



TV WHITE SPACES & AGRICULTURE

Broadband Access From TV White Spaces Will Open New Markets For Small, Rural Farmers:

Broadband Access Helps Farmers Find New Customers & More Affordable Supplies. “Access to broadband, and particularly the Internet of Things, promises to enhance agricultural productivity in exciting ways. Broadband access has given farmers the ability to search for new customers, find buyers willing to pay higher prices, and identify the most affordable sources of seeds, fertilizers, and farm equipment.” ([“A Rural Broadband Strategy,”](#) 7/10/17)

Access To Broadband Would Allow Ranchers To Buy & Sell Livestock Online. “Counties without modern internet connections can’t attract new firms, and their isolation discourages the enterprises they have: ranchers who want to buy and sell cattle in online auctions or farmers who could use the internet to monitor crops.” (Jennifer Levitz & Valerie Bauerlein, “Rural America Is Stranded In The Dial-Up Age,” [The Wall Street Journal](#), 6/15/17)

Broadband Will Help Farmers Compete By Allowing Them To Use The Latest Technology & Work More Efficiently:

“Having Access To Such New Internet Based Technologies Will Prime Many Rural Farmers To Compete More Effectively.” ([“A Rural Broadband Strategy,”](#) 7/10/17)

“Farmers Also Use Advanced Wireless Technologies To Conserve Resources And Boost Yields, From Web-Based Irrigation Scheduling To ‘Prescriptive Planting’ Technologies That Tell Farmers How To Increase Their Outputs Based On Data Gathered By Tractors.” ([“A Rural Broadband Strategy,”](#) 7/10/17)

Using Broadband, Farmers Are Able To Schedule Irrigation & Increase Water Usage Efficiency. “Smart technology changes habits, and adds efficiency. Just ask Nebraska farmer Greg Greving, who admits that he, ‘always wanted to be first to irrigate.’ Since he started using an interactive computer model to schedule irrigation, he now holds off watering beans in the early vegetative stage, saving water for grain fill. Sophisticated irrigation management tools are helping growers make the best use of their water resources.” (Liz Morrison, “New Tools, Technology Help Farmers Increase Water Use, Irrigation Efficiency,” [Corn + Soybean Digest](#), 2/24/14)

Broadband Access Has Also Led To The Development Of “Prescription Farming.” “Big agricultural companies say the next revolution on the farm will come from feeding data gathered by tractors and other machinery into computers that tell farmers how to increase their output of crops like corn and soybeans. Monsanto Co., DuPont Co. and other companies are racing to roll out ‘prescriptive planting’ technology to farmers across the U.S. who know from years of experience that tiny adjustments in planting depth or the distance between crop rows can make a big difference in revenue at harvest time.” (Jacob Bunge, “Big Data Comes To The Farm, Sowing Mistrust,” [The Wall Street Journal](#), 2/25/14)

Farmers In Some Regions Are Already Seeing Benefits From Pilot Projects Delivering Broadband Access Via TV White Spaces:



A New Program Called “Farm Beats” Employs TV White Spaces To Provide Farmers Data From Sensors On Their Farms. “Through ‘Farm Beats,’ an end-to-end IoT platform created by Microsoft, TV White Spaces have been harnessed to bring data from various sensors (such as cameras, drones, and soil sensors) to farmers. But for farms that lack broadband, precision farming is not possible.” ([“A Rural Broadband Strategy,”](#) 7/10/17)

- **The Program Has Successfully Brought Broadband To The Traditionally Offline Farmland.** “By setting up a high bandwidth link from the farmer’s home to an IoT base station on the farm, Microsoft has been able to extend existing broadband connections to the typically offline farmland, where the sensors can then connect to it.” ([“A Rural Broadband Strategy,”](#) 7/10/17)
- **Notably, The Program Is Designed To Work “Even Without Grid-Based Power.”** “Moreover, the system is built to work even without grid-based power – the IoT base station’s design enables it to use weather forecasts to appropriately cycle different components of the station based on the availability of adequate solar power.” ([“A Rural Broadband Strategy,”](#) 7/10/17)

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