

Canadian-made miso causes a stir in Japan

Ontario researcher John Mullin garners favourable reviews from nationalistic judges for his soybean paste.

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 The Globe and Mail, Toronto

A Canadian food scientist dubbed "Dr. Soybean" by the Japanese for his talent with the versatile legume has become the first foreigner to enter the Olympics of miso making held last month in Tokyo and Naemno.

Dr. John Mullin, a food chemist with Agriculture Canada's research station in Harrow, Ont., developed such tasty batches of miso, a fermented soybean paste that is a dietary staple in much of Asia, that Japanese judges gave him a special participation award for his efforts.

As the first foreign maker of miso in the 42-year history of the famed event, Mullin was up against heavy challengers in the so-called all-Japanese miso competition.

The world's biggest manufacturers of the product vie for quality awards in the same way that Western artisans pursue prizes for their fine good wines, beers and cheeses.

Judges sniffed, tasted, and poked at miso from the 1,700 entries, of which only 601 made the cut, including the Canadian samples.

Mullin said his was deemed "very good miso, not an excellent one," but because of its novelty, "people flocked to sample it."

"To produce a really excellent one, you have to be doing it for a number of years," Mullin confided.

The Canadian miso was considered such a rarity that Asahi Shimbun, Japan's national newspaper, said it was the talk of the competition. It feted Dr. Mullin as "Canada's Doctor Soybean" and gave him the ultimate accolade: "Knowledgeable people in Japan say Dr. Mullin's product 'compares favourably with Japanese miso.'"

Miso is used extensively in Japanese, Korean, Chinese and Indonesian cooking, but it has something akin to cult status in North America, where it is sold in many health and speciality food shops for its purported anti-cancer, detoxification and cholesterol-lowering properties, among other advantages.

Mullin has been studying soy-



Mullin: 'People flocked to sample it.'

TED ANDJILDE/The Globe and Mail

beans for the past five years and making miso for the past 1 1/2 years, part of an effort to figure out ways of growing beans of more interest to Asian buyers. More than 80 per cent of the soybeans grown in Canada are destined for the unglamorous business of being pressed into vegetable oil, with the residue fed to pigs or other livestock.

Miso and other soy products eaten directly by people, such as tempeh, soy sauce, soy milk and tofu, are made from food-grade beans that are the subject of Canadian crop development trials.

Miso has a definite fermented taste and hits the palate like undiluted vegetable bouillon, a consequence of it being comprised of about 10 per cent salt. It is used to provide flavour to soups, sauces and dips, as a marinade, and as a spread for sandwiches much in the same way North Americans might apply mayonnaise.

Miso originated in China 2,500 years ago, and from there spread to other areas of Asia. In China, it is known as chuang, in Korea as jang, and in Indonesia as taucho. About 600,000 tonnes of miso are eaten annually in Japan.

North American retail sales are

estimated at about \$95-million by Soyatech Inc., a Bar Harbour, Me.-based oilseed publishing and consulting firm. Soyatech president Peter Golbitz says about 75 per cent of this total is sold to people from Asian backgrounds and the balance through health food stores. "Most of it is going to Japanese North Americans," he said.

Mullin made his miso in a laboratory at the Harrow facility, located in Southwestern Ontario in the heart of Canada's soybean country.

Miso making is somewhat complicated, and Mullin received advice from Japanese experts at the Food Technology Research Institute in Nagano to help guide his efforts. The institute also provided the bacterial cultures needed to start the fermentation reactions.

First he soaked Canadian bred and grown soybeans, selecting large-sized, white beans with a high carbohydrate content, moderate protein and high water uptake capacity. The beans were then cooked under slight pressure for about 20 minutes, followed by mashing in a food processor. The next step was to add salt.

Rice is the next ingredient. Simple polished rice is soaked, steamed and then left to ferment using a cultured aspergillus oryzae bacteria. The 48-hour fermentation period allows the starches in the rice to break down into sugars, and for enzymes to be produced.

The rice- and mashed soybeans are then mixed together with water to bring the moisture content up to 45 per cent. A second bacterial culture, this time a salt-tolerant yeast variety, is added and the mixture is allowed to ferment for three months to three years.

One of the problems many people experience in eating soy products, such as tofu and the textured soy proteins used to make veggie hot dogs and fake ground beef, is that the taste is so bland. But miso, with its rich aroma and strong taste, is different. "It's a lot more fun," said Mullin, calling it food with "pizzazz."