

## THAILAND

## In a Land of Rice, a Potato Crop Blossoms



Seven years ago in Thailand, Patchara Pongam MS'93 PhD'97 found herself with a potato problem.

A graduate of the CALS plant pathology department, Pongam was working at Kasetsart University to help establish Thailand's potato industry, a pet project of Thai King Bhumibol Adulydej. The king's negotiations had helped land a Frito-Lay potato processing plant in the northern city of Chiang Mai, and he hoped farmers in the region would supply the plant with locally grown potatoes. But the crop was struggling. The combination of Thailand's wet and hot growing seasons proved ideal for late blight, and Pongam was beginning to think it would be nearly impossible to produce potatoes year round.

Seeking a crash course in potato pest management, Pongam contacted Walt Stevenson PhD'73, a CALS professor of plant pathology. She traveled to UW-Madison in 2000, and her visit sparked a cross-continental effort to increase the productivity of Thailand's potato crop through sustainable growing and pest management practices. Since then, Stevenson has made numerous trips to educate students and researchers on the integrated pest management system used by the Wisconsin potato industry. He also works closely with Somsiri Sanchote, a fruit and vegetable pathologist at Kasetsart University who has succeeded Pongam in monitoring the country's potato crop. The two scientists now co-advise a graduate student, who will spend at least a semester in Wisconsin learning about seed certification techniques, as well as improved diagnosis and disease-resistance screening. Ultimately, the goal is to breed new disease-resistant potatoes for use in Thailand that would allow farmers to produce crops year-round and help supply the Frito-Lay plant.

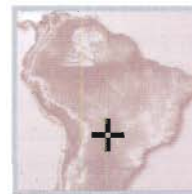
In Thailand, Stevenson has taught classes, assisted with research projects, met with growers and industry representatives and even helped install a weather

station. "It helps to put them on notice that the conditions have been favorable for late blight," he says. "As the crop comes up, we run the data through software we developed here at the University of Wisconsin and that would indicate when to initiate sprays and the timing of the subsequent sprays."

On one of his trips, Stevenson observed workers spraying 60 acres of potatoes by hand with limited protection. "When they walked across the field, their clothes become soaked with pesticide," he says. "That's not sustainable, and it's pretty risky." After discussing the problem with the grower and Sanchote, a simple change was implemented: The workers now walk backward while applying the sprays.

"It all goes back to, 'How do we have a sustainable potato crop in Thailand that protects their environment and protects their workers, and yet produces a quality crop that Frito-Lay can use for chipping?'" says Stevenson. "This project capitalizes on our experiences here in Wisconsin and North America (using) solid, science-based integrated pest-management programs."

## PARAGUAY



## Figuring the Net Worth of Trust

You can't put a value on good friends, or so the saying goes. But Laura Schechter, an assistant professor of agricultural and applied economics, thinks you can. She is out to understand the economic value of social networks—the friends, coworkers, families and organizations that we rely on for money, food or other kinds of support.

"Networks are important, but no one has really put a dollar value on it," says Schechter. "Are networks worth 10 dollars or thousands of dollars? What's the relative size?"

Schechter says such values are especially important in developing countries, where connections—and the lack of them—may have a significant impact on economic activity. She saw that firsthand as a

**Workers spray pesticide on a potato field in northern Thailand, where a collaboration with CALS professor Walt Stevenson is leading to a more sustainable crop.**



Peace Corps volunteer in Paraguay, where she says a historical lack of trust bred by dictatorial regimes often prevented cooperation among farmers.

“They could do something that would make them all better off,” Schechter says, “but they couldn’t do it because they don’t trust each other. It has economic outcomes, and it isn’t in our models of behavior.”

After joining the UW-Madison faculty, Schechter returned to Paraguay to spend six months surveying farming communities around the country. She collected data on how much they borrowed from and lent to other farmers and explored deeper issues of trust and mistrust. She found, for example, that four in 10 farmers gave gifts to people they suspected might steal from them as a way of attempting to win trust and loyalty.

This intriguing union of economics and sociology has gained Schechter national attention. Last year, *Yale Economic Review* named her as one of “5 Hot Minds in Economics” for her innovative methods studying cash flow in communities. But Schechter’s real desire is that the work begins to influence economic policy.

“Figuring out who is important and which pieces of networks contain more economic value should be important for designing policy,” she says. “A person in the network who has very few connections, but only to important people, may be better to focus on rather than a person with many connections to unimportant people.”

## A Community Approach to Diabetes Care

UGANDA



After studying the prevalence of diabetes in Uganda for five years, James Ntambi has come up with what he thinks may be the only realistic answer to a growing health problem: self-help.

Simple as it may sound, Ntambi, a CALS professor of biochemistry and nutritional sciences, believes that promoting the benefits of healthy lifestyles such as eating a balanced diet may be the best approach to combating the rising incidence of diabetes in African nations.

“You’re not going to ask people to start buying insulin and other expensive diabetes medications, or ask them to go to far away hospitals because they don’t have the funds,” Ntambi says. “You have to take care of yourself—that’s the message. Especially in the case of diabetes, where there is no cure, prevention is the key.”

To carry that message forward, Ntambi is launch-



In Paraguay, farmers “could do something that would make them all better off,” says agricultural economist Laura Schechter, “but they couldn’t do it because they don’t trust each other.”

ing a series of nutrition training sessions for health care professionals and policy leaders in Uganda. He says that educating leaders not only can help spread healthy practices into communities, but it can also help him explore the problem more deeply through survey research and targeted education.

“By the time we go there to the communities to evaluate, the people know about us, and they have heard about our intentions,” Ntambi says. “The impact we can make by training the local people is going to be big over time.”

In his previous research, Ntambi has uncovered an interesting trend in the incidence of Type II diabetes. Ugandan women who are diagnosed with the disease tend to be overweight or obese, while Ugandan men who are diagnosed tend to be thin. This gender split marks a significant difference from what health care workers and researchers have documented about diabetes in Western countries, where most people diagnosed with Type II diabetes tend to be overweight or obese. Ntambi’s co-investigator, Linda Baumann, of the UW-Madison School of Nursing, saw the same trend during an independent study in Thailand. While he isn’t sure what is causing this pattern, Ntambi says it may be a result of “environmental factors playing on genes” in developing countries.

To discover what those environmental factors may be, Ntambi, Baumann and their collaborators in Uganda are carrying out a project to survey people about their behaviors. The surveys are a way “to get into the community and get to know the people,” he says. “We want to learn how these people take care of themselves and how they monitor their blood sugar.” If the evaluations reveal connections, Ntambi’s team will follow up with tailored materials to educate people about preventing the disease.

—MARGARET BROEREN MS’07