



TOPIC: SUPPLY CHAIN, DISTILLING

GIN – SOURCING THE BEST INGREDIENTS

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Gin is popular, “oasis-in-a-dry-desert” levels of popular. Today’s modern liquor industry has been inundated with the juniper-swathed spirit to sate the thirsts of gin-fandom’s growing multitudes. Every week, retailers and on-trade members receive listings for new products in the gin sector. Some of these focus on a particular style of gin such as the more austere London-dry types, idiosyncratic Western gins, or the lightly sweetened Old Toms. Others hammer in the concept of a regional terroir by sourcing ingredients from a small area. And increasing numbers of gins are showcasing unique individual botanicals, building their entire recipes around a set of simple flavors. The one thing that all these products have in common is that they all live and die by the quality of their ingredients.

To make a gin requires two things: a base spirit and juniper. That's it. Gin is not a complicated spirit to make. Of course, simply making gin and making *good* gin are not necessarily the same thing. Virtually anybody can make gin. However, it takes skill and knowledge to make something the customer will remember and want to come back to. Understanding distillation techniques and processes is certainly helpful, but in order to make a high-quality gin it requires high quality ingredients, and this is especially important when it comes to the juniper. It's the old distiller's adage, "If you put garbage in, you'll get concentrated garbage out." So, let's take a few moments to consider some important points that come into play when sourcing quality juniper for gin.

Juniper

Without juniper, there is no gin. Juniper is the only required ingredient in gin production. Gin can be made from all sorts of base spirits, made from all kinds of fermentable sugar sources, and distilled to an assortment of strengths and neutralities, but without the humble juniper berry, there is no gin.

The juniper family is a group of northern hemisphere conifers of about 60 or so species. The most important species for gin is *Juniperus communis*, also known as the common juniper. This species provides the gin distiller with the small 4-12 mm pine scented berries for their craft. (Interestingly, these "berries" are not really berries at all but are actually cones. The cone scales are so small and tightly fused that the overall appearance more closely resembles a fruit berry than the more closely related pinecone.) The common juniper has what is believed to be the largest geographical growing range of any woody plant in the world. It grows throughout the northern hemisphere from the southern Arctic down to a latitude of approximately 30°N.

Juniper berries are almost all wild harvested. The plant is usually too difficult to cultivate commercially. Local communities that have nearby stands of common juniper will go out and harvest the berries and then turn around and sell them to a negotiant.

There are a few difficulties with juniper harvesting, firstly that the process is slow and difficult with no mechanized solutions for wild growing bushy trees. Harvesters generally bring screen-lined baskets to a berry plot and lay them beneath the juniper tree. The branches of the trees are struck with sticks to shake loose berries into the baskets lying below.

The second major challenge with juniper harvesting is that the berries ripen across an 18–24-month cycle, meaning that ripe and unripe berries are present on the plant at any given time. No matter how hard the harvesters try, there will almost always be some unripe green berries that fall into the baskets. This is important because these green, unripened berries aren't worth much to the gin distiller. They have little in the way of aromatic oils to contribute, and depending on how the distillery processes their juniper, these unripe berries may contribute more vegetal notes to the spirit instead of the bright, coniferous, piney notes that define a quality gin. A quality supplier will know the conditions in which the berries were harvested, typically providing an option for more expensive lots containing fewer green berries.

The ideal juniper berry at harvest is dark purple in color, sometimes almost black. The berries should be of a good size around 6-8 mm in diameter. The berries should be slightly firm, but not hard. One should be able to firmly squeeze a single berry between their thumb and forefinger and break the cone flesh with good pressure.

The oil fraction of juniper is composed mostly of terpene hydrocarbons with the major constituents being α -pinene and β -pinene which provide the berries with their characteristic pine aromas. Other important essential oils include myrcene (woody, balsam notes), sabinene (black pepper), and limonene (citrus aromas).

Finding a juniper with the desirable oil quantity and quality requires some legwork. Juniper, like countless other ingredients in the world of distilling, exhibits a bit of terroir. This is to say that juniper from Italy will produce a different gin than juniper from Canada which is different from UK juniper and so on. As a general rule, juniper berries harvested in a warmer climate have a higher oil content. Note that this “rule” only addresses the quantitative issue of juniper oil. The quality of juniper oil, that is the overall character of the various oil fractions interacting with one another is a different story entirely. Common source regions for juniper include northern Italy, Macedonia, Canada, the Pacific Northwest in the United States, and the United Kingdom. Other juniper producing countries include Iceland, Russia and even Japan. There are a lot of sourcing options out there when it comes to juniper terroir.

As an example, when Distillerie Cote des Saints in Mirabel, Quebec was in the process of getting their first gin onto the shelf, they had to begin the process of sourcing ingredients. The owners had already invested in one tonne of Canadian juniper, but in the lab trials, they found that they could not get the character they wanted from that particular terroir. They were looking for something bright and oil rich and the cold climate Canadian juniper just wasn't going to cut it. So, they contacted their botanical brokers and sourced junipers from as many terroirs as they could find. Their Master Distiller distilled them all separately and compared the results. The juniper that they preferred came from a region around northern Italy and Croatia. It has a massive oil content and hits all the bright notes that they were looking for. In the process of designing a second gin for their portfolio, the distiller wanted a juniper that was a bit more woody and lighter in tone. After much testing, he discovered that Quebec-grown juniper was exactly what was needed for this new product.

This is all to say that the distiller should do a lot of bench topping before deciding on a juniper supplier. Order small amounts of several junipers from several suppliers, distill them all separately with the base spirit of choice, and compare the results. It may be surprising what is found.

Terroir is not the only issue at hand. As a gin distiller, the product must be consistent from batch to batch. In order to do that the ingredients need to be of consistent quality as well. Like in other facets of brewing and distilling, relying on an agricultural product to provide a consistent flavor and aroma is a deeply challenging task. Picking up bulk juniper from all sorts of suppliers online is an option, but the caliber of these merchants often varies and so will the quality of their goods. Perhaps most importantly, if purchasing juniper from a supplier in the summer understanding if the quality and character of the juniper will be the same again in the winter or even a year or two down the road.

This all requires a bit of supplier vetting. Get a knowledgeable sales rep on the phone and begin asking questions such as:

Where do they source their juniper?

Does the source location vary?

How often does it vary?

Will they send a notification when a location change happens?

How are the berries harvested?

Do the harvesters or the negotiant color sort and sift the berries?

How often does the supplier get new stock in?

Will they send samples for in-house testing?

These are important questions. If the supplier won't answer or seems a little reluctant to give out some of this information, consider sourcing juniper elsewhere. Most merchants should be willing to answer most of these questions quite comfortably.

In order to maintain consistency, periodic testing on incoming lots of juniper is crucial. This testing can be simple or more complex. Every different lot of juniper coming into the distillery should be assessed according to appearance, feel, and aroma. The berries should look uniform in color and size, they should be firm yet slightly pliable when holding between fingers (and consistently so between multiple berries), and the aroma should fit with internal standards. Next, take a good representative sample and perform a test distillation using a normal base spirit. This will allow for comparison between juniper quality and individual lots. Keep the samples in tightly sealed bottles with little headspace so that the aromas stay fresh and true over time.

For more thorough chemical-technical analysis, consider gas chromatography. A gas chromatograph will quantify the main aromatic compounds like pinenes, sabinenes, myrcene and limonene, which will provide a baseline reference for comparison against future lots. Though sophisticated lab analysis like GC can be used, many distillers don't bother going into this level of aromatic minutiae. Notably, even the folks at Beefeater gin generally rely on the good old fashioned hand assessment coupled with some simple lab distillations. And this is a distillery that uses 50 tonnes of juniper per year. Still, the appeal of GC methodologies is attractive to some people because it can provide hard data to back up the organoleptic properties of the juniper. Selecting quality juniper should not be an afterthought when making a gin. It is a complicated and often fraught exercise that requires a certain amount of due diligence. But just like anything else in the world of distilling, much of this process is about building good relationships with suppliers. This exercise applies for other botanicals as well and the same lines of thought and process will hold true for every other gin ingredient no matter how mundane or obscure. When it's all said and done, making a quality gin that brings customers back for more should be the end goal. Cheers!

By Matt Strickland

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