APPLIED RESEARCH—If Idaho’s climate changes, UI studies may aid grain growers
CONTACT JIANLI CHEN at jchen@uidaho.edu

UNIVERSITY OF IDAHO RESEARCHERS aim to help Idaho grain growers be ready if and when the state’s climate changes. Jianli Chen, wheat breeder for the University of Idaho at its Aberdeen Research and Extension Center, will spend the next five years studying water- and fertilizer-use efficiency of 3,000 wheat and barley lines.

Her new $750,000 project is part of a $25 million USDA-funded effort led by the University of California at Davis’s wheat geneticist Jorge Dubcovsky, tasked with developing new varieties of wheat and barley to help farmers prepare for climate change. The project will include 55 scientists from 21 states.

Chen’s job “will be big because we will grow three plots of each line, so we will monitor 1,800 plots for each of the next five years,” Chen said. Her preliminary research into drought stress supported by the Idaho Wheat Commission helped her prepare for this opportunity, doing phenotypic screening for water and nitrogen use efficiency.

Aberdeen provides a perfect location for the project. Because the region’s rainfall averages 10 inches a year, cereal grain production in southern Idaho relies on irrigation. And simulating drought conditions simply means turning off or reducing the water supply.

Grains she tests come from Aberdeen’s National Small Grains Collection, maintained by the USDA’s Agricultural Research Service (ARS). The collection holds germplasm gathered worldwide since about 1897 and represents the global diversity of small grains, including wheat, barley, oats, rice, rye, triticale, and various wild relatives.

Great collaboration. Chen’s project demonstrates the great ongoing collaboration between University of Idaho and USDA-ARS. Working with Chen are J. Michael Bonman, research leader for the ARS at Aberdeen, and Harold Bockelman, curator of the small grains collection and ARS supervisory agronomist.

The National Association of Wheat Growers calls the project a “significant investment” of public funds in work critical to the industry’s continued profitability.

Strip tillage and Idaho’s sugar beet growers
CONTACT DON MORISHITA at don@uidaho.edu

AT LEAST SEVEN University of Idaho Extension scientists, assistants, and an economist are helping northwest sugar beet growers tackle the question of whether switching from conventional tillage to a more environmentally friendly strip tillage could save money, minimize soil erosion and water use, and aid weed control without diminishing the value of crops produced. At work are weed, soil, and irrigation scientists, an entomologist, and a plant pathologist.

Don Morishita, superintendent of the UI’s Kimberly and Twin Falls R&E Centers, works with three UI research teams studying strip tillage vs. conventional tillage in fertilizer placement and beet yields; learning whether strip tillage requires less water than conventional tillage; and seeking mixes of herbicides in weed control and sugar beet growth that control weeds without promoting herbicide resistance. A possible transition to strip tillage is “still a work in progress,” says Dennis Searle, Boise, research agronomist for Amalgamated Sugar company LLC, the Idaho-based sugar producer whose cooperative is running strip tillage tests on up to 8,000 acres.

“When you’re learning a new system, you can learn it through a research system, or you can have 800 growers each try it on their farms,” says Searle. “Many will be unsuccessful. We need these UI ag researchers. They are saving producers gobs of money.”

Seeking mastitis cure for moms and cows
CONTACT MARK MCGUIRE at mmcguire@uidaho.edu

A TOP REASON WOMEN STOP BREASTFEEDING is mastitis, a bacterial infection that makes breastfeeding painful. Often nursing mothers get mastitis only in one breast. Working with Palouse-area lactation experts, UI professor Mark McGuire is comparing milk from the healthy breast with that from the infected one of some 20 area women in hopes of identifying disruptive pathogens.

“One study in Spain found giving lactobacilli—healthy lactic acid bacteria—to mothers cured mastitis in breastfeeding women quicker than did antibiotics,” said McGuire. A professor of animal and veterinary science who also seeks a cure for mastitis in dairy cows, McGuire believes cures for both cow and human mastitis are a year or two away. McGuire praises the UI’s equipment and faculty expertise “robust enough to study any topic involving microorganisms—such as lactation systems.”

McGuire is working with University of California at San Diego scientists to seek a possible connection between premature infants who die and pre-term formula they are fed “which may not provide the right amount of healthy bacteria.”

DID YOU KNOW?

1.25 MILLION
IDAHO ACRES PRODUCING WHEAT
DURING 2009 AT A FARM-GATE
VALUE OF $469 MILLION
Source: 2010 Idaho Agricultural Statistics,
including Idaho State Department of
Agriculture’s Annual Report

TO ENRICH LIFE THROUGH DIVERSITY THE UNIVERSITY OF IDAHO IS AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER AND EDUCATIONAL INSTITUTION. #260/2011