By John Otte

Which technologies work best?

FARMERS EMBRACE NEW WAYS OF DOING BUSINESS AROUND THE WORLD, BUT AVAILABILITY AND ADOPTION VARY

Global farmers face similar problems.

High on the list are:

- managing marketing and production risk
- figuring out which technologies will provide the best payoff
- gaining access to information to help them improve their operations
- gaining and keeping access to markets
- helping consumers who are several generations removed from the farm understand how food gets from farm to table

Those messages came through loud and clear at the Global Farmer to Farmer Roundtable sponsored by Truth about Trade and Technology at the 2009 World Food Prize festivities in Des Moines, Iowa. Discussion drifted toward technology.

ADOPTING BIOTECH

Developing countries view biotech differently than developed countries. Michael Allan grows about 1,850 acres of corn, half *Bt*, and about 750 acres of Roundup Ready soybeans in Meerlus, South Africa. "Strongest resistance to biotech remains in developed countries, where consumers have little worry about having enough food."

Louise Staley farms 3,000 acres in Victoria, Australia. She crops wheat, barley, conventional and *Bt* canola, and 600 merino sheep.

"We're in our second year of growing GM [genetically modified] canola," she says. "It was banned in our state until two years ago. Unfortunately, varieties available to us that have the GM trait are 8 years old. Their yields do not keep pace with improved conventional varieties. The older GM varieties put us at a yield disadvantage to the Canadians."

All farming, like all politics, is local. Areas have unique climate and soil types. "Big biotech companies are not interested in developing varieties for limited local markets," she says. "Getting new products past regulatory approval simply costs too much for the company to make money."

Getting technology through both the European and U.S. regulatory systems is time-consuming and expensive.

COST ALWAYS AN ISSUE

"The high capital investment for high-tech such as GPS or variable-rate technology calls for large acreages," says Francisco Gurria. "The gap between the larger farmer who has access to capital and credit and the smaller farmer is widening because the larger farmer can access the technology.

Gurria raises dairy goats near Mexico City. Plus, he is deeply involved in Mexico's efforts to preserve the original races of corn by establishing a germplasm bank. He actively promotes technical assistance and technology transfer for small farmers and the adoption of best practices. "Government and private company priorities are not always the same," he says.

How farmers gain information about technology also varies widely.

"Mexico dismantled its extension service in the mid-1980s," says Gurria. "Private companies provide larger farmers with service. But it's been almost 25 years since information was widely available to everyone. I believe the state needs to come aboard again to help develop technology to assist the smaller farmer with both technology and information."

Eugenio Ariztia heads a company that has about 50,000 acres in different valleys in the Chilean Central Zone. The company multiplies seed, plus grows avocado trees, grapes for premium wine, cattle, corn, potatoes and timber. Almost 7,500 acres are irrigated.

"We have an election this year," he says. "We're discussing with various candidates that we believe now is time to introduce the technology to Chile because today research is being done for other countries."

NEXT BREAKTHROUGH

Much discussion is focused on drought-tolerant crops, particularly in drought-prone areas like Africa. Being able to export products means they have to pass through the regulatory process of potential importing nations.

Getting technology through both the European and U.S. regulatory systems is time-consuming and expensive. It won't be done for limited market products. Regulations are a trade barrier.

"All countries have their own regulatory trials to get products through their regulatory process. We need some sort of reciprocity that countries will accept research trials done elsewhere," says Bob Thompson, University of Illinois policy economist who moderated the roundtable. ff