





TASTING NOTES:

Flavour: On the palate the beer is a pleasing cacophony of textured caramel malts, firm bitterness and juicy hop goodness. The beer finishes smooth and dry with a lasting cleansing bitterness.

Aroma: This red rye pours a deep red with a creamy head, your nose is immediately assaulted with a light pine sap and tropical fruit punch aroma.

BREWER'S NOTES:

One of the most popular and manipulated beer styles in the world of beer is the India pale ale (IPA). Within this overarching style there are numerous sub categories that have been experimented and developed to meet the ever increasing need to deliver more and more hops to the avid beer drinker, in more and more interesting ways...the Red Rye IPA is one of those subcategories. As with most IPAs it's brewed strong with an enormous addition of hops full of character. However, there is also a thoughtful application of caramel malts to create a maltier and darker coloured beer that helps the hops to become characterful in a slightly different way.

BREW STATS:

DG: 1.063		FG: 1.012	ABV: 6.5%
IBU: 60	I	EBC: 30	VOL: 23 L (6 US Gal)

GRAIN:

3.47 kg (7.65 lb) Gladfield American Ale Malt 1.39 kg (3.1 lb) Gladfield Munich Malt 570 g (20.1 oz) Gladfield Rye Malt 570 g (20.1 oz) Gladfield Dark Crystal Malt 340 g (12 oz) Gladfield Red Back Malt

YEAST:

2 sachets (20 g (0.7 oz)) Mangrove Jack's M44 US West Coast

HOPS:

25 g (0.9 oz) Green Bullet 80 g (2.8 oz) Pacific Jade 80 g (2.8 oz) Nelson Sauvin 140 g (4.9 oz) Cascade

EXTRAS:

1 tablet Deltafloc 10 g (0.35 oz) Calcium Sulphate

PREPARATION:

Fill the boiler with 20.6 L (5.4 US Gal) of water and input a temperature of 45°C (113°F). Add the calcium sulphate.

MASH:

When the water reaches 45°C (113°F), slowly add the grain pack, stirring slowly as you do so to avoid dry clumps. Set up the mash as per the Grainfather instructions.

NOTE: It is worth checking your mash pH during the mash by either using a pH strip or a digital pH reader. It should be between 5.2 and 5.6.

Mash for 20 minutes at 45° C (113°F). After 20 minutes ramp the temperature up to 64° C (147°F), when it reaches 64° C (147°F) continue mashing for 75 minutes.

MASH OUT:

After 75 minutes, ramp the temperature up to $75^{\circ}C$ (167°F) for the mash out. Continue to recirculate the wort at $75^{\circ}C$ (167°F) for 10 minutes.

SPARGE:

Sparge with 14 L (3.7 US Gal) of water. 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 minute addition: When the boil has 15 minutes left, add the Deltafloc.
- O minute hop addition (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 hops.

COOL & PITCH:

After adding the 0 minute hop addition, let the wort rest for 20 min. After 20 min give the wort a good stir. Then cool it using the counter flow wort chiller, as per the Grainfather instructions. As the cool wort collects in your fermenter pitch both sachets of yeast.

FERMENT:

Ferment for 7-10 days at 18°C (65°F). Add the dry hop addition 5 days into fermentation or when SG has dropped below 1.020. Condition the beer in bottles or a keg for 2 to 4 weeks before drinking.

Recipe designed by Mangrove Jack's Brewing Co. With years of brewing experience and knowledge. Mangrove Jack's provides craft brewers with specialty yeasts, hops and ingredients to make the very best beer at home. With links to renowned brewers worldwide. Mangrove Jack's brings you a superior grain recipe kit for use with the Grainfather.

Peter Eastwood - Mangrove Jack's Head Brewer

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