

*Growing Relationships
to Maximize Success!*



Ag Biz Briefs



Spring Update

Rick Vaughn, CEO

Greetings everyone.

We are close to going to the field as I write this newsletter. It has been a challenging last half of the winter. Our feed truck drivers, LP truck drivers, fuel truck drivers, and hopper drivers have endured a difficult 60 days between mid-January and mid-March. Delivery of feed, LP and fuel have very little choice but to get delivered no matter the weather conditions. All of our people deserve a big “thank you” for their dedication to keep animal feed and heating products moving, but all of our drivers deserve an especially big “thank you” for their dedication to keep those products moving under difficult road and facility conditions.

We are anxious to get the lost week of work from last fall started to begin our spring season. I sure would have preferred some late March field work to begin our spring season. Our people have been busy preparing to run hard when the opportunity to serve our members presents itself. We had a normal fall season for our phosphate and potash business, but ammonia was only about 20% of normal across the heart of Iowa’s corn growing territory. We will get the products on the ground and the crops planted with a little extra help from Mother Nature this spring. We appreciate your consideration and help with the upcoming spring season.

The March 2019 USDA crop report was a negative surprise for corn stocks and expected acreage. The CBOT May corn contract decreased \$.1750/bushel at the close Friday, March 29th. The additional old crop corn stocks combined with the larger than expected corn acres put a damper on the supply demand table looking out into next year. The March crop report for beans had a lower expected acreage prediction than what the market was thinking. This resulted in the CBOT May bean close being down \$.0525/bushel, much less than anticipated. The market was looking for more negativity with the bean market due to more expected bean acres. There is a lot of uncertainty with

the most recent flooding conditions that occurred after the survey work, that is the foundation of the late March USDA report. How soon those flooded areas can dry out combined with the normal spring flooding will play out over the next 60 to 90 days. There are multiple camps of thought on what the market direction should be. I trust and hope you each have your own. We have witnessed similar market dynamics in the past and wondered what the market was thinking at the time. The market is pricing in various levels of uncertainty every trading hour. I think the current market state needs more proof of what will ultimately get planted and grown. That will play out from now through pollination and beyond. Setting price targets based on current assumptions, adjusting those assumptions as needed and executing on those targets will be as important as it always is when operating under these tight financial conditions.

The March 2019 USDA crop report illustrated the additional proportion of corn and bean stocks located in farm bins relative to commercial bins. Corn stocks are down overall versus last March, but up in farm bins as a percentage of the total. Bean stocks are up overall versus last March and up in farm bins as a percentage of the total. Iowa has 15.8 million less bushels of corn and 43.1 million more bushels of beans for a combined 27.3 million more bushels stored on the farm on March 1, 2019 versus March 1, 2018. These additional bushels will contribute to the total number of bushels that will need to move before harvest. This of course is under the assumption that an adequate 2019 growing season materializes. My biggest concern in this area is that we adequately prepare for harvest for our customers and for the company. Our ability to accurately understand your plans and assess our needs accordingly will be under constant analysis all summer. We expect our local managers to assess this correctly for their area and they will need your help. Any information you can provide us about your plans is greatly appreciated. I understand the local market point

spreads ebb and flow, and they are sometimes not what everyone would like. I do see increased mid to late summer off farm movement. The amount of flow in this more condensed time frame will contribute to our need to accurately assess those dynamics and prepare successfully for the fall harvest. Thank you in advance for your assistance.

This IAS 2019 fiscal year will be two thirds completed by the time this publication reaches you. Our financial progress at the IAS local income level is slightly lower than one year ago across all division segments. The challenges for our producers in the animal production segment naturally find their way into our feed business. Last fall produced a drier corn crop and slightly smaller corn and bean crop than the fall of 2018. The wet field conditions contributed to an inadequate fall agronomy season for all the work

we prefer to do. Our budgets for the full year predict a slightly lower year than last year for our local income with lots of time for things to change. The fiscal year for our ethanol business is proving to be challenging. Our ethanol business has suffered the first six months from too much ethanol production and market uncertainty. Things are improving as the spring and summer driving season picks up, but not as much as we prefer at this stage. The geopolitical trade environment has been hard on agriculture and all of our business segments are affected.

I look forward to the spring season and the beginnings that come with it. Thank you for your business. IAS looks forward to our partnership with each of you and the opportunities that are provided every day. Have a safe spring!!

IAS Board of Directors



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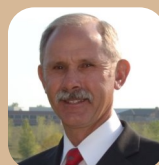
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Thank you IAS Board of Directors

As representatives of our member base we appreciate the time and commitment you contribute to the IAS mission of Growing Relationships to Maximize Success! We would also like to thank our associate directors, which include: Jeff Lindsay of Manchester, IA, and Allen Jaspers of Steamboat Rock, IA.

Agronomy Update

Tim Krausman, VP of Agronomy

The cold winter air and the large snow drifts are becoming memories as we begin spring fertilizer application. It appears the two hot topics this spring are, the amount of work that is left to be done in fields to plant the crop and the river logistics.

Let's start with the work that needs to be done to get this crop going. Last fall IAS was able to get about 18% of the previous year's NH₃ applied. From what I understand from the industry, there are others that were able to get more applied, and some that got less applied than we did. To get the nitrogen in the ground that our crop needs, it will take more applied this spring than the previous spring. There are also many growers who still intend to rip some ground before they start the planting process due to not completing the task last fall. I want to put that extra nitrogen demand, and more importantly the extra NH₃ demand for this spring, into context as it may not be as daunting as it seems. I will leave the numbers out so my explanation isn't overly complicated, but to get that extra NH₃ applied, if all of our locations are running at peak capacity, we can apply those extra tons in three big days. Typically, we see some of our locations finished before others start, so that could challenge the system more than usual if they all run at peak levels simultaneously. The biggest challenges we face to get the NH₃

applied in a timely fashion are outside of our control. These challenges are supplier allocations and extremely long lines at the terminals. Today nothing is on the radar, but with large demand in the spring anything can happen.

I will briefly talk a little about the Mississippi river in particular, and how that may affect what has to be done this spring. Today we have some Urea and MAP that has been purchased river open. River open typically is from the beginning of April until the middle of April in the Dubuque area. It appears this is going to be pushed back this year. Some sources are saying that the river levels will stay above flood stage through April and into May this year. If the river levels don't allow barges to come north until May there may be some pressure on fertilizer supply at the terminals. I think it is too early to predict how long it will be until we start getting product up here, but we will manage the situation to the best of our ability. We will not use a wait and see attitude on this subject as we have already began to make contingency plans to do our best to ensure product is available when we need it.

With that I would like to thank all of you for your business and please be safe as you work through the spring season!



The Big Chill

Jon Caspers, Agronomy Sales Advisor

When we think about planting corn in Iowa there are a lot of details that are dealt with throughout the winter. These details include hybrid selection, placements, and Variable Rate (VR) populations. One of the things that I have seen overlooked very frequently in the past three years is the planting date. As we strive to hit 300-bushel averages on a significant portion of our acres, this is a decision that can start us off on the wrong foot.

One of the biggest issues we have in our area with pushing planting dates earlier and earlier is imbibitional chilling. Everyone has seen a corkscrewed mesocotyl in the ground at some point in their life time. Do they truly know the why behind it? Imbibitional chilling is due to cold soil temps not just the cold rain. It is when the kernel imbibes with water and begins the germination process. The reaction to

this is that the kernel begins to expand or swell. During this process if the cell tissues are chilled they have no elasticity and could rupture. This leads to germination failure, stunting the coleoptile, or even death of the seminal root system. The things to look for when digging seeds are delayed emergence, leafing out underground, or the corkscrew.

How do we prevent this? Everyone that you talk to has different temperatures that they want farmers to wait for. Personally, I would like to see a soil temp steady above 50°F. This has less risk involved with the soil factors and also has less risk of catching a late lethal frost.

We get maybe 40 growing seasons in our careers. Let's make sure that we give ourselves the best chance for success possible.

Soil Fertility & Variable Rate Spreading

Dillon Langel, Agronomy Sales Advisor

Hello everyone! Tis the season once again. I've only been with the company for a little over two years now in Farley, but having conversations with some of the growers, they are saying this is going to be one of the more interesting years in farming they have seen in a long time. Grain prices aren't cooperating, and neither are the fertilizer, chemical, and seed markets. An old saying I have been told that directly applies to this business is "you have to spend money to make money." Are we putting that money in the right place?

Soil sampling is one of the tools that is going to help you with managing your dollars per acre. Some farmers that are going out in their fields and doing a "maintenance spread" on their ground might not be meeting that plant's needs. Just about every grid sample that I have looked at in Dubuque County turns out to be deficient in potassium. A lot of these acres have seen manure, resulting in being either adequate or excessive on their phosphorus. Put that P and K where it needs to go. Conducting a 2.5 or even a 4.4-acre grid sample is going to show you exactly where to place that product. Why blanket spread 150 pounds of potash on an acre when it has excessive amounts already? Using variable rate technology, we can put that extra 150 pounds on another acre where it is needed. Cattle and hog farmers can utilize the grid sample maps best by looking at which parts of the

fields are deficient in phosphorus. Taking that load of manure out back behind the buildings and spreading it because it's close might not be helping as much as you think. Look at the big picture, driving a little further out into the field or even to the other side of the farm could save you money by not having to apply any MAP or DAP.

Once you start the grid sampling process, keep up with it and resample every four years. Be consistent. If your first sample was taken in the fall, schedule it for the fall again. One experience I have run into is a grower who tried getting a couple of extra years out of his grid sampling. In 2018 he had quite the potash deficiency on a couple acres of his corn field resulting in a yield loss. Looking back at the soil results when we variable rate spread it, that part of the field five years ago did not call for any potash. Fast forwarding to this fall when we resampled the field, it came back very low on potassium resulting in having to spread about four hundred pounds to the acre. Let us help you put your dollars where they need to go. Contact your local IAS agronomy advisor and discuss any grid sampling or fertilizer programs to get the proper nutrition on the right acre to ensure maximum yield and profitability for your 2019 season. Have a safe spring everyone!

Preparation is Key!

Amber Harrison, Agronomy Business Development Manager

We are preparing for and starting to feel the excitement of another spring season upon us in the agronomy department! With a month into my career with IAS, I will start with a short bio about me. I started with IAS as the Western Business Development Manager in February and have enjoyed getting to know some of the customers and the team. I grew up on a farm in Nashua, IA, which is still managed by my family. I attended Iowa State University. I started out with a desire to be a veterinarian, and after my initial semester, I became interested in other opportunities within agriculture and finished with a degree in Public Service and Administration in Agriculture. I have been fortunate to have my career path take me through seed, feed, marketing, chemicals, distribution, ag technology, and now with IAS. I am excited to continue to get to know all of you as the year continues. I currently live in Humboldt, IA, with my husband, Seth, and our two children: Genevieve, who is six, and Adelaide, who is four. We are all ready for sunshine and spring weather. When not working I enjoy cooking, traveling, anything outdoors, good music and spending time with family and friends.

As we continue to prepare for the 2019 crop season, IAS will be ready to help adjust plans and programs to meet your needs.

A few key items:

1. **Communication:** Our people is who we are. At IAS, we pride ourselves in providing you access to our reliable, knowledgeable, certified agronomic staff. They are here to help answer your agronomic questions, product recommendations, and diagnostic needs. Stay in touch with your IAS agronomist as you prepare to go to the field. This communication will help stay ahead and ensure everything gets done on time. They will also be in touch with you to help with decisions.
2. **Plans and Pre-Work:** Don't wait for another season to optimize your yields. Turning your soil tests into an actionable fertilizer plan and adjust for environmental changes is what our agronomic staff is trained to help guide you through. Use the plan you have created and adjust it accordingly, early, and as needed, to make sure the crop is getting exactly what it needs when it needs it. Your IAS agronomist will be able to support this in-season to prevent over or under fertilization, protect the environment, cut back on fertilizer costs, and lead to healthier crops.
3. **Starters:** A reminder that starters can help get the crop out of the ground quicker and get the plant off to the best start possible. According to the Farm Progress organization, there are three additional lesser known benefits to starter fertilizers. While for most of us starter fertilizer generally translates into better yields, these additional benefits can be the difference between a good year and a great year.
 - a) *Better crop growth early in growing season, especially in colder climates.* Early in the crop development stage these fertilizers perform a major role in crop growth, especially in no-till or limited till operations. This can be primarily due to soil temperature.
 - b) *Grain that's drier and quicker to mature.* One of the largest and most commonly overlooked advantages attributed to starter is that it has the potential to lead to drier grain at harvest.
 - c) *Environmentally responsible.* Applying a portion of the phosphorus in the spring that would have otherwise been applied in the fall (or if this application hasn't happened), you can provide the nutrients to the crop when it needs it the most. Additionally, it's much less likely to be subjected to loss through erosion or runoff.

We are prepared for a fast paced, busy spring. The machines, toolbars and tanks have all been serviced and are ready to go. Please reach out with questions and work with your agronomist to ensure you are both on the same page to get your growing season started off right.

Anhydrous Ammonia & Crop Protection Handling

Brian Kramer, Vice President of Operations

Welcome spring! It's been a very trying winter to say the least and we are finally beginning to see spring like weather. Of course, with that comes field work and applications of crop nutrients and crop protection products necessary in growing our crops.

Anhydrous ammonia (NH₃) is the nitrogen source used by many of you. The improper handling of NH₃ can have tragic effects. NH₃ has a pungent odor and is a compound that seeks moisture from the nearest source, most commonly skin, eyes, or lungs, and has a burning sensation if exposed.

Personal protective equipment (PPE) must always be worn to protect yourself from these hazards. Protecting your eyes should be done with non-vented or indirect-vented goggles; we also recommend a face shield to be used in conjunction with the goggles. Hand protection is also important and can be achieved by wearing a pair of neoprene gloves with a thermal liner. It is best to roll up the bottom of the gloves to form a cuff that can catch any product from running down the glove onto your forearm. Both goggles and neoprene gloves are available from your local IAS location.

If you are exposed to NH₃ the best first aid is water, and plenty of it! NH₃ burns should be flushed with clean water for at least 15 minutes. Five gallons of fresh water is supplied on every NH₃ nurse tank. Some people will also carry a pocket-sized bottle of water as well to flush their eyes if coming in contact. Do not use salves or ointments on a NH₃ burn; instead seek medical attention after flushing with water.

Take extreme precaution when handling the transfer hose and valve to prevent accidental discharge. Be certain all valves are closed and any trapped spaces with product are bled down before disconnecting. Same is true when working on a toolbar; bleed down any product before making repairs. All valves on a nurse tank must be closed when transporting NH₃ on the roadway per Federal DOT standards. Replace dust caps on valves after removing the transfer hose.

Crop protection products can also pose harmful effects if proper precautions and PPE is not used. Products can differ greatly, so it is best to read the product label which will contain information on the proper use, handling, storage, PPE requirements, and first aid information. Exposure to eyes and skin again are the most common but with the proper PPE in place these risks can be reduced substantially.

Innovative Ag Services wants every employee and customer to remain safe when working with crop inputs. Please take a moment and review what you will be using in your operation and be certain you have taken the necessary precautions and are using approved PPE. IAS personnel can assist in answering questions you may have.

Have a safe spring!



Utilizing Tools in Our Tool Box

Dan Schmitt, Beef Production Specialist

As cattle producers, we are constantly challenged with “efficiency”; be more efficient, increase efficiencies, buy more efficient cattle and so the lists go on. The dictionary defines efficiency as “the ability to avoid wasting materials, energy, efforts, money and time in doing something or in producing a desired result.” We have several tools in our toolbox that can be used to increase efficiencies including ionophores, feed waste management, disease prevention tools and feed lot records.

Ionophores

Two types of ionophores include: Bovatec, which boosts feed efficiency and average daily gain without compromising feed intake, and Rumensin, which improves feed efficiency and prevents and controls coccidiosis.

Feed Waste Management

Spoilage and shrink on feedstuffs can be costly, especially on wet products. Overfeeding and underfeeding can undermine efficiencies as well. Controlling feed waste is one tool we can use to improve efficiencies. Methods for controlling feed waste include:

- Feeding on solid surfaces
- Using feeders and feeders that help control waste
- Process and/or add liquid to poor quality forage
- Use of TMR/feeder wagons and feed bunks
- Covering silage & hay piles
- Use of inoculants to improve silage quality and bunk life
- Adding the right feeds at the right rate in TMR

Additional Means for Controlling Efficiencies

- Work with your vet/feed consultant to implement proper vaccinations, deworming and delousing programs to fit your needs.
- Implants can improve performance and increase weight gains that are cost effective, safe for cattle and safe for consumers
- Availa 4 trace minerals can improve health and reproduction efficiency as well as optimize performance and improve feet health
- Optaflexx increases live weight gain and hot carcass weight and improves feed efficiency the last 28 to 42 days
- Diamond V yeast improves health and production efficiency and contributes to better rumen health and forage and mineral utilization.
- Intake modifiers help to keep cattle more efficient. They save feed and produce less manure. Utilizing home grown grain improves rumen health and reduces roughage.
- Sustained nutrition/fetal programming can help produce more consistent cow nutrition and body condition, leading to heavier calves and healthier cattle with more heifers bred and conceived. Additionally, carcass weights and marbling and tenderness will be improved.

- Beef Abate is a supplement we recommend for keeping cattle on feed during periods of heat stress and chute stress, as well as adding some benefit on carcass grade.
- Liquid supplements provide supplemental protein, minerals, trace minerals, vitamins and additives. These cost savings products add texture, consistency and palatability to rations and improves feed efficiency, keeping cattle on their feed.

Feedlot Records

Feedlot records are important tools for knowing where you are, where you are going and at what costs. Records help locate areas of improvement as well as identifying cost of gain, average daily gains, dry matter intakes and much more.

All of these products and services are available through your IAS beef consultant.

Please give them a call for more information

Have a great and safe spring!

Thank you!

Dan Schmitt
Beef Consultant
(563) 568-7948

Managing Forage Inventories

Chad Lange, Dairy Production Specialist

Managing forages for a dairy farm is a yearlong planning effort that shouldn't be overlooked, especially in today's economic state. As we look forward to what is already turning out to be a rough growing season for many across the United States, we may be faced with delayed planting and harvest. It is important that your team has a plan to utilize farm forages. This plan should include making sure you have enough forage until the next harvest. You should also allow enough time to ensure proper fermentation and stability of the new crop forage. For example, let's look at hays and haylages. A plan can ensure that you will have enough legume forage to support a healthy diet for your cows. Hays and haylages are a good source for providing the dairy cow with an effective rumen mat. It is crucial to have a good source of hays and/or haylages even if it is at a low inclusion rate. The price of premium dairy hay, 180+ RFV with 22+ protein, is currently bringing upwards of 280 to 300 dollars per

ton. It is more important now than ever to be sure of your on-farm forage quality and amounts.

To ensure this plan is on track, communicate with your agronomist and nutritionist. This will allow you to confirm that your plan has enough quality forage for your dairy operation. Also, you and your nutritionist should be taking inventories throughout the year. The last and final step is to make sure you are doing frequent moisture checks on forages. This ensures the correct diet is being fed and you are eliminating waste.

In conclusion, dairy operations do not need an added expense, so make sure you are on top of your forage inventories. Dairy farms should have a plan in place to overcome shortfalls and harvest issues. A yearlong plan with your team will ensure that you are feeding the correct diet, eliminating waste and making your dairy more profitable.

Crack an Egg to Understand Weaned Pig Feed Intake

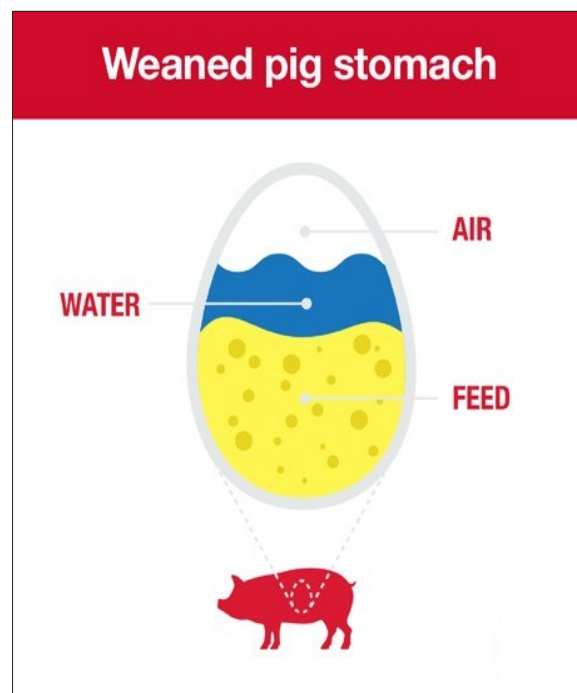
Steve Wagner, Swine Production Specialist

Getting newly-weaned pigs to eat several times per day is a first step toward profitable finishing. Crack an egg, and you'll understand why.

A 21-day-old pig's stomach is approximately two ounces, or about the size of a large chicken egg. But, only about half (one ounce) is available for feed intake at any given time. The remaining ounce is reserved for water intake and air.

To make the most of every feeding, provide feed with high-quality ingredients and implement management practices that encourage repeat trips to the feeder.

Implement these strategies to get the most out of your feed investment, one ounce at a time:



1. Hydration is key.

Feed intake is highly correlated to water intake. It can take as long as 36 hours for 85 percent of newly-weaned pigs to find water.

Products such as UltraCare® gel and UltraCare® electrolytes can help keep pigs hydrated and performing well in the first week post-weaning and times of stress. Gel and electrolytes provide sodium, chloride, magnesium, vitamins and pH acidifiers. These nutrients help balance the gut and keep pigs drinking and eating.

2. Mat train to create more consistent eaters.

Mat training is ideal for nursery pigs because they naturally eat in groups. Placing feed on mats initiates pen activity, which can lead to increased feed intake,

Mat training also allows you to identify poor eaters early so you can respond and prevent potential challenges as the pigs grow and develop.

Mat feed pigs 4-6 times per day during the first 3-7 days post-weaning for best results. Provide 0.4 square feet of mat per pig, and sprinkle one pound of feed or feed supplement per 40 pigs at each feeding.

3. Choose smart feed-intake technology.

Before weaning, the smell of the sow drove the young pig to seek food, and compounds in sow's milk triggered the urge to continue eating. This internal drive, triggered by the senses, is called imprinting, and you can use it to encourage repeat feeding in the nursery. The right ingredients combined with intake-enhancing technology can drive feeding behavior in newly-weaned pigs, even though they are unfamiliar with the feed.

On average, pig feed intake 3-4 days after weaning is too low to meet the pig's needs. Intestinal development can suffer as a result, leaving pigs vulnerable to health challenges and opening the door for poor feed efficiency. Additional stressors during this crucial time can increase the energy needs of the piglets and further compound the issue from reduced feed intake.

Set your pigs up for strong performance with UltraCare® feeds, formulated with intake-enhancing technology to encourage repeat feeding in the early nursery phase. Newly weaned pigs are limited to an eggshell-sized scoop of feed at a time. Giving them feed with high quality, complex ingredients that bring them back to the feeder can help them to thrive through the finishing phase.

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1 Le Dividich, J. and Seve, B. 2001. Energy requirements of the young pig. In: Varley, M.A. and Wiseman, J. (eds). The weaner pig: nutrition and management. CAB International, United Kingdom, pp. 17-44.

2 Crowder, S, Lead Swine Nutritionist, Purina Animal Nutrition handout 2018. Crack an egg to understand weaned pig feed intake. Management tip flyer.



Iowa Locations

Ackley	Hubbard
Alden	Independence
Alta Vista	Lawn Hill
Andrew	Manchester
Austinville	Monona
Cascade	Monticello
Center Junction	Oran
Central City	Owasa
Cleves	Packard
Elkader	Union
Ellsworth	Waukon
Elma	Williams
Farley	Winthrop
Faulkner	
Garden City	
Hopkinton	

Wisconsin Locations

Cuba City
Hazel Green

Store Hours

Monday thru Friday
7:30am to 4:30 pm
Saturday

All locations hours are varied with the season check with your local IAS location to confirm

Looking to the Future

Innovative Ag High School Outreach Program

Innovative Ag Services is continuing its outreach to the next generation. We are proud of our involvement in the High School Outreach Program and continue to present the future of agriculture to high school students across our service areas. Since January, we have presented at the Hampton High School, Turkey Valley High School, Independence High School and a repeat performance at Maquoketa Valley High School.

Innovative Ag Services was honored at the Maquoketa Valley FFA Spring Banquet as a valued supporter of the MV FFA chapter. We have also had the honor of being asked to judge for the FFA North Central Iowa District Contest on March 3rd and the FFA North East Iowa District Contest on March 9th. We were happy to have had five individuals participate in the judging for these two events.

Opportunities like these allow IAS to promote agriculture, our role in the community and future opportunities for the next generation. Thank you for your support as we continue to look to the future of agriculture.

