THE THELEN RESERVE

SCOTCH: GRAIN TO GLASS

PART 1 OF 2 · GRAIN TO WASH

Follow the malt whisky route from barley to fermented wash.

01 · GRAIN & WATER



WHAT HAPPENS	WHY IT MATTERS	WHAT CHANGES
Malt Scotch begins with water and malted barley. Grain Scotch can also use cereals such as wheat or maize.	The grain determines the production route and supplies the starch for fermentation.	Barley for malting, or a grain whisky recipe.

02 · STEEPING & GERMINATION



WHAT HAPPENS	WHY IT MATTERS	WHAT CHANGES
Barley takes up water during steeping. Air rests and controlled germination let it start to grow.	Enzymes develop and the grain changes, making its starch easier to reach.	Raw barley becomes sprouted green malt.

03 · KILNING & OPTIONAL PEAT



WHAT HAPPENS	WHY IT MATTERS	WHAT CHANGES
Warm air dries the green malt and stops growth. Some maltsters use peat smoke during drying.	Kilning preserves useful enzymes. Smoke can leave aroma compounds on the malt.	Green malt becomes dried malt, peated or unpeated.

04 · MILLING THE MALT



WHAT HAPPENS	WHY IT MATTERS	WHAT CHANGES
A mill crushes the dried malt into grist, a mixture of husk, coarse grits and fine flour.	Particle size helps hot water reach the starch while allowing the liquid to drain.	Whole malt becomes grist for the mash tun.

05 · MASHING & WORT SEPARATION



WHAT HAPPENS	WHY IT MATTERS	WHAT CHANGES
Grist meets hot water. Malt enzymes turn accessible starch into sugars, and sweet wort drains away from the spent grain.	Yeast needs usable sugar. Cooling the wort prepares it for fermentation.	Grist and water yield sweet wort and spent grain, called draff.

06 · FERMENTATION IN WASHBACKS



WHAT HAPPENS	WHY IT MATTERS	WHAT CHANGES
Yeast ferments cooled wort in a wooden or stainless-steel washback, producing alcohol and carbon dioxide.	Yeast and fermentation conditions also shape fruity and floral aromas.	Sweet wort becomes alcoholic wash, ready for the still.

WORT AND WASH



BEFORE THE YEAST

Wort is the sweet liquid drawn off the mash. The spent grain left behind is draff.



AFTER THE YEAST

Wash is the low-strength alcoholic liquid sent to the still. Fermentation is where alcohol first appears.

THE TRANSFORMATION

BARLEY → MALT → GRIST → WORT → WASH

Continue to Part 2, Spirit to Glass.

SELECTED REFERENCES

[1] Scotch Whisky Regulations 2009, regs. 3–12.
[2] UK Scotch Whisky technical file, production process.
[3] Scotch Whisky Association, categories and regional guides.
[4] Kelly et al., Beverages 9, 64 (2023).

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