BREWBOT

test: TEST-HAR-0048-01

Lauter Speed Test

date: 15.6.16 *status:* Done

engineer: Cody Badger

system: Brewing

part: Full System

test: Lauter Speed

brew: Test Batch

procedure: In Trello

data: https://trello.com/c/FKFa4Umb

history:

15.6.16 First Test

summary:

This tests the effect of mash and sparge lauter flowrate on efficiency.

documentation:

observations:

The table below summarizes the results of the test. The efficiency does not seem to be significantly affected by the flowrate of the lauter. The medium and fast flows are lower, but as stated in the observations, this is because there was more liquid in the MT after the lauter, not because of poor efficiency.

See the following page for pictures of the flows used in this test.

With the faster lauter flowrates, more liquid was left in the MT. Had this been collected, the final volumes would have been the same, and the efficiencies would probably have been even closer together.

	flowrate (L/min)	first runnings	pre-boil	vol wort (L)	Mash Efficiency
slow	1.22	1.077	1.046	27	75%
low	2.17	1.078	1.046	27.5	77%
med	3.75	1.075	1.045	26.5	72%
fast	5.59	1.078	1.046	26.3	74%

conclusions:

Lauter speeds varying between 1 L/min and 6 L/min do not effect efficiency.

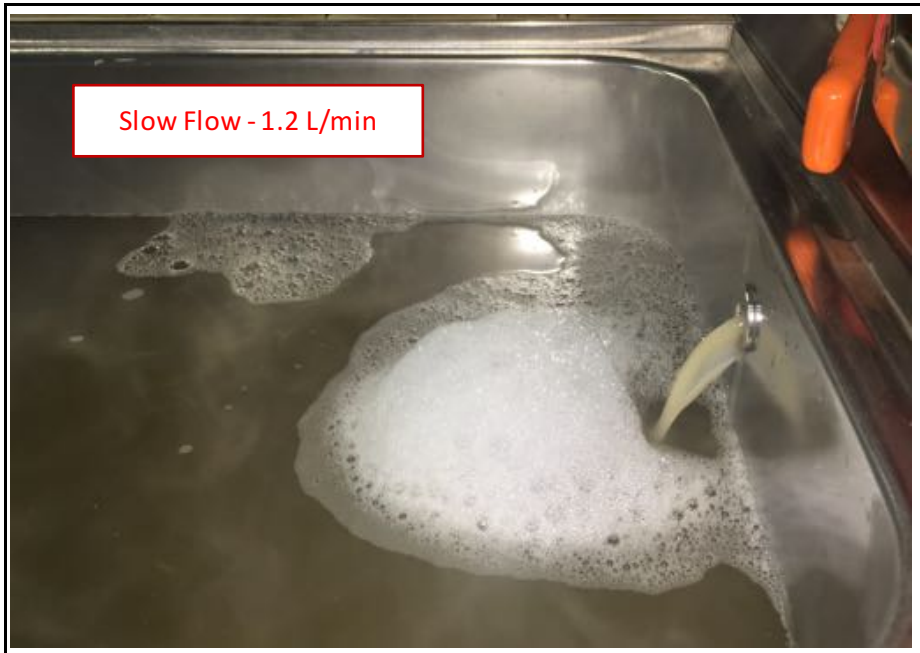
BREWBOT

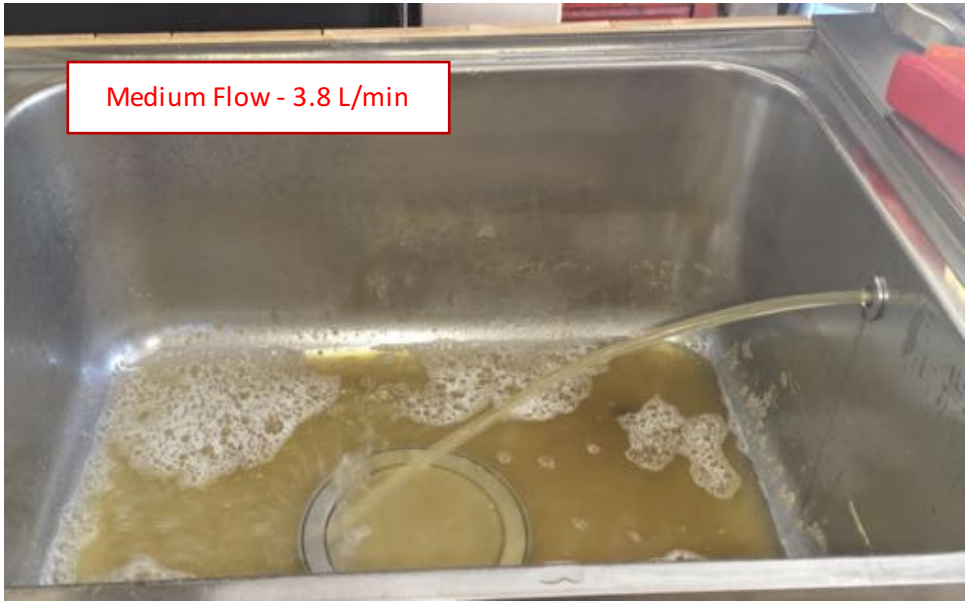
test: TEST-HAR-0048-01

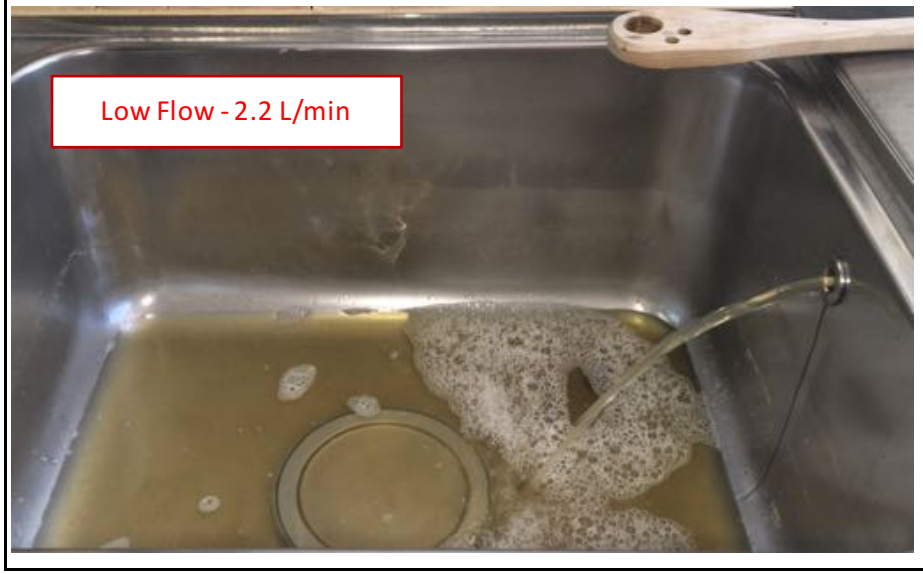
Lauter Speed Test

date:	15.6.16	*part:*	Full System
engineer:	Cody Badger	*test:*	Lauter Speed
system:	Brewing	*brew:*	Test Batch

additional information:







BREWBOT

test: TEST-HAR-0048-01

Lauter Speed Test

date:	15.6.16	*part:*	Full System
engineer:	Cody Badger	*test:*	Lauter Speed
system:	Brewing	*brew:*	Test Batch

Procedure:

Procedure

1. The test wort recipe calls for `5.2 kg` 2-row malt to be used with `14 L` of water for the infusion and `18 L` for the sparge. Prepare these.
2. Heat strike water to `86 °C`.
3. Put grain in grain bag, infuse and recirculate. Stir the mash until it has a uniform consistency.
4. Begin heating sparge water in WT.
5. After an hour, lauter the contents form the MT to the BK. Repeat this test with four different lauter flowrates:
    1. `~ 1 L/min`
    2. `~ 2 L/min`
    3. `~ 4 L/min`
    4. `~ 6 L/min`
6. Take a gravity reading after the first lauter.
7. Add the sparge water in a single batch. Recirculate, then stir.
8. After `20 min`, lauter the sparge water into the BK.
9. When finished, take a gravity reading.
10. Record load cell volume, as well as actual volume of wort.