

# EXTENSION RESEARCH HIGHLIGHTS



## Responding to avian influenza

Losses in poultry production and related businesses due to avian influenza are estimated at nearly \$650 million in Greater Minnesota, according to an Extension analysis. Carol Cardona and Sally Noll, Extension poultry specialists, are conducting research on biosecurity approaches and diagnostics to help poultry producers prevent such losses in the future.

One biosecurity upgrade recently in use across many turkey facilities in Minnesota is the “Danish entry system.” The system clearly assigns clean areas to the entry area of a barn and demarcates areas for clothing and footwear changes. Upgrades to the system—including additional walls and washing facilities—may further reduce risks. Noll and Cardona are working with Extension engineers on improvements to the Danish entry system, while comparing efficacy and costs. In 2012, Cardona developed a diagnostic test for detecting influenza in water samples that she rolled out to producers, helping them to catch the disease early and prevent spread.

Visit <http://z.umn.edu/extavian> for more information.

Funding support from Rapid Agricultural Response funds, Legislative Commission on Minnesota Resources, Minnesota Department of Agriculture.



## Perfecting grape nutrition for better wine

Cold-hardy wine grapes released by the University of Minnesota are important to the wine industry in the coldest regions of North America. However, best practices for soil and nutrient management of the new cultivars weren't yet known. Without research-based information, growers could not achieve ideal crop yields and wine quality.

Carl Rosen, Extension soil scientist, Jim Crants, research scientist, and scientists from other northern universities conducted a three-year survey to establish soil and plant tissue nutrient diagnostic criteria for Frontenac, La Crescent and Marquette cultivars. They measured yield, grape size and four variables considered most important to the development of a quality wine. Although the results are preliminary, they discovered that vine nutrition can influence grape juice quality. They established nutrient sufficiency ranges that will optimize yield and quality for these Minnesota grapes.

Nutrient guidelines will be available for growers by spring 2016. Final results will be shared in late 2016 at [northerngrapesproject.org](http://northerngrapesproject.org).

Funding support from the U.S. Department of Agriculture Specialty Crops Research Initiative.



## Reducing resistant weeds

Weeds are a chronic crop pest, resulting in \$33 billion in lost production plus another \$5 billion in herbicide costs in the U.S. The most widely used herbicide in Minnesota, glyphosate, no longer works as effectively on problematic weeds such as giant ragweed. In 2014, 1.5 million acres of corn and soybean in Minnesota were considered “heavily infested” with herbicide-resistant giant ragweed.

Jeff Gunsolus, Extension weed scientist, found that weed emergence was reduced when wheat or alfalfa were planted in rotation with the corn or soybean crop. When combined with other practices to prevent new weed seeds from entering the soil, long-term giant ragweed management can be accomplished. Extension educators contributed to the project, which was co-led by graduate student Jared Goplen. Visit [z.umn.edu/HerbicideResistance](http://z.umn.edu/HerbicideResistance) for more information.

Contributions from Dept. of Agronomy faculty. Funding support from Rapid Agricultural Response funds and the Monsanto and Torske Klubben Graduate Fellowship funds.



## Help for Minnesota logging businesses

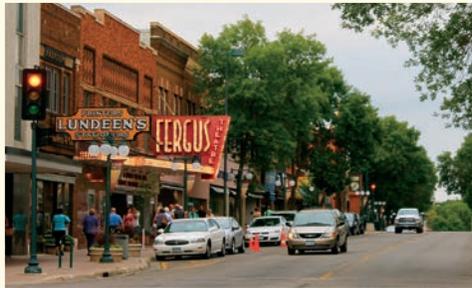
Forest products manufacturing and related sectors contribute \$9.7 billion in direct value and \$3 billion in indirect value to Minnesota's economy.

Logging businesses provide wood to mills for use in a variety of forest products, according to Charles Blinn and Matthew Russell, Extension forest resources specialists. But the closure of several mills within the state had industries concerned about the status of Minnesota timber. Blinn and Russell, along with industry partners, recently published the findings of a survey and outcomes from focus group sessions.

They authored "Minnesota's Logging Business: An Assessment of the Health and Viability of the Sector" (Forest Science, April 2015), noting that there are now fewer Minnesota loggers, with the trend of larger logging businesses harvesting most of the state's wood. They identified several ways that Minnesota logging businesses may need to modify their operations to stay competitive.

**The full report is available at [z.umn.edu/MnLoggingSector](http://z.umn.edu/MnLoggingSector).**

Collaborators include Tim J. O'Hara, Minnesota Forest Industries; Dave T. Chura, Minnesota Logger Education Program; Minnesota Agricultural Experiment Station, U of M Department of Forestry Resources, and AgStar Financial Services.



## Getting to know Greater Minnesota

What are the strengths and challenges of the regional economies of Greater Minnesota? Extension analyst Brigid Tuck examined Greater Minnesota's economy using the geographic parameters of Regional Development Commissions. The resulting 12 reports examine Greater Minnesota's economy by describing its industry outputs, employment and wages, and how it is seizing opportunities to sell product to local industries through local products.

Regional leaders and groups can use the research findings to discover their advantages and barriers, decide where to invest time and money, and engage their communities in growing local economies. **Visit [z.umn.edu/mneconomiccomposition](http://z.umn.edu/mneconomiccomposition) for reports, webinars and an overview of economic strengths in each region.**

Additional support from the University Economic Development Administration Center at the University of Minnesota Crookston.



## Money smarts for teens and young adults

Joyce Serido, Extension family finance specialist, is awed by how highly Minnesotans value education. The downside is the extent of post-college debt. The financial strain of transitioning to adulthood during a time of continuing job losses and decreasing employer-provided benefits, compounded by college debt, can cause stress that leads to physical and mental health problems, or "the elephant sitting on your chest," as Serido calls it. But responsible financial behaviors can buffer that stress.

Serido and colleagues used a stress and coping framework to research ways to help young people minimize costs and create budgets before finances get out of hand. Now these findings are helping students and families make better decisions about financing their education.

The pilot program started in January with educational workshops taking place from Mankato to Grand Rapids on topics such as understanding the obligations that come with different types of college financial aid before signing on the dotted line. **Visit <http://z.umn.edu/PersonalFinance> for financial education resources.**