

THE GLENKINCHIE STORY

APPENDIX 1

THE WORKINGS OF THE DISTILLERY

Before 1968, when Glenkinchie still did its own malting on site, it employed coal during the drying process (and just a very little peat, compared to the western and highland distilleries – this contributes greatly to its lighter flavour). These days malt is weighed into batches of about 9½ tons in the mill house. Ten batches are processed every week. The process is not continuous. A new batch is started only when the previous one has been completely processed. The entire process progresses as follows:

Malt is brought in from one of the four maltings and batched. It takes about two hours for one batch to pass over the rollers in the mill and become separated into grits between flour and husks, collectively known as grist. Although the grits fraction provides access to the starches essential in the production of scotch whisky, the husks provide important fibre to keep the mash “open” and allow for efficient drainage during the mashing process.

Milling is generally done at night because a) the process is too noisy and b) the fine dust produced during the milling (which can be hazardous in the wrong environment hence the



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No Flash Photography signs) does not easily accommodate distillery tours.

Two huge metal arms turn and mash the grist and water. The water enters the tun in three stages. The 1st quantity of water amounts to 28,000 litres. It is heated to 68° centigrade and meets the grist to mix at precisely 64° starting the conversion of starches to sugars. Over time the water becomes saturated with sugar and this is known as wort. As the wort is drained a further 12,000 litres of water are added to the mash at the higher temperature of 77° converting and dissolving any remaining sugars that still clings to the husks. The resulting wort is combined with the first worts to form a total quantity of 40,000 litres. This is passed through a cooling device on its way to the fermentation room – yeast would not survive such temperatures. Meanwhile back at the mashtun a third lot of water is added to the mash, this time at 83° and is only allowed a short residence time to draw out any remaining sugars. This results in the water becoming slightly sugary but not adequately so to be considered wort. This is drained and returned to storage in a huge tank where it will become the first water of the next batch. No sugar is wasted. What is left in the mash tun is the sludgy, grainy mixture called wet draff, which is used as cattle feed. The fermentation room contains six wooden washbacks (four made from Canadian Larch, two from Oregon Pine) each large enough to hold 60,000 litres of wort. Yeast is added at this stage (the DCL company once had its own yeast factory in which they cultured their own yeast for distillery use but the cultured yeast is now purchased externally) and the fermentation process begins. The wash for Glenkinchie Single malt has been fermented for a minimum of 60 hours – an unusually long time compared to some other distilleries – and ends up something like a flat beer of about 9½% alcohol. The wash then goes to the pot stills where it finally becomes the beginnings of what in the fullness of time will become whisky as we know it. Glenkinchie has two abnormally large pot stills (the largest of their kind in Scotland). Some other distilleries have up to 18 stills. The wash still has three sighting windows, which can be used to check what stage the boiling head has reached. In earlier days, a wooden ball would hang from the still on a string; when swung against the head of the still, the resulting note, sharp or dull, would indicate the level of the “boil” inside the head. It takes six hours for the first half of a washback to go through the first still – the wash still – and eight hours to go through the second – the low wines still. As the wash comes

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through in two halves, this means the total time taken to distil a single washback is approximately 20 hours. The wash is gently heated in the wash still up to boiling point. The resulting vapours rise through the neck and out into an unusual two-story high, cast iron worm-tub condenser (an old fashioned type of condenser still preferred by Glenkinchie, as opposed to a more modern type – there is an argument that says the worm condenser adds more character and depth to the whisky).

Herein, the vapours enter a coiled copper tube which runs around inside of a tub, which is in turn filled with cold water. The cold water causes the vapour to condense inside the tube. The resulting liquid is called low wines and is about 25% alcohol. This goes through the same process again in the low wines still, after which the first distillate to be received at the spirit safe is about 80% alcohol. (When the whole wash has passed through there is a huge residue left in the still. A mere 40% of the wash has turned to vapour. What is left is known as pot ale. It is used as pig feed and is less than 1% alcohol. The liquid residue from the second still has no feed value and is passed through an effluent plant before returning to the Kinchie Burn as clean water. The sludge produced in the effluent plant however does have a purpose and it is spread on the local fields as fertiliser.) This initial outpouring (the foreshots) is too strong to be of optimum worth and contains volatile flavour compounds not desired in the final spirit so is set aside and stored. Happily though, as the distillate comes through, its strength steadily weakens. 70% is considered the ideal strength (and anything between 75% and 65% is acceptable), and the next quantity of distillate comes through at that strength. This is known as the heart, and is passed directly on to the spirit receiver. When the distillate drops below 65% alcohol (known as tails or feints) it is too weak to be put into casks and is collected elsewhere. The feints and the foreshots will join the next quantity of low wines in the low wines still, to be distilled again. By this stage the initial 40,000 litres has been reduced to 5,500 litres of distillate at a strength of 70% alcohol, which is then reduced (by the simple addition of water), to 63.5% alcohol (considered the optimum strength at which to mature the whisky) before being put into oak casks, which have been imported from the United States, and which have previously have been used (only once) to hold bourbon. 1.8 million litres of alcohol are produced annually. The distillate has to stay in the cask for at least three years before it can be known, legally, as Scotch whisky.

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East Lothian's relatively dry climate means Glenkinchie takes a relatively short time to mature – a mere 10 years. During those 10 years in the cask, the originally colourless liquid takes on a golden hue and gathers flavours by 'breathing' the surrounding air. 1½ to 2% of the liquid evaporates during the 10 years (equivalent to about 90,000 bottles per year). This is known as "The Angel's Share". When the maturation period is over, the whisky is watered down further to the familiar 43% alcohol, and bottled.

The special 'Distillers' Edition' is matured for a further period of time in an Amontillado sherry cask, which allows the fresh clean nutty sherry flavours to complement the light dry character of Glenkinchie.

APPENDIX 2

ENVIRONMENTAL ISSUES

Curiously, at the same time as Glenkinchie's late Victorian renaissance, an issue displaying great parallels with the modern industrial climate emerged. Amongst all the confident building and progress of that time was a voice of discontent and protest. On 21st March 1891, the distillery secretary received the first of many letters of complaint on behalf of the Fletcher family who were staying at nearby Saltoun Hall.⁵³

Such letters would continue to arrive sporadically, often accompanied by threats of legal action, and concerned the foul state of the Kinchie Burn as a result of some of the distillery's practices. Another letter, dated 12th June 1895, from the Fletchers' solicitors, Strathern and Blair, to Glenkinchie's solicitors, Davidson and Syme, also complains about the shoddy condition of their mutual dyke.⁵⁴ Perhaps they were too distracted at that time by the death of one of their senior partners, Alfred Thomson (R.H. Thomson would also die in 1897), but clearly the Glenkinchie company were in no hurry to take action over their environmental laxity, as another two letters arrived three years later on 3rd and 6th June 1898,⁵⁵ this time complaining that the trout populations in the stretch of the Kinchie Burn between the distillery and the Tyne, and in the nearby Birns Water, had been decimated. These letters also deplored the distillery's use of the local haugh as a dump. Having still not taken any action three years later the distillery received a threat of litigation on 28th May 1901.⁵⁶ This threat

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came from Mr. G. Stevenson on behalf of the Fletchers, who now claimed that the contamination of the Kinchie Burn had also seeped into the Saltoun water which ran through their land. They reported dead fish floating in the stream. They also claimed that their cows refused to drink the water. How this long-running dispute was finally resolved is not well documented.

What is known though is that the Kinchie Burn finally ceased being used as the distillery's source of water in 1954. There was some concern that the quality of the water might have been adversely affected by the use of chemicals by farmers.⁵⁷ From this point on the distillery would use water from a spring deep below the warehouse which is fed through the limestone strata of the area all the way from the nearby Lammermuir Hills.

It is worth noting that Glenkinchie's present management have a very responsible and proactive attitude to protecting and enhancing the environment. In recent years in line with their 'green' credentials Glenkinchie as part of the 'Classic Malts' group are sponsors of the Wild Trout Trust – a body with strong environmental and conservation themes applied to freshwater fishing and river management. As manager Charlie Smith comments: "We rely on the quality of the natural products that make Glenkinchie the great whisky that it is, so it is incumbent on us to play our part in the environmental cycle to maintain and protect that situation for future generations".