

# Farmland SEASONS

WINTER 2015



*We plant profitable investment ideas  
in every season*

## 2015: Technology In Agriculture

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# 2015: Technology In Agriculture

A brief look at just a few of the latest innovations in agricultural technology >>

## COVER CROPS

Often seeded after cash crops are harvested, though occasionally inter-seeded during the growing season, cover crops have the unique ability to add organic matter, fight erosion, improve fertility, and keep weeds and insects at bay. They also act to break up compaction and provide a natural source of nitrogen for the soil.



The early success of cover crop usage is such that the Natural Resource Conservation Service (NRCS) recently set a goal to increase the number of acres planted in cover crops nationwide to 20 million acres, from its current level of 2 million acres, by the year 2020. As the benefits of planting cover crops become more widely understood, we expect this trend will continue to gain momentum nationwide.



# D R O N E S

Although controversial, drone technology will most likely be part of the future of agriculture. Here are a few ways farmers can, and currently are, using drones to their advantage:

1. Obtaining day to day aerial photography of growing crops can help a producer discover pest and fungal infestations. Also, farmers can inspect irrigation equipment and crop growth patterns to make necessary repairs or adjustments mid-season.
2. Taking specialized photographs with infrared and other imaging technologies to create images that can signal distress in a plant that would be unnoticeable to the naked eye.
3. Monitoring crops hourly, weekly, or sporadically, depending on what perceived challenges present themselves. Given the affordability and mobility of today's drones, farm operators can take images at any frequency they choose. In other words, the crops are better tended to as one person can now cover wide expanses much more efficiently than in the past.



# I R R I G A T I O N



Using “cloud” technology, growers can now use a single computer or smart phone to control irrigation pivots, drip systems, flushing, chemigation, and sensors.

Farmers are able to monitor their irrigation systems in real-time, optimizing water usage and crop yields from the palm of their hand.

Strides in variable-rate irrigation (VRI) have provided greater water control for irrigators. VRI saves water resources by placing water where it is needed most, and at the right time, thereby saving the producer money. Better irrigation information leads to less waste, increased efficiency, and ultimately, better yields.







## L I V E S T O C K

Looking to the future, Lowell Catlett, an ag economist from New Mexico State University, predicts that there will be dramatic changes to medical diagnostics in cattle—via smartphones. “Get ready to ramp up prescription agriculture,” Catlett says. There is already considerable work being done in the medical community to equip smartphones with the ability to monitor and diagnose health problems. Extrapolated to the agriculture industry, these technologies could be harnessed to monitor livestock or even plants for a level of do-it-yourself diagnostics unheard of today, Catlett says.

Commercial cellulosic ethanol production has finally arrived after years of anticipation. Two plants opened in the fall of 2014—a 25 million gallon per year POET-DSM facility in Emmetsburg, Iowa and a 25 million gallon per year Abengoa facility in Hugoton, Kansas. A third plant, expected to produce 30 million gallons per year, is being built by Dupont in Nevada, Iowa. These three facilities are designed to convert cellulosic biomass (plant fiber) into ethanol.

Syngenta recently announced the development of a revolutionary cellulosic ethanol process technology. Their product, Cellerate, is designed to increase production at ethanol plants by now allowing the corn kernel fiber to be converted into cellulosic ethanol. The corn kernel is about 8% fiber.

Additionally, Syngenta recently developed “Enogen” corn for the ethanol industry. It is the first genetically modified output trait in corn specifically for the ethanol industry. Through biotechnology, Enogen corn delivers alpha amylase enzyme directly in corn grain, saving ethanol refineries the cost of adding liquid enzymes in their processing.

## E T H A N O L

# AUTONOMOUS FARMING

High tech driverless tractors and machines are no longer a futuristic concept — they are currently being tested in farm fields throughout the Midwest. One notable entry in the budding autonomous sector is the Kinze Autonomous Harvest System. Kinze states the autonomous system is able to:

- Run autonomous carts in the field simultaneously with multiple combines.
- Automatically choose from the multiple carts in the field the one that is best suited for the combine operator to unload into when they make a request for a cart.
- Keep tabs on all vehicles operating in the field so that the autonomous grain carts always find and follow the safest and most efficient path to the combines.
- Allow any of the combine operators to call any of the autonomous grain carts in the field when ready to unload. The combine operators also have an aerial view of the field from the tractor cab to allow them to see where the other combines are located and where all of the autonomous grain carts are running.
- Give the farmer a full field of vision to the left and right in addition to what is happening in front of the tractor. The system can “see” obstacles approaching from either side and can drive safely down narrow corridors.



# SMARTPHONE APPLICATIONS

## SIRRUS

Data collection and processing are made simple with Sirrus. Growers and service providers are able to track, synchronize, and analyze large amounts of farm data with precision.



## AGRIVI

Used by farmers in 80+ countries, Agrivi helps producers manage field activities, track sales and expenses, follow weather, and manage risks from pests and disease.



## TRACTOR PAL

Serial numbers, service dates, hours and other data are inventoried with Tractor Pal. The application then manages all maintenance schedules, reminding farmers of tasks to be done.



## ID WEEDS

Allows users to search for weeds by name or identify weeds based on a number of characteristics, while providing details about each plant along with photographs of the weed specified.





# FARM MANAGEMENT UPDATE

*Steve, give us your observations as we move into spring.*



One of the things on our radar today is the ratio of corn to bean prices, as well as the cost to put the 2015 crop in the ground. Based on where grain prices currently stand, we're seeing farmers lean more towards increased bean acres this year. Grain prices have bounced off the harvest lows better than we would've expected. Because grain markets continue to be somewhat volatile, farmers are going to be flexible with some percentage of their acres going into late March and early April to determine the final mix of crops. There are some farms not leased for the 2015 crop year, as we regularly hear from landowners who would like us to manage their properties. The tenant demand for these acres remains strong, as farmers intend to maintain and expand their land base despite moderating grain prices.

*What are you working on now?*



One task on the top of our list is enrolling all of our managed farms in the Farm Service Agency (FSA) farm programs, as laid out in the 2014 Farm Bill. As part of this process, there are three things that must be determined.

1. Whether to enroll in the Agricultural Risk Coverage (ARC) or Price Loss Coverage (PLC) program — a decision to be made by the farm operator. This selection needs to be made by the end of March 2015.
2. Whether to adjust the "base acreage" associated with the farm. If there is an opportunity to increase the corn acreage, it is typically advantageous for the landowner and tenant.
3. What adjustment, if any, should be made to the "crop yields" associated with the FSA and used to determine payment levels to farm operators. The level of adjustment is determined by a calculation based on actual crop yields from 2008 through 2012, if available. Any changes made need to be completed by the end of February, 2015.

*What impact does the lower price of oil have on farmers?*



The most direct impact is lower prices at the pump. Most farmers are storing 500 to 2000 gallons of fuel on their farms at any given time. Additionally, the cost of some on-farm inputs, like fertilizers and lubricants for their tractors and machinery should decrease. While this relief helps to decrease the farmer's expenses, there are real concerns as to how sustained lower oil prices threaten the profitability of ethanol. Blenders have to adhere to the Environmental Protection Agency's 10% blending requirement, which provides a certain amount of consistent demand, but I don't foresee an increase in ethanol production unless the economics of production change. Who will blink first in this energy war — the "new" U.S. energy industry or OPEC — is yet to be determined.

*What do you see farmers' income and expenses looking like in the coming year?*



The last couple years we've seen some correction in the farmland rental market. We know from past experiences that the cost to plant a crop tends to come down slower than the price of grain, which puts a squeeze on crop budgets for a period of time. Moving into this summer, the size of the crop will once again be the determining factor on where prices go in the fall. Below average crop yields would likely drive grain prices back up to higher levels while an average to excellent crop will keep downward pressure on grain prices.

Farmers managing through this period of transition are being more selective with where they spend their money. This means that less money will be spent on equipment and instead directed toward working capital to keep operations running efficiently. In recent years, farmers invested heavily in capital improvements due to a favorable tax structure and good income. These producers

will now be focused on conserving working capital in 2015.

As they always have in the past, I expect producers to adapt to these changing conditions and find success in 2015 and beyond.

# Martin, Goodrich & Waddell LAND LISTINGS

All acreage and mileage figures listed here are approximate

## ILLINOIS PROPERTY

### BOONE COUNTY

- 92 acres. I-90/Belvidere Property, 3/8 mi. S & 1 mi W of Belvidere. \$11,900/ac. SOLD
- 70.7 acres. Dougall Farm, 5 mi. SW of Belvidere, \$9,150/ac.

### CARROLL COUNTY

- 155.8 acres. Maring Farm, 4 mi. SW of Chadwick. \$8,250/ac. SOLD

### DEKALB COUNTY

- 5 acres. Donnelly Property, 1 mi. S of DeKalb. \$199,000.
- 53.5 acres. DeKalb Farm, 3 mi. W of Sycamore. \$11,900/ac.
- 239.1 acres. Parcell Trust Farm, 4 mi. N of Malta. \$14,700/ac. SOLD
- 84.7 acres. Pearson Farm, city of Genoa. \$17,500/ac.
- 57.2 acres. Karras Farm, contiguous to Cortland, \$14,900/ac.
- 114.1 acres. Sycamore North Farm, city of Sycamore, \$16,500/ac.
- 5 acre bldg. site & up to 100 acres. Malta Road Farm, 2 mi. SW of Kirkland, \$289,000 (bldg. site) & \$9,450/acre (farmland)
- 2 acres. Olson Farmette, 3 mi. SW of Genoa, \$209,000

### HENRY COUNTY

- 123.4 acres. Herren Farm, 3 1/4 mi. NE of Geneseo, \$10,500/ac. SOLD

### JO DAVIESS COUNTY

- 15 acres. Hilltop Property, 6 mi. NE of Elizabeth. \$149,500 SOLD

### KANE COUNTY

- 30.8 acres. Bronski Farm, 1/4 mi. S of Burlington. \$495,000. SALE PENDING
- 82 acres. Lueth Farm, 3/4 mi. S of Algonquin. \$14,900/ac.
- 97.5 acres. Turner Farm, 1 1/2 mi SW of Elgin. \$10,900/ac.

### LASALLE COUNTY

- 130.7 acres. Lacey Farm, 3 mi. E of Oglesby. \$11,900/ac. SOLD
- 104.6 acres. Groveland Farm, 1 1/2 mi. NW of Dana. \$9,400/ac. SOLD
- 22.3 acres. Thompson Farm, city of Peru. \$16,899/ac. SALE PENDING

### LEE COUNTY

- 113 acres. Haefner Farm, 1 1/2 mi. SE of Amboy. \$12,000/ac.
- 78.8 acres. Ikeler Property, village of Paw Paw. \$7,900/ac. SALE PENDING

### MCHENRY COUNTY

- 40 acres. Earl Duhr Trust Farm, 5 1/2 mi. SW of Harvard. \$10,975/ac. SALE PENDING
- 169 acres. Marengo Farm, contiguous to Marengo. \$10,450/ac.



## OUR FEATURE FARM: THE KARRAS FARM

**DEKALB COUNTY, IL, \$14,900/AC.**

*57.18 total acres. 53.49 tillable acres. Excellent investment opportunity. High quality farmland with future development potential. Located on State Route 38, adjacent to the town of Cortland.*

- 59.1 acres. Johnsborg Property East, village of Johnsborg, \$17,995/ac.
- 30.5 acres. Johnsborg Property West, village of Johnsborg, \$19,950/ac.
- 80.3 acres. Doty Road Property, 1 mi. N of Crystal Lake, \$13,900/ac.

### OGLE COUNTY

- 127 acres. Ogle County Crossroads Property, city of Rochelle. \$39,900/ac.
- 150 acres. Interstate Transportation Center Property, city of Rochelle. \$19,500/ac.
- 31.8 acres. Gateway Development Property, city of Rochelle. \$50,000/ac.
- 142 acres. Heidelmeier Farm, 3/4 mil NE of Oregon. \$6,250/ac. SOLD
- 80.7 acres. Brighton Ridge Subdivision Property, city of Byron. \$6,950/ac. SOLD
- 101.9 acres. Traina Property, 4 1/2 mi. east of Oregon. \$5,650/ac.

### PUTNAM COUNTY

- 48.5 acres. Power Farm, 2 mi. SW of Spring Valley. \$4,200/ac.

### STEPHENSON COUNTY

- 73.8 acres. Patriot Farm, 1 1/2 mi. W of Ridott. \$9,350/ac.

### WILL COUNTY

- 78.5 acres. Smith Road Farm, 2 mi. E of Manhattan. \$22,900/ac. SOLD
- 54.9 acres. Frankfort Farm, city of Frankfort. \$16,900/ac. SOLD
- 103.5 acres. Brettingen Farm, 3/4 mi. E of Beecher. \$6,450/ac.

### WINNEBAGO COUNTY

- 159.2 acres. Dickenson #2B Farm, contiguous to Rockford. \$19,000/ac. SALE PENDING
- 20.5 acres. Farm School Road Farm, 5 1/2 mi. SE of Durand. \$159,000.
- 120 acres. Durand Farm, 5 1/2 mi. SE of Durand. \$8,690/ac. SOLD
- 231 acres. Rogers Farm, village of Roscoe. \$10,500/ac.
- 170.2 acres. Sedarquist Farm, 1 mi. W of Rockford. \$5,900/ac.
- 36.6 acres. Riverside Development Property, city of Rockford, \$9,150/ac.
- 34 acres. Baxter Road Farm, village of New Milford, \$7,900/ac.

## INDIANA PROPERTY

### LAKE COUNTY

- 81 acres. Minder Property, 1 mi. E of Merrillville. \$10,900/ac.
- 53.5 acres. Merrillville Road Property, town of Merrillville. \$8,350/ac.

### NEWTON COUNTY

- 54.5 acres. Forest Knolls Farm, contiguous to Lake Village. \$6,250/ac.
- 10 acres. Lincoln Property, 1/2 mi W of Roselawn. \$68,500.

## MISSOURI PROPERTY

### HOWELL COUNTY

- 424.9 acres. Smith Property, 14 mi. S of West Plains. \$950/ac.

## WISCONSIN PROPERTY

### ROCK COUNTY

- 18.3 acres. Rotamer Ridge Farm, city of Janesville. \$11,500/ac.
- 144 acres. Billimack Farm, 11 mi. W of Beloit. \$3,950/ac.

### WALWORTH COUNTY

- 40 acres. Ames Farm, 1/2 mi. S of East Troy. \$6,700/ac.

## AUCTIONS

- 79.0 acres. Kamrow Farm, 4 1/2 mi. W of Manteno, IL. SOLD
- 81 acres. Heal Road Farm, 3 1/2 mi. NW of Malta, IL. SOLD
- 132.8 acres. Nu-Way Farm, 2 1/2 mi. SE of Belleville, WI. SOLD
- 2480 acres. Timberline Ranch, 4 1/4 mi. N of Musselshell, MT. SOLD

*For details on these properties, call Jeff Waddell, Josh Waddell or Mark Mommsen at 815-756-3606 or visit our website at [www.mgw.us.com](http://www.mgw.us.com).*

# A TIME OF TRANSITION: WHAT A LAND PROFESSIONAL CAN DO FOR YOU

As we've mentioned in recent issues of Seasons, this world of ours continues being in a state of transition. As we enter 2015, global changes have created a new reality of \$2 per gallon gasoline, continued high food prices, and finally the real possibility of a rise in interest rates. I'm being asked now more than ever, "How do all these changes affect me and my farmland investment?"

Given the dramatic changes in recent months across the commodity spectrum, there are some new realities to consider when renting farmland. The farmland rental market is in the process of adjusting to a new pricing level. The reality today is that a higher level of management is needed from both the tenant and the landowner to achieve maximum profitability. Because of the changes in commodity prices and profits, land values and rents are adjusting accordingly. Our goal as a farm manager is to ensure that farmers are able to be successful given market conditions, while delivering the best possible return to the landowner.

It's not uncommon for a busy landowner to be disconnected from the day to day market, especially when it's changing rapidly. These individuals find benefit in using a professional farm manager who is able to reconcile the many variables that go into leasing and managing a farm:

- Grain prices
- Fertilizer prices
- Farm drainage
- Farm layout and topography
- Neighborhood competition
- Equipment costs
- Grain drying and storage costs
- Fertility requirements
- Farm Service Agency compliance

Understanding the impact of these items on a farm's rental value does two things. It ensures the landowner is receiving the best possible return on their investment and the tenant is able to run a sustainable enterprise. We find it's in the best interest of everyone involved to view the landowner-tenant relationship as a long term partnership.

For someone who may be looking to sell their farm in this time of transition, there are still buyers paying great prices for quality farmland. However, there are fewer of these buyers than in years past. What we're seeing now is that each individual farm location is really its own unique market. For instance, areas with higher numbers of livestock operations are experiencing stronger demand when properties come available for sale as livestock prices are currently strong. Meanwhile, other areas have a higher concentration of investors actively seeking to purchase land, which also supports demand.

There are interested buyers in any given area. However, for the person looking to sell their farm, it's more important than ever to be able to connect those buyers with the property that's for sale. Buyers are beginning to have more options in today's transitioning market. This is different than in years past when buyer demand was extremely strong and farms sold very quickly.

A land sales professional with a history of strong results is best-suited to accurately determine the top market value of property, engage those buyers who have lots of options or are doing 1031 exchanges, market the property extensively to increase the buyer pool beyond adjoining landowners and local investors, and negotiate the best terms. These are difficult tasks to accomplish for sellers not closely in-tune with today's dynamic land market. The stakes are just too high for a "close enough" approach to valuing, marketing, selling, and closing farmland.

As always, a new year brings new excitement. I think we're able to help landowners now more than ever by offering our years of proven experience to the process of leasing and selling farmland.



Jeff Waddell  
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