



NORTHERN BREWER

O.G.	ABV	IBU	BREW TIME: 6 WEEKS
1.049	5.0%	23	Primary: 2 Weeks
			Secondary: 2 Weeks
			Bottle Conditioning: 2 Weeks

MANGO FUSION KÖLSCH

In a historically unlikely pairing, a classic Kolsch meets tropical mango in this immensely pleasing recipe. Soft, slightly grainy pilsner malt, a gentle bitterness and a traditional German yeast strain lays the foundation for engaging synergy with juicy mango flavor to produce an incredibly easy drinking and refreshing beer. Mango Fusion Kolsch's mild ester profile courtesy of the specialized yeast strain mingles perfectly with ripe mango nuances to create a stunning harmony of flavors. Mixing the tradition of Cologne, Germany with deliciously lush notes of tropical mango opens a whole new world of elegance.

KIT INVENTORY

GRAIN BILL

9 lbs Rahr Premium Pilsner
1 lb Weyermann Barke Vienna

PREMIUM HOPS

1.5 oz Hallertau 60 min

OTHER ADDITIONS

15 ml Gourmet Mango
Extract **Bottling**

SUGGESTED YEAST

YEAST

DRY YEAST:
Fermentis Safale K-97
Optimum Temp: 59°- 68°F

LIQUID YEAST OPTIONS:
Omega Yeast OYL-044 Kolsch II
Optimum temp: 65°- 69°F

Imperial Yeast G03 Dieter
Optimum temp: 60°- 69°F

BEFORE BREW DAY

- Upon arrival, unpack kit.
- Read all instructions before starting.
- Be sure you have all items listed in the Kit Inventory.
- Refrigerate liquid yeast.
- If making a yeast starter, we suggest 24-48 hrs.
- Contact us if you have any questions or concerns.

YOU WILL NEED

- Homebrewing equipment for brewing 5 gallon batches.
- All-grain equipment kit with mash tun and hot liquor tank
- Boiling kettle (at least 8 gallon capacity).
- Approx. 2 cases of 12 oz or 22 oz pry-off beer bottles.
- **Optional** - 5 gallon carboy, with bung and airlock, to use as secondary fermentor.

A FEW HOURS BEFORE BREW DAY

Remove liquid yeast packages from the refrigerator. Allow to warm to your desired fermentation temperature (~65°F). Check yeast instructions on packet.

BREWING NOTES

KEY STATS

Brew Day Date: _____

Secondary: _____

Important Additions: _____

Bottling/Kegging: _____

Fermentation Temp: _____

Yeast Strain #: _____

Measured OG: _____ FG: _____

MASH SCHEDULE

SINGLE INFUSION

If you are new to all-grain, we suggest starting with 1.5 quarts of water per pound of grain for strike water volume. This mash thickness can be adjusted for future brews as you become more comfortable with your equipment.

Saccharification Rest: 152° F for 60 minutes

Mashout: 170° F for 10 minutes (optional)

To raise the temp for mashout, gently apply direct heat while stirring well (if using a kettle), or add near boiling water until target temp is reached.

Prepare sparge water in hot liquor tank at a rate of 2 quarts per pound of grain. Perform a fly sparge until you reach pre-boil volume (6-7 gallons) in your kettle. Sparge should take about an hour for optimal extraction efficiency. You should end with extra sparge water in hot liquor tank. Use this hot water to clean later on.

BOIL ADDITIONS & TIMES

Total time: 60 mins

- 1.5 oz Hallertau -
Beginning of boil

PRIMARY FERMENTATION

10. *Within 48 hours* Active fermentation begins.

You'll see a cap of foam on the surface of the beer. Specific gravity as measured with a hydrometer will drop steadily. You may see bubbles in the fermentation lock. The optimum temp. for this beer is 62°- 66°F.

11. *Within 2 weeks* Active fermentation ends.

Proceed to next step when:

- Cap of foam falls back into the beer.
- Bubbling in airlock slows down or stops.
- Specific gravity as measured with a hydrometer is stable.

SECONDARY FERMENTATION (OPTIONAL)

NOTE: You may skip transferring to secondary fermentator and simply leave the beer in the primary fermentor.

12. Sanitize siphoning equipment, airlock, carboy bung or stopper. Siphon beer from primary fermenter into secondary. (optional - see above)

13. Allow the beer to condition for 2 weeks before proceeding to the next step. Timing is now somewhat flexible.

AFTER THE BOIL

1. When 60 minute boil is finished, remove from heat
2. Cool wort to 62°-66°F ASAP.
3. Sanitize fermenting equipment and yeast pack: While wort cools, sanitize fermenting equipment (fermenter, lid or stopper, airlock, funnel, etc) along with yeast pack.
4. Transfer cooled wort into primary fermentation vessel using valve on boil kettle, siphoning from boil kettle, OR pouring wort into fermenter.
5. Aerate wort. Seal fermenter and rock back and forth to splash for a few minutes, or use an aeration system and diffusion stone.
6. Measure specific gravity of wort with a hydrometer. Record. Target gravity for this kit is 1.049.
7. Add yeast once temp of wort is between 62°-66°F. Sanitize and open yeast pack. Carefully pour contents into primary fermenter.
8. Seal fermenter. Add 1 tbsp of sanitizer or clean water to sanitized airlock. Insert airlock into rubber stopper or bucket lid. Seal fermenter.
9. Move fermenter to a cool, dark, quiet spot until fermentation begins.

BOTTLING DAY (ABOUT 4 WEEKS AFTER BREWING DAY)

14. Sanitize siphoning and bottling equipment.
15. Mix a priming solution (sugar dissolved in water; carbonates bottled beer). Use the following amounts, depending on which type of sugar you use:
 - Corn sugar (dextrose) 2/3 cup in 16oz water.
 - Table sugar (sucrose) 5/8 cup in 16oz water.Bring solution to a boil. Pour into bottling bucket.
16. Measure out 15 ml (1 tbsp) Silver Cloud mango extract and add it to the bottling bucket.
17. Siphon beer into bottling bucket and mix with priming solution and mango extract. Stir gently to mix.
 - do not splash.
18. Draw a small sample of the primed beer and taste. Add more mango extract if desired.
19. Fill and cap bottles.

CONDITIONING (ABOUT 4 WEEKS AFTER BREWING DAY)

20. Condition bottles at room temp. for 1-2 weeks. After this point, store bottles cool or cold.
21. Serving: Pour into a clean glass. Be careful to leave any sediment at the bottom of the bottle. Cheers!

WE'VE GOT YOUR BATCH

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