

PolicyPennings by Dr. Daryll E. Ray

# Private and public Brazilian research organizations race to be the first to release Asian Rust tolerant soybeans

*From February 8-18, 2006, Daryll Ray and Harwood Schaffer were a part of a research/study tour led by Robert Wisner, University Professor, Iowa State University. The nine person group studied the various factors that affect Brazilian agricultural production, processing, and marketing, with a focus on soybeans. This column is one in a series describing their trip.*

We visited two of the major Brazilian research organizations set up to do fundamental soybean breeding. One is Embrapa. This is a publicly sponsored organization that we noted in an earlier column was largely responsible for developing low latitude soybean varieties that made soybean production possible in the northern parts of Brazil. Embrapa works closely with local foundations, seed testing organizations and seed companies. We visited Embrapa's Londrina facilities on Wednesday morning.

In the afternoon we visited the offices of TMG, another major research concern, to hear a presentation on their work. Some of the key scientists involved in TMG and FMG formerly worked for Embrapa but left it in a policy dispute. TMG is the private for-profit partner of the non-profit Mato Grosso Foundation (FMG) whose research fields we saw on Monday in Rondonopolis. FMG is an impressive and very active research organization. Having visited with researchers and administrators on both sides of the split we are still unclear as to exactly what the issues were as everyone referred to the split in vague terms.

What was clear in the presentation at TMG was their intention to be the premier soybean seed research facility in Brazil while reaching out to global seed markets. We were shown a number of slides that asserted that TMG's research capabilities were significantly greater than those of Embrapa and that they would have the first Asian Soybean Rust (ASR) tolerant soybean seed on the market. They have already released TMG 103, the first RoundUp-Ready root nematode resistant variety in Brazil. We were told that TMG intends to replace Embrapa as the major soybean breeder in Mato Grosso. Whether or not they achieve that goal, TMG clearly sees itself as a private, for-profit competitor to the public, not-for profit Embrapa.

Thursday, February 16, 2006, the eighth day we had been in Brazil, started out at 5:00 am as we checked out of the hotel and headed to the Londrina airport where we boarded a two leg flight that got us into Uberlandia, Minas Gerais state. There we were met by a van that took us to the Ma Shou Tao farm show about an hour and a half south of Uberlandia.

The scenery along the mostly four lane divided highway was spectacular, at least for a couple of guys whose idea of fun is to drive down the road comparing the growing conditions of corn and soybean fields. We saw a large number of what appeared to be date palms, just loaded down with fruit. The topography was more rolling than what we saw in Mato Grosso state, but the fields appeared to be just as large.

As we approached the Ma Shou Tao farm show, we could see a large spoked circle at a distance from us. The circle complete with tents, sawdust walkways, and demonstration stations is the focus of the farms show. The circle is perhaps a kilometer (0.6 mile) in diameter and is

divided into sixteen sectors that serve as comparison plots for the different company's seed offerings.

The corn plots were familiar to anyone who has been to a demonstration plot in the US. The corn plants are stripped of their leaves and the husks of the ears of corn are pulled back so that one can observe the uniform rows of golden bounty. We were given a tour of the demonstration plots by Jonadan Ma the Executive Director of the operation. Jonadan told us that the various test plots are planted and maintained by his workers under normal field conditions rather than by the companies so that the results of the test plots would closely approximate what farmers would see in their own fields.

Jonadan Ma is the son of Ma Shou Tao for whom the farm show is named. Ma Shou Tao, a Christian, received his university education in China before the communist revolution and fled in the wake of the takeover. When he arrived in the southern part of Brazil he had never farmed in his life, but he saw an opportunity in agriculture. In the south he learned how to farm and applied his education to find ways to improve yields and farming methods. After a few years Ma Shou Tao moved to the farm we were on in Minas Gerais state.

Ma Shou Tao told us that he had been warmly taken in and given an opportunity by the Brazilian people when he had nothing and as a result of that welcome and his faith he felt he wanted to return the favor by sharing his agricultural knowledge with them. When he began farming in Minas Gerais, people called him a "crazy man" for the way he farmed. He introduced practices like no-till agriculture and intensive rotational grazing of cattle. Over time they began to see that his innovations allowed him to achieve increased yields with better varieties of seeds. The Ma Shou Tao farm show is one way that the Ma family, as an expression of their gratitude for the way they have been received by Brazilians, shares their knowledge with their neighbors.

The farming operation is divided into a number of different companies specializing in premium soybean seed production, farming and cattle, dairy, the commercial production of baked soybean products like GoodSoy cookies, farming services, farm products dealership, and commercial soybean and corn storage. The company has 100 workers and farms 6,200 acres of owned and rented ground divided up into five farms. The farm provides housing for its workers that are considerably better than much of the housing we saw in adjacent areas.

The Ma family is engaged in a soybean breeding program in cooperation with Embrapa. While Jonadan is concerned with the daily operation of the farm, his brother Michael sits on the boards of various public and governmental agencies including the non-profit foundation in Minas Gerais that supports the work of Embrapa. While the family operation was set up to be profitable, the Ma family also felt it was to give back to the people and nation who had given them an opportunity to start a new life.

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