



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.

AG86
Foreign Extra Stout

Ingredients

Malt

9 lbs. Pale Ale Malt
.60 lbs Medium Crystal
.50 lbs Biscuit
.4 lbs Dark Crystal
.60 lbs Roasted Barley
.2 lbs Pale Chocolate
.40 lbs Belgian Chocolate
.13 lbs Chocolate Rye

Hops

1.50 oz. Horizon (boiling)

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- 11.80 lbs
anticipated sg 1.065
anticipated color- 48
anticipated ibu- 55
efficiency- 75%
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- 154 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- 60-70 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 temp of mash. Mash temp should be at approximately saccharification temperature. If it is not, adding small quantities of boiling or cold water will adjust mash temperature. Stir well.

step 3- Allow grains to 'stew' at saccharification temperature for 15 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 temp 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 will help to stabilize enzyme activity and warm the sugars so that they can be 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 (approx 5 minutes).

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 (try collecting about 1 pint of wort from the lauter tun per minute). Begin pouring 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 minutes before adding bittering hops. Add the bittering hops 60 minutes before the end of the 90 minute boil. If you are using an immersable wort chiller, place it in the boiling wort 15 minutes before the end of the boil with the Irish Moss (Whirlfloc) tablet.

60 minutes before end of boil
* add bittering hops

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

step 9- After 90 minute boil, cool wort to fermentation temperature. Siphon or pour wort into primary fermenter. Attempt 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 approximately that of anticipated s.g..

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

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Foreign Extra Stout

A very dark, moderately strong, roasty ale. Tropical varieties can be quite sweet, while export versions can be drier and fairly robust

History: Originally high-gravity stouts brewed for tropical markets (and hence, sometimes known as "Tropical Stouts"). Some bottled export (i.e., stronger) versions of dry or sweet stout also fit this profile. Guinness Foreign Extra Stout has been made since the early 1800s.

Comments: A rather broad class of stouts, these can be either fruity and sweet, dry and bitter, or even tinged with Brettanomyces (e.g., Guinness Foreign Extra Stout). Think of the style as either a scaled-up dry and/or sweet stout, or a scaled-down Imperial stout without the late hops.

Ingredients: Similar to dry or sweet stout, but with more gravity. Pale and dark roasted malts and grains. Hops mostly for bitterness. May use adjuncts and sugar to boost gravity. Ale yeast (although some tropical stouts are brewed with lager yeast).

Commercial Examples: Tropical-Type: Lion Stout (Sri Lanka), Dragon Stout (Jamaica), ABC Stout (Singapore), Royal Extra "The Lion Stout" (Trinidad), Jamaica Stout (Jamaica), Export-Type: Freeminer Deep Shaft Stout, Guinness Foreign Extra Stout (bottled, not sold in the US), Ridgeway of Oxfordshire Foreign Extra Stout, Coopers Best Extra Stout, Elysian Dragonstooth Stout