Partial Mash Brewing

Partial-mash brewing is the intermediate method of brewing, requiring more time and equipment than basic extract brewing, but less time and equipment than the all-grain brewing process. This technique uses a percentage of base malts along with liquid- and/or dry-malt extract to provide the fermentable sugars that the yeast will consume.

Brewing partial-mash batches allows the brewer to utilize certain grains and adjuncts that cannot be used in regular extract brewing. Base malts such as *2-Row Pale Ale*, *2-Row Brewers*, and *6-Row Brewers* have *diastatic power*; in other words, there are specific enzymes in base malts which allow for the conversion of starches into sugar. These enzymes help convert starches found in other types of malts as well, Munich and Vienna malt, for example, which do not have sufficient diastatic power of their own.

To activate the enzymes, the brewer must perform an *enzymatic rest*. The enzymatic rest is similar to the "steeping" phase in extract brewing; in this case, however, the steeping process—correctly called mashing—is forty-five minutes long instead of thirty. After the mash is complete, the brewer must then *sparge* the grains. Simply stated, sparging is a process of running hot water (180F) over the mash to denature the enzymes and to rinse the resulting sugars from the grain. After sparging, the brewing process continues as it does with extract brewing.

Equipment needed for the mashing

- Two pots, 3 to 5 gallons each; one in which to mash the grain, one to bring three gallons of water up to temperature for the sparge.
- A 6.5-gallon plastic fermentation bucket in which to collect the sweet wort run-off from the mash
- A large, fine-mesh colander and/or sparging bag in which to rinse the sweet wort from the mashed grains.

The Partial-Mash Process

1. In a 5-gallon pot (mash tun), heat the water (1.5 quarts per pound of grain) to 164F. Turn off the burner, stir in grain, cover and let rest for 45 minutes. Monitor temperature with a floating thermometer. Target temperature is between 150 and 155F. You may want to wrap the pot with a towel for insulation.

2. In another pot (hot liquor tank), heat 3 gallons of water to 180F.

3. After 45-minute mash, place a mesh colander over the plastic fermenter and line with a sparging bag. Next, scoop grains into colander and rinse with two gallons water at 180F, collecting about three gallons of the sweet wort run-off. Transfer sweet wort to the brew pot and bring to boil as per usual, adding half the extract at the start of the 60-minute boil and half near the end. Add hops as indicated in the recipe.