

Stramash

Whisky journeys and local craft stories

Issue N°4



Lowlands

Take a fresh look at Scotland's Cinderella region

Bladnoch

The 'Queen of the Lowlands' retakes her throne

Go long

Why some world whiskies are all about fermentation

Go long

What does fermenting for 120 hours or more do for your dram?
Anthony Gladman finds out

OK folks, buckle up for a shot of boozology. Today's lesson: if a liquid gets you drunk, it was fermented. This goes for any liquid at all from beer to wine and even the distilled stuff like whisky. Fermentation is what creates alcohol. I need to be sure we're all clear about that, as there walk among us people to whom this still comes as a surprise. And it's kinda the whole deal of this article, so...

I suppose you can't blame them. Whisky's marketeers just love to

wang on about the later stages of its production. They adore the gleaming copper stills, the romantically dingy dunnage warehouses. Fermentation, though? Not so much.

For the sort of whisky maker who could fill a modest loch with the stuff in a day, fermentation is just another stage in the sausage factory to be dispensed with as efficiently as possible. "Large scale alcohol production is a process engineered by accountants," says Tony Dillon, co-founder at the Spirit of Birmingham Distillery. "It's a production line that you can't interrupt because

it causes problems if you do." The big distilleries will let their wash (the sugary beer-alike that gets distilled into whisky) ferment for 48 hours then move right on to the next batch so as not to disrupt the flow of bottles out and money in.

There are others who think that's no good at all. They sneer at 48 hours. They pooh-poo 72, even consider 96 a bit rushed. Come back after 120 hours and we'll talk, they say. Spirit of Birmingham is one such. "We're self-funded so we haven't got accountants looking over our shoulders, we haven't got investors rubbing their hands eagerly waiting for a

return, so we can do what we like," Dillon says. "Within reason."

Sometimes these longer fermentations are the byproduct of other choices. It could be the grain, for instance. "The majority of what we produce is based on a mixed mash bill that makes a rich dark wash" says Dillon. And it's quite a mix, packed with heritage Maris Otter barley, unmalted barley, oats, chocolate malt and rye — it sounds more like something you'd find in a craft brewery. With no temperature control the yeast (a pairing of Belgian ale yeast and distiller's yeast) can take longer to ferment all the sugars. »



Photos © Spirit of Birmingham Distillery



Tony Dillon, co-founder of Spirit of Birmingham Distillery

“Having more flavour complexity before you’ve even turned the still on is particularly helpful for smaller distillers

The choice of yeast can slow things down too. At Callington Mill Distillery in Tasmania fermentations regularly stretch to 168 hours. That’s a week in old money. The distillery uses lager yeast instead of the usual distiller’s yeast. “It’s an unconventional choice for whisky-making. As far as we know, we’re the only distillery in the Asia-Pacific region using it for single malt whisky,” says Distillery

Manager Rizk Mawass.

Lager yeast ferments cold and slow. It also costs three times as much but Mawass says it’s worth it for the creamy texture and complex fruity flavours of green apple, pineapple and passionfruit. Mawass says this complexity endures through distillation and into the new make spirit, which in turn affects how it interacts with the casks during maturation. “The spirit extracts nuanced flavours from the cask, resulting in a whisky that develops deeper complexity, smoother textures, and more pronounced fruit and spice notes.”

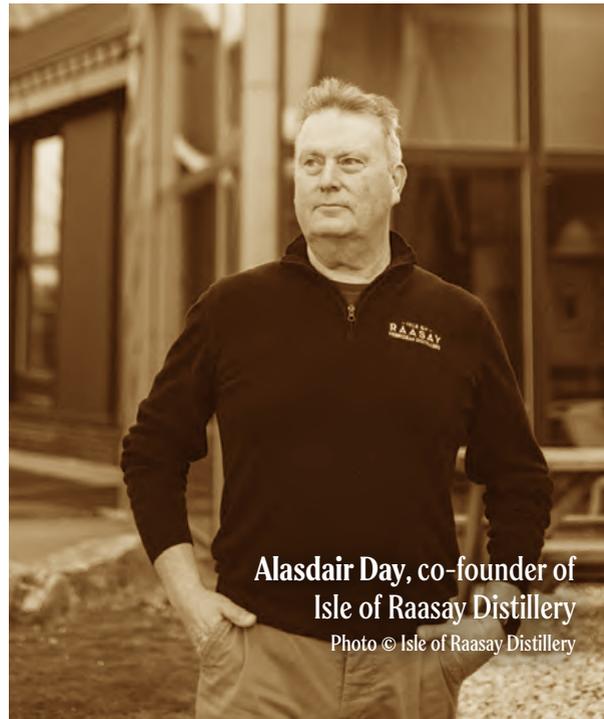
Tasty, tasty science

For other distillers, long fermentation is a deliberate choice. At the Isle of Raasay Distillery, batches of wash ferment for either 72 or 120 hours. Co-founder Alasdair Day says you can make good whisky from a 50-hour ferment but finds it more interesting to go longer and produce flavours another way. “My approach has always been we need to create everything we can during fermentation to be able to distil it across,” Day says.

Day looks for two things from his longer fermentations: rich textures and complex flavours. “For us it’s very much about what happens after the yeast starts



Photo © Callington Mill Distillery



Alasdair Day, co-founder of
Isle of Raasay Distillery

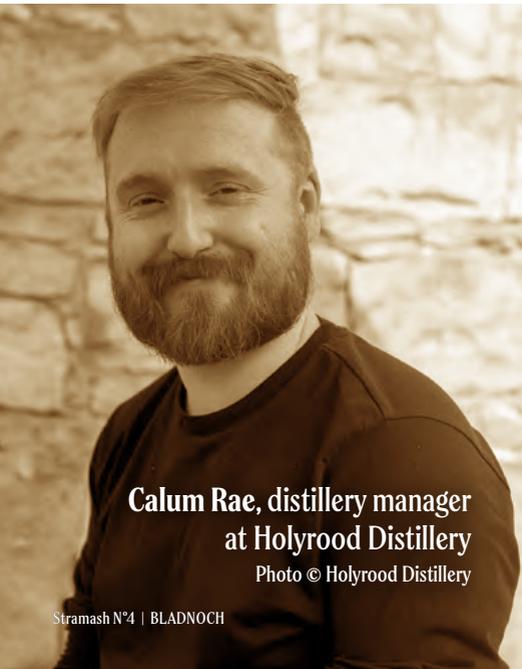
Photo © Isle of Raasay Distillery

dying off,” he says. This happens after 70 hours or so. The dead cells break apart (a process called lysis), which Day says creates a rich and oily texture that is just right for his Hebridean style of whisky.

Leaving a wash on its lees (dead yeast cells) for a while will naturally lower the pH level somewhat. Longer fermentations also allow time for other microbes to get involved, in particular one called lactobacillus which further lowers pH as it produces lactic acid. A more acidic wash is useful for distillers as it means the copper stills are better able to remove sulphur and other impurities. (Because chemistry.)

Perhaps more significantly, an acidic wash provides more of the chemical building blocks needed to create deeper and more complex flavours. The lactic acid reacts with byproducts of the yeast’s fermentation to form long-chain flavour molecules known as esters. “For us you get more of those dark fruit flavours we’re looking for,” says Day.

Having more flavour complexity before you’ve even turned the still on is particularly helpful for smaller distillers. By fermenting for 120 hours instead of 50, Isle of Raasay makes fewer batches over time. Two fewer in a week doesn’t sound so bad but over a month, a distillery fermenting for 50



**Calum Rae, distillery manager
at Holyrood Distillery**
Photo © Holyrood Distillery



“Holyrood was set up with the idea that flavour drives everything we do, you know, above pesky things like efficiency”

hours could make double the number of batches Raasay could. Over a year, Raasay effectively forgoes 102 batches. That’s a lot of unsold whisky.

But what Raasay loses in efficiency compared to the larger distilleries during production it makes up in maturation, as it can release its whiskies sooner. “We wanted to release whisky at a younger age — three, four or five years old,” says Day. “We have to do

everything we possibly can to have complexity, depth and balance.”

Find a fitting niche

Smaller distilleries can’t compete on scale or price so need to find other ways to differentiate themselves. For Holyrood Distillery in Edinburgh it’s experimentation and iteration. “In 2022 we did 99 different recipes,” says Calum Rae, Distillery Manager. “That’s not something I’ve carried forward, we’re slowly reducing the amount we do, but Holyrood was set up with the idea that flavour drives everything we do, you know, above pesky things like efficiency.”

At Holyrood the average fermentation is around 54 hours, but there are outliers. “Anytime we’ve got a shutdown we will purposely fill the tanks so we have stuff working away,” says Rae. Some of these longer fermentations have lasted for 380 hours, which Rae concedes is pretty long — albeit not the longest. “Over this Christmas we’re gearing up to do a 24-day-plus fermentation. We’re approaching lambic territory.”

Rae says the interesting stuff happens after 60 hours. “There’s always a tangible difference between our standard fermented new-make compared to the long ones. There’s always this real

“I would hate the idea that somebody thinks we’re some young punk coming in and saying all the old stuff sucks

complexity that comes once you let the yeast get to the point where it starts going a bit crazy when it runs out of food.”

Holyrood is a young distillery; it released its first whisky in October 2023. It can make at most 250,000 litres of pure alcohol in a year. Actual production comes up slightly lower. Either way it’s peanuts compared to the Macallans and Glenlives of the whisky world. So for

Holyrood there is no point in trying to ape what the big guys do.

“I don’t think we’ve ever intended to compete,” says Rae. “We’re all whisky fans. I would hate the idea that somebody thinks we’re some young punk coming in and saying all the old stuff sucks. We’re standing on the shoulders of giants here. That’s what’s allowed us to move into this space. We’re not looking to be the new Macallan. No, we’re just looking at slipping alongside all these great distilleries to offer the consumer something different. We’re not pumping out millions of litres a year, so we can afford to take some risks. More often than not they pay off.”

Whisky distillers make almost endless choices all the way from the field to the bottle. All these choices, these levers they can pull or not, affect how their whisky tastes. How long to ferment is just one of them. In the end it’s not as simple as longer fermentation meaning better whisky, or shorter meaning worse. They’re simply two different choices among many the distiller will make. But where longer fermentation benefits the drinker is allowing smaller distillers to find a viable niche in the market by offering complex and flavourful whiskies at a younger age and perhaps, if we’re lucky, at a price that’s easier to swallow.