How to Combat Chill Haze

# What is Chill Haze?

* Beer looks fine at room temp but cloudy when chilled.
* Cold break polymerizes and reacts w/ proteins to form insoluble compounds that scatter light.
* Oxidization contributes to polymerization.
* Can’t simply remove all polymers and proteins because beer would become too thin in body and have poor head retention.
* Molecules are more compact at lower temps, which is why it’s only a problem at cold temps.

# Kettle Finings

* These work by increasing cold break
* Irish Moss – per 5 G, use ½ tsp, 15 minutes before end of boil
* Whirlfloc – per 5 G, ½ tablet, 5 minutes before end of boil
* Brewtan B – not a kettle fining per se but helps by preventing oxidation.

# Post Fermentation Clarifiers

* Bentonite – a mineral, must be mixed as a slurry.
	+ Removes proteins.
	+ More trouble than it’s worth, imo.
* Polyclar – Tiny particles of plastic that adhere to the polyphenols and precipitate them out.
	+ Very effective
	+ Also precipitates yeast
* Isinglass – Hard to dissolve but can be bought in pre-prepared form
	+ The choice for real ales
* Gelatin – Very effective and fairly easy to use
	+ Also precipitates yeast
	+ Does not reduce hop perception
* Beechwood chips – Go for it for that characteristic green apple flavor of Bud

# Best Practices

* Use some form of kettle finings to improve cold break
* Avoid oxidation to the extent feasible
* After fermentation, cold crash if possible then apply gelatin (or other clarifier)

# Gelatin Procedure

* Cold crash to < 50°F.
* Use ½ tsp Knox Unflavored Gelatin in ¼ cup cool water.
* Microwave in short (~7 sec) bursts until 145-150°F, stirring between bursts.
* Add to primary fermenter.
* Continue cold crashing to 32°F or as cold as you can get it.
* Allow 1-2 days for haze to precipitate.
* Package as normal.