Grape and Granary
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ALL GRAIN BEER BREWING KIT

Tincture of Iodine Test- Optional- After 1/2 hr of mashing, you can test for the presence of starch by: 1) remove a bit of the liquid part of the mash (no grain husk) and put it on a white plate. 2) put a drop of tincture of iodine (available at a pharmacy) beside the drop of mash. 3) tilt plate so that drop of iodine runs into mash sample. Watch for any color change. If mash sample turns black/blue, continue mashing. If iodine and mash sample stay red, mashing step is complete.

AG24
ALL GRAIN ROBUST PORTER

Ingredients

Malt
9.5 lbs of Pale Ale malt
.36 lb Crystal malt
.36 lb Chocolate malt
.36 lb Black Malt
1 lb Munich Malt
.12 Roast Barley

Hops
1 oz Horizon (boiling)
.5 oz Amarillo (flavor)
.5 oz Centennial (aroma)

Equipment

(1) 33 qt or larger boil kettle
(1) 20 qt or larger sparge kettle
thermometer
lauter tun
wort chiller (optional)
spoon
beer hydrometer
pitcher
tincture of iodine (optional)

Recipe Specifics

batch size- 5 us gallons
total grain- 11.75 lbs
anticipated sg 1.059
anticipated color- 33
anticipated ibu- 44.2
efficiency- 70%
boil time- 90 minutes

Process Specifics

Mash Water quantity- 4.0 gallons
pre-boil wort size- 6.5 gal
strike water temp- 160 deg f.
saccharification rest- 152 deg f for 60 minutes
mash-out- 168 deg f. for 5 minutes
sparge water temp- 170 deg. f.
sparge time- 45-60 minutes
fermentation temperature- 60-75 deg f.

Step 1- Begin by measuring the proper quantity of mash water into your mashing or boil kettle. be sure that the water has no chlorine. bring water temperature of mash water to strike water temperature.

step 2- make sure grains are milled. pour grains into mash kettle at strike temperature. stir well. check temperature of mash. mash temperature should be at approximately saccrafication temperature. if it is not, adding small quantities of boiling or cold water will adjust mash temperature.

step 3-allow grains to 'stew' at saccrafication temperature for 60 minutes. stir the mash every 15 minutes or so to ensure an even temperature throughout the mash.

step 4- fill the 20 qt kettle with 5 gallons of brewing water. bring this water to approx. 170 deg. F. . maintain this temperature throughout the mashing process so that this sparge water is ready to go at sparge time.

step 5- Optional step- raise mash temperature to 168 deg. f.. this step is called a mash- out. hold the mash temperature at 168 deg. f. for 5 minutes. this helps to stablize enzyme activity and warms the sugars so that they canbe extracted more efficiently. the temperature of the mash can be raised to 168 deg. f. by adding heat to the bottom of the mashing vessel or by infusing the mash with small quantities of boiling water.

step 6- transfer mash into lauter tun. Open valve on lauter tun and collect first runnings into a pitcher. slowly pour first running over top of grain bed and allow to drain back through grain bed. continue recirculation of first runnings until clarity improves.

step 7- once clarity improves, begin collecting runnings into boil kettle or other container. the sparging process should take approximately 45-60 minutes. restrict the flow of the wort exiting the lauter tun so that run off takes 45-60 minutes. begin p0uring 170 deg. f.. sparge water over the top of the grain bed one pitcher at a time. try not to allow grain bed to run dry or compaction of grain bed could occur.

step 8- continue sparging until approx. 6 1/2 gallons of wort is collected. if necessary transfer wort to boiling vessel. bring 6 1/2 gallons of wort to a boil. allow wort to boil for 30 mintes before adding bittering hops. add the bittering hops 60 minutes before the end of the 90 minute boil. if you have flavoring hops, add them 15 minutes before the end of the 90 minute boil. if you are using an immersable wort chiller, place it in the boiling wort with the flavor hops. irish moss should also be added 15 minutes before end of boil. if you have aroma hops, add them 2 minutes before the end of the 90 minute boil.

60 minutes before end of boil
* add bittering hops

15 minutes before end of boil
* add irish moss
*add flavoring hops if any
*add immersion chiller if any

2 minutes before end of boil
* add aroma hops if any

step 9- after 90 minute boil, cool wort to fermentation temperature. siphon or pour wort into primary fermenter. attemp to leave any trub (sediment) behind. If you have less than 5 gallons of wort in primary fermenter, cool clean dechlorinated water may be added to increase volume. check specific gravity with your hydrometer. you should find that the gravity is appoximately that of anticipated s.g..

step 10- add yeast and ferment at fermentation temperature.
call if you have any questions

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Robust Porter

A substantial, malty dark ale with a complex and flavorful roasty character.

History: Stronger, hoppier and/or roastier version of porter designed as either a historical throwback or an American interpretation of the style. Traditional versions will have a more subtle hop character (often English), while modern versions may be considerably more aggressive. Both types are equally valid.

Comments: Although a rather broad style open to brewer interpretation, it may be distinguished from Stout as lacking a strong roasted barley character. It differs from a brown porter in that a black patent orroasted grain character is usually present, and it can be stronger in alcohol. Roast intensity and malt flavors can also vary significantly. May or may not have a strong hop character, and may or may not have significant fermentation by-products; thus may seem to have an "American" or "English" character.

Ingredients: May contain several malts, prominently dark roasted malts and grains, which often include black patent malt (chocolate malt and/or roasted barley may also be used in some versions). Hops are used for bittering, flavor and/or aroma, and are frequently UK or US varieties. Water with moderate to high carbonate hardness is typical. Ale yeast can either be clean US versions or characterful English varieties.