

BUSINESS CONNECTIONS

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Smart Moves at Patton Farms

This operation takes advantage of Smart Farm technology with help from Rainbow Communication.


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BUSINESS CONNECTIONS

Technology is changing the face of farming. Rainbow Communications is proud to be a part of the technology revolution in agriculture, a critical industry for the world's increasing population. In this issue of *Business Connections*, we share the benefits of our Smart Farm offering, which provides property-wide Wi-Fi to support farmers in their important work.

So, **What is a Smart Farm?** On page 3, we explain how much farmers rely on online tools that offer communication, information, and access. You'll learn how—using Wi-Fi—Smart Farm technology enables all Internet-enabled devices on a farmland to work off of one network.

On page 4, our Business Spotlight focuses on **Patton Farms**, which is already taking advantage of the benefits Smart Farm technology can offer. Reliable Internet is just the beginning. The operation has the capacity to download information directly into farm machinery, operate equipment remotely, and view farm operations from afar.

You'll read about **How Rainbow Can Help Set Up Your Smart Farm** on page 5. The process is less cumbersome than you might think, thanks to Rainbow Communications' already-existing fiber network. We can use this infrastructure to provide Wi-Fi access to multiple farm buildings on your property.

Finally, on page 6, we talk about **Avoiding Wireless Woes**. Whether your Wi-Fi network is at a retail shop, office, or farm—or you're using a public hotspot—there are certain precautions you should take to ensure maximum security.

Remember, Rainbow Communications is here to assist with all your technology needs, no matter what industry you're in. Give us a call to let us know how we can help.

Sincerely,
Rainbow Communications
Sales Department



L to R: Julie Bergman, Sales Representative; Amiee DeFore, Technology Solutions Clerk; Angie Kreider, Sales Account Manager, and Jerad Enneking, Sales Representative



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What is a Smart Farm?

Seamless online access increases efficiency, security, and profit



It's an exciting time to be in farming. With an expected 9.6 billion people to feed by 2050, the agriculture industry must continuously find ways to produce more food more easily.

Working Smarter

As operations become more Internet-based, farmers have an increasing need for online access from anywhere on their property, using a smartphone or other mobile device. Just as homeowners benefit from having Wi-Fi throughout the house for printers, laptops, TVs, smartphones, tablets, and other devices, entire farms can benefit from seamless online access. Angie Kreider, Sales Manager at Rainbow Communications, explains, "Reliable Internet access allows farmers the ability to continue learning and enables them to think globally and act locally."

The following is just a sampling of the many farming tasks that can be accomplished online:

- Communication between farm employees to keep everything running smoothly
- Access to livestock feed and grain management
- Monitoring of bin and fuel or fertilizer tanks
- Use of GPS services to bring together information from field, animal, and machinery with sensors, along with localized weather data and soil information to assist with decision-making
- Record-keeping regarding births and other critical information
- Internet-based video surveillance
- Access to markets to participate in auctions and more easily follow real-time changes in commodity prices and market information

- Ease of financial management with farm business planning, direct product sales, herd management, ROI calculators, and business accounting

Such solutions enable farmers to increase efficiency, enhance security, and protect assets. Modern farming requires the use of many of these services to stay current and competitive.

Tomorrow's Farming

A Smart Farm is one that's fully Internet-enabled through a fast Wi-Fi connection in and around farm buildings, including grain bins and dryers, using existing fiber Internet as a base. A single Wi-Fi network can be built to include all areas of a farm's operations, even across multiple locations. This technology enables all Internet-enabled devices on a farmland to work off of one network. Users get quick access to the monitoring data from these devices and the Internet reliability required for optimal performance of security cameras.

A Wi-Fi system can be created to meet the needs of all aspects of a farm's operation. The right Wi-Fi equipment and layout depends on each farmer's goals and concerns, as well as building specifications, and the distance between locations.

As technology continues to expand, new ways will be found to make Smart Farms faster and more efficient. Kreider comments, "Tomorrow's farming doesn't look like today or yesterday. Technology is the future for progress and profit."



Patton Farms

Following technology to the future of farming

Patton Farms was started in the early 20th century by ancestors of current owner Ryan Patton, who notes that the biggest changes during that time have been in technology. He says, “I’m not sure how anyone could get by now without a smartphone, yet we used to do it with no problem. Now, if the Internet is down, everyone’s unhappy.”

Investing in Smart Technologies

To ensure smooth operations for the farm, Patton uses his smartphone to call or text employees, look up parts online, download planting and fertilizing maps, and perform other tasks he says we now take for granted. These tools help Patton keep up with the competition. He notes, “Customers choose to do business with us because we provide high quality and can deliver a large amount of grain in a short period of time.”

While there is no such thing as a “typical day” at Patton Farms, Patton typically spends his time managing employees and making sure they can be as efficient as possible. He comments, “In farming, you have a plan one minute, but have to be flexible because the weather changes, or something breaks down, and you have to make decisions at the snap of a finger. You have an idea when you start the day of what you want to accomplish, but you have to be adaptive.” His favorite part of his work is seeing a crop during harvest — the result of a year’s worth of work.

Patton Farms employs seven full-time workers as well as several part-timers during the busy season. They appreciate that Patton provides up-to-date, modern equipment that reflects the latest technology.

Wi-Fi Across the Acres

This technology focus includes a Wi-Fi System from Rainbow Communications, which reaches all three of the farm locations. Patton states, “This Rainbow Wi-Fi System makes Internet access more dependable and faster. Previously, we were just relying on our cell signal, which could be hit or miss.” The spotty service was especially problematic in the farm’s shop. Patton adds, “Now we can download information about fertilizing, seeding, and other topics from the Cloud to our tractors in a split second, versus having to go into the house, download the information onto a flash drive, and put the flash drive on the tractor.”

In addition, Patton and his employees will soon be able to operate the farm’s new grain dryer remotely. Patton

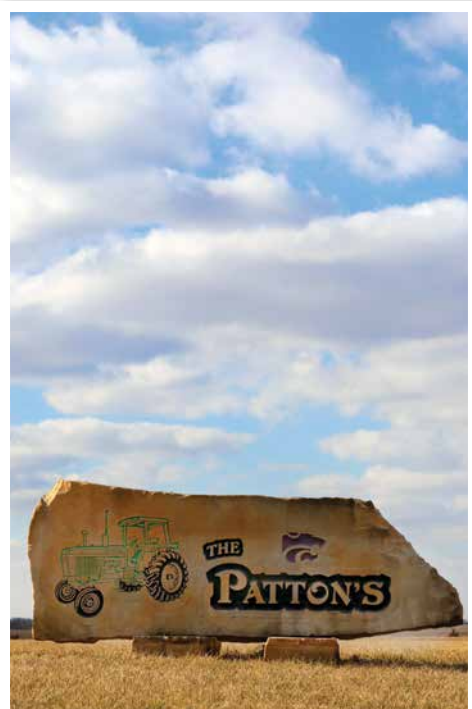
explains, “We’ll be able to monitor it through a smartphone, which will save a lot of time. Having dependable service will be key.” The farm also has video cameras that can be used via the Internet for distance surveillance.

Patton says the service from Rainbow Communications in delivering his Wi-Fi solution has been outstanding. He adds, “We can call or text them during or after hours. This is new technology, so it’s been a learning process for all of us. But, whenever we’ve called with an issue, they’ve come right out to fix it.”

Angie Kreider, Sales Manager at Rainbow Communications, explains that Patton Farms is able to use one large Smart Farm plan to serve its three locations. She says, “The Pattons are using the latest technology to help them progress in this ever-changing industry. Rainbow Communications is fortunate to be their partner in moving into the future of farming.”

This Rainbow Wi-Fi System makes Internet access more dependable and faster. Previously, we were just relying on our cell signal, which could be hit or miss.”

—RYAN PATTON, OWNER, PATTON FARMS



HOW RAINBOW CAN HELP SET UP YOUR SMART FARM

You already have the basis for an Internet-connected farm — Rainbow Fiber Internet. We can use this existing fiber infrastructure to provide access to multiple farm buildings spread out on your farmland. This means buildings and areas that currently have no Internet service or poor Internet service can be connected to fast speeds, opening the door to using smart solutions for monitoring and surveillance. What’s more, since multiple Wi-Fi sites can all be supported by the same Rainbow Fiber Internet, it’s a cost-efficient strategy that can save you money.

Rainbow Communications can set up a 360-degree Wi-Fi System around your farm’s buildings so that you and your employees can more easily access the Internet on laptops, tablets, and smartphones. Wi-Fi equipment is provided in weatherproof cases built to withstand harsh outdoor conditions such as heavy rains and frost. Having Wi-Fi capabilities outside broadens your usage options and is more convenient than having to hardwire inside of a building. This type of system also provides the fast, reliable Internet connections needed to use smart technology including enhanced farm equipment and tools.

There can be special challenges to getting good Wi-Fi coverage inside of farm buildings. Without the right equipment, large amounts of metal and big interior spaces can make Wi-Fi performance inside of these buildings poor. Rainbow Communications has the experience and technology to overcome these challenges. We can set up higher-powered access points in farm building interiors, strategically placed for maximum strength and more symmetrical long-range wireless access. No matter which Internet enabled device is being used inside, you’ll benefit from high speeds.

The first step is to call 800-892-0163 for your free on-site assessment. We’ll discuss your goals and concerns, take a look at your buildings and the distance between locations, and recommend the right Wi-Fi equipment and layout for you.



Avoiding Wireless Woes

Tips for maintaining security when installing or accessing Wi-Fi networks

As wireless networks become easier to install within your own business, and easier to use when outside of it, security becomes increasingly important. To help protect yourself, follow these tips:

Securing Your Wi-Fi Network

An unsecured wireless network allows people outside your building to “leech” off the services you’ve paid for and get free access to the Internet. These individuals could also use your connection for illegal activity such as identity theft.

Change the default password.

Once you set up your network, be sure to create a stronger password such as one that combines both letters and numbers.

Enable security on your router.

Most wireless routers come with this option but many are not pre-programmed by default.

Place your wireless base unit in the center of your workspace, if possible.

Doing so will spread your coverage evenly throughout your space while limiting the range of potential signal leakage outside your building.

Disable SSID broadcasting and lower your transmission power.

By disabling this feature, you’ll make your network invisible to neighboring businesses and people driving by. If your router allows you to lower your transmission power, do so to reduce your network’s radius of availability.

Think of WEP encryption as only a partial solution.

While WEP is better than nothing, be aware that it’s still not entirely secure.

Choose WPA encryption for more security.

This type of encryption, called Wi-Fi Protected Access, adds greater security because you assign a personal password that’s harder for hackers to crack.

Connecting in Hot Spots

Connecting to a public Wi-Fi hot spot that is not secure can leave you vulnerable to attack. A hacker can set up a legitimate-looking Wi-Fi network in a known hot spot, wait for users to connect to it, and access sensitive information. They may also use the phony connection to direct users to false web pages in order to gain information that can be used for theft. Connecting to such a Wi-Fi network can result in inadvertently downloading viruses, worms, and other malware. It’s best not to connect to an unknown Wi-Fi network. But if you must, take precautions.

Keep your laptop security up to date.

Make sure you have the current versions of your operating system, firewalls, web browser, and antivirus and antispyware software.

Avoid sensitive transactions.

To reduce your risk of having personal information stolen, don’t conduct financial transactions or use messaging applications.

Adjust your laptop’s default setting.

Set it to prompt you to manually select a Wi-Fi network rather than have one automatically chosen for you.

Turn it off.

Keep your laptop’s Wi-Fi capabilities turned off when not in use.



Returning to **Your Roots**

Welcoming experienced workers back to Hiawatha

Each quarter, we'll be highlighting people in our community who have come back to the area after college or a job. For this issue, we recognize Nicholas Blevins, Integrated Solutions Manager at John Deere:

Nicholas Blevins was raised in the Robinson, Kan. area, north of Brown County State Lake. He left to study information and network technology at Manhattan Area Technical College. His first position after graduating was in Seneca, Kan., but he was hoping for something in the agricultural sector, closer to where he grew up. In 2006, he found a position in Hiawatha at Hemisphere GPS, and worked there for four years. He started at John Deere in 2010.

Blevins' moved back to the area was prompted by his desire to be in a farming

community and near his family. His father and uncle farm in the White Cloud area, and he helps them on weekends as much as he can. He notes, "A lot of farmers are beginning to retire due to a down turn in agriculture, but our farming operation has begun to build and continues to enhance better farming practices. I am glad to be part of our farm as it gives me a chance to see what my customers see at John Deere."

As Integrated Solutions Manager at John Deere, Blevins manages the GPS department, sells and services GPS, and is in charge of customer events. He comments, "GPS is in all ag machinery for things like automated steering, shutting off rows to prevent overlap, and turning around at the end of a field automatically. It runs the tractor for you as long as an operator is present." Customer events are held on topics such as training on machinery, how to increase efficiency and productivity, and information about different methods of farming.

RAINBOW'S PARTICIPATION IN THE KANSAS STATE OF BROADBAND CONFERENCE

The Kansas State of Broadband Conference took place in early February in Topeka, Kan. It featured speakers on a wide variety of broadband-related topics and received support from U.S. Senator Jerry Moran. John Deere employee Nick Blevins, as well as several Rainbow Communications representatives, were involved:

Jason Smith, Assistant General Manager at Rainbow Communications, is the Board President of the State Independent Telephone Association (SITA), which hosted the event. His vision for the organization is to offer educational and networking opportunities for members, continue partnerships between rural telecommunications companies, maintain the dignity of independent companies, and demonstrate their experience and capabilities.

Nick Blevins and **Angie Kreider**, Sales Manager at Rainbow Communications, served on the panel, "Broadband Based Innovations in Agriculture." Blevins delivered an hour-long presentation about how technology is impacting agriculture.

Stacy Simmer, PR/Community Development Coordinator at Rainbow Communications, was heavily involved in organizing the event, including bringing in panelists, narrowing down discussion topics, and scheduling.





Make Your Farm a "Smarter" Farm

Expand your Fiber connection by making your entire property a Wi-Fi hotspot. This lays the groundwork for the use of technology solutions and keeps you close to the data you need.



To learn more about our Wi-Fi solutions, call 800-892-0163.


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