

# Helles w/ Longer Hochkurz

Munich Helles  
Recipe by **David Clark**



|                 |                    |                |                 |                     |                     |
|-----------------|--------------------|----------------|-----------------|---------------------|---------------------|
| Batch Size      | Losses             | Boil Time      | Mash Efficiency | Mash Volume         | Sparge Volume       |
| <b>5 US Gal</b> | <b>0.53 US Gal</b> | <b>60 mins</b> | <b>70%</b>      | <b>3.695 US Gal</b> | <b>3.186 US Gal</b> |
| OG (SG)         | FG (SG)            | IBU            | Colour (EBC)    | ABV                 |                     |
| <b>1.041</b>    | <b>1.006</b>       | <b>11.0</b>    | <b>7.8</b>      | <b>4.54%</b>        |                     |

Mash and Sparge volumes calculated using the "Grainfather G30 Connect (USA) - 110V (Bluetooth)" profile.

## Fermentables

|                                  | Amount        | Usage | PPG  | EBC  |
|----------------------------------|---------------|-------|------|------|
| Pilsner<br>Supplier: Weyermann   | 7.81 lb (91%) | Mash  | 37.8 | 3.6  |
| Munich I<br>Supplier: Weyermann  | 0.44 lb (5%)  | Mash  | 37.8 | 14.0 |
| Melanoidin<br>Supplier: BESTMALZ | 0.19 lb (2%)  | Mash  | 35.4 | 70.1 |
| Carapils<br>Supplier: Briess     | 0.13 lb (1%)  | Mash  | 33.6 | 3.0  |

## Mash Steps

|                    | Temp   | Time   |
|--------------------|--------|--------|
| Protein rest       | 126 °F | 25 min |
| Beta amylase rest  | 145 °F | 45 min |
| Alpha amylase rest | 160 °F | 45 min |
| Mash out           | 170 °F | 15 min |

## Hops

|                                   | Amount        | Type   | Usage | Time   | AA  |
|-----------------------------------|---------------|--------|-------|--------|-----|
| Hallertauer Mittelfruh (IBU: 8.9) | 1.00 oz (67%) | Pellet | Boil  | 60 min | 2.3 |

| Hops                | Amount        | Type   | Usage | Time  | AA  |
|---------------------|---------------|--------|-------|-------|-----|
| Tettnang (IBU: 2.1) | 0.50 oz (33%) | Pellet | Boil  | 5 min | 2.7 |

| Yeast                             | Amount    | Attenuation |
|-----------------------------------|-----------|-------------|
| Omega OYL-437 German Lager I+ DKO | 1 packets | 74 %        |

| Extras                    | Amount   | Usage | Time   |
|---------------------------|----------|-------|--------|
| Calcium Sulphate (Gypsum) | 0.18 oz  | Mash  | 0 min  |
| Whirlfloc                 | 1 each   | Boil  | 15 min |
| Irish Moss                | 0.25 tsp | Boil  | 60 min |

| Fermentation Steps  | Temp    | Time    |
|---------------------|---------|---------|
| Fermentation 1      | 66.6 °F | 14 days |
| Fermentation Step 2 | 48 °F   | 10 days |

| Notes                                |
|--------------------------------------|
| Carb to 2.6 Vol CO2; 5 oz Corn Sugar |