

# Food for Thought: The Temperamental Wasabi

By Robert Templer

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## ABSTRACT (ABSTRACT)

Aaaaaagghhh. There is nothing quite like the sinus-scouring blast of allyl isothiocyanate and secbutyl isothiocyanate. These intimidating scientific names are the active ingredients in wasabi, the ugly and vividly green stem of a plant from the cabbage family that, ground into a paste, is the essential accompaniment to sashimi, sushi and soba noodles. You probably know it but you may never have tried it because, unless you are in Japan and eating in a top-notch restaurant, that dollop of green stuff on your plate is almost certainly not the real thing.

Most wasabi powder and paste sold around the world has only a distant connection to real wasabi. Powdered wasabi is generally made of dried horseradish and mustard, and colored bright green with yellow and blue food dyes. If you look on the ingredients on tubes of wasabi, you'll see it does contain some of the real thing, but normally only enough to get around food labeling laws. Only tubes listed as Grade 1 are 100% wasabi -- for the others the primary ingredients are, again, horseradish and a range of gums, colorings and stabilizers.

Fresh wasabi is too expensive and treasured to warrant its export from Japan. *Wasabia Japonica* grows very slowly in gravel beds laid out in a herringbone pattern along mountain streams. The water flows around the plants as they are growing, keeping them cool and nurturing them with minerals. Wasabi requires temperatures of between 8 and 18 degrees and a permanently damp, shady climate like that found in the Izu region of Shizuoka prefecture, which turns out the best wasabi.

## FULL TEXT

Aaaaaagghhh. There is nothing quite like the sinus-scouring blast of allyl isothiocyanate and secbutyl isothiocyanate. These intimidating scientific names are the active ingredients in wasabi, the ugly and vividly green stem of a plant from the cabbage family that, ground into a paste, is the essential accompaniment to sashimi, sushi and soba noodles. You probably know it but you may never have tried it because, unless you are in Japan and eating in a top-notch restaurant, that dollop of green stuff on your plate is almost certainly not the real thing.

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It's a temperamental plant, prone to disease, easily hurt by sunburn and intolerant of any changes to its

environment. It can be grown in soil but the stems are usually of a lower quality and the land has to lie fallow for three years after just two crops. Experts say no new areas for wasabi growing have been planted for decades and most suitable land has been cultivated for at least 200 years. Acid rain has blighted some crops and few Japanese nowadays want to work high in the mountains, spending their days in freezing streams. With all the constraints on production, the knobby stems now fetch upwards of \$70 a kilogram wholesale and sometimes more than twice that in stores.

The high price and the inability to grow more in Japan despite rising demand has growers in New Zealand, Australia and the U.S. trying their hands at the crop. The northern part of New Zealand's North Island, Tasmania and the damp northwestern state of Oregon have the requisite deep, shaded valleys, unpolluted streams and mild climates.

Michel and Jenny Van Mellaerts began farming on five hectares of land in Warkworth, an hour's drive north of Auckland, in 1990. Their company, New Zealand Wasabi Ltd., started a small trial using gravel beds with flowing water that went well until, nine months later, the plants all died overnight. Wasabi are stricken by a whole range of diseases, some of them viruses spread by aphids. After cleaning out the system and finding an organic way to deal with the aphids, they replanted. Again most of the plants died. They persisted and found that against scientific opinion it was possible to develop an adapted hydroponic (non-soil) system to grow wasabi.

Now each plant is tended individually, as any breakage makes infection possible. Each one is checked daily and any that are diseased or turn out the wrong color (if it's too pale, wasabi lacks flavor; too dark, and it's bitter) are thrown out, a process Mr. Van Mellaerts describes as "a bit soul-destroying when you have been growing the plants for three years." They are now harvesting about 30 tons a year and have managed to sustain yields and reduce plant loss to around 2%.

From their crops, they produce a range of wasabi products under the Namida brand (the logo is a crying eye) including zuke, thin slices of wasabi pickled in sake or vinegar, and wasabi pastes, including blends with chilis, ginger and mustard. Along with wasabi-flavored oils and sauces, they also produce a wasabi-infused vodka. They don't ship much in the way of fresh roots but process their crop with a natural preservative that enables it to keep its flavor. Pacific Farms Wasabi in Florence, Oregon, has started selling them over the Internet in the U.S. for \$12.95 plus shipping for an introductory kit that includes a grater and enough wasabi for eight servings.

Chefs, as well, must handle wasabi with care. Traditionally wasabi is ground just before it's served to ensure the fullest flavor. The best kinds of graters are made from the abrasive skin of angel sharks, which is fine enough to guarantee that all the cell walls are broken and the aromatic chemicals are exposed to air. The problem with shark's fin is that it wears out quickly, so most people now use copper or plastic graters. The pungent isothiocyanates break down quickly and wasabi loses its bite. The powder and paste versions, which being mostly mustard pack a bigger punch than the more subtle and sweet fresh variety, should be used up quickly.

Japanese, of course, refuse to acknowledge that foreign wasabi might come up to their standards, but in blind tastings, chefs have been unable to tell the difference. Some Japanese companies have started farming in New Zealand, according to Mr. Van Mellaerts, who says that many farmers lacked the persistence to go through the necessary crop trials.

Wasabi has gone well beyond being simply a sushi condiment. "We want people to cook with it," says Mr. Van Mellaerts. The company web site has a range of recipes they have developed. Another New Zealand company called Amari Bioculture announced last month that it has found a way to make wasabi oil of consistent quality that can be used as a flavoring in mayonnaise and other sauces.

Wasabi can easily induce tears and can even cause nosebleeds (people processing the stems have to wear breathing apparatus and goggles), but there has also been some research in Japan that suggests wasabi could have health benefits. It has long been believed to prevent food poisoning. Recent laboratory tests have shown that it kills stomach cancer cells, and can act as an anti-coagulant. Whatever the benefits, there are few tastes as invigorating.

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Green Goods
New Zealand Wasabi Ltd. sells a range of wasabi products, from pastes
and sauces to vodka and pickles. You can find their web site at
<a href="http://www.wasabi.co.nz/">http://www.wasabi.co.nz/</a> . They will ship around Asia but be advised
that different countries have different rules on importing foodstuffs
by mail. The company web site also has a wide range of wasabi recipes,
from cooked dishes to sushi to dips and salad dressings.
Fresh wasabi has a more subtle taste than the packaged variety, but
it's difficult to find. Japanese specialty food stores sometimes have
fresh or frozen wasabi stems. If you do get some fresh wasabi you can
keep it for about a month in your refrigerator wrapped in damp paper
towels. You should change the towels every few days and rinse the
stem. Cut off any brown parts. To prepare it, grind the root against a
fine grater in a circular motion. Then repeatedly chop the gratings to
release more of the flavor. Form it into a ball and leave for about 10
minutes, which allows the flavor to emerge fully.

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