Beginners Guide to Mashing

Extract brewing, as we all know, is a very simple process. All-grain brewing on the other hand can seem much more complicated and time consuming. However, for certain beer styles, all-grain brewing can give you much more control over the finished product and can yield a superior product. Grain brewing can become as complicated or remain as simple as you like. This guide will cover the most popular English method called "single infusion." With this method you can make great beer very simply.

You will need:

Experience:

Some experience brewing extract/grain beers.
A good familiarity with the basic brewing process.

Equipment:

5 gallon Mash/Lauter Tun setup
5 gallon hot liquor tank (described later)
Large stirring spoon.
Thermometer covering the range from 100° F to 200° F.
A boiling pot of 8 gallon capacity.

Ingredients:

9 to 10 gallons brewing water.
High quality 2-row barley malt, ground to keep as much husk intact as possible.
Other adjunct and specialty grains according to your recipe.

The Process:

Striking

Striking is simply a neat name for the action of mixing the grain with hot water. The hot water dissolves the starches in the grain and activates the enzymes which will turn the starches into fermentable sugars.

By controlling the temperature you can vary the fermentability of the final beer.

1 Heat about 3 gallons of brewing water to 170° F.

2 Ladle a pan of water into the mash tun. Then use another pan to add some grain. Continue alternating between grain and water until all the grain has been added. Try to maintain a porridge-like consistency by adding extra grain or water as needed. It is, however, better to have a thinner (more watery) mash than one too thick.

3 Check the temperature of the mash. The mash should be 150° F plus or minus a few degrees F. Adjust temperature by adding hot or cold water as needed.

4 Close the mash tun to keep heat loss as low as possible.

Starch Conversion

Usually within 30 to 45 minutes, most of the starches in the grain have been converted into fermentable sugars. However, if the starches are not fully converted then the remaining starches can give your beer a hazy appearance and can also increase the likelihood of an infection.

You can conduct an iodine test to check for conversion or you can simply mash for at least 90 minutes to ensure full conversion.

Lautering

Lautering is how we extract the converted sugars from the grain and get them into the brewpot.

If you are using a separate lauter tun you now ladle the mash from the mash tun into the lauter tun. We prefer using a single mash/lauter tun for simplicity.

The first step in lautering is *vorlaufing* which removes the large grain particles and allows the grain husks to set up a good filter bed. The second step is called *sparging* which is where hot water is sprayed onto the grain while the sweet wort is drained from below the false bottom.

1 Heat 5 gallons of sparge water to 180° F.

2 Start vorlaufing by opening the drain of the lauter tun and slowly filling a pan. The first runnings will be cloudy and full of grain particles. When the pan is full shut off the flow and very gently return the wort to the top of the mash. Repeat this process until there are little to no particles in the wort and it begins to clear.

3 Drain the wort slowly into the boiling pot. When the liquid level of the mash falls to just beneath the top of the grain bed begin the sparging operation. Allow at least 30 minutes for sparging.

4 Sparge the grains by applying hot water to the mash to replace the wort that drains out the bottom of the lauter tun. This dissolves and rinses the sugars from the spent grain.

5 Sparging is over when either the sparge water runs out or the pot is filled to its highest safe level. Never squeeze, press, or wring out the grains.

Boil and continue as you would for any normal extract batch. You are now done with the mashing process.