



Whiskey Demonstration (Scott McNulty)



Corn Whiskey made simple:

The process outlined below is a simplified way to produce small batches of traditional Corn Whiskeys, at home, without extensive experience.

The equipment required will already be on-hand to anyone with basic distilling experience, or has been making spirits from sugar washes and using essence bases. You will need:

- 25L Pot still (a reflux still can be converted by removing the column packing)
- Large cooking pot of 18L or greater
- 30L fermenting vessel (alternately, split the wash between two 25L vessels)
- Long handle spoon
- Brewers thermometer

It is highly recommended that you first try the 'Back to Basics Corn Whiskey', which is classified as a 'Thin, Sweet-mash' whiskey. It is an excellent starting point for both experience, and for the 'Back-Set' (spent wash from the first distillation), which will be required to make the more advanced 'Sour-Mash' whiskeys discussed here.

The recipes provided here are all classified as 'Thin mash' in that they use processed sugar for the bulk of the fermentable, with added grains for the oils and flavor. This process will be familiar to anyone who has done partial-mash or mini-mash beer brewing.



Back to basics:

The following is a simplified starting point for Grain Mash Distilling. Typically, this style of whiskey has been made in the southern states of America since the repealing of Prohibition, known as a 'Thin Sweet-mash'.

To follow this recipe, you will require:

2kg Corn kernels (cracked)
400g Wheat (cracked)
500g Dark Malt Extract syrup
4kg White sugar
1pkt Whiskey Distillers Yeast
30g White Oak chips (lightly charred)
Still Conditioner
Large cooking pot (18L or greater)

In this simplified recipe we are not going to malt our grain. It is important however, that you plan your mash ahead of time.

1. Prepare your fermenter. If you are using a single 30L, add 12L cool water. Alternately 2 fermenters can be used, decanting 10L into each.
2. Now, into your large cooking pot, draw approx. 3L of water from the tap (*note) and bring to a low boil. Approx 80°C.
3. Once this is reached, add the crushed grain, reduce heat and continue to stir.
4. Continue stirring for 15min, keeping the temp at around 70°C. Do not let your grain burn to the bottom of the pot!
5. Add the malt syrup and stir thoroughly. Starch conversion in batches of this scale is unimportant (will only equate to about a tablespoon of sugar).
6. The Mash should now resemble a dark porridge and can be transferred to the fermenting vessel. Corn Whiskey is fermented "on grain" so no sparging or straining is necessary.
7. Now stir in the 4kg of Sugar (or 3kg into each of 2 fermenters) and place lid on Fermenter with air-lock.
8. Once temp has dropped below 25°C, pitch yeast, stir thoroughly and seal fermenter.

Fermentation, even at relatively mild temperatures, should be complete in about 3 to 5 days. American Whiskeys are traditionally distilled "on grain" so don't bother waiting for your wash to clear or settle. Siphon off your liquid into your still (there will be lots of floaty bits) but try to avoid too many solids that will burn onto your element. Add Still Conditioner to prevent excessive foaming or 'burping'.

Your wash will need to be distilled twice. Remove any packing (ceramic dough-nuts, saddles etc) in your column to allow free flow of vapour. If you have used 2 fermenters, do both first runs separately, then combine the collected spirit for the second. Pour in your 'first run' and add extra water to $\frac{3}{4}$ fill your still as not to burn the oils and damage the flavour.

Run your still as per normal, try to not let your temp exceed 90°C. You will likely collect little methanol below 76.5°C on your first run, but a lot on your second (225 to 270ml isn't uncommon). This is due to the amount of oils and solids in your first wash, that insulate the methanol so it isn't released until a much higher temp.

Collect everything your still produces over 76.5°C on your first run. Your liquor will likely smell of sour apples due to the high amount of oils and fruity esters, and possibly a bit woody from the burnt yeast cells. Do not despair, this is normal.

For your second run, as always, collect the methanol or 'fore-shots' up to 77°C. Then, into a separate vessel, collect the 'heads' up to 79°C. Although clean, the 'heads' are extremely strong and sharp smelling (typically around 85%) and sometimes referred to as spittin' whiskey. Makes excellent window cleaner!

Now you are ready to collect the 'mid-run'. Place your charred oak chips in a glass demijohn and allow the hot spirit to contact them directly (this is an old moonshiners trick to speed up ageing). Using this recipe, you will likely collect around 2.8L of good mid-run whiskey at 140 proof.

Shut your still off once you have reached your target (don't be greedy!) and uncover your hot liquor to allow it to breath as it cools. Remaining low-wines and esters are reduced this way.

Allow 6 to 8 weeks to mature. Enjoy responsibly.

Notes:

* Rule of thumb for Grain mashing is 1gal of water for 7lb's grain, or 4L for 3kg.

*Sour Mashing is achieved by taking some of the spent wash or beer from your first still run and adding it to the next mash to sour the grain before pitching the yeast. The commercial term for this is Back-Set. Some distilleries use as much as 33% by total volume.

Traditional Corn Whiskey Recipes

The following recipes have been adjusted to be greatly simplified and far more manageable for the home brewer. The grains, or 'Mash Bills' represent well-known whiskey styles, done as partial mash, or mini-mash washes to keep the quantities of raw ingredients within the capabilities of most brewers and their equipment.

Old Kentucky Sour-Mash:

2kg Corn (cracked)
1kg Dark Crystal Malt (cracked) *or* 300g un-hopped Dark Malt Extract (syrup)
300g Rye Malt (cracked)
400g Wheat (cracked)
3kg White sugar
1pkt. Whiskey Distillers Yeast

*Use up to 5L of Back-set

Maker's Brand:

2kg Corn (cracked)
500g Dark Crystal Malt (cracked) *or* 150g un-hopped Dark Malt Extract (syrup)
400g Wheat (cracked)
2kg White Sugar
2kg Dextrose
1pkt. Whiskey Distillers Yeast
*Use up to 5L of Back-set

Black Jack's no.7:

2.3kg Corn (cracked)
400g Chocolate Rye (cracked)
250g Pilsner Malt (cracked) *or* 100g un-hopped Amber Malt Extract (syrup)
4kg White Sugar
1pkt. Whiskey Distillers Yeast
*Use 7L of Back-set , sweeten with genuine Maple Syrup if required.

Bush Turkey:

2.5kg Corn (cracked)
400g Dark Crystal Malt (cracked) *or* 125g un-hopped Dark Malt Extract (syrup)
300g Caramel Rye Malt (cracked)
2kg Dextrose
1kg White Sugar
1pkt. Whiskey Distillers Yeast
*Use up to 7L of Back-set

Gen. George Washington's Rye:

1.8kg Rye Malt (cracked)
1kg Corn (cracked)
350g Cara-Pils Malt (cracked) *or* 100g un-hopped Lager Malt Extract (syrup)
3kg Dextrose
1pkt. Whiskey Distillers Yeast
1/2tsp. Gypsum (optional)
1/2tsp. Acid blend (optional)

*Re-Using your 'Back-set' over successive washes will result in a stronger and fuller flavor profile. If you find a style you really enjoy, save your spent wash!