

## **TASTING NOTES:**

Aroma: Heavily aromatic with predominantly pine resin, mango, passion fruit and citrus. Flavour: The smooth and full caramel malt character is dominated by fantastic pine ad citrus hop flavours with hints of red berries and tropical fruit. Bitterness is firm without becoming astringent.

## **BREWER'S NOTES:**

Black IPAs are one of the trickiest beers to brew, the malt and hop character needs to be spot on and the water chemistry has to be just right.

With this beer the key is to use just enough Carafe Special III to create the colour without impacting the flavour negatively. The hopping rates in the whirlpool and dry hopping must be high to smash through the massive malt character and yet bitterness is at the lower end to not clash with the carbonates that need to be present in the water chemistry to mellow the harshness of the darker malts.

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# **BREW STATS:**

**OG:** 1.071 | **FG:** 1.015 | **ABV:** 7.4%

**IBU:** 60 **EBC:** 70

### GRAIN:

6kg Malteurop Pale Ale

350g Munich I

350g Crystal

270g Carafe Special III

#### YEAST:

2 Mangrove Jack's M44 US West Coast

# **EXTRAS:**

1/4 tsp Carrageenan

10 g (0.35 oz) Calcium Sulphate

## HOPS:

17 g (0.6 oz) Pacific Jade

130 g (4.6 oz) Citra

130 g (4.6 oz) Simcoe

130 g (4.6 oz) Mosaic

## RECIPE DESIGNER:

JK (James Kemp) - Award Winning Commercial Brewer

## PREPARATION:

Fill the boiler with 22 L (5.8 US Gal) of water and input a temperature (f 50°C (122°F) and add the calcium sulphate.

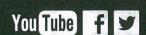
## MASHING:

When the water reaches 50°C (122°F), slowly add both grain packs (starting with the larger grain pack), stirring gently as you do to avoid dry clumps. The mash should be a porridge-like consistency, if it is too dry then add more water. NOTE: Take note of any extra water added as this will affect the sparge volume. Set the mash up as per the Grainfather instructions. Mash for 30 minutes at 50°C (122°F) (leave the element variation switch in the 'Normal' position).

After 30 minutes, ramp the temperature up to 68°C (154.4°F). When the temperature reaches 68°C (154.4°F), flip the element variation switch onto the 'Mash' position and continue mashing for 60 minutes.

#### MASHING OUT:

After 60 minutes, input a temperature of 75°C (167°F) for the mash out (the element variation switch can now be switched to 'Normal'). Continue to recirculate the wort at 75°C (167°F) for 10 minutes.





#### SPARGE:

Sparge with 11.6 L (3 US Gal) of water (unless more water was added during the mash). This water must be at 75°C (167°F).

### BOIL:

- · Boil time: 90 minutes.
- · 60 minute hop addition: When the boil has 60 minutes left, add the 60 minute hop addition.
- 15 minutes: Add the Carrageenan.
- O minute hop additions (flameout\*): When the boil is over, switch off the boil control and add the O minute hop addition.
- \*A flameout means to turn off the heat on the boiler and add the hops. The hops then lie in the hot (not boiling) wort. This is for extracting flavours from the bons.

#### COOLING & PITCHING:

After adding the O minute hop addition, let the wort rest for 20 minutes. After 20 minutes give the wort a good stir. Then chill it using your Counter Flow Wort Chiller, as per the Grainfather instructions. As the cool wort collects in your fermenter pitch both packets of yeast.

### **FERMENTATION:**

Ferment between 18 - 23°C (64.4-73.4°F) for 7-10 days.

Add the packet of dry hops 5 days into fermentation or when the SG has dropped below 1.020. After fermentation, bottle or keg.

Condition the beer in the bottles or keg for 2 to 4 weeks before drinking.

Recipe designed by renowned brewer James Kemp better known as JK. JK started homebrewing at the age of 14 as a way to make pocket money brewing beer for his dad. His inventive approach to recipe development, a love of experimentation and a meticulous brewing/process led him to be crowned New Zealand Champion Homebrewer 2008 after winning three of the top five major prizes (including Best Beer).

This sparked a major career change that saw JK move from New Zealand to England where he became part of the quality control team at Fuller's Brewery before moving to Thornbridge Brewery to brew full time. It was there he created the recipe for Wild Raven, a Black IPA (which would become his signature style).

JK later became head brewer at Buxton where he was responsible for catapulting them into the top 100 breweries in the world — there he created Axe Edge \nd an Imperial Black IPA as well as winning a string of awards including silver at the International Beer Challe. je.

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