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With a national footprint, we are able to serve all the major agriculture markets as a full-service national farmland transaction company. Our core business model centers around brokering large, sophisticated land deals around the country, as well as acquiring and managing investment-grade assets for clientele of the highest caliber, including institutional investors, family offices, and high net worth individuals.

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LICENSING MAP

- Land Management, Brokerage and Appraisal Licensed States
- Land Management and Brokerage Licensed States
- Appraisal Licensed States
- Not Licensed

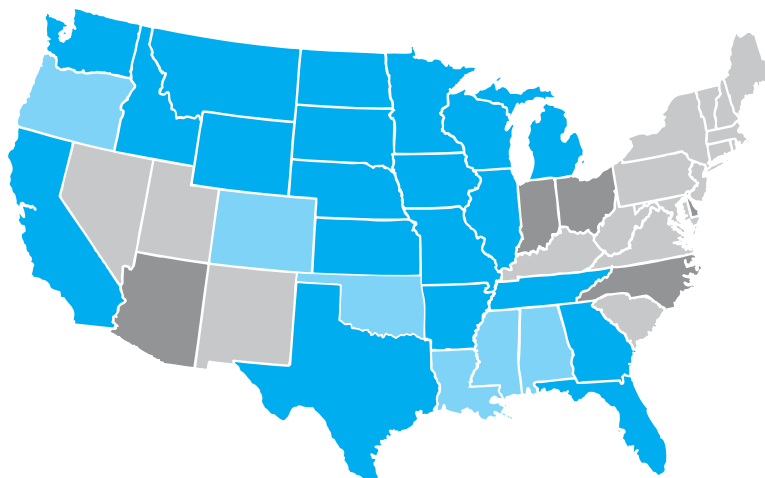




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There are very few reliable sources of data to compare land values across the country. As the financialization of farmland picks up steam, the need to evaluate various regions and asset types in agriculture is becoming more important than ever.

Farmland, like it or not, is a big business representing over \$3 trillion in value. As market participants evolve to include global banking institutions, REITS, tech companies, and institutional investors, we are frequently asked to offer insights into how various regions are performing and evaluate large portfolios across multiple geographies.

We are excited to unveil our 2020 National Land Values report that considers the various land values studies around the country aggregated into one report, along with special interest viewpoints from a few folks in our network around the country. Peoples Company now has offices in California, Washington, Arkansas, Nebraska, Iowa, Illinois, and Michigan, and our appraisal team is licensed in 26 states. Through our brokers, managers, and appraisers we get a real-time view into land rents and land values and how farmland is performing through most of the major agricultural regions in the United States.

This report will be prepared on an ongoing basis and released during our annual Land Investment Expo in January. I would like to thank Bruce Sherrick, Professor and Director of the TIAA Center for Farmland Research, who helped assemble this report along with the appraisal team at Peoples Company. We welcome your comments on how to make future versions more valuable and comprehensive and are happy to assist you with any of your farmland needs.

A handwritten signature in black ink that reads "Steve Bruere".

STEVE BRUERE | President, Peoples Company

U.S. FARMLAND MARKET UPDATES:

MAKING SENSE OF FARMLAND DURING CONFUSING ECONOMIC TIMES

By **Bruce Sherrick**, Professor & Director
TIAA Center for Farmland Research
University of Illinois

Farmland as an asset class is receiving considerably increased attention from owners and investors seeking to make sense of the economic signals that have been scrambled by the events of the recent past. If one only took headlines from the popular press, it would be easy to develop a pessimistic view of agriculture and of farmland in particular. There have been several years in a row of depressed commodity prices due to world supplies and trade conflicts; recent planting season floods and newly-learned words like “derecho” (intense straight line winds) have had massive impacts on regional production. Furthermore, there have been widespread

interruptions of demand for commodities from ethanol to fresh milk due to the pandemic shutdowns and the associated economic slowdowns that resulted. Additionally, there have been numerous interruptions in the supply chain for meats and other products, and overhauls of supply chains in real time as we divert food from restaurant and institutional outlets to newly strengthened home and home-delivered alternatives. The strength of the dollar has further pressured export markets, and consumers are increasingly aware of food attributes, and demand increased safety and transparency about production practices. If these were the

main views of farmland you had encountered, you might question, “*Who would want to own farmland?*”

It is important to take a complete look at the farmland markets to understand what is actually happening and to make sense of what is likely to happen to the asset class in the future.

To do so, a few less obvious features of farmland markets are first described, and then some recent data provided about the current farmland markets. A drill down into the returns data is then provided to help provide a view of the performance of farmland as an asset or as a



source of return to ownership or operation. This publication then turns to some regional stories and highlights to give a more local context and views of the markets by region.

To understand farmland values, it is helpful to think about the income it will generate, the variability in that income, and the cost of the capital invested in that farmland.

Figure 1 shows the long-run annual income performance of farmland in a few key states where cash rent can be reliably measured, and less property taxes, serves as a reasonable proxy for average cash return to a landowner.

The top panel (Figure 1) shows the average price per acre through time, and the lower panel (Figure 2) shows a simple relationship between the income and the cost compared to the U.S. Treasury 10-year rate. The relationship is remarkably stable, based on the idea that prices are reflecting the cost of capital and the return expected in the future.

In simplest form, the cost of capital has declined at about the same pace as income was offset — both in prospective form, as the markets are always looking forward with this relationship. As a result, the market for farmland has remained rather buoyant, and other features, including thin market trading and relationships to other assets largely explain the level and performance of

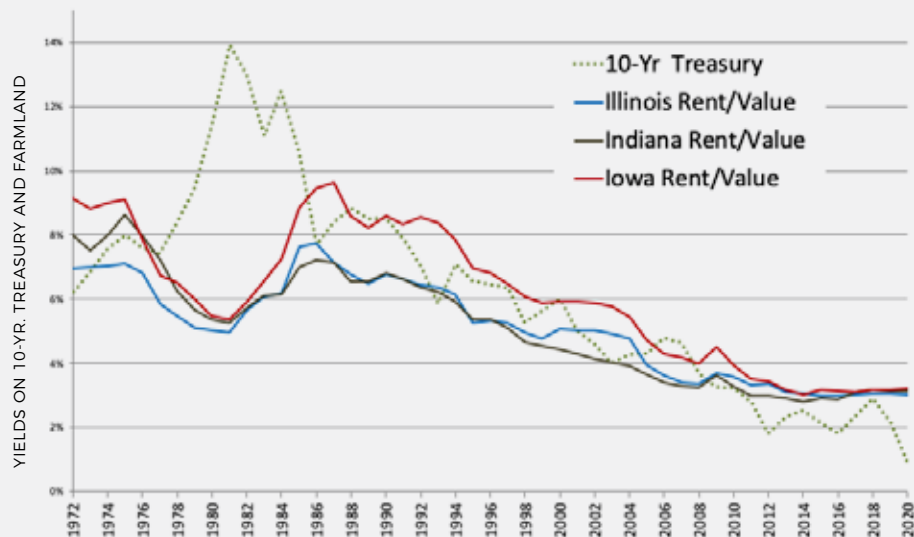
Average Price Per Acre

FIGURE 1



Average Income

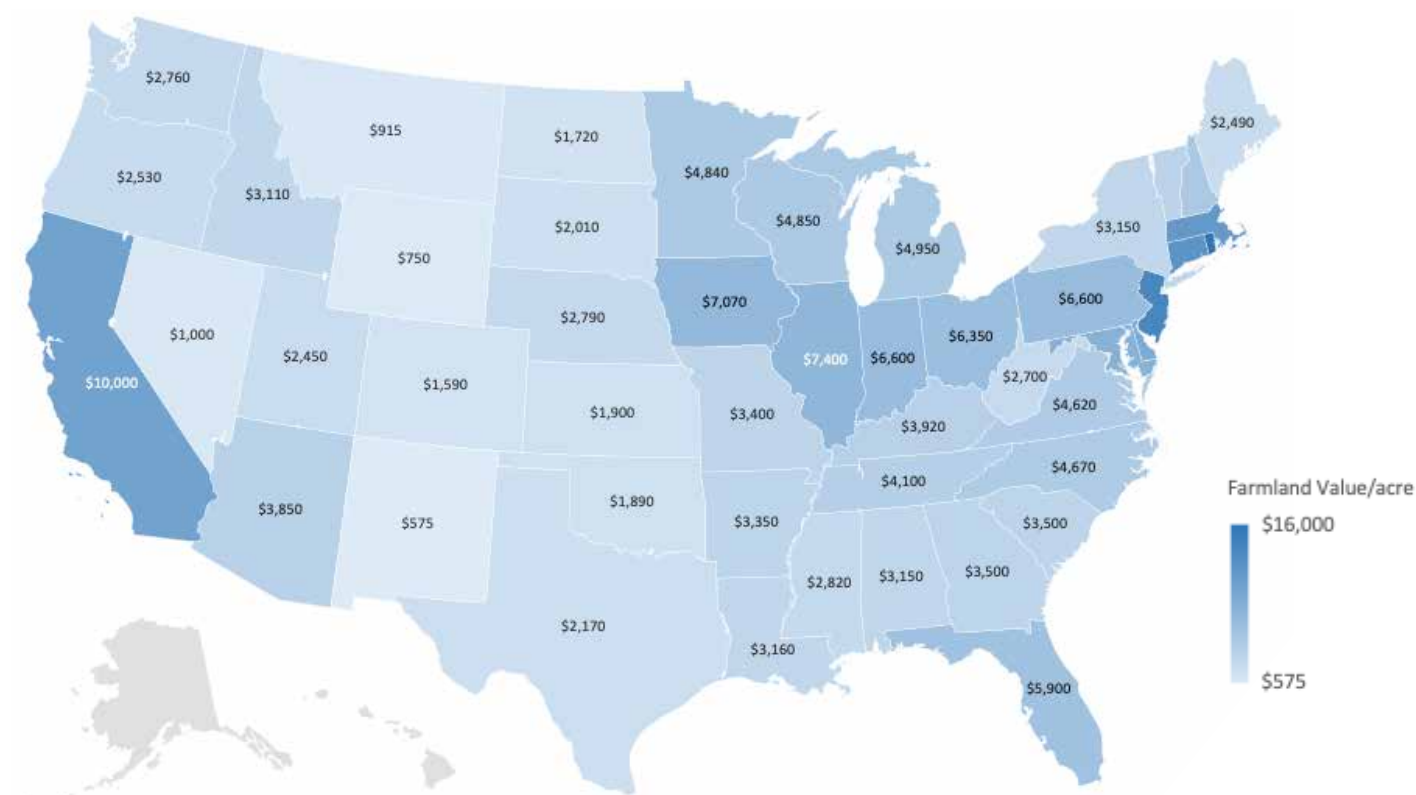
FIGURE 2



farmland at large. The only notable departure from that relationship occurred in the early 1980s, which is largely regarded as the “farm crisis” in the same way that 2008–2010 might be noted as the “housing crisis.” Nominal interest rates in that

period rose to the high teens and much of the farm crisis was due to the inability to service high rate debt coupled with rising tensions with foreign agricultural trade partners, and energy market uncertainty. In the time period since about 2010, the farm returns

Average Farmland Values



have actually held above the treasury analog provided, and asset values have maintained a more cautious holding pattern with some room for increases in fixed-income interest rates to catch back up to the current cap rates available in agriculture.

A BRIEF AND RECENT HISTORY OF OTHER FARMLAND EVENTS:

The more recent history in general terms includes a substantial build-up of working capital in the sector heading into the second half of the 2010s, before being spent back down over the past 3–4 years. There was, and still is relatively little debt in the sector as a whole. At an aggregate scale, the U.S. Agricultural Sector

Balance sheet shows roughly \$3 trillion in assets, with about 85% of those in real estate. The total debt on agricultural real estate remains about 14%, but with widely varying individual cases. Around 2014–2015, farmland markets pulled back a bit with large crops, large inventories, and beginning rumblings of trade issues. Since 2018, the federal government has provided substantial support in the form of temporary payments to partially offset the impacts of trade disruptions, and in the form of economic aid provided in broader programs during the pandemic shutdown.

During the entire period, and well back in time as well, the federal crop insurance program

performed exactly as intended — providing countercyclical support to areas most affected by disasters and disruptions, and peace of mind for others, even if not needed.

Through all of these events, though, land moved relatively predictably, but with muted degrees relative to the magnitude of effect on current incomes of farmers.

Looking forward, the long-term world prospect for increased calorie consumption and the demand for improved protein sources that multiply the demand for animal feed has also been

very bullish for agriculture, and most believe that after the current pandemic, developing and growing economies around the world will continue their steady march toward high-quality proteins in diets, and for more animal protein through time as populations grow as well. Recently, the incredible volatility in equity markets and the relative stability of the level of returns to agriculture together improve the attractiveness of agricultural investments in a balanced portfolio as well. And as consumers become more interested in “knowing their food,” willingness to pay for specific attributes, be that organic, sustainable, “free-from-avoidable attribute” or with a specific environmental profile, the share of the consumer dollar that can be captured by the fixed factors of production (primarily land) should increase.

Finally, it is increasingly clear to those examining the carbon cycle that agriculture and the ability to sequester large scale carbon quantities through increased soil organic matter is simply one of the only viable solutions to reducing human-driven omissions. If these were your only views of agriculture, you might say, “Who wouldn’t want to own farmland?”

SO LET’S SEE WHAT THE DATA HAS TO SAY:

The map on page 6 shows the average value of farmland in the U.S. as reported by USDA in August 2020. Relative to last year, most states’ values moved up or down only a small amount, and the average value across the entire U.S. was unchanged.

The overarching message is that values have held up well, compared to direct impacts on recent incomes. Importantly, these are values only and do not include the current income generated by the *farmland*.

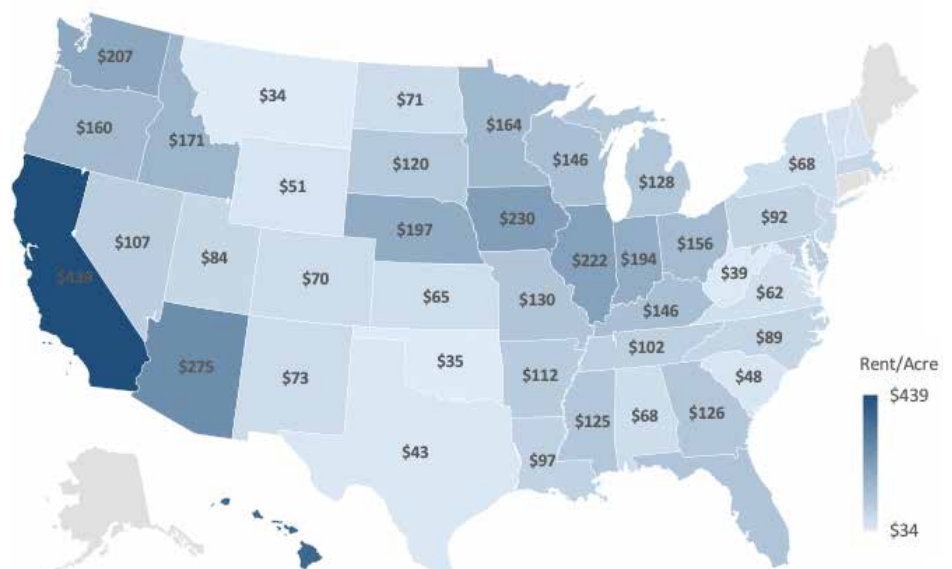
The map below shows the average rental rates for farmland — again to represent the current return against the asset values shown in the previous chart. Importantly, these are averages from USDA across all farmland and across all sizes and scales of operation, including many smaller farms whose income may not be the primary objective of the owner. Interestingly, NCREIF (National Council of Real Estate Investment Fiduciaries) data consistently outperform USDA average data by more than a percent per year, reflecting both the difference in composition of properties (larger, more permanent crops, and professionally managed and fully accounted returns), so the USDA

Values have held up well, compared to direct impacts on recent incomes.

data can be viewed as lower bounds to some extent.

But to fully understand the asset class it is also important to compare total returns to other alternative investments as well. On page 8, Table 1 has the summary performance data over the past two decades for some selected states with high-valued agricultural production, and some representative alternative asset groups. For the farmland assets (U.S. Average across all states, and the selected states), the return is represented by the total of cash income plus appreciation less property taxes divided by asset value. The previous 20-year returns are reported with columns corresponding to the annual

Average Rental Rates



average return, the standard deviation or amount of variability in return, and the coefficient of variation, which is often thought of as a measure of return per unit of risk or the average divided by the standard deviation. The correlation is provided in the next column relative to the U.S. Farmland (all) index. Finally, the minimum return or drawdown and the maximum return per period are provided to give a rough range of the variation in any given year that was experienced.

What is remarkable is that the farmland returns have been very competitive compared

to equities and fixed income investments over the past two decades. The remarkable runup, crash, recovery, and partial selloff experienced in equity markets during the first three quarters of 2020 is not included in these statistics due to the need for whole year returns in agriculture, but what is clear is that the performance of agricultural land as an investment would be a positive addition to traditional portfolios.

Of additional note, the correlation between farmland returns and inflation as proxied by the CPI is positive and demonstrates the long-term

inflation hedging properties of agricultural real estate. Of course, if these were your only views of agriculture, you might say, *“How can I buy some farmland?”*

Farmland is a bit of a tricky asset to buy and sell, of course, so there is a bit more to it than entering a buy or sell order on your phone’s brokerage app. Farmland is unique in many ways – both in its location and the weather, crop, and soils that are native to a location and to markets and the impact of terminal locations for products on the value of production. Increasingly, water rights,

Asset Return Characteristics

TABLE 1

| ASSET/INDEX | ANNUAL AVERAGE RETURN | STANDARD DEVIATION | COEFFICIENT OF VARIATION | CORRELATION WITH FARMLAND | MIN | MAX |
|-----------------------------|--------------------------|-----------------------|-----------------------------|------------------------------|--------|-------|
| | 2000–2019 | | | | | |
| U.S. Ave. Farm (all) | 7.9% | 4.55% | 0.573 | 1 | -2.0% | 20.0% |
| Illinois | 9.2% | 6.64% | 0.720 | 0.770 | 0.9% | 26.0% |
| Indiana | 8.4% | 5.77% | 0.683 | 0.569 | -1.0% | 22.0% |
| Iowa | 10.7% | 8.63% | 0.806 | 0.592 | -5.2% | 24.9% |
| California | 9.5% | 6.14% | 0.647 | 0.721 | 2.5% | 32.2% |
| NYSE | 3.8% | 19.01% | 4.945 | -0.126 | -56.3% | 29.7% |
| NASDAQ | 4.0% | 25.87% | 6.544 | -0.236 | -52.0% | 40.6% |
| AAA | 5.0% | 1.16% | 0.232 | 0.321 | 3.4% | 7.6% |
| TCM10Y | 3.4% | 1.19% | 0.346 | 0.497 | 1.8% | 6.0% |
| Mort30F | 4.6% | 2.25% | 0.492 | 0.469 | 0.0% | 8.1% |
| Equity REITS | 11.0% | 18.25% | 1.662 | -0.036 | -47.4% | 31.6% |
| Composite REITS | 10.64% | 18.42% | 1.732 | -0.073 | -47.5% | 32.5% |
| Gold | 8.26% | 14.13% | 1.710 | 0.086 | -31.9% | 27.7% |
| PPI | 2.22% | 4.43% | 1.995 | 0.182 | -7.4% | 8.2% |
| CPI | 2.12% | 0.95% | 0.451 | 0.337 | 0.1% | 4.0% |



production practices, and environmental attributes impact the local market in which all farmland exists. Further, land tends to be held over very long time periods and traded across family generations, making it complicated to assess large numbers of related parcels at any point in time.

In fact, only 1.5% or so of regular row crop farmland changes hands at arm's length per year.

The thin market features do perhaps also offer supporting lower bounds to some regional markets, but it is nearly always the case that transactions are more complex, unique, and irregular than for many of the other asset classes above. Fortunately,

the farmland market is becoming more accessible and more understandable due to advances in ag-tech, improvements in informational sources, and the development of sophisticated and efficient financial channels as well — the financialization of the asset class appears to be in full swing.

To get a feel for some of the regional differences in the farmland markets, the remainder of this publication provides a sampling of regional market updates, told from the perspective of the individuals on the ground level, working in the agriculture markets from which they report.

The correlation between farmland returns and inflation as proxied by the CPI is positive and demonstrates the long-term inflation hedging properties of agricultural real estate.



CALIFORNIA TRENDS: SPECIALIZED/DIVERSIFIED AGRICULTURE

By **Curtis Buono**
and **Jeremy Darner**
Managing Partners, Pacific West

California has a dizzying array of agricultural enterprises and boasts one of the most diverse and highly valued collections of agricultural products in the country. At the same time, the production system has regions with highly specialized and unique, large scale and efficient, and ecologically active enterprises in the country. Below are highlights from some of the most prominent and recently active markets.

NUT ORCHARDS:

Almond prices experienced a significant drop in 2020 due to global trade issues and anticipated downstream impacts from the year's estimated three billion pound harvest. Over time, almond prices are expected to rebound to the stabilized pricing levels that were enjoyed from 2016 through 2019, but the industry will need to work through shipping the record 2020 crop and large carryover and recovering demand for a return to long-term trends. Grower profitability is expected to be marginal in the meantime, but almond orchards will continue to be a strong asset class in the long term.

California pistachio growers produce 98% of the U.S. crop and are also expecting a record 2020 harvest at roughly one billion pounds; and fortunately, pistachio pricing has remained much more stable than almonds. While bearing pistachio acreage is expected to expand for the foreseeable future, orchards' slow ramp-up to maturity and the industry's ability to build demand for its crop is expected to continue to make pistachio orchards an attractive investment target for the foreseeable future.

WINE GRAPE VINEYARDS:

While the challenges have been different in 2020, it has been another interesting year for wine grape growers. Favorable weather conditions existed for most of 2020, but intense pre-harvest wildfires ended that trend.

Before the fires, growers were welcoming a lighter grape crop that could help offset the prior two years' low prices; however, difficult harvest conditions posed by fires and COVID-19 are likely to further reduce crop prospects. Bleak financials again confront many wineries, particularly smaller operations and those who depend on more profitable on-site direct-to-consumer sales that have been significantly impacted by the pandemic. Importantly, this could also create opportunities for strategic acquisitions in the near-term.

WATER:

Drought conditions impacted the northern half of California for most of 2020, but the Sustainable Groundwater Management Act (SGMA) has been the dominant issue for the year. Groundwater

98%

California pistachio growers produce 98% of the U.S. crop and are also expecting a record 2020 harvest at roughly one billion pounds.

Sustainability Plans have been released for California's most critically overdrafted basins, forcing growers to formulate water strategies that best maximize the efficiency and profitability of their land and water. These strategies will likely include partial or full fallowing of marginal farmland as well as investment in water-conserving irrigation technologies. As SGMA's effects continue to filter through the market, there is likely to be a rebalancing of farmland values based upon each property's unique water profile.

CALIFORNIA DESERT:

Despite the relative security of Colorado River water, a couple of desert markets in Southern California have seen some downward value pressures. Somewhat stagnant commodity prices and less investor activity have resulted in very slight value declines in the Imperial Valley. However, the Imperial Irrigation District is paying farmers to conserve water, and some growers have begun employing efficiency measures such as underground drip and linear irrigation systems that reduce water use and significantly

increase farmland returns. In the Palo Verde Valley, water speculators have ceased any buying activity, and land values have once again returned to levels that are based solely upon a property's farming ability. Although there has been some slight recent softness in values, over the longer term, Colorado River water districts will remain attractive markets with stable to increasing values, particularly as SGMA impacts other regions of California.

COASTAL BERRY AND VEGETABLE LAND:

California's coastal farmland is the result of the state's unique coastal mountain ranges that create microclimates with cooler summers and warmer winters. These climates make ideal conditions for high-value vegetable and berry crops and produce about 88% of domestic strawberries on just 34,000 acres of coastal farmland.

Notable challenges for the regions include competition from Mexican imports, rising labor costs, and seawater intrusion into coastal groundwater aquifers. Overall, high-value

crops have kept coastal farmland values relatively stable.

CITRUS:

California citrus acreage continues to remain relatively stable with a general trend towards increasing Mandarin acreage and decreasing acreage dedicated to other varieties. The state continues to lead the nation in fresh citrus, producing almost 90% of domestic fresh tonnage. The 2019 citrus growing season was considered to have been one of the toughest years in recent memory as a result of including competition from imports, export tariffs, and adverse weather in key growing areas. COVID-19 added more turmoil to the citrus industry. While overall retail consumption has increased during COVID-19, foodservice consumption disappeared virtually overnight. Oversupply and changing consumption channels with the loss of restaurant and institutional outlets has notably pushed down lemon pricing. Despite these recent challenges, values of citrus groves have remained stable as growers and investors remain optimistic for the time being.



PACIFIC NORTHWEST: *farmland markets*

By **Adam Woiblet**
AgriBusiness Trading Group
and **Dr. Alan Busacca**
Geologist and Soil Scientist

The Pacific Northwest, including Washington, Oregon, and Idaho, is home to incredibly diverse agriculture representing major shares of U.S. production of apples, wine grapes, cherries, pears, wheat, onions, potatoes, salmon, grass seed, cane berries (raspberries), hops, sweet corn, squash, and recently – fires.

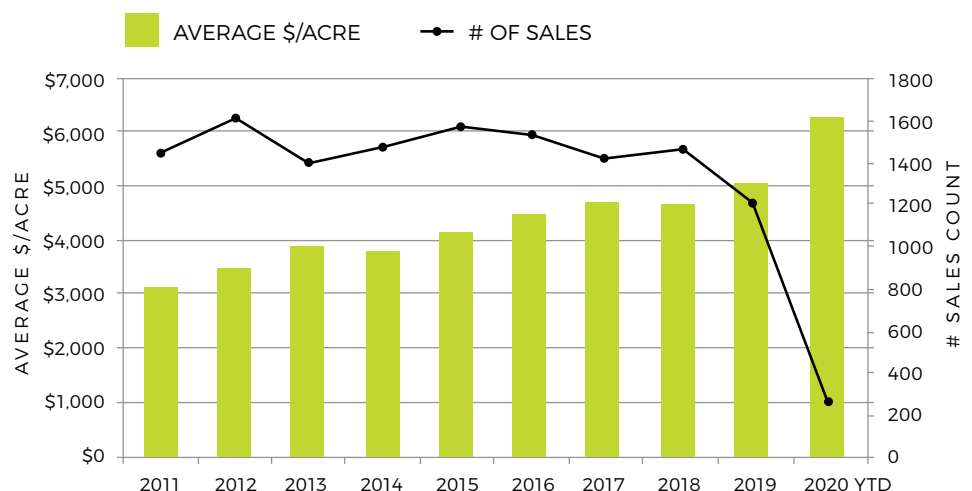
In fact, Washington State ranks first in the U.S. in ecological diversity, from temperate rain forests of the Olympic Peninsula with more than 200 inches of rainfall yearly, to sagebrush steppe (now mainly converted to irrigated agriculture) in the large rain shadow area of eastern Washington, east of the state-dividing Cascade Mountains with as few as six inches of rainfall yearly. The area is increasingly viewed as a stable agricultural region with a growing emphasis on sustainable farming practices and with unique water resources that will support both intense traditional agricultural crops, and specialty and high-valued crops. Finally, there are massive demands for outdoor amenities

supporting land values in the region with areas considered to be the top wind surfing region in the world, top skiing destinations, and ever expanding agro-tourism and wine trail experiences within view of two massive volcanoes. Northwest Farm Credit Services has an extensive database of

farmland sales in the region and reports that 2020 has continued to show increasing farmland values. It has also experienced continuing declines in numbers of transactions of properties over 40 acres. The graph below is taken from their Land Values Snapshot publication, and clearly shows those features.

Average Land Values for Sales Transactions 40 Acres and Larger

IDAHO, MONTANA, OREGON, and WASHINGTON



Source: Northwest FDC' Proprietary Sales Database



Asset Return Characteristics

| ASSET/INDEX | ANNUAL AVERAGE RETURN | STANDARD DEVIATION | COEFFICIENT of VARIATION |
|-------------|--------------------------|-----------------------|-----------------------------|
| 2000–2019 | | | |
| Washington | 13.3% | 3.82% | 0.287 |
| Oregon | 9.5% | 3.85% | 0.406 |
| Idaho | 9.7% | 8.34% | 0.861 |

Over the past two decades, the performance of farmland in the PNW has been nothing short of stellar with average total returns (annual income plus appreciation less property taxes as a share of initial value) that have averaged over 10% per year. The breakdown by state is provided in the table above, and the standard deviation – a measure of the variability in returns – is also provided along with the return per unit of risk. For comparison, the S&P averaged around 4% per year with a standard deviation of over 18% for the same period. Part of the explanation includes especially strong returns driven by growth in crops, including apples, onions, wheat, cherries, and explosions in hazelnuts and cane crops early in that period. After the first half of that period, the region has witnessed regional specializations in crops

such as Walla Walla onions, Willamette Valley, Walla Walla, and Columbia Gorge wines from their popular AVAs, Washington Apples, Idaho Potatoes, Tillamook Creamery products, and other products where the place they were produced has become part of the product that is sold. Washington seems to have a corner on the development of apple varieties that consumers newly prefer, and the wine industry has become incredibly well-respected, even if potentially overplanted in some varieties.

Moreover, as a destination to visit, or an escaped but now permanent home, the demand in the region for living spaces has been driven from Seattle, Portland, and even California origins as it represents a more serene and open landscape and

lifestyle. The immediate recent past has provided additional signals that on balance would seem to further support agricultural land values, including changing channels for wine consumption derived from the coronavirus control measures that shut down restaurants and food service and led to more in-home consumption of wines and spirits. The relative quality and value of regional wines have been highlighted by growth and maturation of Pinot varietals in Oregon, and a broad set of varietals in Washington where Chateau St. Michelle reportedly controls something in the neighborhood of 70% of major varieties. As price sensitivity increased during the COVID-19 shutdown, consumers increasingly moved toward other regional wines, although California with famous Sonoma and Napa remains king. Longer term prospects still point toward increasing values associated with successfully developed AVAs in Washington and Oregon in particular. Moreover, as water concerns in other production regions increase, the economics of production will add favor to PNW production regions.

DELTA CROPLAND VALUES: HURRICANE LAURA and “2020 EYESIGHT”

By **Mark Williams, ARA**
Certified General Appraiser
Peoples Company

Hurricane Laura, which reached “catastrophic” Category 4 status, inflicted widespread damage to crops in the Gulf Coast and portions of the Delta on its track inland after making landfall near Lake Charles, Louisiana, and now Hurricane Delta threatens to continue to inflict damage.

Hurricane Laura’s track damaged crops in the Delta (Mississippi, Louisiana, Arkansas, the Missouri Bootheel, and Western Tennessee). DTN contributing cotton market analyst Keith Brown said that “of those states, Louisiana was 40% bolls open and Arkansas about 23% open. The others’ fields were just emerging.” Those open-boll

fields of Louisiana and Mississippi incurred damage, and in Brown’s opinion. “Heavy rains and fierce winds could zap some of the lower extremities of the Delta with more than a 50% loss.” by the end of harvest.

Delta farmland values had already been under pressure due to several years of lower commodity

prices and losses from weather, and Hurricane Laura and the 2020 pandemic seemed unsympathetic in timing and magnitude in many regions.

Bryon Parman, Assistant Extension Professor of Agricultural Economics at Mississippi State University, commented on Delta farmland values that “with major commodity prices significantly below the peaks reached a couple of years ago, the expectation is that farmland values — which rose sharply along with commodities — are in for a downturn.” For the previous few years, Parman says, “I’ve been singing something of a gloom-and-doom song about land values, primarily because I’ve believed, based on what land was selling and renting for, and given where commodity prices were in reference to historical averages

“

With major commodity prices significantly below the peaks reached a couple of years ago, the expectation is that farmland values — which rose sharply along with commodities — are in for a downturn, perhaps as much as 34%.

BRYON PARMAN | ASSISTANT EXTENSION PROFESSOR OF
AGRICULTURAL ECONOMICS, MISSISSIPPI STATE UNIVERSITY

and means, those prices were basically unsustainable.”

Still, farmland markets seem to move less quickly, and in muted magnitudes relative to changes in short term prospects. It will be interesting to watch this area in the next few years as it serves as an example of the impacts of the confluence of production, demand, and societal stresses in the proverbial “when it rains it pours” overlapping timing.

Reports of crop damage will take time to fully discern; however, many post-Laura reports were “gloomy” at best. Delta producer, Jeremy Jack near Belzoni, Mississippi, was most concerned about high-wind damage to cotton in advance of the arrival of Hurricane Laura. Most of the Delta, east of the Mississippi River, was in an area with “limited” wind risk according to National Weather Service bulletins; western portions of the region had an “elevated” wind damage threat. “Cotton is still not ready to defoliate, a worst-case

scenario for whoever is in the way of a hurricane,” Jack said.*

As far as cotton impact is concerned, evidence of damage is undetermined at this point. “We would say any serious assessment of damage to Texas/Louisiana has yet to be initiated (following Laura’s landfall),” wrote DTN Contributing Cotton Analyst Keith Brown.**

Rice futures rose sharply higher due to the impact of Tropical Storm Laura. Its track put rice acreage in Louisiana and Arkansas in the path of heavy rain and high winds.

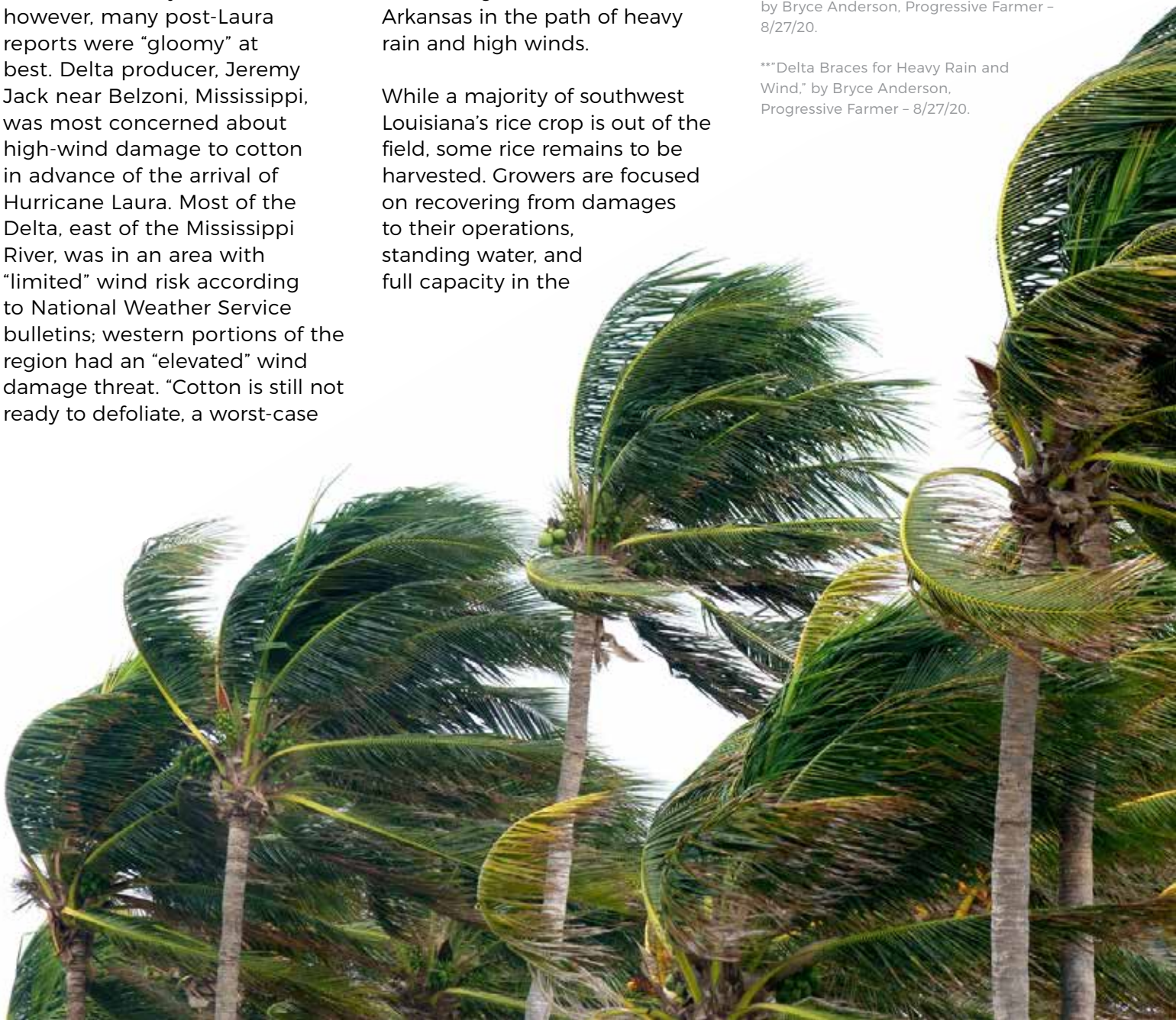
While a majority of southwest Louisiana’s rice crop is out of the field, some rice remains to be harvested. Growers are focused on recovering from damages to their operations, standing water, and full capacity in the

bins and drying facilities, and the restoration of electrical power to maintain the quality of rice in their bins. This area will require some time to fully assess and adjust to the market’s expectations going forward.

Although the full effect of the impact is yet to be measured, the prospective loss of crops and net revenue is likely to create pockets of additional downward pressure to land values in the Delta region.

**“Cropland Risk from Hurricane Laura,” by Bryce Anderson, Progressive Farmer – 8/27/20.

***“Delta Braces for Heavy Rain and Wind,” by Bryce Anderson, Progressive Farmer – 8/27/20.





THE SUN RISES: PROGRESS *in the* **SUNSHINE STATE'S ICONIC CITRUS INDUSTRY**

By **Mark Van Den Berg**
Certified General Appraiser
Peoples Company

Optimism has arrived on the horizon to save the Sunshine State's iconic citrus industry. Citrus groves that were once the staple of Florida's agriculture have been decimated by a vicious bacterium. Since 2005, Florida citrus crops have been under attack by citrus greening, which is caused by the disease known as HLB (Huanglongbing) and spread by the Asian citrus psyllid. This bacterium causes citrus fruit to become misshapen, be smaller in size, become green, and have a bitter taste. Citrus trees are infected by the Asian Citrus Psyllid, which bite the tree and spread the bacteria through the phloem.

Citrus groves that were once the icon of Florida agricultural production are now being cleared, and laser leveled for other

agricultural or transitional uses. Groves are being sold at a discount to account for the cost to clear the land. Citrus Industry News reported a study by the USDA that Florida had a net loss of 11,149 citrus acres from 2019 to 2020. The study by the USDA also reported that Florida lost approximately 50% of its citrus acres from 20 years ago. Florida Farm Bureau cited a study conducted by the Florida Department of Citrus that by 2026 citrus production could drop by 82%.

In an article titled "Has a Cure Been Found for Citrus Greening?," published by Growing Produce in July 2020, discussed a possible cure for citrus greening. According to the article, University of California Riverside (UCR) Genetic Researcher Dr. Hailing Jin discovered and isolated an antibacterial peptide found in Australian finger limes, which can fight off the bacteria that causes citrus greening. Antibiotics are currently being used to combat citrus greening; however, the volatility of antibiotics in the summer

heat, along with the growing concern of overuse of antibiotics, have led to the uncertainty of this treatment option.

In trials, this antibacterial peptide is sprayed on infected trees a few times per year, with results being shown in only a few months. Even in extreme heat, near 130°F, this new treatment option has been shown to be effective. Research has also demonstrated this option to be safer for humans and more environmentally friendly than other options. Once applied, the antibacterial peptide travels through the tree, similar to the citrus greening bacteria, and remains stable inside the plant. This new treatment can also be used as a vaccine to protect young citrus trees.

Growers and researchers are optimistic about this new discovery. Time will tell if the antibacterial peptide found in Australian finger limes is the key to fighting off citrus greening to save Florida's citrus industry and return value in decimated groves.

82%

Florida Farm Bureau cited a study conducted by the Florida Department of Citrus that by 2026 citrus production could drop by 82%.



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KEYNOTE SPEAKERS



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CEO of Futurity



Easton Corbin

Country Music Singer and Songwriter



Betsy Jibben

National Reporter with Farm Journal and 2021 Land Expo Emcee



General John F. Kelly

General U.S. Marine Corps (RET)



Robert Saik

Agricultural Futurist and CEO of AGvisorPRO Inc.



Anthony Scaramucci

Founder of SkyBridge Capital



Peter Zeihan

Geopolitical Strategist

THE RISING POPULARITY of RURAL LIVING:

By **Mark Van Den Berg**
Certified General Appraiser
Peoples Company

A Personal View From the “Ground Floor”

Living on a farm in rural Michigan most of my life, I've enjoyed sunrises over a muck valley, locally grown produce, cruising down gravel roads, and having enough distance between neighbors. In a small farm town, you know where your hamburger and its fresh toppings came from. While growing up, I did not know that most people weren't blessed with knowing what I did when it came to food production.

Fast forward to 2020, and everything we thought we knew changed.

What once were fully stocked shelves and freezers at the grocery store in February 2020 were empty in mid-March, and spotty and unpredictable outages remained even into October. Gone was the feeling of safety and security in the suburbs and big cities. The urban centers

that were booming in the mid to late 2010s were beginning to lose their appeal. Fear of government shutdowns to protect people from COVID-19 lead to mass purchasing and sent shockwaves through our food supply chain.

In the search to be more sustainable and to avoid large population centers, buyers are beginning to look for their own piece of country living. The REALTORS® Land Institute published an article on April 24, 2020, titled “COVID-19 Impacts on Rural Residential Hobby Farms,” which examined this new trend. In the article, Lisa Johnson, ALC from Horsepower Real Estate in Junction City, Oregon, mentioned that they are receiving a lot of calls for parcels ranging anywhere from five acres to 100 acres from people currently living close to the metropolitan areas. She also mentioned that the shift to remote working allows people

to move out of urban areas and onto rural residential properties. Eric Zellers from Ary Land Co. in Coweta, Oklahoma, is seeing a similar trend. According to Eric, potential buyers are proactively asking sellers to split large chunks of land into five to ten-acre parcels.

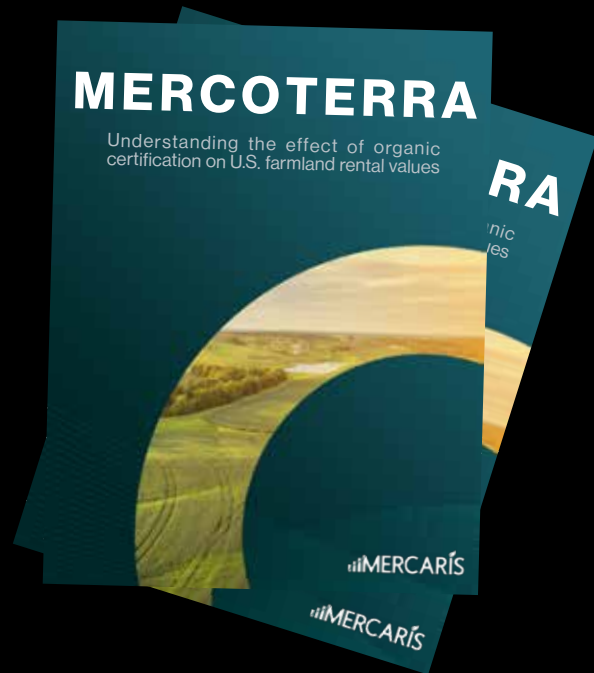
In my market in rural southeastern Michigan, this trend was just starting before COVID-19 hit with large parcels of marginal cropland being purchased by suburban buyers for potential building sites; however, the pandemic sped up the transition. The ratio of the sales price to list price ranged between 96% to 100% since April, with the average days on the market ranging from 20 days to 50 days. Several properties in this time frame sold above the asking price.

This trend will likely continue through the end of 2020 and into 2021 as more and more people look to enjoy rural America from the “ground floor.”



DOES ORGANIC CERTIFICATION LEAD TO INCREASED INCOME *and* LAND VALUES?

By **Mark Williams, ARA**
Certified General Appraiser
Peoples Company



For the past several years, the debate has continued about whether organic certification increases rental income and results in added land value.

There has been sufficient market support for increases in both rental and sale value for smaller tracts of cropland, primarily located adjacent to urban centers, where “farm to table” markets are driven by consumer demand. But the question remained, *what about larger agricultural tracts located in rural markets?*

Historically, increased market support for both rental and sale values were only seen in extremely competitive organic markets where demand heavily outweighed supply, and with “self-sufficient financially feasible” operations like greenhouses or dairy farms.

We find a new trend is emerging, driven by three

primary factors. First, institutional investors are moving away from the higher risk investments into more stable investments like farmland, which has become a stable haven for investors. They look to maximize net returns by accepting a small downside risk of a property losing organic certification for a higher return over time. Secondly, as sustainable agricultural practices take hold in the market, growers who look to maximize net profits per tillable acre are turning to organic crops where net income exceeds conventional crop revenues. Thirdly, consumers are more concerned about where and how their produce and grains have been produced, thus increasing demand for organic produce and grains.

The combination of these three factors has resulted in increases for both land rents and sales price for organically certified land. In August, Mercaris, in

partnership with Peoples Company, Croatan Institute, Laird Norton Company, Merge Organics, and Midwestern BioAg, released a white paper about its Mercoterra project, which investigates the impact of organic certification on land values.

The Mercoterra project confirms what we are seeing in the market. According to data from the survey of organic farmers and landowners, organic land for row crops on average receive a 25% rent premium over conventional cropland. Among respondents who rent both conventional and organic land, Mercaris found a price premium of \$68 per acre annually for certified organic land.

Learn more about the effect of organic certification on U.S. farmland rental values in the Mercoterra white paper.

DOWNLOAD NOW



TRACKING LAND VALUES:

The National Council of Real Estate Investment Fiduciaries (NCREIF)

By **Steve Bruere**
President, Peoples Company

To track land values, those of us in agriculture often rely on land-grant universities, the REALTORS® Land Institute, American Society of Farm Managers and Rural Appraisers, the Federal Reserve, and other sources. However, there is a relatively unknown, and perhaps more accurate source that is updated quarterly based on actual appraisals of the assets within the index, as well as common and complete accounting procedures.

This is unique because most land values surveys use opinions of the people surveyed and are not based on professional appraisals.

The National Council of Real Estate Investment Fiduciaries (NCREIF), based in Chicago, Illinois, collects information from institutional farmland managers and calculates an index for U.S. farmland. Similar to benchmarking an equity or fixed-income investments, institutional investors are able to benchmark their U.S. farmland investments. NCREIF also produces indexes for commercial real estate and timberland.

The NCREIF Farmland Index was first published in January 1991. The index consists of only commercial-scale agricultural properties, so no ranchland, pastureland, or lifestyle

properties are included. All properties have been acquired, at least in part, on behalf of taxable and tax-exempt institutions and held in a fiduciary environment. Currently, there are eight institutional farmland managers who provide data to NCREIF to calculate the index.

As of the second quarter of 2020, the market value of the index was \$11.75 billion in farmland across the U.S., consisting of \$7.43 billion in annual cropland and \$4.52 billion in permanent cropland. The index is made up of 1,175 properties, consisting of 910 annual cropland properties and 265 permanent cropland properties.

Many institutional investors use the index to benchmark their own farmland portfolios. Since inception, total returns for the index were 10.84%, consisting of 6.76% of income and 4.17% for appreciation.

The index also provides a breakdown of return data by annual cropland and permanent cropland. As of the second quarter of 2020, annual cropland had an average total return of 9.84%, consisting of 4.77% income and 5.07% appreciation. Permanent cropland reported a total return of 11.94%, consisting of 9.43% income and 2.51% appreciation.

The index also provides output related to annual and permanent cropland. It is divided into these regions: Corn Belt, Delta States, Lake States, Mountain States, Pacific

Northwest, Pacific West, Southeast, and Southern Plains. The largest region by market value is the Pacific West, at \$4.56 billion. It is exclusive to the state of California and consists mainly of permanent cropland (almonds, pistachios, wine grapes, and walnuts).

The largest annual cropland region is the Delta States at \$2.37 billion, followed by the Corn Belt at \$1.3 billion.

By crop type, the index's largest subindex is an annual commodity. Corn, soybeans, rice, cotton, wheat, and barley make up the majority of the annual commodity subindex. The current market value is \$4.22 billion. On the permanent cropland side, the largest subindex is wine grapes with a market value of \$1.7 billion, followed by almonds.

The NCREIF Farmland Index is the only institutional farmland index in the U.S. and, until recently, worldwide.

NCREIF assisted in setting up an Australian farmland index to allow institutional investors in benchmarking their cropland investments throughout Australia.

For more information about the farmland index, visit [**NCREIF.org**](https://www.ncreif.org).

9.84%

As of the second quarter of 2020, annual cropland had an average total return of 9.84%, consisting of 4.77% income and 5.07% appreciation.



MIDWEST LAND VALUES: Poised to Move Higher

By **Steve Bruere**
President, Peoples Company

As fall begins and the bustle of farmland auctions grips the Midwest, the farmland market seems to have moved toward an advantage for sellers.

The year 2020 depicts many similarities to the combination of economic factors observed in 2012 after experiencing several years of diminishing commodity prices. Strong grain prices, increased farmer participation in land purchases, and low suppressed interest rates collectively contributed to the strength in land values, which peaked in 2013-2014. While commodity prices currently do not compare to the elevated values experience from 2011 through 2013, the abundance of “cheap” capital seeking a stable return is unprecedented. Simply stated, a 3% cash yield generated from owning farmland has never been more financially attractive. In the current market, the surplus of interested money exceeds available land for sale, creating many interesting economic scenarios.

The farmland market has and is expected to remain, steadfast throughout the downturn in

Corn Price and Cap Rate Matrix

TABLE 1

| 198 Bushel Per Acre Corn Yield | | CORN PRICE (DOLLARS PER BUSHEL) | | | | |
|-----------------------------------|----|---------------------------------|--------------|--------------|--------------|--------------|
| 33.33% Landlord Share | | \$ 3.00 | \$ 4.00 | \$ 5.00 | \$ 6.00 | \$ 7.00 |
| CAPITALIZATION RATE | 2% | \$ 9,899.01 | \$ 13,198.68 | \$ 16,498.35 | \$ 19,798.02 | \$ 23,097.69 |
| | 3% | \$ 6,599.34 | \$ 8,799.12 | \$ 10,998.90 | \$ 13,198.68 | \$ 15,398.46 |
| | 4% | \$ 4,949.51 | \$ 6,599.34 | \$ 8,249.18 | \$ 9,899.01 | \$ 11,548.85 |
| | 5% | \$ 3,959.60 | \$ 5,279.47 | \$ 6,599.34 | \$ 7,919.21 | \$ 9,239.08 |
| | 6% | \$ 3,299.67 | \$ 4,399.56 | \$ 5,499.45 | \$ 6,599.34 | \$ 7,699.23 |
| | 7% | \$ 2,828.29 | \$ 3,771.05 | \$ 4,713.81 | \$ 5,656.58 | \$ 6,599.34 |

commodity prices primarily due to stifled return expectations otherwise known as the capitalization rate or “cap rate” compression. Table 1 depicts the inverse relationship between cap rates and property values. The following assumptions were used to create this model: (1) one-third of farm gross revenue is paid as rent to the landowner, and (2) an average Iowa farm yield of 198 bushels of corn per acre. To use the matrix, one needs to simply select a return expectation and target corn price to determine the value one is willing to pay for a farm. While the matrix is not comprehensive, it demonstrates the connection between

commodity prices and return expectations. When using the matrix to calculate the land value for \$6.00 corn with a 4% cap rate, the model implies a value of \$9,899 per acre, and interestingly, the matrix also indicates a price of \$9,899 per acre for \$3.00 corn at a 2% cap rate. Therein lies the solution to the puzzle of farmland prices that seems to be noted in the popular press these days.

Table 2 illustrates how changes in rental income and cap rate adjustments interact. As the table indicates, a \$50 per acre rent reduction coupled with a fifty-basis point decrease in return expectation establishes



Rent and Cap Rate Relationship TABLE 2

| RENT | CAP RATE | VALUE/ACRE |
|-------|----------|------------|
| \$300 | 3.5% | \$8,571 |
| \$250 | 3% | \$8,333 |

a farm value that is only 3% from the peak price. The two previous examples have illustrated the offset that cap rate compression has created with respect to declines in rental rates and suppressed commodity prices.

In addition to reduced return expectations, the land market is also realizing the immense power of discounted money. The impact of financing the purchase of farmland just one year ago at 5.5% interest compared to 3.55% today is shown in Table 3. While holding payment and amortization constant, the 200-basis point interest rate decline allows a buyer to pay an additional \$1,380 per acre for the same farm year over year.

Perhaps more impactful than interest rates and commodity prices is rising farmer participation in the land market. Farmers tend to make purchasing decisions based on the long term, and therefore are more aggressive than pure financial investors. When the already declining farm liquidity was forecasted to get as low as .08 on working capital to gross revenue ratio, according to USDA ERS Whole Farm Sector Ratios, farmers started to become timid and were less of a driving force in land price discovery. A working capital to gross revenue ratio of .08 means for every \$1,000,000

generated in farm revenue, only \$80,000 is available in current farm liquidity, hampering the ability to continue farm operations.

On average, farmers are typically responsible for approximately 70% of all farmland purchases in Iowa, shown below in Figure 1. A greater downtrend in working capital and, therefore, farmer market participation will adversely affect land values. However, recent commodity price rallies coupled with federal aid programs seem to be igniting optimism for profitable farm operations in the future.

These economic factors have converged to form another

perfect storm for land value appreciation. The difference lies in the current cap rate compression. Reduced cap rate expectations combined with inflated rents create a scenario that results in land prices approaching the peak values observed in 2013.

The fate of the farmland market relies on farmers' confidence in commodity markets and federal aid payments.

Despite the results of fall market surveys, significant strength is anticipated for farmland values through the end of 2020, which should be reflected in favorable spring survey outcomes.

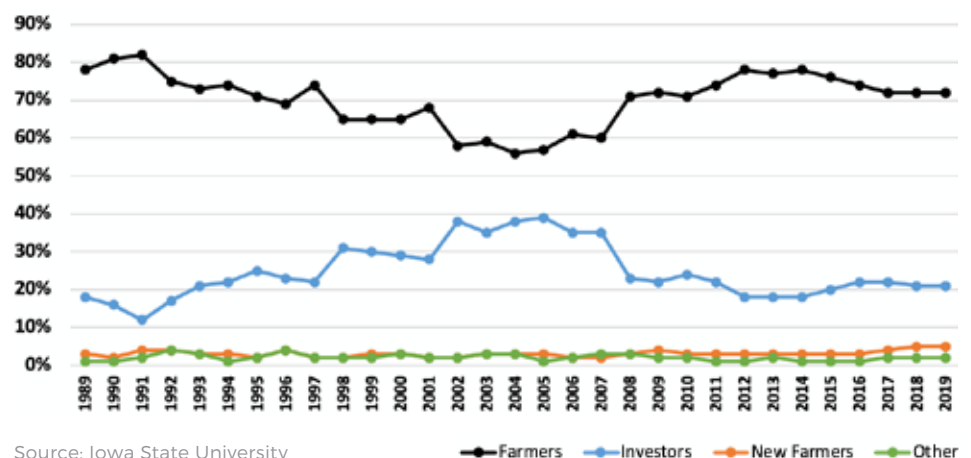
Interest Rate Impacts

TABLE 3

| 133 ACRES | PURCHASE PRICE | AMOUNT OF LOAN | INTEREST RATE | AMORTIZATION | ANNUAL PAYMENT |
|---|----------------|----------------|--|--------------|-----------------|
| \$7,500/Acre | \$997,500 | \$698,250 | <u>5.5%</u> <i>Fixed for 5 Years</i> | 20 Years | \$58,430 |
| \$8,880/Acre <i>(\$1,380 more/acre)</i> | \$1,181,075 | \$826,750 | <u>3.55%</u> <i>Fixed for 5 Years</i> | 20 Years | \$58,430 |

Purchasers of Iowa Farmland

FIGURE 1





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