Magic beans

The Japanese invader that’s good for you.

Vaclav Smil

In July 1853, Commodore Matthew Perry’s small flotilla cast its anchors off Uraga at the entrance to Edo (Tokyo) Bay. Its mission was to end Japan’s quarter of a millennium of isolation under the Tokugawa shogunate. The black ships returned the next spring, when Perry signed the treaty. The shogunate was persuaded not just by the ships’ large guns but also by the demonstrations of American technical superiority that included the telegraph and a miniature steam locomotive.

Mission accomplished, Perry returned bearing samples of Japanese products. As well as the predictable silks, lacquer boxes and exquisite porcelain, these included white and red soy beans. Several months later the US Patent Office was offering the seeds to American farmers, but there were few takers.

Three decades later, Lewis Sturtevant noted American farmers, but there were few takers. Thirty years later, Lewis Sturtevant noted the seeds, which are nearly 20% lipids, make soy beans have come to dominate feeding formulas around the world. American cattle, German broilers, Japanese pigs — and Chinese carp — all yield more meat thanks to Glycine max.

The US soy bean harvest passed 10 million tonnes (Mt) in the early 1950s. It is now 70–75 Mt a year — almost half of the global total. Soy beans are the country’s second most valuable crop, close behind corn and worth nearly three times as much as wheat, and grow on more than 15% of all arable land. Brazilian production, geared to exports, has grown even faster. The area planted with soy beans has expanded more than 60-fold since the late 1950s. Brazil now produces about 30 Mt.

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The world’s diet is unthinkable without soy beans, but they remain a fringe foodstuff in the West. Only soy sauce has become a universal condiment — bean curd, although readily available, is still a culinary oddity. A change would serve women particularly well. Soy bean foods contain very high concentrations of isoflavones, particularly genistein. These phytoestrogens can alleviate the symptoms of menopause, and their consumption has been linked to reduced risks of breast cancer in East Asia. Soy proteins also sum up to lower blood cholesterol, and some, although not all, epidemiological studies link their intake with a reduced risk of cardiovascular diseases. Greater enthusiasm for the subtle taste of tofu could thus have highly cost-effective health benefits.

Vaclav Smil is at the University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada.

Soy ahoy: the beans reached the West via Perry’s ‘black ships’, shown here arriving off Tokyo in 1853.