OVERVIEW

To feed an expected population of 9.7 billion in 2050, the world will need to produce 70 percent more food with less water than we use today. In 2010, the University of Nebraska (NU) established the Daugherty Water for Food Global Institute, the first U.S. research institute to explicitly link the critical issues of water and food security. NU’s ability to tackle this global challenge grows from more than a century as a leader in research on agriculture, water and the management of critical natural resources, including one of the largest aquifers in the world. Our research, education and outreach programs are key to continuing Nebraska’s, and the nation’s, role as a global food producer and the major source of research and innovation in water and food security.

Nebraskans know this work is critical to maintaining the agricultural productivity that supports our state and helps feed the growing world population. Our research covers the entire spectrum from the lab to the field, from new technologies to new foods. We partner with public and private sector organizations on research to:

- Increase food production under changing water and climatic conditions
- Breed improved crops that are highly productive in tough environments and provide potential new energy sources
- Discover the connection between crops, foods, disease and health
- Develop tools and strategies to predict and manage crop yields, water productivity and drought risk

Funding for this research comes from diverse agencies and organizations. Federal agencies supporting this work include USDA, NSF, National Oceanic and Atmospheric Administration, United States Agency for International Development and Department of Energy. Future funding may come from the Department of Defense, which is increasingly interested in the destabilizing effects of food and water insecurity, and the National Institutes of Health, which are recognizing the key role of food in disease. Private sector foundations and businesses provide additional support.

The University provides a tremendous knowledge-base in food, water and energy. A few of our nationally- and internationally-recognized programs and newly-developing centers include:

**Daugherty Water for Food Global Institute**

Working from the state to the international scale on research, education and policy analysis focused on the complex problems of ensuring sufficient food and water supplies for current and future generations.
Center for Plant Science Innovation
Internationally-recognized scientists are part of an innovation pipeline from lab to field developing conventional and genetically enhanced crops. Researchers are developing sorghum for biofuel production, salt tolerant rice varieties, and beta-carotene cassava that has the potential to reduce vitamin A deficiency for 100 million people in sub-Saharan Africa.

National Drought Mitigation Center
Known for producing the U.S. Drought Monitor, the center is internationally known for its work training scientists and governments in nations across the globe in drought preparedness and risk management.

Global Yield Gap and Water Productivity Atlas
A unique local-to-global, web-based modeling and mapping tool to identify areas where existing farmland has the capacity to produce much higher, sustainable yields. It now covers major crops in 60 countries including Indonesia, the 4th most populous country in the world.

Nebraska Food for Health Center
Uniquely bringing together research on agricultural production, food processing and medicine, the center aims to develop foods with proven health benefits and improve the health of people suffering from obesity, cancer, bowel and other diseases.