

## Barley Wine - November 04 2008

### MASH #1

75kg Gambrinus Pale Ale  
75kg Muntons Maris Otter

water/grist ratio **3:1** *was shooting for 5,5:1 but too tight to pump or stir*  
tot. water **450 litres**  
hot liquor **pH: 6,5** for mash  
+ H3PO4 **pH 5,7** for sparge

|      |       |    |    |       |    |
|------|-------|----|----|-------|----|
| °C   | 58-65 | 65 | 72 | 72-77 | 77 |
| min. | 20    | 10 | 10 | -     | -  |

no mash out

heat buffer tank to 72c  
first run off to buffer tank

|              |              |
|--------------|--------------|
| <b>3,1hl</b> | <b>17,5P</b> |
|--------------|--------------|

continue sparge to kettle

|              |              |                |
|--------------|--------------|----------------|
| <b>4,5hl</b> | <b>10,4P</b> | <b>pH 5,63</b> |
|--------------|--------------|----------------|

last run off

|              |
|--------------|
| <b>3,8PS</b> |
|--------------|

Spent grain out; mash again with following recipe

### MASH #2

50kg Gambrinus Pale Ale  
50kg Muntons Maris Otter  
25kg Hugh Baird Maris Otter  
10kg Dingemans Biscuit  
8kg Cargill Crystal 80L  
6kg Weyermann Caramunich I

ratio HL: 3:1 (mash into kettle with wort of mash#1)

### Paliers

|      |    |       |    |       |    |
|------|----|-------|----|-------|----|
| °C   | 66 | 66-72 | 72 | 72-77 | 77 |
| min. | 60 | 15    | 30 | 10    | 10 |

rectification pH: +120g calcium carbonate  
+25ml NaOH  
**pH 5,28**

First wort

|              |                |
|--------------|----------------|
| <b>25,6P</b> | <b>pH 5,26</b> |
|--------------|----------------|

last wort

|            |                |                |
|------------|----------------|----------------|
| <b>15P</b> | <b>pH 5,26</b> | <b>@ 4,1hl</b> |
|------------|----------------|----------------|

mix batch #1 + #2

|            |                |              |
|------------|----------------|--------------|
| <b>21P</b> | <b>pH 5,34</b> | <b>7,4hl</b> |
|------------|----------------|--------------|

Boil 90 minutes

|       |               |       |
|-------|---------------|-------|
| 1,2Kg | Chinook_11,6% | 90min |
| 1,0kg | Magnum_12,%   | 60min |
| 1,0kg | Cascade_6%    | 15min |
| 35g   | Yeastex       | 15min |
| 75g   | Irish Moss    | 10min |
| 0,7kg | Styrian_1,8%  | 5min  |
| 0,7kg | Cascade_6%    | 0min  |

Sugar 12kg table/cane sugar  
4kg brown sugar

end of boil

|              |                |              |
|--------------|----------------|--------------|
| <b>24,7P</b> | <b>pH 5,05</b> | <b>7,0hl</b> |
|--------------|----------------|--------------|

Kettle loss: 0,5hl due to the amount of hops

Chill exchange to 16c

Oxygenation: 2,0 LPM whole wort while transferring

Yeast: US-5

Femeter temp: 18c

Tank glycol jacket set to : 21c