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THE FARMER'S EDGE

Hurley & Associates
Agri-Marketing Centers

The Year of Black Swans

By Josh Linville

The fertilizer industry has been in absolute turmoil since the summer/fall of 2020. Major inputs have gone from near historically low values during that time to closing in on values not seen since the 2008 super cycle. Each product has had its unique road to today. Some have had government help. All received a healthy demand boost due to the Derecho event. Some have had multiple issues with production. Regardless the road, each has a common theme: farmers are paying significantly more for their fertilizer inputs this year.

Phosphate

In late June '20, NOLA (New Orleans, Louisiana) physical DAP barges were trading in the $250 - $275 range. Since that time, many factors have come together to current day where that same barge is trading at $660. That is an increase of $400 or a 164% increase from the original price. What were those factors?

- **Mosaic filing for a counter vailing duty against Moroccan/Russian produced phosphates –** as values continued to trade at near historic lows, an increase in imports were blamed by many. Mosaic, a major U.S. based phosphate producer, filled for the CV duty case against Morocco/Russia. In the end, Mosaic won the case and imports have slowed significantly as those producers have been unwilling to pay the duty. There are lawsuits against the duty from both sides: Mosaic claiming the rate was too low and Russia/Morocco claiming far too high/unjust. Unfortunately, these cases will take time to sort out and the duties are in place.
- **Rally of grain prices due to a variety of events, including the Derecho, caused farmers to increase application rates –** prior to the derecho event, corn prices were sub $4/bushel and many farmers were struggling to cash flow their farm thru the next year. After the events that caused corn prices to skyrocket, farmers demand increased dramatically as they looked to maximize yields as well as profit
- **Government subsidy checks increased farmer cash flows who further increased application rates –** another boost to demand were the subsidy checks from the government. This was the 2nd injection of funds that helped pull farmers from the hole they were previously in.
- **Solid fall/spring seasons wiped out inventories –** the combination of government checks/derecho event, along with solid weather patterns in the fall/spring gave the market plenty of time and incentive to apply everything possible. The result was inventories being very low coming out of the spring season.
- **Lack of Chinese exports –** many do not realize that China is the worlds largest phosphate producer. They are so large that if you combine countries 2, 3, and 4 together, China remains in the top spot. Midway

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By Josh Linville

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thru 2020, China pulled from the export market and left a lot of demand scrambling.

Potash

A year ago, NOLA physical potash barges were trading at $193. Today, that value resides at $585. That is an almost $400 gain or a 200% increase over the year ago price. The potash market has seen the trifecta of events which caused its meteoric rise: government issues, production problems, huge demand increases.

- **Production problems –** the mine complex in Esterhazy, Canada lost 2 of its mines earlier than expected which resulted in the loss of around 1M tons. The mines were expected to eventually be lost but was believed they had 9 -12 months left. Unfortunately, brine flows flooded the mine earlier than expected and they had to be surrendered.

Government issues – Belarus has been experiencing a serious political issue with many U.S. friendly countries placing sanctions on the government. Unfortunately, potash is one of their major exports as Belarus accounts for 15% of the worlds operating capacity. Until the situation is resolved, world trade flows will be disrupted which mean higher values.

Demand increases – as was detailed in phosphates, demand turned a 180 last fall after grain values jumped and government subsidy checks were issued. That demand went from almost nonexistent to overwhelming the supply chain. The result was empty warehouses at the retail and production level at the end of spring season.

Urea

September 2020 saw NOLA urea physical barge values trading at $220 vs today where it will cost $550 to purchase the same tons. Yes, you read that right, it is $330 higher than a year ago.

There are almost too many things that have happened in the urea marketplace over the last year to include in this article. The largest highlights:

- **Demand surge emptied inventories –** prior to last fall, it seemed that there would be little demand going forward as farmers struggled to make ends meet. Very quickly, demand turned around and has never let up since. Inventories were greatly reduced coming out of the spring season and have struggled to rebuild.
- **Covid delayed plant repairs –** nitrogen production facilities deal with high stress/temperatures/etc. daily. That means repairs need to be made on a schedule or breakages will start to occur. Covid caused a lot of these repairs to be delayed until now. Unfortunately, that means that there is a much higher percentage of plants down around the world as everyone plays catch up.
- **Lack of Chinese exports –** China is a major exporter of urea to the world. So much so that when they are exporting, the world market has a soft feel to it. When they stop exporting, as they have for many months, prices firm as the market scrambles to find supply. They have mostly remained out of the export market for some time and show little signs of changing course in the near term.
- **Hurricane Ida –** this has been the most recent hit to the urea marketplace. 72 hours before making landfall, forecasters believed Ida would only be a tropical storm. By landfall, it was a strong Category 4 that destroyed powerlines across the region which resulted in nitrogen production plants going down unexpectedly.

UAN

At least at this point, you sort of know what to expect with the price comparisons!! A year ago, a barge of UAN at NOLA would cost $120. Today…there is no price. Yes, you read that correctly. The UAN market has so many issues that producers are not offering values to the market. How did we get to this point?

- Huge spring demand emptied the system – by the end of the spring run, inventories were reduced to levels that some had never seen before. Farmers were looking to maximize their yields and emptied the UAN marketplace in the process.
- Hurricane Ida – as mentioned in urea, this hurricane caused production to drop due to a lack of electricity. This would have been a bad situation in a "normal" year. Coupling it with record low inventory levels didn't help.
- CF filed a counter vailing duty case against Russia/Trinidad – imports have risen in the last few years which has hurt U.S. producers. CF filed for the duty to slow the rate of imports while claiming unfair practices in both countries. This case is ongoing but until the end decision is known, import will be kept at bay.

NH3

The ammonia market, while higher priced than a year ago, is the most subdued fertilizer input. Values have increased, but not at the rate that others have. To make a long story short, NH3 values have "had" to increase with Urea/UAN to not get overwhelmed with demand. However, producers have kept ammonia values manageable as to not scare away demand this fall.

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A Standing Room Only Funeral

By John Melius

Many of my clients have heard me ask the question, "What defines success for your operation?"

Each client responds differently, and the answers are important. As we work together to create a plan, knowing your definition of success helps us understand who you are, what you value, and what you aim to achieve as a business and as a person. Your unique goals help guide and shape your overall market plan and specific action items. Defining success is a positive step for your operation.

In addition to reflecting on success, now also ask yourself, "What does it look like to live a life of significance?" There is a subtle difference in the question, but a vast difference in the answer.

Success is an outcome: the combination of various life decisions and, let's face it, luck. Significance is a guiding principle for every action a person takes. Many people strive for success in the eyes of the world, but few seek out a life of significance.

- Success = Outcome of several actions, to be evaluated LATER
- Significance = Intentional actions taken RIGHT NOW

**Success is an outcome.
Significance is a guiding principle.**

Significance is the perpetual pursuit of improving someone else's life. It has no benchmarks or measurable goals but is rather an ever-improving state of personal growth–to be a better version of yourself every day.

Significance creates inflection points in another person's life to lead them on a better trajectory. As a person of significance, you show up when it is easier to stay away. You ask the tough questions rather than staying superficial. You show gratitude for the people and experiences that have shaped you. You respect opposing viewpoints even when you don't agree, and you evaluate others' ideas with humility rather than thinking you have all the answers. In summary, selfless thoughts and actions guide you through your day.

When we have the opportunity to interview someone who wants to join our team at Hurley, one item we evaluate is whether his or her natural inclination is to pour into (give) or syphon (take) from other people in his or her life. Do his or her actions show that others matter more than self, or are the actions done in self-interest? If people are inclined to take, they may achieve financial success, but significance is out of reach.

- Takers create transactional relationships.
  "You are only as good as the next thing you do for me."
- Givers cultivate relationships of significance.
  "I'm grateful that you trust me, and I look forward to long-term success, because we have each other's interests at heart."

Recently, a client told me that he wants to live his life so there is standing room only at his funeral. His day-to-day actions reflect those intentions. He takes a genuine interest in others. He smiles. He avoids blaming others for difficulties he encounters. From my perspective, he intentionally strives to live a life of significance, which I believe contributes to his operation's success.

Consider the following questions to help lead you down a path of significance.
- What do I want this relationship to look like in five years? What specific action can I take today to move it on that trajectory?
- Each of us has the same 24 hours in a day. Am I intentionally allocating my time to impact others in a positive way? Or am I allocating all my time to myself?
- Even if the world views me as successful, do my spouse, children, family, and friends view me as significant in their lives?

A true life of significance is one that stems from our Christian identity: to serve.

A true life of significance is one that stems from our Christian identity: to serve. To our clients–thank you for allowing us to serve you. As you strive toward a life of significance, we wish you the greatest financial, emotional, and relational success.

John grew up on a family farm near Chelsea, SD where they raised corn, soybeans, wheat, and cattle. He graduated from SDSU with degrees in Ag Economics and Ag Business, along with a minor in Ag Marketing.

John has been with Hurley since January 2006 and lives in Brookings, SD with his wife Jodi and 4 children – Avery, Reid, Landry, and Jack.

Better Mapping, Better Decisions

By Michael Dunn

Successful farming entails countless avenues of risk management. Significant risks exist within the fields themselves, such as drought and flood-prone parts of fields. Even with drain tile, excessive moisture can still reduce yields as diseases thrive under an excessively moist canopy. Similarly, irrigation does not ensure that every plant will have sufficient moisture when it needs it.

The level of risk and the amount of success at mitigating risk often depends on the amount of natural (and sometimes man-made) variability within a field. As field variability increases, so does the difficulty of optimizing yields with just one static rate (seed, fertilizer, amendments, irrigation rates, etc.)

Farmers and agronomists have struggled to find the best way to manage soil variability and not every practice works for all fields. Listed below are some of the options available for defining in-field variability.

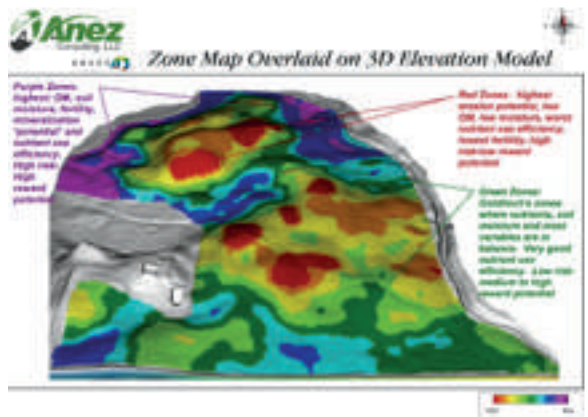
Grid Sampling

2.5-acre grids have been a standard resolution for collecting soil samples. Lab results are then interpolated using software to render nutrient maps and variable rate fertilizer recommendations. Unfortunately, the resolution of standard grids fails to depict soil moisture variability, so grids are not recommended for variable rate seeding or irrigation. In some regions, sample resolution may need to be less than half an acre to accurately reflect natural variability.

Zone Management

Several layers of data are compiled to create a zone map that reflects the natural and man-made yield limiting factors within a field. There is no industry standard to creating zones, and agronomic philosophies usually dictate which data sources get used and how they get put together to make zones. Some data layers used to create management zones are as follows:
Yield Maps and NDVI

Properly timed NDVI (plant health maps) can accurately reflect yield variability, so we will treat these layers the same for all immediate concerns. If properly selected data is used, these can be good layers to help fine-tune management zone maps. Unfortunately, there are countless fleeting variables (fertilizer misapplication, hybrid changes, disease, insects, etc.) that impact plant health that are not always the result of the forms



of variability that we seek to manage (soil fertility, topography, moisture, etc.). In areas with significant variability, drought stress and flood stress often look identical on these maps, which can result in misapplication of inputs in at least one of those areas.

Electrical Conductivity

EC has been used successfully to delineate and classify areas of soil variability for decades. It is an especially great tool for areas that are affected by saline soils and where deep rooted or perennial crops dominate the rotation. It can be an expensive and time-consuming endeavor to get the mapping accomplished, but it only needs to be done once for the life of the field.

Bare Soil Imagery

Freshly tilled soil gives up a lot of its secrets just by looking at it. Recent advances in imagery analysis allow agronomists to map changes in soil color (hue) and brightness (chroma). They can then make inferences about changes in soil organic matter, soil moisture, soil parent material, erosion, deposition and more. These maps are the highest resolution soil variability maps available and can be obtained at a fraction of the cost of EC mapping. However, it takes a lot of training and experience to properly interpret these maps and regions with perennial crop cover may not have proper imagery to analyze in the first place.

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Better Mapping, Better Decisions

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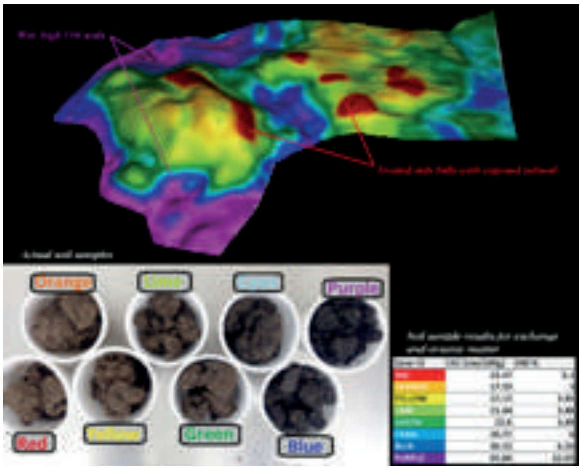

Having a firm understanding of the composition of the soils within your fields, the variability that exists, and exactly where those changes occur within the field, can lead to easier, more informed decisions. This is invaluable when making variable rate prescriptions for crop inputs and managing each soil effectively for the long-term soil health and profitability for the farm for generations to come.

Michael Dunn is a Precision Agronomist with Anez Consulting, LLC. Paul and Vince Anez are co-owners. Anez Consulting is an independent crop and precision consulting company based out of Little Falls and Paynesville, MN. Anez Consulting is passionate about helping farmers by providing innovative ideas and real solutions that maximize farm profitability. Find out more at anezconsulting.com

The Year of Black Swans

By Josh Linville
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Trying to forecast what will happen going forward is almost impossible today. That is a hard enough feat when only market fundamentals come into play.

Today, fertilizer is having to deal with fundamentals that seem to change by the day, government interventions that muddy normal trade flows, as well as demand that ebbs and flows depending on the grain markets.

We continue to believe that the nitrogen market will be firm going forward. The market expects 91M acres of corn to be planted in 2021. While farmers can do without P & K for a cycle, nitrogen must be used. Some have mentioned that they will switch to another crop that does not require so many inputs. This is exactly what the market is "asking" for, but we must wonder if the corn market will battle for its acres by increasing its price.

Phosphate and potash will be interesting as their applications can be reduced or skipped. If enough demand is destroyed this fall, inventories going into winter will be full and should lead to price destruction. However, if demand comes in a big way, it will be hard to break from this cycle.

Unfortunately, it does not seem that there is any relief coming in the near term. We are living in an extremely high-risk environment.

Josh Linville is the Director – Fertilizer for StoneX Financial Inc. During his 20 years in the fertilizer industry, he has seen the fertilizer industry from several different POV's (domestic trader/domestic producer/global trader/fertilizer futures broker). He now brings that unique POV to the marketplace to not only educate the market on what has happened / what to watch for but also teaching how to use fertilizer future derivatives to help offset the sizeable price risk that many layers of the market take.

Crises Continue to Plague Domestic Economy

By John A. Johnson

The dictionary defines crisis as "abrupt negative changes in security, economic, political, or environmental affairs". That definition seems to fit the present state of U.S. affairs very well. One is only left to fit the news du jour into whichever of the above-named categories best applies.

Some of the present crises facing our society and economy are represented by:

1) There are 10-20,000 potential immigrants camped on our southern border. Those seeking entrance into the U.S., hope to avail themselves to all the benefits we as a country afford to such "guests." Those benefits include transportation, emergency food and shelter, and in at least some cases subsidized or free health care. They also hope to fill some of the many millions of employment opportunities that are begging for workers, while many members of our domestic work force continue to receive generous unemployment benefits without working. Some states have taken the lead and stopped at least the federal share of those benefits.

   Border states are being strained beyond the breaking point as the migrant surges overwhelm all available resources to cope with massive floods of migrants, some legal and some illegal, clamoring to enter our country.

2) A persistent recurrence of the Covid-19 disruption as the Delta variant continues to drive up numbers of new cases and hospitalizations all over the country. This disruption is blamed for the slowdown in production and delivery of almost every product that we use, including automobiles and nearly every group of retail product. Many of our retail stores are struggling to keep inventory on shelves due in some cases, to lack of deliveries, and in others the lack of sufficient manpower to keep merchandise in the store. A very common sight in any city, regardless of size or location is a series of "Help Wanted" or "Now Hiring" signs. Many fast food operations are forced to keep dining rooms closed due to the lack of ability to hire workers.

3) Stagflation. This is a term we haven't heard much since the 1970's when we experienced slow real growth and simultaneously inflating prices. The Federal Reserve has historically attempted to maintain a reasonably slow, steady economic growth, while adhering to an annual inflation target of 2%. As long as the economy, money supply, and the production and delivery of goods and services remain in balance, that formula works fairly well. The problem of late is that the money supply has continued to grow while the production (and delivery) of goods and services has stalled. There is money to purchase goods, thereby creating demand, but in many cases the goods are either non-existent or sitting in a warehouse, or in some cases backed up on cargo ships waiting in the harbor to be unloaded and distributed. Reportedly, there are over 100 heavily laden cargo ships off of our western coast awaiting dockside berths in order to be unloaded. That is probably well over a month's supply, even if no more show up. With the holidays right around the corner, what are the chance of none showing up?

4) There are certain company names that have facilitated such economic disruption that their names became unforgettable, Enron comes to mind as a prime example, also, who among us will ever forget economic bloodbath following the collapse of Lehman Brothers? At this writing a Chinese company is looming on the horizon as a potential candidate for such infamy, Evergrande. This Chinese real estate development company has made headlines in the past weeks by facing a cash shortage to meet interest and principal payments on some $300 billion in total short-term debt. In fact, the company has current liabilities of $17.3 billion due by the end of the year. Senator Everett Dirksen, famously said, "a million here and a million there, before you know it, you're talking real money!". We wonder how Senator Dirksen would feel about these billions.

These concerns, among others, are weighing on heads of state around the world, and trickling down to consumers. Sticker shock as prices escalate while wages fail to keep pace, are lending to a general sense that the U.S. economy may not be as bullet-proof as it appeared to be only a few short months ago. Until real wages and retail prices (which are almost totally beholden to supply and demand) become more balanced,

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those concerns will only grow more and more prevalent.

The debacle in the Middle East has created much anxiety as nations scramble to realign themselves in the light of the rift between heretofore allies over the rapid and apparently disorganized pullout of the U.S. military from Afganistan.

This anxiety both domestic and internationally, is bleeding over to fears among some investors in the U.S. as we approach the end of the Federal Reserve meeting in Jackson Hole, Wyoming today. Most are waiting nervously as some economists are predicting that the strength and inflation in the U.S. economy would cause the Fed to announce a tapering, or gradual withdrawal of the extra liquidity that they have been pumping into the economy for many months now. That liquidity has funded the meteoric rise in equity prices, and massive government spending in an attempt to avoid a recession, or worse, in our domestic economy. We should have the announcement today, and the resulting fallout will soon be known.

Add the present economic turmoil in the nation and world to the presentation by the U.S. Congress of the largest spending proposal to ever be presented in U.S. history. (The $3.5 trillion spending package is said by some to actually be a $5+ trillion package). No matter how badly we may want many of the things promised by the spending, the controversy has caused anxiety level to rise to a fever pitch in many camps. The arguments on both sides of the question are becoming more and more shrill as the volume increases.

There are many questions that are going to have to be answered in the next few weeks, and the long term trajectory of this country and others may very well depend on the outcomes.

John A. Johnson has worked for Hurley & Associates since 2000. John is semi-retired now living the life of chasing grandkids. John is based in Sikeston, MO.

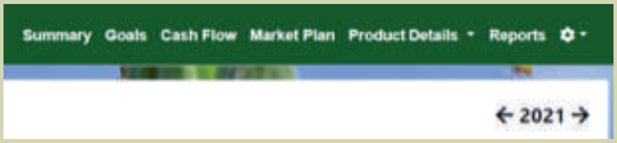
HA Portal Highlight

Storage Plans

By: Mindy Whitehill

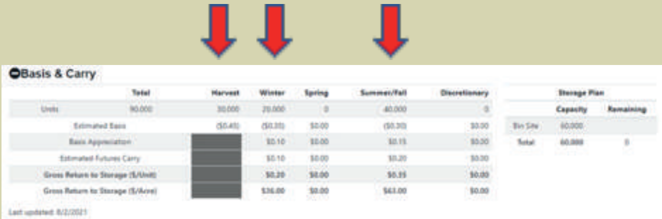
As part of your market plan with Hurley & Associates, you and your consultant set up and adjust a plan for storage throughout your growing season. The information is updated and located in the Basis & Carry section of your Market Plan. This crop specific section confirms your storage plans, what season you plan to deliver, the anticipated basis and market carry, and your gross return to storage estimate. Here's how you can access it:

1. Select Market Plan



2. Determine which crop you want to review

3. Scroll down to the 4th section, Basis & Carry. Here we can see a plan to deliver 30,000 bushels of corn at harvest, 20,000 in winter, and 40,000 summer/fall.



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