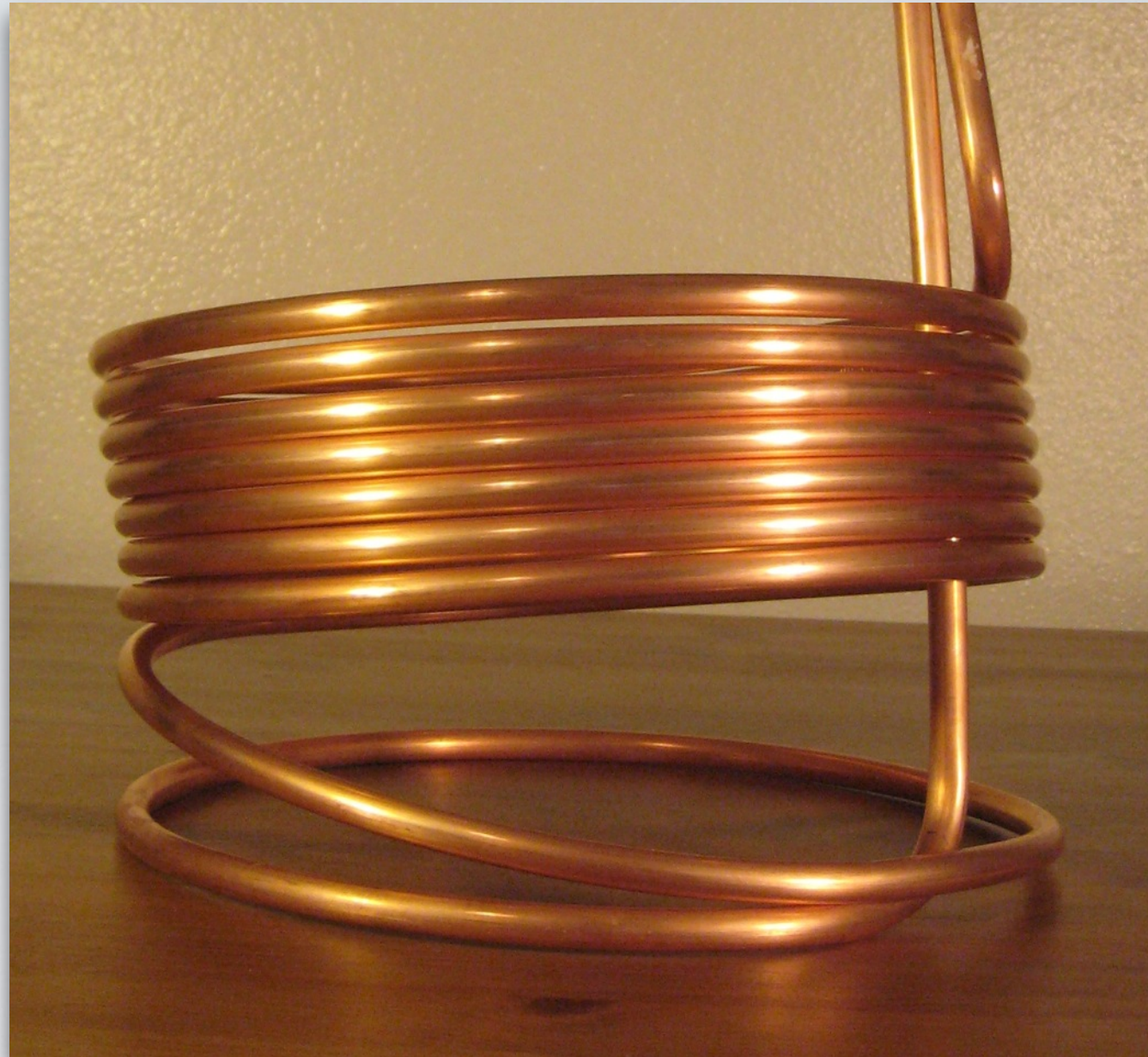
MESH BAGS

Used for steeping grains

GIANT WHISK

Used to mix ingredients during the brewing process and aerate the beer before pitching the yeast.





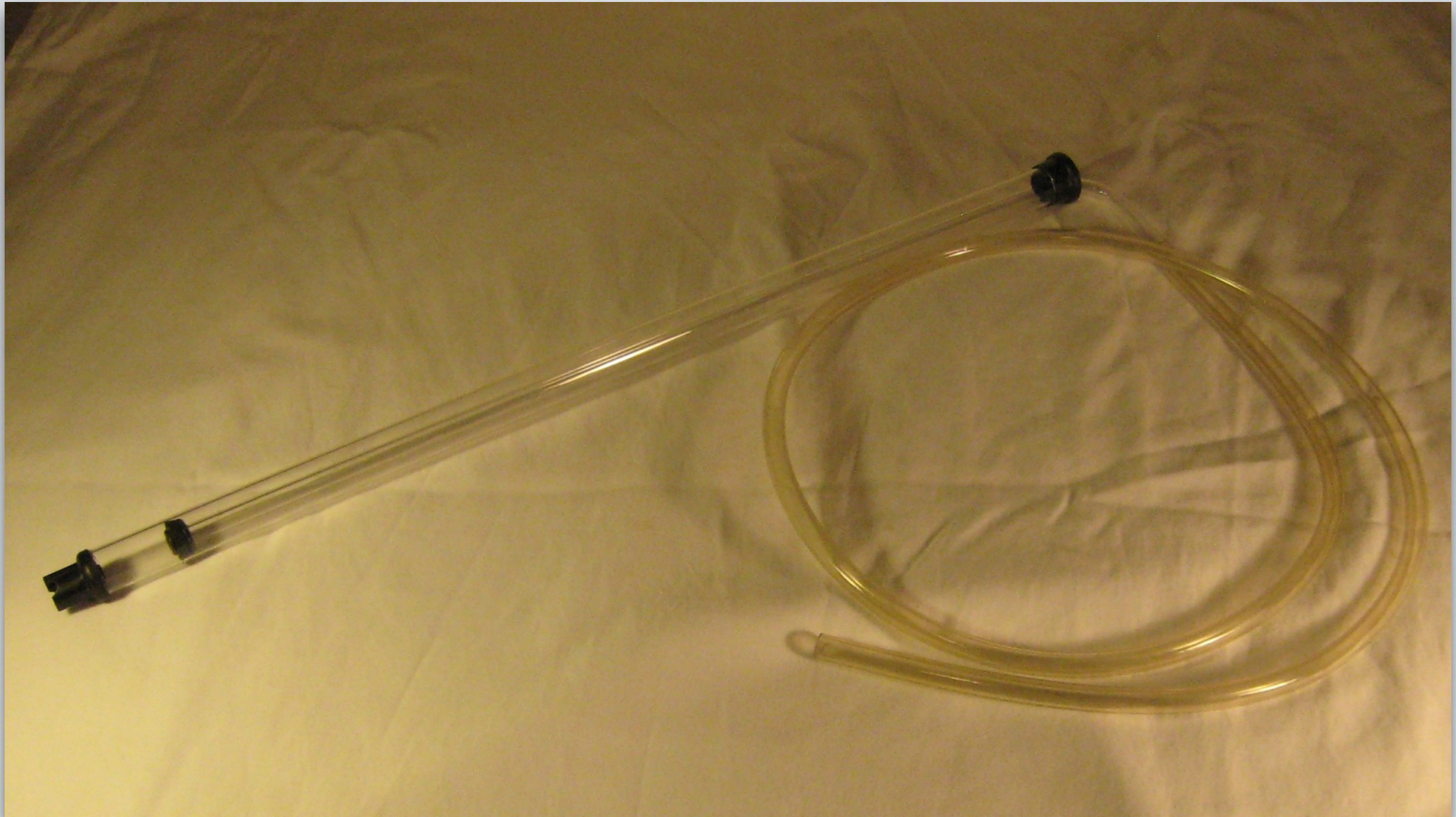
WORT CHILLER

Used to lower the temperature of the wort before pitching the yeast. A water bath can also be used.



HYDROMETER

Measures specific gravity. Original specific gravity is compared with final specific gravity to determine alcohol content.



AUTO-SIPHON

Used to start siphoning of fluids from one container to another. Used throughout the brewing process.

FERMENTING VESSEL

Used to ferment the wort.



AIR LOCK

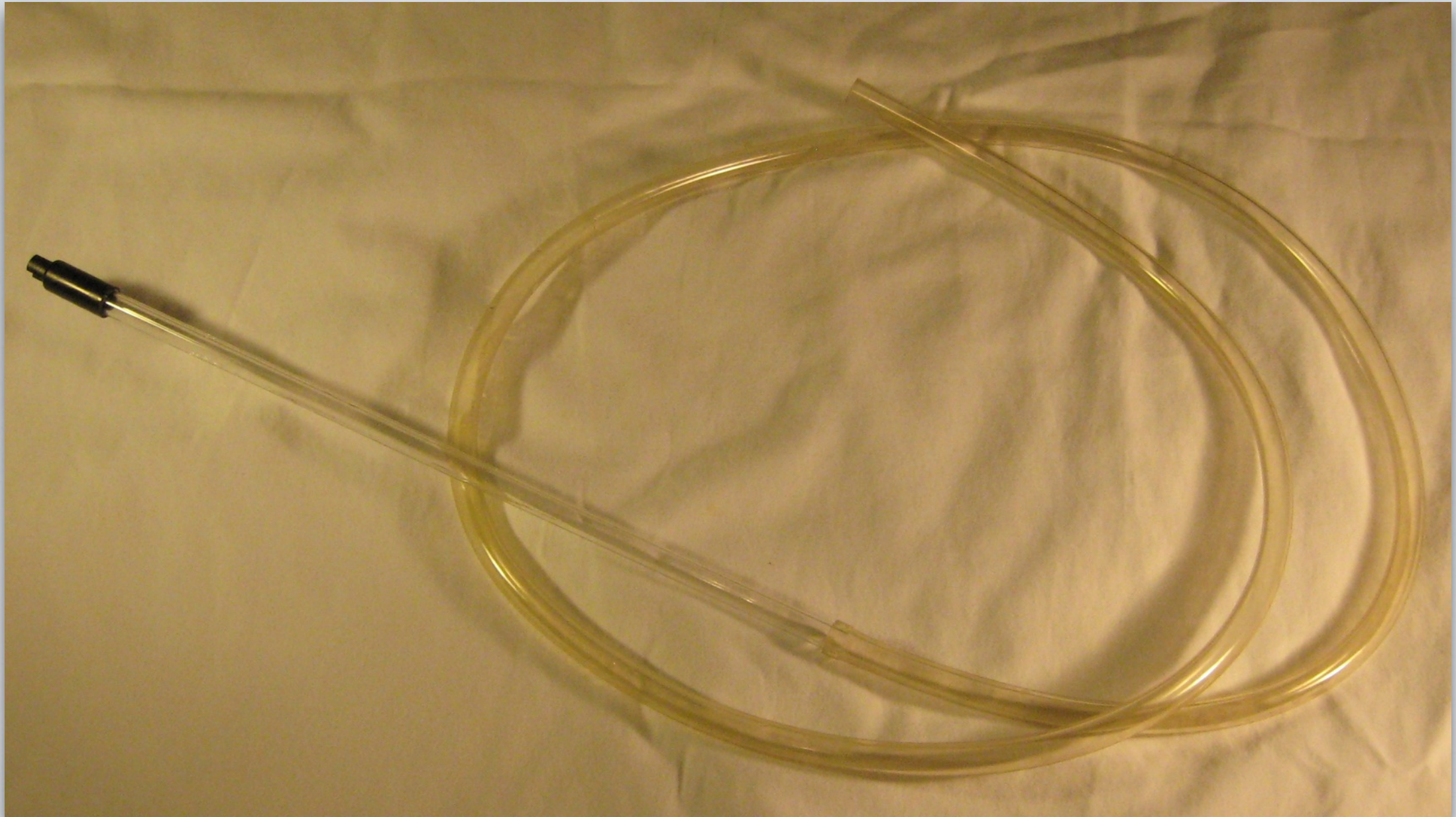
Allows CO₂ to escape without allowing other microorganisms to colonize the beer during fermentation.



BOTTLING BUCKET

Holds the finished (though flat) beer while it is put into bottles and capped for bottle conditioning.





BOTTLING WAND

Used to control flow of beer when bottling

BOTTLES

around 54 12 oz bottles
are needed to bottle
5 gallons of beer.





BOTTLE CAPS

New bottle caps, not yet crimped to fit a bottle.

BOTTLE CAPPER

Bends bottle caps to
seal beer bottles





BREWING

HOME BREWING METHODS

- Brewing with malt extract
- Brewing with a mix of whole grain and extract
- Brewing with whole grains

FOR ALL METHODS

- Sanitation is key
 - On brewing day sanitize fermentation vessel, wort chiller, air lock, auto-siphon, whisk, thermometer probe, and anything else that will touch post boil wort
 - On bottling day sanitize bottles, bottling bucket, caps, bottling wand, tubing, and anything else that will come in contact with beer between fermenter and bottle

MALT EXTRACT

- Heat 2.5 to 5 gallons of water to X degrees
- Steep specialty grains (25 to 60 minutes)
- Add malt extract and bring wort to boil
- Add bittering hops (in any)
- Keep at roughly 175 degrees for 60 minutes

MALT EXTRACT

- During hour, add hops (depending on recipe)
- Also, add other flavorings
- Cool to 65 to 75 degrees
- Transfer to fermenting vessel
- Ferment for 2 weeks

MALT EXTRACT

- Optionally, start secondary fermentation
- Transfer (flat) beer to bottling bucket
- Bottle beer
- Allow to bottle condition for 1 week

ADDING WHOLE GRAIN

- Similar to extract brewing, but with more grain
- After steeping grain, sparge the grain
- Sparging pours water over grain to extract sugars
- After sparging, boil and add malt

WHOLE GRAIN BREWING

- No longer uses any malt extract.
- Grains are milled, steeped and then sparged
- After sparging, wort is boiled
- Rest of process is same as other methods

ASIDE: SOFT DRINKS

ASIDE: SOFT DRINKS

- Soft drinks were originally bottle conditioned
- In U.S. can contain up to 0.5% alcohol
- Can be made at home and bottle conditioned
- Can be made at home an artificially carbonated

SUMMARY

- We can brew beer at home!
- Experiment with different styles and flavors
- Share with friends

THANKS

Questions?