

Name _____

Date _____

Goal: 50 Gallon mash

Equipment:

Still boiler

55 gal stainless steel drum

Batch tank

pH meter

Scale

Hammer mill

Rototap

Moisture balance

Hydrometer scale 1.000 to 1.070 for mash gravity

Stainless steel pail

Materials:

Carbon filtered Champaign Il municipal water

Corn-document the type of corn and the source or lot number

Starsan

5% H₂SO₄

Termamil

Saczyme

Fermlife yeast nutrient

Fermpo 927 yeast

50 ml sample tubes

Grind 130 lb of corn on hammer mill. Use 3mm screen

Take a 1 Kg representative sample of the ground corn and run it in the rototap. Use screens 12, 18, and 20. Record % on top of each screen.

12 _____

18 _____

20 _____

Pan _____

Take a 1.5 g representative sample of the ground corn and run it in the moisture balance.

% Moisture _____

Sanitize fermentor

Inspect inside of 55 gal fermentor to confirm free from soil

Add 5 gallons of water and 1 oz of star san to stainless steel drum

Make sure liquid sanitizer comes into contact with all surfaces

Wipe down lid with sanitizer

Sanitize small stainless steel pail

Sanitize all utensils that will come into contact with mash

Confirm the boiler is clean and free from soil.

Add 161 L of carbon filtered city water to still boiler

Start mixer and set to 35 hz.

Heat water to 88 C with steam using the jacket on the still boiler

Add 106.25 lb ground corn-add slowly over the course of about 1 hour. Avoid clumping. The consistency will become a thick porridge.

Maintain 88 C while adding the corn

Take pH after all the corn has been added.

Adjust pH to 5.5 with 5% H₂SO₄. (yellow dent takes about 300 ml to adjust)

Amount H₂SO₄ _____

Add 12.5 ml terimil

Start time _____

Start pH _____

Start temp _____

Hold for 1 hour

End time _____

End pH _____

End temp _____

Hook hose to bottom of still boiler jacket and cool mash to 65 C

If needed adjust pH to 5.5 using H₂SO₄

Amount H₂SO₄ added _____

Add 25 ml saczyme 1.5

Start time _____

Start pH _____

Start temp _____

Hold for 1 hour

End time _____

End pH _____

End temp _____

Cool mash to 35 C using city water in the jacket on the still boiler

When temperature is below 50 C add 50 g of Fermlife yeast nutrient

Actual amount added _____ Lot # _____

Place the 55 gal stainless steel drum inside the batch tank

Transfer the cooled mash to the 55 gal drum by using the pail to remove the mash from the still boiler.

When pouring into the fermentor, allow the liquid to splash to aerate the mash

Pitch 50 g of Fermpro 927 yeast-stir in yeast

Actual amount added _____ Lot # _____

Record initial gravity

OG _____

Install lid on fermentor and airlock

Attach temperature control unit to the bottom drop valve with recirc going back to top of batch tank

Fill the batch tank with city water

Open bottom valve on batch tank

Turn on temp control unit pump and confirm water is recirculating

Put both temperature sensors in the thermowell in the fermentor lid

Set cooling controller to 90 F

Set heating control unit to 85F

Allow to ferment until final gravity is below 1.010-3 to 4 days