

Broadband for Agriculture

Thomas G. Johnson

October 25, 2010

*Building Missouri's Information Infrastructure for the
21st Century*

Jefferson City, Missouri

Broadband is especially important but particularly difficult to provide for rural residents

- Access to broadband is *important* to rural residents because:
 - Low population density makes public and private services expensive
 - Greater distances increase travel costs
 - Reduced availability of public and private services limits quality of life

Broadband is especially important but particularly difficult to provide for rural residents

- Access to broadband is *difficult* to provide to rural residents because:
 - Greater distances make broadband service more expensive to build
 - Low population density reduces the demand for broadband services

Research on Broadband and Farms

- Research indicates that introduction of broadband increases the rate of job growth and income in rural areas
 - Effect is primarily observed near urban areas*
- Broadband is most widely used by large farms**
- Most farms with internet access use it for market information and purchase of inputs**

* Renkow, Mitch and Ivan T. Kandilov. 2010. Infrastructure Investment and Rural Economic Development: An Evaluation of USDA's Broadband Loan Program. *Growth and Change* 41(2): 165-191

** Stenberg, Peter Mitch Morehart, Stephen Vogel, John Cromartie, Vince Breneman, and Dennis Brown. 2009. *Broadband Internet's value for rural America*. Economic research report no. 78. USDA Economic Research Service.

Broadband potentially provides both direct and indirect benefits to farms and farm families

Direct Benefits of Broadband to Farms

- Access to important information
 - Weather forecasts
 - Market information
- Opportunity for farm-to-business e-commerce
 - Direct sales to customers
 - Purchase of inputs
- Access to technological tools
 - GPS applications increasingly important to agriculture
 - Satellite imagery for pest control, fertilization and yield prediction

Direct Benefits of Broadband to Farm Families

- Increased access to services in remote rural regions
 - Tele-medicine
 - Tele-education
 - E-government
 - Access to on-line retailers
- Expands employment opportunities through tele-work

Increased quality of life

Entertainment

Communication

Education

Health

Indirect Benefits of Broadband to Farms and Farm Families

- Improved non-farm rural economic conditions mean increased opportunities for
 - Off-farm jobs
 - Non-farm enterprises
 - Successful local foods and community supported agriculture programs
 - Improved local public services and infrastructure

Potential Benefits of Broadband in the Future

- Important tool in climate change adaptation*
 - Better use of limited water resources**
 - Crop monitoring

*Saunders, Roger. 2007. "Broadband and the environment." *Telecommunications Journal of Australia* 57(2-3) .

**Saleem, Syed, Byron Wicks, and Kithsiri B Dassanayake. 2009. "Broadband and the sustainable use of Water Resources." *Telecommunications Journal of Australia* 59(1) .

Thank You