



MATCHA

THE GOSSAMER TEA POWDER OF JAPAN

-Mary Lou Heiss

Green tea lovers know that there is a striking difference between Japanese and Chinese green teas. A comparison of green teas from these two countries presents a wonderful example of “cultural dissimilarity” in taste, aroma and appearance as well. In fact, it is safe to say that the only similarity these two styles of tea bear to one another is that they are both manufactured without any oxidation of the fresh leaf, which therefore classifies both of these teas as green tea.

One of the most important green teas synonymous with Japan’s unique tea culture is *matcha*, the vivid, emerald-green, finely powdered tea that is at once sweet and slightly astringent and creamy in the mouth. Powdered tea is rarely drunk in China today, as leaf tea has become the tea of choice. But the roots of powdered tea drinking traveled from China to Japan during the height of the lavish Song Dynasty (960-1279) tea culture.

Centuries ago, China was the only country that possessed the secrets of tea cultivation and manufacture. During the Tang Dynasty

(618-907), Lu Yu, known as the father of tea, shaped China’s fledgling tea drinking culture, and codified tea drinking protocol that is still relevant today. However, this early tea was a far cry from the sophisticated, terroir-specific leaf tea that China began producing centuries later. But Japanese priests and monks visiting China on diplomatic and religious missions during this time were enthralled by this wondrous beverage. They brought both the knowledge of tea and a taste for tea with them back to Japan, and eventually tea seeds as well, which were first planted in temple gardens.

In Tang-era China, it was the fashion to drink tea that had been scraped and cut from a small tea cake made of compressed, coarse leaf that had been steamed, then crushed and bound with a small amount of plum juice and dried. The tea would be placed into a pottery vessel to which hot water was added. Pieces of onion, jujubes, dogwood berries and spices would be added to the pot as well, in some cases just salt. Either way, the tea mixture would be served in dark

brown-or black-glazed, low and wide tea bowls known as *tenmoku*.

In China, this style of tea steeping and drinking went unchanged until the Song Dynasty (960-1279). During this era, tea continued to be scraped from tea cakes, but a new refinement was introduced. Tea cakes were now pressed from leaf tea that had been powdered, and a kind of tea “mud” was used to shape the cakes.

New tools were developed to cut, grind, and sieve the tea into a fine powder. Learning the art of properly whisked tea was the goal of every tea master and wealthy tea devotee. In this way, the Song took the tea traditions developed by the Tang and elaborated on them with new refinement and their use of whisked, powdered tea.

To accommodate this new style of tea drinking, elaborately glazed tea bowls became popular. These bowls were narrow at the bottom and wide at the top, and were shaped and sized to accommodate the use of the bamboo tea whisk in the tea bowl.

茶粉游絲





Unfortunately for the worldly Song, their love affair with tea and tea equipage came to a stunning end when China was overtaken by Mongol outsiders and Kublai Khan established his Yuan Dynasty (1271-1368).

Despite this unhappy turn of events for Song-era tea culture, the Japanese, familiar with Chinese tea preparation customs, were able to continue the practice of whisked, powdered tea drinking in Japan. The Japanese took a Chinese practice and re-shaped it to fit their cultural and aesthetic style. This tea-drinking method, combined with Japanese aesthetics, Zen meditation and the philosophical ideals of *Wa Kei Sei Jaku* (Harmony, Respect, Purity and

Tranquility), ultimately led to a tea drinking experience that was shaped more by Japanese sensibilities and detail than by Chinese ways.

By the 16th and 17th centuries, four essential Japanese tea masters had each contributed to the philosophical underpinnings of the practice of making and drinking a bowl of whisked powdered tea and named it *Chanoyu*, the Japanese tea ceremony. Tea and tea drinking is central to the experience and practice of *Chanoyu*. In this intimate gathering, the tea master carefully uses a bamboo whisk and precise hand movements to prepare the whisked tea. The tea bowls, known as *chawans*, are large in size, can be glazed or slightly rustic in shape and

texture, and are earthy in color and appearance. The most prized tea bowls are those that are hand-made by a potter. Although the generous proportions of these *chawans* require that guests cradle them in two hands while drinking, only three to four ounces of tea is prepared by the tea master for each guest.

Matcha Processing

As is true for all aspects of tea and tea culture in Japan, the cultivation and production of *matcha* powder is very specific and detailed, and the attention to quality is taken very seriously. As an outsider peering into Japan's tea culture, *matcha* embodies



the essence of a simple thing that can take a lifetime to understand in all of its complexities and nuance.

Matcha is referred to as powdered tea, but *matcha* should by no means be thought of as simply ground-up leaf tea. It is a precise combination of leaf cultivation with fresh leaf processing and the blending skills of a tea master that results in powdered tea that possesses an astonishing array of invigorating tastes, a velvety texture and a rich, vivid, emerald-green color.

Matcha is manufactured from the fresh leaf of tea bushes that are grown in the shade under tented canopies, in a similar fashion to Japan's other exclusive tea—*gyokuro*. In fact, tea farmers who grow leaf

for *gyokuro* nearly always pluck leaf for *matcha* as well. The difference between the cultivation and manufacture of these two famous shaded teas is slight but important, and it has to do with:

1. *The seasonal timing of the pluck.*
2. *The configuration of the pluck.*
3. *The degree of shading and the type of tenting material used.*
4. *The differences in the manufacturing technique applied to gyokuro and matcha in the tea factory.*
5. *The visual appearance of the finished tea: matcha is a rich, matte green powder and gyokuro is rolled into slender, needle-like, dark forest-green-colored leaf.*



The tea bushes that yield these teas spend most of their spring growth cycle leafing out under a tented cover away from sunlight. After the first initial growth spurt in the spring, a trellis is erected over the tea bushes, and densely woven netting is draped over the trellis and secured. The simplest netting is made from dark, woven plastic; the most traditional and expensive netting is constructed of fine straw.

This arrangement, called a *tana*, covers both the top and sides of the trellis (it is roomy enough for tea pluckers to work inside) and the netting blocks roughly 90% of the sunlight from reaching the plants. The plants, nevertheless, still grow, and a peek under the netting reveals elongated leaf sets that have stretched towards the light.

The reason for shading the bushes is to increase chlorophyll production in the plants by reducing natural photosynthesis in the leaves. The extra chlorophyll changes the balance of the natural components of the leaf, but especially affects the proportion of:

- *L-theanine (amino acid), which is responsible for flavor.*
- *Caffeine, which controls bitterness.*
- *Catechins (antioxidants), which give tea its texture.*

This forced change in leaf chemistry yields soft leaves, and slightly astringent tea, with the sweet and buttery undertones that high-grade *gyokuro* and *matcha* are known for. Additionally, fine *matcha* contains a high degree of *umami*—the quality of rich mouth-feel, derived from the presence of certain amino acids, that is defined as the fifth element of taste, along with bitter, salty, sour and sweet.

Although these are coddled tea bushes, a peek beneath the *tana* gives one a view into the odd world of plants that grow without the

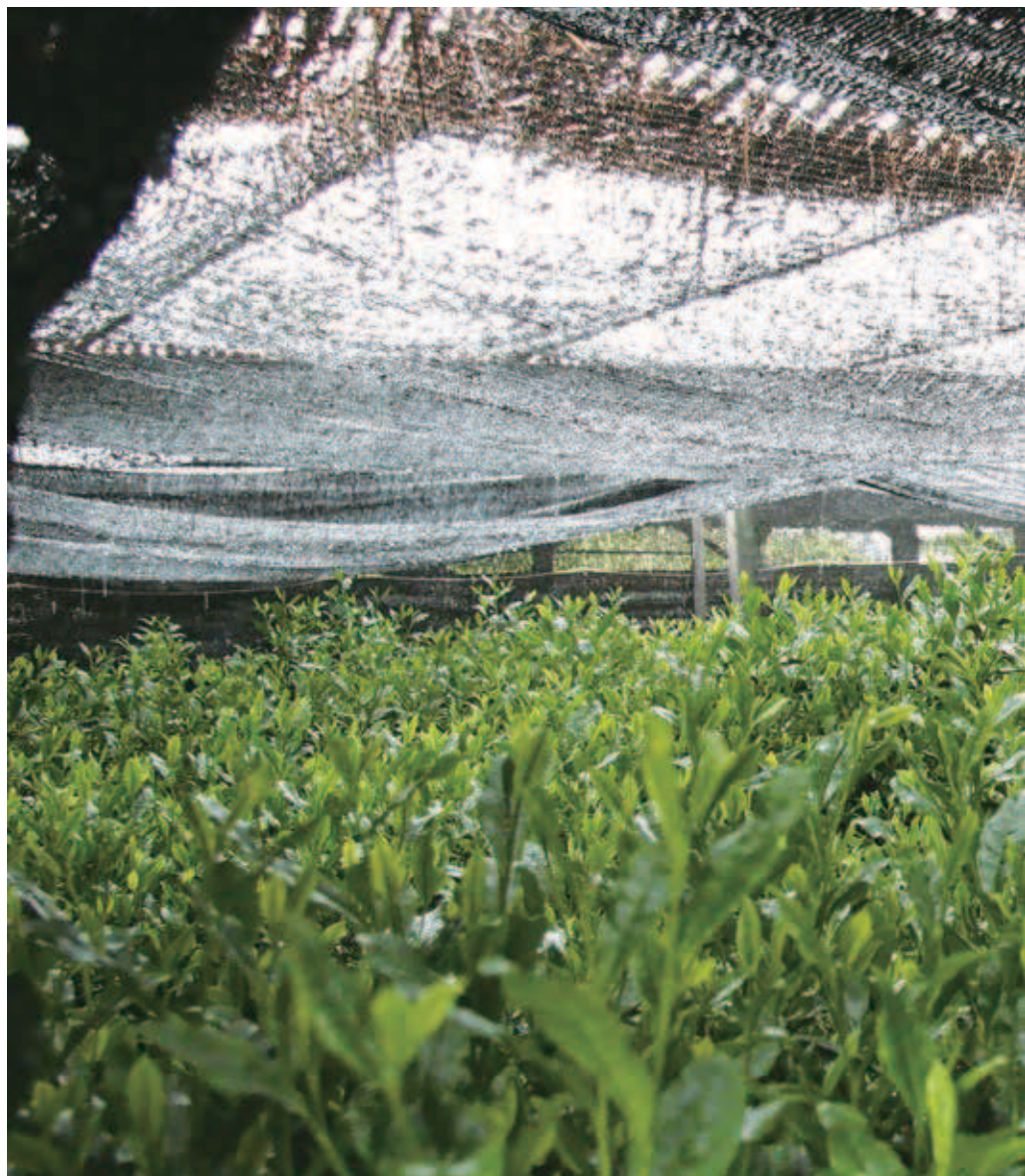
usual amount of light. These plants emit an eerie color due to the lack of sunlight, and their new growth is lankier and thinner than that of their tea bush cousins growing in the sunlight in traditional tea fields.

Gyokuro production occurs in the spring, and is followed closely by *matcha* production. *Matcha* is made from the spring-plucked leaf, which is deemed to have the best structure and flavor. When we visited Uji (Kyoto Prefecture) in May, one of the growers told us that he plucks the bud and the next two leaves when he is picking for *gyokuro* (for competition-grade *gyokuro*, only the bud is selected), but the bud and the next three leaves are plucked for *matcha*. He uses this extra, slightly

older third leaf to “influence” the final flavor of the *matcha*.

Thick and Thin Matcha

Most *matcha* producers make two primary types of premium *matcha* that are used in the Japanese tea ceremony: *usacha* and *koicha*. All tea ceremonies serve *usacha*, or thin tea, but some serve an additional, communal cup of *koicha*, or thick tea. When *koicha* is served, it is presented first in the ceremony and all guests take a sip from the bowl and then pass it to the next person. Only one *chawan* of *koicha* is made by the tea master, whereas each guest



receives an individual *chawan* of *usucha*.

Koicha is made from the leaves of older tea bushes, and as a result, it is more expensive. A bowl of *koicha* is stronger tasting and more densely textured in the tea bowl—like thick, luscious cream. It is prepared with more tea and less water than *usucha*, and the tea and water are gently “kneaded” with a special whisk made for preparing *koicha*. These whisks have fewer bamboo tines (16-48 versus 72-120 tines for *usucha* whisks), which are thicker than the bamboo tines on whisks made for *usucha*. The reason is that *koicha* requires the surface of the tea to be thick and smooth, bright green and without any froth at all. Froth is

okay with *usucha*, but not with *koicha*.

Once the fresh leaves are plucked, they are taken immediately to the tea factory. Here, the leaves will be processed into *tencha*, and then into *matcha*. The process for manufacturing *tencha* (and *gyokuro*) is slightly different from that used to make other Japanese green teas such as *sencha*. Some tea producers bring their semi-processed tea to a *tencha* factory; others utilize a traditional *sencha* factory that has been outfitted with the additional pieces of equipment necessary for *tencha* production.

Either way, as soon as the fresh leaf enters the *tencha* factory, it will be placed on a conveyor belt and

pass through a steaming chamber. (All Japanese green tea is steamed in this manner.) This process softens the leaf, prevents oxidation, retains the natural leaf color, and begins the process of breaking down the cellular structure of the leaf.

After this, the leaf travels down the conveyor belt, where it will be blown vertically into tall, enclosed, vertical nylon cylinders and kept aloft by warm air. This is the primary drying step. After this, the leaves are cooled, spread flat on the conveyor belt, and passed through a horizontal drying oven. Unlike in *sencha* production, this leaf will not be rolled or shaped—it must remain flat throughout the entire process.





From this point, the veins and stems of each individual tea leaf will be removed, and the remaining leaf will be chopped into uniform small pieces. What remains (after a final electrostatic cleaning to remove lingering bits of stems, etc.) is the heart-matter of the tea leaf, which is now called *tencha*.

At this point, the *tencha* can be vacuum-packaged and stored in temperature-controlled freezers until it is needed. The final step that turns *tencha* to *matcha* takes place in the grinding room. Here, the *tencha* is fed via a hopper into the center of a slowly-revolving two-piece granite grinding mill that pulverizes the leaf into a silky smooth powder. The mills are small and in grinding rooms, rows of them are lined up on work counters. In earlier days, the grinding mills were turned by hand. Today, the grinders are operated by means of a control panel, but they still move at a very slow speed in order to properly obtain precisely ground, micron-fine tea powder.

If the grinders operate too fast, the *tencha* will overheat, the delicate flavor of the tea will be lost and the silkiness of the powder will be compromised. *Matcha* producers operate the speed of their grinders so that they obtain no more than fifteen grams of *matcha* per hour, per grinder. So even with modern intervention, it remains a slow and laborious process. Additionally, periodic re-calibration of the grooves on the grinding side of the stones is required for the mills to grind precisely. This detailed work is carried out by craftsmen who ply their traditional hand-craft of adjusting and honing these stone mills using custom-made tools.

Quality Matcha

Matcha is produced in several regions of Japan—the town of Uji, near Kyoto city in Kyoto Prefecture, Nishio in Aichi Prefecture, Shizuoka

in Shizuoka Prefecture and northern Kyushu Island.

Most tea companies produce several different grades/kinds of *matcha*, which they make from a careful blend of *tencha* from different tea farmers, different tea growing regions and different tea bush cultivars. Each *matcha* has a unique taste, fragrance, color and even particle size. *Matcha* producers create signature *matcha* blends for their clients based on the requirements of cost, flavor, color, fineness, and usage. Ceremonial grades of *matcha* are the most costly, while *matcha* to be used as a baking or cooking ingredient is considerably less expensive (and less tasty).

The most expensive *matcha* comes from Uji, the first tea gardens developed in Japan. Uji tea producers provide *matcha* to Japan's oldest, most venerable tea shops, to temples in Uji and Kyoto and to the established tea schools (Urasenke, Omotesenke, Mushanokōjisenke, Sohenryu and more), which teach the philosophy and skills of *Chanoyu*. For *Chanoyu*, each trained tea master chooses the *matcha* he or she prefers based on the taste of the *matcha* appropriate for the type of tea ceremony she or he will be conducting. Or perhaps they choose the *matcha* favored by the present or former grand master of the tea school where they trained.

In Japan, *matcha* is sold in sealed canisters of 20, 40, 100 or 200 grams. Because it is ground micron-fine, *matcha* stales very quickly, so purchasing small quantities as needed insures that the tea will retain color, flavor and antioxidant benefit. *Matcha* ranges in price from modest offerings suitable for use in desserts (\$8.00 or so for 20 grams) to the best ceremonial grades used in formal Japanese tea ceremonies and also drunk at home by *matcha* tea enthusiasts (\$40.00-\$150.00 for 20-40 grams).

Shopping for *matcha* offers a seemingly endless array of confusing names and choices. *Matcha* is sold

not so much by place of origin, but by tea names that recall a season, a concept, a feeling or emotion, a celebration, or something lovely that is admired in nature (snow-covered pines, flying cranes, cherry blossoms, etc.). Or *matcha* may be selected and named by the grand master of one of the Japanese tea ceremony schools for its suitability to the philosophy of that tea tradition.

To add to the confusion, the same *matcha* packed in a twenty-gram or forty-gram-size tin might have a different name. Some *matcha* is packed and sold for seasonal use, such as *matcha* sold from early December to early January. And of course, there is *matcha* for *koicha* and *matcha* for *usucha*. So it is best to focus on what you want to use the *matcha* for, decide what your budget will allow and then ask for advice.

Matcha is not simply ground-up tea leaves. It is an essential practice for the intricate, vibrant, fascinating and delicious Japanese tea culture of yesterday and today. *Matcha* was the drink of Samurai and warrior-elite as well as monks and priests. Its adoption into Japan created the need for Japan to solidify its identity with *Chanoyu* and produce Japanese tea bowls and other tea ceremony vessels and tools with distinctly Japanese aesthetics and sensibilities.

The required decorative items such as calligraphy scrolls and *chabana* (simple flower arrangements) for use in the tea rooms, and lush landscape gardening on a small scale outside of the tea rooms. For the preparation of tea, this spawned the development of many tea items culled from Japan's most famous arts traditions: wood-fired pottery, bamboo utensils, cast-iron water kettles, lacquer tea containers and tiny tea ceremony sweets.

This was quite a feat for what some might say is just a simple cup of tea!



抹茶

