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MWA
MURRAY WISE
ASSOCIATES

IN THIS ISSUE

P1 *Genetically Modified Crops, Feeding the World*

P3 *Chapter 12 Bankruptcies up 24% Nationwide... But...*

P3 *Illinois Farmland Market Holds Strong*

P4 *MWA Foundation Scholarship Application Open for 2020*

P5 *Story of Grain Prices in 2019 by Guest Writer: Dr. Scott Irwin*

P6 *Current Listings, Upcoming Auctions, and Recent Transactions*



THE WISE AG UPDATE

Your source for farmland & agribusiness transaction news by Murray Wise Associates LLC

GENETICALLY MODIFIED CROPS, FEEDING THE WORLD

BY MURRAY WISE

Typically, at the end of the year, I write a “wrap-up” of the growing season for the Midwestern states. However, this year, a notable guest writer, Scott Irwin from the University of Illinois, will assume that task and allow me to focus on a different subject.

It took me very little time to choose the topic of this commentary with the recent election in the United Kingdom and its implications on Brexit. While there are numerous reasons for the UK wanting to no longer be a part of the European Union, perhaps one of the most recited reasons is bringing regulating authority back from Brussels to the UK. One such area of regulation that Boris Johnson wishes to unshackle the UK from is the EU regulations with regard to the banning of genetically modified foods and their cultivation.

This past summer, as Boris Johnson was giving his first speech as the United Kingdom’s prime minister, he made it a point to bring up genetically modified organisms (GMOs), stating with force: “Let’s start now to liberate the U.K.’s extraordinary bioscience sector from antigenetic modification rules, and let’s develop the blight-resistant crops that will feed the world.”

The European Union has strict laws in place that essentially prohibit or make onerous the development and importation of genetically modified products. This includes a de facto moratorium on GMO approvals since 2001.

The EU is not alone in its opposition to GMOs. Numerous countries, including Russia, completely ban genetically modified crops from being cultivated, and others allow only a small number of crops such as insect-resistant corn or genetically modified cotton.

But while the topic of GMOs may be of economic importance to Johnson, where does science come down on the subject?

In the court of public opinion, the case against GMOs has been raging for years. The attorney for the defense is the scientific community, presenting evidence based on historical monitoring of GMO crops and their effects. The prosecuting anti-GMO community on the other hand has presented fear rather than evidence as its case, to the peril of consumers.

The scientific community, even the scientists in countries that are against GMOs, has led the charge in defending GMOs. Even the European Commission, a body usually skeptical of GMOs, conceded in its 2010 report, *A Decade of EU-Funded GMO Research*:

“The main conclusion to be drawn from the efforts of more than 130 research projects, covering a period of more than 25 years of research, and involving more than 500 independent research groups, is that biotechnology, and in particular GMOs, are not per se more risky than [...] conventional plant breeding technologies.”

Continued on Pg. 2 (GMOs)

GMOs (CONT. FROM PG. 1)

The EU-funded report has failed to change EU policies of the past decades, however, and thus created a topic for Johnson to rally around with the backing of the scientific community.

When I say that the anti-GMO community has waged its campaign to the peril of consumers, I mean it. As I say that, I do feel I should clarify who the consumer is: It is everyone -- including impoverished communities around the world, some of which have high rates of blindness and death due to Vitamin A deficiency.

Golden rice is a genetically modified variety of rice created with the backing of the Bill and Melinda Gates Foundation to help feed and, more importantly, nourish impoverished areas with high rates of Vitamin A deficiency. It is estimated that lack of dietary Vitamin A kills 670,000 children under the age of 5 each year and causes 500,000 cases of irreversible childhood blindness. Golden rice has had an extremely tough road to approval in Australia, New Zealand, Canada and the U.S. with anti-GMO groups such as Greenpeace attempting to thwart its development at every turn, including destroying test plots of golden rice.

Development of this variety of rice is ongoing, and hopefully in the future this variety and other genetically modified crops -- whether they are modified to be a fortified food or modified for harsh climates -- will be able to help combat world hunger and malnutrition. Lifesaving GMO crops, while there is still resistance to them and some fear-mongering, are typically not as controversial as crops such as Bt corn, a corn that incorporates proteins toxic to insects. Bt corn has more critics than golden rice; however, in this case as well, the scientific community is still on the side of

GMOs. A study published in the Proceedings of the National Academy of Sciences in 2018 stated: "We show that widespread Bt field corn adoption is strongly associated with marked decreases in the number of recommended insecticidal applications, insecticides applied, and damage to vegetable crops in the United States." The economic benefit to the farmer of GMO crops due to less insecticidal application and higher yields, as well as the benefit to the environment and climate due to less chemical pesticide use, is substantial and outweighs the anti-GMO arguments associated with GMOs that have little scientific backing.

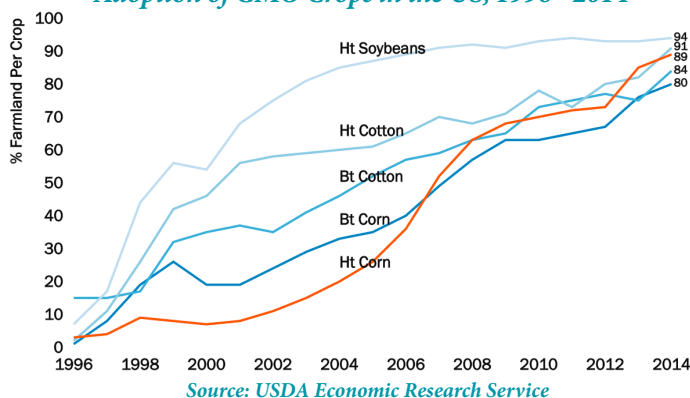
Anti-GMO "experts" do provide a number of different arguments against the use of GMO's providing a moving target for scientists. There are unproven claims that GMOs can awaken sleeper genes, mutate, or end up in unexpected places as stated on the Food and Agriculture Organization of the United Nation's website with no sourcing or scientific backing. And, then there are other arguments that deal with the impact on the environment in which GMOs are used. However, as mentioned above, in many cases GMO crops are better for the environment due to the reduced use of insecticides and other chemicals.

When weighing these claims as well as any potential externalities it is very important to look at how big the benefit can be when a genetically modified variant of a crop is produced. Over the past few decades the citrus crop in Florida has been decimated by the Asian citrus psyllid and while crop scientists are experimenting with different types of pesticides, to effectively defeat citrus greening, it may be necessary to genetically modify variants of the citrus we love and make them incorporate elements that would be toxic to the Asian citrus psyllid or resistant to the greening disease.

In addition to preserving current growing regions, genetically modified crops have the potential to unlock the capabilities of large growing regions in impoverished areas that have in the past been susceptible to famine due to crop loss. In tandem with an expansion of current growing regions, the potential for increased yields as a result of genetically modifying crops is a necessity as the global population continues to grow.

As Johnson said, "... let's develop the blight-resistant crops that will feed the world." There is no arguing

Adoption of GMO Crops in the US, 1996 - 2014



Continued on Pg. 4 (GMOs)

CHAPTER 12 BANKRUPTCIES UP 24% NATIONWIDE... BUT...

The American Farm Bureau Federation reported in October that farm bankruptcies (Chapter 12) were up 24 percent in the 12-month period ending September 2019 from the previous period. This statistic made a number of headlines, usually in tandem with a mention of the trade war and tariffs on grains. This may have made many readers think that Midwest corn and soybean farmers were filing at record rates when this was not the case.

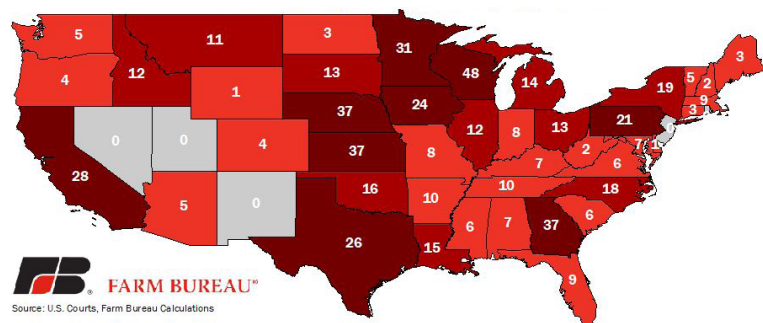
Farm bankruptcies in the “I” states of Illinois, Indiana and Iowa are up, *but* there were only four more bankruptcies in this 12-month period than in the previous period. The bankruptcies in the U.S. mostly occurred in specific areas,

such as the Plains (Kansas, Nebraska, Oklahoma), and with specific types of farms such as dairies that have endured prolonged periods of low milk prices. (Wisconsin had the most Chapter 12 bankruptcies during this period.)

Also, don’t be surprised to see Chapter 12 bankruptcies climb again next year as the Family Farmer Relief Act was signed into law in August, raising the debt cap for Chapter 12 bankruptcy relief to \$10 million from \$4.1 million. This will undoubtedly lead to farmers that would have had to file under Chapter 11 previously to now file under Chapter 12, distorting the numbers for the immediate future. 📊

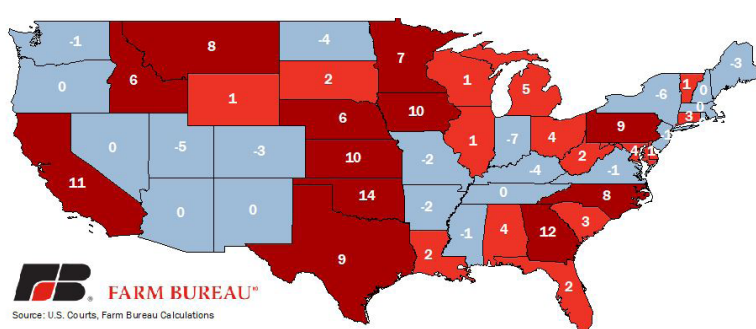
Total Chapter 12 Farm Bankruptcies by State

12-Month Period Ending in September 2019



Year-Over-Year Change in Chapter 12 Bankruptcy

12-Month Period Ending in September 2019



ILLINOIS FARMLAND MARKET HOLDS STRONG

MWA Auctions and Real Estate had an active December, auctioning farms in four different Illinois counties, that all varied in terms of soil quality.

On December 3rd, 100 acres was auctioned in Gifford, IL with Class “B/C” soils (121 weighted average PI) bringing \$9,150/Acre. This is a strong price for a mid-tier farm and this sale illustrates that it isn’t just the top-quality farms that can bring strong prices. In addition to a great sale, this auction had an added element of excitement. MWA, in cooperation with the agribusiness management class from Parkland College, offers a \$1,000 scholarship to the student who can most accurately predicted the final sale price of a Champaign County auctions every semester.



Congratulations to Mitchell Meenen (Parkland College)

Students study comparable sales and soil types and make an informed estimate of selling price and then attend our auction for a live test of their predictions. Mitchell Meenan was awarded the scholarship this semester – Congratulations Mitchell!

The next day, December 4th, MWA auctioned 196 acres in southeastern Douglas County, IL. This farm was a Class “B” farm. 183 of the 196 acres were tillable and the farm had a weighted average PI of 132. This farm sold for \$9,566/Acre, which equates to \$10,245 per tillable acre. This sale once again exemplified that it isn’t just the “A” farms that can bring good prices if conditions are right.

The next week on December 10th, MWA brought 163 acres to auction. The property had a mixture of timber and tillable acres and was sold at auction for \$4,723/Acre. The recreational market had retreated in recent years, but this sale showed that there is still demand for recreational tracts. The timber acres had a permanent CREP easement, and the value placed on it by the buyer was for recreational purposes.

To wrap up the MWA auction calendar for 2019, on December 12th, MWA auctioned a prime farm in Macon County, IL consisting of 240 acres of Class “A” soils (142 weighted average PI). This property sold for \$10,916/Acre, showing that good to exceptional farms have remained strong in recent years even with lower commodity prices and farm incomes.

There were a mix of farmer and investor buyers at the all of our sales this past month with strong and competitive bidding amongst and between the two groups. 📊

🌿 *GMOs (CONT. FROM PG. 2)*

that the UK is not only an economic powerhouse, but also a scientific one. Allowing the cultivation of GM crops in the UK and unlocking the scientific potential of one of the most developed countries in the world can only help further the prosperity offered from GM crops. The potential impact in impoverished regions of the world as well as the potential economic impact in areas like Florida that have been affected by large infestations far outweighs any perceived negative impact GMOs may have.

I used the word “perceived” deliberately. When it comes to GMOs and consumers, perception has become reality. Misinformation and fear are the arguments for the prosecution in the case against GMOs by the anti-GMO community, and those arguments are working.

Two years ago, Hunt’s released a video of a tomato field with the text, “NO GMOs IN SIGHT.” Thankfully, in this case the farming and scientific communities were heard, and consumers found out that there was no such thing as a commercially available GMO tomato and that Hunt’s was advertising that its products were non-GMO in order to deceive consumers into assuming that Hunt’s competitors were using GMOs. The battle over the term “GMO” has become more of a marketing battle than a scientific one; as the scientific battle has been settled.

This marketing battle is being played out with mandatory labeling of GMO foods as well as countries banning GMO products. The consumer will continue to decide the victor, and as younger generations gain purchasing power, it is likely that they will have to take into consideration both sides of this argument.

The newest generations are more concerned with the details of their food source, its sustainability, and factors such as whether it is organic and fair-trade, but also what effect they perceive it has on climate change.

GMO foods fit many of the demands of younger generations as those foods:

- Have a smaller impact on the climate due to lower usage rates of pesticides.
- Are ensuring a fortified food supply for impoverished nations.
- Are allowing for sustainable food supplies in areas of the world that previously couldn’t depend on a blight- and climate-resistant crop to produce consistent yields year in and year out.

Will future generations be able to reap the rewards of GMO crops, or will they end up scouring the tomatoes at the grocery store in order to avoid the nonexistent GMO tomato? I can only hope for the former. 🌿



MWA FOUNDATION SCHOLARSHIP APPLICATIONS OPENING SOON

The Murray Wise Associates Foundation provides an annually renewable cash stipend to selected students demonstrating scholarship, community involvement, and a commitment to agriculture.

We will begin accepting applications for the 2020 Murray Wise Associates Foundation Scholarship on **JANUARY 1, 2020.**

Applications are due **MARCH 20.**

HS seniors and undergraduate students pursuing a degree in agriculture are encouraged to apply.

Start your application at
MurrayWiseAssociates.com/About/Scholarship

STORY OF GRAIN PRICES IN 2019

BY DR. SCOTT IRWIN

The story of grain prices in 2019 largely revolved around demand weakness and weather problems here in the U.S. Corn Belt. The most prominent negative demand factor weighing on the markets was the trade war with China. There was some optimism through the winter and spring that a trade deal could be reached, and this helped support prices somewhat. However, these hopes were dashed in early May when talks were suddenly ended without a trade agreement and the two sides began raising tariffs again. As the accompanying chart shows, this development along with expectations for relatively large planted acreage for corn and soybeans pressured prices into mid-May.

At this point, something that had been brewing all spring caused a major rally in grain prices. The U.S. Corn Belt experienced an extremely wet spring planting season that really was just a continuation of record levels of precipitation that started the previous fall. Planting delays in the eastern Corn Belt were particularly severe, with Illinois not reaching 50% planting progress for corn until early June. Nothing like this had occurred in Illinois during the last 60 years. The widespread planting delays raised the prospect of both reduced planted acreage and

reduced yields. December 2019 corn futures prices rallied to just under \$4.75 per bushel by mid-June in the face of these U.S. supply concerns.

Daily December 2019 Corn Futures Prices, January - November 2019



Subsequent USDA estimates showed that corn planted acreage did not decline as much as many expected. Farmers choose to maximize both planted corn acreage and insured prevent plant corn acres. While this resulted in a large reduction in soybean planted acreage, soybean stocks were so large that the reductions could be absorbed without much if any additional price pressure. Weather the remainder of the U.S. growing season also turned out to be reasonably good in many areas, and this lessened the potential negative impact of late planting on yields.

The end result was that both corn and soybean markets broke very hard after the release of the USDA August Crop Production report and have never really recovered. Unless weather this fall has reduced corn and soybean production more than currently expected, the prospect for significant recovery in grain prices in 2020 is not strong. 🌾



Photo Taken June 11, 2019 in Champaign County, Illinois



Dr. Scott H. Irwin is a national and international leader in the field of agricultural economics. His research on agricultural markets is widely-cited by other academic researchers and is in high demand among market participants, policymakers, and the media. He is best known for his work on the impact of speculation in commodity markets. Irwin has published numerous academic articles on the subject and has been called upon to provide testimony before the U.S. Congress, the OECD, and the CFTC, as well as publishing op-ed articles in the New York Times and Washington Times. He is also a well-known innovator in the development of agricultural extension programs that have helped hundreds of thousands of farmers in Illinois, the U.S. and throughout the world make more informed production, marketing, and financial decisions. His vision and leadership have been the driving force behind the award-winning farmdoc project at the University of Illinois since its inception in 1999. Irwin is a member of the Agricultural and Applied Economics Association (AAEA) and was named a Fellow in 2013, the highest honor bestowed by the Association. He has also received the Distinguished Group Extension Program Award (three times), the Quality of Communication Award, and Quality of Research Discovery Award from the AAEA.

Follow Dr. Irwin on Twitter at @ScottIrwinUI or visit his website: <https://farmdoc.illinois.edu/irwin/>

THE WISE AG UPDATE

CURRENT LISTINGS & UPCOMING AUCTIONS

Current Listings

Webster Co., IA - 35± Acres with a CSR2 of 66.2. Located south of Fort Dodge, IA.

Kossuth Co., IA - 114± Acres with a CSR2 of 78.2. Located south of Algona, IA.

Wright Co., IA - 150± Acres with a CSR2 of 80.7. Located north of Clarion, IA.

Winnebago Co., IL - 154± Acres with 122.2 PI. 129± tillable ac. Asking \$6,500/ac.

Winnebago Co., IL - 123± Acres with 119.9 PI. 120± tillable ac. Asking \$7,950/ac.

MWA Recent Transactions

\$ 915,000	100± ac	Champaign Co., IL
\$ 1,875,000	196± ac	Douglas Co., IL
\$ 770,000	163± ac	McDonough Co., IL
\$ 2,620,000	240± ac	Macon Co., IL

Upcoming Auctions

Marina Real Estate Auction, Jacksonville FL - Auction will take place live FEB 26 at 10AM at The Ritz-Carlton, Amelia Island as well as being simulcast online. The Fort George Island Marina sits on 2.97 acres and features a 37,760 sq.ft. storage building, 138 indoor dry slips, and 17 wet slips with permitting for additional slips. An additional building on the property is ready for buildout as a clubhouse or restaurant by a new owner. The property is ideally situated at the mouth of the St. John's river with quick access to the Atlantic and east coast, downtown Jacksonville and the Mayport Naval Station. Visit FGIMAuction.com for property details, open house dates, and more.

Champaign Co., IL - 208± Acres offered in 3 tracts. Sealed Bid Auction, Deadline FEB 18 at 5PM; Nearly all-tillable farmland near Mahomet, IL. Call for bidding procedure and bid submission form. Check our website for updates.

Visit MWAAuctions.com
or call (800) 607-6888 for
details on any property.

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