



# USING THEIR LOAVES

## A Dunedin distillery is turning bread into gin, diverting thousands of loaves from landfill a year.

By Eric Trump

**Gin has come** a long way since the 18th century, when the English artist William Hogarth illustrated the evils of gin-drinking in *Gin Lane*, a vivid print that shows the crazed spectacle of a deprived London street, with a mother dropping her baby as she pinches snuff in front of a man and dog gnawing on the same bone. In 1714, an Anglo-Dutch moraliser named Bernard Mandeville scorned gin as an infernal solution, a “fiery lake,” that set a wretch’s brain on fire and scorched his entrails.

These days gin’s reputation has been sublimated into something rarefied. It no longer conjures thoughts of bathtubs and blindness, but rather of infusions and fancy cocktails — the transmutation of ethanol into vapour rising through an artisanal blend of botanicals and a cooling maze of piping to descend in a stream of subtle flavour, wending its way to your \$24 martini or Hanky Panky. In New Zealand there are about 150 commercial distilleries, with well over half producing gin. Dunedin alone has five craft gin distilleries, and artisans now dot the country, from Great Barrier Island to Reefton on the West Coast.

Jenny McDonald and Sue Stockwell of Dunedin have added a yeasty twist to what some

industry observers have dared to call a “ginaissance.” Dunedin Craft Distillers was founded in 2020 on a mission: to take unwanted bread and baked goods that would otherwise end up in landfill and turn them into gin that would win awards and people would want to drink. It’s one of only a handful of distilleries in the world to use this process, and the only one of its kind in this country. The distillery’s motto is “Raising spirits from bread”.

Since 2021, Dunedin Craft Distillers has had its headquarters on a quiet street on the harbour front, near the Steamer Basin. An alembic (an old-fashioned copper still) is part of the distillery’s crest hanging above the door, and an actual one from Portugal glints like a new penny in the front window. Inside is a long bar where customers can gather for tastings and “bread to bottle” tours of the facility. Around the back is the station where bottles of gin are labelled and corked.

The day I visit in early December, an invisible mist of overlapping aromas greets me with what I take to be top notes of clove, star anise, maybe cinnamon. “You’re not far off,” McDonald tells me. “That’s our Christmas gin — Seville orange, juniper, coriander . . . among other spices.”

Her co-director Stockwell is around the corner labelling bottles, which are sealed in Yuletide green and red wax. Those ready for sale line an exposed-brick wall and are filled to the neck with a liquid as clear as mountain snowmelt.

The statistics around food waste are sobering. According to the Love Food Hate Waste campaign, New Zealanders throw away the equivalent of 20 million loaves of bread a year, which makes

up one small part of the 157,389 tonnes of food that goes into landfill in this country annually. “We were shocked at how much bread — thousands of tonnes a year — ends up in landfill, where it rots and releases carbon and other greenhouse gasses,” Stockwell says. “We decided we could do something about that.”

Stockwell moved here from the Midlands in the United Kingdom in the mid-1970s. McDonald was born in Kenya, but raised in the UK, moving to New Zealand in the early 70s. She has a background in health sciences and tertiary education, while Stockwell’s is in educational technology and food service management. They taught themselves how to make gin.

“My medical degree helps with some chemistry basics, but the learning curve was steep,” McDonald says.

**Unlike other** distilleries, which purchase grain from farms, neutral alcohol from pharmaceutical companies, or whey-based alcohol from the dairy industry, Dunedin Craft Distillers starts from scratch. The food rescue organisation Kiwi Harvest delivers 50 to 90 kilograms of bread and baked goods from hotels, cafes, and supermarkets around Dunedin to the distillery twice a week.

Since they began some three years ago, the duo has recycled more than five tonnes of bread and baked products. In honour of their work, they received a commendation at the 2022 Keep Dunedin Beautiful Awards last August.

“We use everything — croissants, pizza, bagels, raspberry buns,” McDonald says. “Icing is great because of all the sugar”. What they don’t want is mould, meat — and

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Spirited distillers Jenny McDonald, left, and Sue Stockwell did consider “Golden Girls” as a name for their gin.



Dunking donuts: snaps from Instagram (@dunedincraftdistillers) show base ingredients for distillation and botanicals ready to add flavour and the final result, bottled. Opposite, McDonald with the infusion stills.

garlic. “Garlic and gin don’t go together.”

By taking throwaway bread, they also prevent the exploitation of fresh resources, such as the land, water, labour, and energy needed to produce and transport grain. Despite containing about four loaves of bread in every litre, distillation ensures their gin is always gluten free. It also ensures your cocktail won’t taste like a lamington.

“Our base alcohol has a faint brioche vanilla flavour, but that’s all,” Stockwell says.

When I take a sip, I find that’s true: your taste buds have to work very hard to detect the bread at the base.

The alchemy of turning bread into gin starts downstairs in a clean and spacious workshop illuminated by skylights. The bread comes first, broken up by hand or left as is, and then transferred to a kind of truncated cauldron. Here, it is macerated in water with malt and enzymes to release sugar, stirred by hand into a mash, and strained.

Stockwell does this with a paddle, donning a boiler suit and rubber gloves.

Once the bread acquires a porridgy consistency, it’s moved to fermenting barrels for about a week, where yeast is added. When yeast metabolises sugar, it excretes waste (primarily ethanol), which is called “distiller’s beer.” Peek inside a fermenting barrel at this stage in the process and you will see a quivering mass, redolent of fortified beer.

The distiller’s beer is about 8 per cent alcohol by volume. The fine solids and yeast that collect at the bottom of a barrel are called trub, which they give to anyone who wants to use it as starter for sourdough.

“Whatever’s left after that we give to local farmers for their cows to eat,” McDonald says. “We try to make our production line as circular as possible.”

Resplendent against the gray concrete block wall of their basement is a 500-litre copper-and-steel column still, which recently arrived from China. It stands on four squat legs, with one large hatch in its fiery belly and a row of smaller portholes rising up a vertical reflux column from which emerge other gleaming pipes leading to a condenser. This jewel would be right at home in a submarine

captained by a steampunk Nemo.

The machine looks somehow jolly and eager to get to work. However, it remains at rest as local engineers and fabricators ready it for use.

“When we get the still up and running, producing more ethanol will be a lot easier and faster,” Stockwell says.

This is good news, since the more gin they make, the more bread they save from landfill.

The distiller’s beer is taken upstairs for infusion. There, four 25-litre infuser stills are lined against the wall. They look like slightly larger versions of urns for hot water, with copper spouts. They run hot, stripping alcohol from the beer to produce ethanol.

Inside the stills, some botanicals are macerated, while others go into sieves, or infusion baskets. Vapour rises through the sieves, carrying with it the essential oils that end up in the gin. On average, McDonald and Stockwell use about four different botanicals. They are what separate gin from vodka.

At this point, the bread has successfully been transmuted into gin. All that remains is to dilute it to the desired alcohol content with water and bottle it. No cask aging is necessary, and from bread to bottle the process takes about three weeks.

## ARTISANS

Dunedin Craft Distillers' terroir is Ōtepoti through and through. Dunedin brewing legend, the "hopfather" Richard Emerson, lent them their gin masher. A few of the fermenting barrels they use are from the now-defunct Cadbury chocolate factory. The 750 ml gin bottles are made from recycled glass, and the labels are made from sugar cane.

Water is a vital component in the process, with about 18 litres used in the production of a typical bottle. It is gathered from nearby Mount Cargill in jerry cans to proof the gin (after UV and carbon filtering).

When it comes to ingredients, Dunedin Craft Distillers is wide open to ideas, as long as they're local and sustainable. "It's really important to us to keep the carbon

footprint small and have a local operation," McDonald says. The biggest challenge to this vision came from one of their most-needed ingredients.

Juniper berry — actually a cone masquerading as a berry — is the only essential ingredient when it comes to making gin. No juniper, no gin. Juniper grows wild in the Northern Hemisphere, but it's hard to secure if you live south of the equator — importing it here costs about \$2000 a tonne. Since this country has no juniper industry, Dunedin Craft Distillers' is imported from Macedonia.

Once you've got juniper sorted, though, you can go nuts with your infusible ingredients. Take Monkey 47 from Germany. The 47 refers to the number of ingredients it contains, among them bramble

leaves, rosehip, sage and sloe. Calamity Gin of Texas is infused with bluebonnets, the state flower. In Scotland, Isle of Bute oyster gin charges its stills with oyster shells from Loch Fyne. If you wanted, you could probably source wool of bat and tongue of dog for a hell-broth worthy of *Gin Lane*.

At Dunedin Craft Distillers, the Wild Dunedin gin is flavoured with wild fennel, lemon, and little neck clams from Blueskin Bay near Waitati.

When I take a sip of this maritime gin, my eyes open wide in appreciation.

"It's got quite an ocean note," McDonald says with a smile.

The Bay, a bay-leaf gin with lemon and coriander, won a bronze medal at the 2022 NZ Spirits Award, and Naked Spirit, the base ethanol, took a silver medal.

There's also cacao vodka, which is made with cacao husks and nibs from Ocho, the chocolate factory next door. This mellow spirit, which took a silver medal in the 2021 NZ Spirits Award, breaks over the palate with a clean rush, receding with phantom base notes of dark chocolate.

Business is thriving. The company sells its gin at the Otago Farmers Market, the distillery, online, and at local shops. They sell everything they make, which at the moment is about 80 litres of spirit a month.

"We've gone from pots on stoves and wondering whether to call our gin "Old Bats" or "Golden Girls" to this," McDonald says.

There are no plans yet to expand, with the pair cleaving to their initial vision of minimising waste and staying local.

"The reason we started was to make a gin using local, upcycled ingredients and to involve the local community," McDonald says. "If we export anything, we'd like it to be the idea of reducing waste in creative ways." ■

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