

The Great Soy of China

Home to one of the 7 Wonders of the World—the Great Wall—China is known to the universe as a country of great history. In today’s world some would say it gets more business press than Paris Hilton gets tabloid coverage.

Regardless, the facts about China speak for themselves: the world’s first known traders; home to the world’s largest population with more than 1.3 billion people; and the most used language on the internet.

However, probably the most unknown, long-term important contribution China has made to the world comes in the form of little magic beans: soybeans. The crop originated there several thousand years ago, but today the country is the world’s largest buyer of soybeans, and the U.S. soybean industry’s No.1 buyer.

China could be home to the birthplace of one of the 7 Best Kept Wonders of the World thanks to soybeans.

Fast forward to today and the National Center for Soybean Biotechnology (NCSB), in collaboration with the Missouri Soybean Association (MSA), led a cooperative scientific exchange focused on soybeans with the Peoples Republic of China.

“A big thanks to the long-term cooperative exchange program between USDA and China’s Ministry of Agriculture for providing such a fantastic opportunity for U.S. agriculture,” said Alex Stemme, MSA director of identity-preserved products and one of the mission’s leaders.

The exchange focused on three important components for the advancement of soybeans:

1. Biotechnology improvement
2. Biotechnology policy
3. Functional food markets

Representatives of the NCSB and MSA made the long haul to the Chinese region to focus on specific

developments relating to biotechnology, with a focus on genomic approaches for improving soybean tolerance to biotic and abiotic stresses.



NCSB researchers visit with Chinese experts on biotechnology.

“We wanted the opportunity to further relationships with past and future soybean research in the land where it all began,” explained Dr. Henry Nguyen, NCSB director and Missouri Soybean Merchandising Council (MSMC) endowed professor of soybean biotechnology at the University of Missouri-Columbia (MU).

In addition to Nguyen, soybean experts from the national leader in soybean biotechnology—NCSB—included Drs. Gary Stacey (also an MSMC endowed professor in soybean genomics) and David Sleper (northern soybean breeder for MU), as well as Dr. Oliver Yu, one of the nation’s leaders in soybean isoflavone work from the Donald Danforth Plant Science Center in St. Louis, Mo.

“For Dr. Yu, it was a little bit of a homecoming, having grown up in China, and very beneficial for

the delegation to have a local guide with our group in addition to the great representative from the Ministry of Agriculture,” said Stemme.

The trip began with the delegation meeting an expert in biotechnology policy with the Ministry of Agriculture in Beijing.

“It was extremely interesting to learn about the broad-based scientific support for biotechnology by the Chinese government, which views agriculture more from a food security standpoint,” said Nguyen. “At the same time, you realize the lack of current biotechnology products actually allowed to be grown in the countryside, such as glyphosate-tolerant soybeans.”

Knowledge was put into practice by the delegation with visits to the Chinese Academy of Sciences in Beijing and the Beijing Genome Institute. In addition, the delegation visited soyfood companies in the Beijing and surrounding area, including one developing firm interested in functional foods.

“Having developed markets in numerous Asian countries, it’s extremely interesting to see the change and growth happening in China, particularly in regard to value-added products, such as premium soymilk and other specialty products,” said Stemme.

China is still the largest market in the world for soybeans, but with increased competition from South America, it is one that is becoming more and more competitive.

“This is where the real growth likely is for U.S. producers—especially as demand-building growth slows in the commodity soybean market—in the higher value, harder to build specialty food product arena,” explained Stemme.

It has been proclaimed by historians that in order to find out where you are going, sometimes you have to go back to where it all began. This was the focus of the biotechnology improvement component of the mission.

“It is so important for us to learn about basic originating germplasm and work at identifying opportunities to bring back potential collaborations for issues which hamper soybean production, namely drought and diseases,” said Nguyen.

NCSB and MSA were able to visit numerous scientific institutions from Beijing to Shanghai, specifically able and willing to advance soybean improvements for the world.

“You may not be able to see the oceans of soybeans in the United States from space like you can the Great Wall of China, but the impacts of soybeans—from China where they were born to the United States where most of them are grown—should impact the world’s food and fuel for millenniums to come,” concluded Stemme. 🌱

