

# CALHOUN COUNTY AGRICULTURE



## HAULING IN THE...HOPS?

Rising number of breweries prompt influx in hops farms

By Tyler Anderson

The Graphic-Advocate Editor

To outsiders and residents, Iowa is easily known as the land of corn and soybeans. Its former prairie lands fertile and black, aided by gentle rains and relatively modest lands.

In the spring, farmers collectively head out to the fields and plant the two main crops, responsible for a wide variety of uses from feeding people and animals to powering engines.

Shortly after planting, they will spray their fields to treat and protect their crops from pests and diseases. Then, the waiting process begins, as the corn stalks are as high as an elephant's eye while the beans display neat rows of green.

When the temperatures drop and the two transition from green to beige with a hint of orange, it is time to head back out and harvest those crops. The combines traverse the fields, going about converting the plants from the field to their yield.

By the time the rain turns into snow, and winter sets in, it's another rest period. When the temperatures rise to comfortable conditions, the process repeats with rotation in mind.

Within the past few years, a new phenomenon has surfaced. Microbreweries, which act as an alternative to the larger beverage



Pictured is the Cedar Falls Hops Company's seven acre field, located four miles to the northwest of its namesake city. The company specializes in growing locally grown lowa hopes for local breweries. [Courtesy of Cedar Falls Hops Company]

makers, have popped up across the nation. No longer are craft beers stuck in places such as the Pacific Northwest, Denver and San Diego.

If anything, the industry has grown by leaps and bounds – from 1,574 breweries in 2008 to 7,450 breweries, according to The Brewer's Association.

Places such as Asheville, North Carolina, and Grapevine, Texas, have become hotbeds for specially tailored beer.

Iowa is one of those many places who have embraced craft beer scene, when former Governor Chet Culver signed a law to raise limits to 12 percent alcohol by weight and restricting elements of distribution.

Due to this, Iowa breweries have flourished.

According to Travel Iowa, as nearly 40 new breweries have opened within the past three years. The Iowa Brewers Guild also projects the industry to triple in the next five years.

It wouldn't be long before residents within The Hawkeye State put two and two together, with Iowa's rich fields and the contents within beer – barley, hops and yeast.

Out of those three, hops are looked upon with potential and opportunity in Iowa. There have been early adapters, such as Buck Creek Hops and Iowa Hops in Newton.

Three years ago, the Cedar Falls Hops Company was created, adding another grower to the list. One of the three who are behind the scenes at the Cedar Falls Hops Company – located less than four miles away from the city of its namesake – is Keri Byrum.

"We just finished our third year and we have seven acres of hops production," Byrum said. "Our primary market is Iowa craft breweries and we do send hops around the country."

Byrum is an experienced horticulturist with a degree in Biology from the University of Northern Iowa, as well as a Master's of Science degree from the University of Delaware. Byrum has previously overseen greenhouse operations at the SeaWorld theme parks and worked as a horticultural agent for the University of Florida.

**CONTINUED** NEXT PAGE

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"There's been some pretty incredible growth," Byrum said of the upward trajectory. "This is mostly due to friendly legislation and some changes on the rules and regulations on distribution.'

According to Byrum, hops isn't new to Iowa. Before Prohibition, hops was grown across the eastern United States and throughout the Midwest. When Prohibition was repealed in 1933, the hops industry began to sprout in the Pacific Northwest.

Contrary to popular belief, hops are grown on the east side of the Cascades, where the conditions are warm and dry.

Iowa is a completely different part of the world, known for its humidity.

"We can have fungal issues that they don't have to deal with," Byrum said. "But we have amazing soil and we can grow so many crops really well. So, we concluded that we can grow hops, too.'

"If you're an Iowa brewery, we recommend that you use Iowa hops and make your beer uniquely Iowan," Byrum said. "Because you could be a brewery in another state, but get your hops from the same place. Using them to bring local flavors to local beers is a pretty cool concept."

Byrum will conduct a hops workshop from 7 p.m. to 8 p.m. on Nov. 20 at River Hops Brewing in Fort Dodge. The Iowa State University Extension and Outreach of Calhoun County is also currently exploring holding a hops workshop in Calhoun Coun-

The one thing that Byrum will preach to those interested in facilitating hops in Iowa, it's not for the average farmer.

"Hops has a very high upfront cost," Byrum said. "It's mostly because of the trellis that they need to grow on. Those costs can add up very quickly.'

The trellises used to hold the hops vines go up 18 feet into the air, and 22 feet overall. Along with the trellis, there are steel cables that run along the top that support the string that the hops grow on.

Even though there is specialized equipment involved, hops are perennial and only have to be planted once. According to Byrum, one can expect a 60 percent yield in the second year and full maturity in the third year.

Hops do take three years to become properly established, but the roots can last for 20 to 25 years.

However, hops is not for those who have a lot going on. Simply put, it's not for the faint of heart.

"It's a very labor intensive crop," Byrum. said. "Nothing that we do in our field is done from the seat of a tractor. It's all done manually. I believe that it's important for people to know."

"I don't believe that you can grow hops as a hobby, either," Byrum added. "Because it will eat up all of your spare time.'

So, what about the benefits of growing hops? Byrum explains that networking with local breweries and growing the hops that they prefer for their craft beverages. Also, there are the fruits of one's labor in making a profit off of hops.

"There is the potential for high yields per acre, but it does require a lot of work," Byrum.said.

For potential tax incentives and programs, Byrum recommends to check in with the Iowa State University Extension and Outreach or USDA office.

Could hops become a major player in Iowa over the next five to 10 years? The first step is to create a co-op or a state hops growers association, according to Byrum.

"I believe that a basic organization would help develop the industry professionally, make it easier for brewery, which could bring about benefits for everyone," Byrum said. "Having a statewide organization would help with lobbying efforts, along with the brewers association. This would help growers to sell their crops."



Pictured is an up close shot of a hops plant. Hops are trained up trellises and connected with steel cables atop the poles. [Courtesy of Cedar Falls Hops Company]





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## ISU Extension to offer Agriculture **Every Day resource for educators**

AMES – Iowa State University Extension and Outreach has developed a curriculum for educators who want youth to know how agriculture is involved in every day human life. The curriculum was created by ISU Extension and Outreach 4-H youth specialists Amy Powell, department of animal science, and Maya Hayslett, integrated pest management team.

The curriculum "Agriculture Every Day" is offered as a free publication, available for download from the Iowa State University Extension store.

Agriculture Every Day incorporates teaching moments that show youth in grades 4-12 the importance of agriculture. All lessons within the curriculum follow the 4-H Experiential Learning Model and include hands-on, fun and engaging activ-

The curriculum features 12 short (20-30 minute), stand-alone lessons, each focusing on a different aspect of agricultural science. Lessons then apply the concepts to everyday life, and show how such concepts may go overlooked. Six of the lessons focus on

animal science and six focus on crop sci-

"We think that these lessons will be useful for educators looking for short easy lessons about agriculture," Hayslett said. "Agriculture is an important part of Iowa culture and its economy, but is often not explained in understandable ways. We designed this curriculum for youth to better illustrate how and why agriculture is important to the state, the region and the nation."

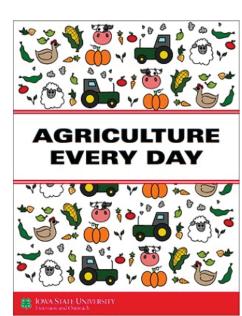
Lessons in the curriculum are meant to be a sampling of different agricultural science topics. Each lesson can be taught on its own or combined with others. Each lesson includes the appropriate target grade level, educational goals, educational standards addressed, materials needed and directions for set-up and implementation of the lesson.

Through program activities, youth will gain awareness of the daily importance of agriculture. Youth will also gain life skills in teamwork, organization and observation. These lessons can help youth who have a



limited understanding of agriculture begin to appreciate and gain an interest in agriculture.

For youth with a background in agriculture, these lessons can reinforce and illustrate complex topics they might not have understood, as well as broaden the horizons of career opportunities.



To download the PDF, you can visit https://store.extension.iastate.edu/prod-

### **NEW Cooperative Announces 2019 Patronage Rates**

FORT DODGE – NEW Cooperative is an Oct. 15 news release. pleased to announce the 2019 Patronage

For the recent August year-end, NEW Co-Rates for its member owners, according to operative is allocating 10 cents per bushel

of grain sold and 5.5% on agronomy purchases of which 50% will be returned in

This coupled with an additional deferred equity revolvement brings the total cash returned to its members to 21.1 million dollars and equal to 100% of the company's earnings generated by local operations of the member-owned cooperative this past

"NEW Cooperative believes that during these challenging times in agriculture it is important to return earnings in the form of patronage back into the hands of our members as soon as possible" stated NEW Cooperative General Manager, Dan Dix.



NEW Cooperative appreciates our members' support and we look forward to continuing to serve our member owners and their farming operation needs.

To see more detailed patronage rate, please visit http://www.newcoop. com/news/new-cooperative-announces-2019-patronage-rates/.

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## Why is maintaining soil pH level important?

AMES – To balance out declining soil pH levels, the cooperative has Landus Cooperative has released reasons why maintaining your soil's pH level in an Oct. 22 news release.

The Graphic-Advocate

Two important reasons are stated below. Improve nutrient availability: Soil pH is the foundation of soil fertility. A nutrient's availability to a plant is affected by soil pH, which is why correcting and maintaining pH at adequate levels is important. Phosphorus is the nutrient most affected by soil pH. When pH is less than 5.5, the solubility of aluminum increases allowing it to combine with phosphorus, forming insoluble compounds impacting its availability to the plant.

With substantial investments made to N, P and K fertility programs, it is easy to see why maintaining appropriate pH is paramount to protecting your investment. Crops need sufficient access to these nutrients in order to attain maximum yield and profitability.

Correct and maintain soil pH: Every time nitrogen is applied, there is some acidification of the soil. As ammonium is converted to nitrate, free hydrogen ions are released causing acidification. It is likely for pH levels near the surface (0-3 inches) to be more acidic compared to deeper in the profile, especially if manure or surface nitrogen applications have been recently applied. Neutralizing this acidification zone is an effective way to offset the most problematic region of the soil.

Growers are encouraged to think about soil pH through a correct and maintain mindset. If soil pH is less than 6.0, you may look at correcting that soil pH back to a proper level, generally 6.0.

If pH is already where it needs to be, a maintenance rate of 98G pelletized limestone should be used to offset fertilizer acidity in the seed germination zone so plants have every chance to reach their yield potential.

# Landus Cooperative: Variability is the name of the game

AMES – Harvest is well underway. Before the rain this week, soybean harvest was nearly complete for much of the Landus Cooperative area. Corn harvest has started in many Iowa counties.

About the only way to define yields of both soybeans and corn is "highly variable"

Much of the early planted acres are reported as very good with some saying results are better than imagined. A lot of the later-planted acres are somewhat less than expected or as expected. We are hearing similar stories from most of the surrounding states. If we look forward to next spring, there are already thoughts of substantial increases in the March 31 corn acres planting intentions report.

So, if the supply side of the equation is hard to define, what about the demand side?

- 1. Economic woes in much of the world are limiting some demand.
- 2. Oil prices have softened, keeping pressure on the ethanol industry.
- 3. The on-again/off-again dance between the U.S. and China continues.
- 4. Fluctuating currency values are leading to confusion.
- 5. At times, things look positive for producers in various countries, then currency fluctuates, and things don't look as rosy. In the U.S., we have seen a weakening dollar recently, which is normally a good thing for grain producers. But, at the same time,



competing exporting countries are also seeing their currency weaken.

So, what to do? We continue to encourage forward sales. If you have grain going to bins at home, start looking at those prices for February, March, and beyond. If we see a bounce in the next few weeks and cash corn prices start to approach \$4 corn, or \$9 soybeans, it would be good to have an offer to get some bushels sold.

The concern here is that by the time we see that March 31 report, it may be too late to take advantage of these values. And while we are at it, please keep an eye on the October 2020 corn prices.

We think there be some opportunity to lock in some advantageous cash prices, like \$3.75 or so, in the next 30 days. After that, we may be playing catch up, depending on planting intentions and spring weather.

Please reach out to your area Grain Marketing Advisor (GMA) if you would like to get an offer in place. Or dial 877-778-2226 to speak to a GMA.

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## A DIFFERENT KIND OF COVERAGE

Local experts recommend cover crops in corn, soybean

**By Tyler Anderson** 

The Graphic-Advocate Editor

The soil of Iowa is known for its fertile black color.

This is due to being developed by prairie plants and held tightly by those plants. When the prairie plants died and decomposed, their nutrients returned to the soil, providing farmers and growers with favor-

Iowa's soil is different from other places around the United States, compared to the red soil of Oklahoma or the red clay of the Piedmont in the southern portion of the country. While Iowa is third in number of farms behind Missouri and Texas, the enduring, traditional image of the American farmer is seen from The Hawkeye State.

With dirt as rich as the Iowan silt, one wouldn't fathom the need for doing anything else other than tilling, rotating fields, planting, spraying and harvesting.

However, to aid the soil, there are factors that help protect and enrich soil. One of them is the age-old concept of cover crops.

Historically, the ancient Greeks, Romans and Chinese farmers used cover crops. In American history, colonial settlers on the Eastern seaboard of the United States also worked in cover crops to aid their main selections.

Following decades of research, cover crops are making a comeback.

What is a cover crop? Liz Juchems, a Convservation Outreach Specialist at the Iowa Learning Farms in Ames, provides the answer.

"Cover crops are a plant that is specifically grown in between our traditional cash crop systems here in Iowa," Juchems said. "People use them for a variety of different reasons, because they offer quite a few benefits.'

The main reasons for cover crops, according to Juchems, is to cover the soil when the main crops aren't growing, improving water quality, building organic matter, grazing options and potential weed suppression.

For first timers, the largest benefit of cover crops is reducing soil erosion.

'The biggest benefits that people will see is keeping their soil in their fields and maintain their organic matter, which maintains the nutrients for their cash crops," Juchems said. "They're pretty much persevering the quality of their top soil. That's when farmers can start building up their soil."

"As the cover crop decomposes, it provides more food sources and encouraging the soil livestock," Juchems added. "It can even break down the crop residue a little bit faster, which can happen with some corn varieties.'

The most common cover crops in Iowa are rye, oats, winter wheat and triticale. According to District Conservationist Jeremy Viles, the best cover crops to use in Calhoun County are rye and winter wheat.

"Wheat and rye will grow in extremely cold temperatures," Viles said. "There have been reports where farmers have brushed snow aside, to see wheat and rye still green underneath. That's not the case for oats."

"The main thing with oats is that they are good to start with, because you don't have to worry about killing it off in the spring,' Viles added. "But you're not going to see a lot of growth off of it and therefore, not seeing a whole lot of benefits out of it. It'll cost you just as much as wheat and rye.'

Viles stated that drilling into the soil will provide better seed-soil contact and use less pounds per acre.

In Calhoun County, cover crops must be killed off a week before planting. In Sac County, the crop can be killed at the time of planting.

However, there are some farmers who have the soybeans grow alongside the cover

'There are a few guys who are planting their beans into standing cover crop," Viles said. "They're actually doing well with that. Corn, on the other hand, you want to make sure that it's dead for a week before you go in and plant."

'The main reason behind that is the wheat



Pictured are cover crops sprouting up following fall harvest. [Courtesy of Iowa Learning Farms]

or rye is tying up nitrogen," Viles continbeans.

Overall, cover crops do provide a small boost for corn and a substantial boost for

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#### **Cover Crop Incentives**

Environmental Quality Incentive Program (EQIP) – Federal

- 1 to 3 year contract
- Winter kill = \$18.71/acre
- Single species winter hardy = \$33.83/acre
- Multiple species winter hardy = \$37.88/acre

#### Conversation Stewardship Program

- 5 year contract
- \$8.45/acre of cover crop + \$7.50 on every acre farmed.

#### Water Quality Initiative - State

- 1 year contract
- 160 acre cap
- \$25/acre for first time users
- \$15/acre for repeat users

"For corn, there is rarely a reduction in yield and for beans, there is no reduction in yield," Viles said. "It's usually a yield boost going into the beans. If there is a reduction of yield in corn, the impact decrease over time, as the soil gets condition to having that extra carbon that might be tying up the nitrogen otherwise."

With cover crops, there is no need to till the ground. However, strip tilling is the best of worlds when it comes traditional tilling and maintaining cover crops.

Either airplanes or a high elevation spreaders can distribute cereal rye and oats over a field, and the process is usually done in late August and early September. Drilling or broadcasting can also be done following harvest.

With the wet conditions sustained by the area, cover crops are more effected by dry conditions rather than wet.

"A field being too wet is not a problem for cover crops, but a field being too dry is definitely a problem," Viles said. "Cover crops will grow underneath corn and beans,



Pictured is a cover crop spring residue on a soybean field. [Courtesy of Iowa Learning Farms]

especially if there is sunlight underneath the canopy."

Are cover crops set to make a complete comeback?

"Our main goal at this point is to speed up adoption and usage of cover crops," Juchems said. "We are looking to have 60 percent of cover crops on our crop acres, which is 12 and a half million acres. The last estimate, we had 880,000. So we have to get to that next step."

"It's continuing to grow," Viles said. "Every year, the amount of cover crops that are planted increases. At the rate we're going,

it'll be a long time before we get there. But at some point, it will become the common practice and then it will be adopted everywhere."

Viles stated that farmers in Missouri and Arkansas have adopted cover crops, but they possess a longer growing season.

Lastly, there are incentives to having cover crops.

"There are tons of different incentives out there," Viles said. "The state cost-share is the easiest one for farmers wanting to try it out. It's pretty quick and simple. However, there is a 160 acre cap." "The next step is federal cost-share can be a one-year contract, but you'd rather do a three-year or five-year contract," Viles added. "Just because if you do a contract for cover crops, you cannot get a second contract unless you're doing an improvement on what you're doing. It pays better, for the most part. There's no caps on that, and they can do as much as they want."

Viles said that if one looks around, there are many more programs and money available to encourage farmers to take on cover crops.







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# NRCS provides recommendations to minimize compacted soils after harvest

DES MOINES – Soil conservationists with USDA's Natural Resources Conservation Service (NRCS) are encouraging Iowa farmers to keep heavy machinery out of

wet fields as much and for as long as possible this fall after prolonged above average rainfall wreaked havoc on harvest conditions

NRCS is recommending farmers take the "wait one more day" approach during damp or moist soil conditions.

"If you can form a nice ball of soil in your hand and it sticks together when squeezed, the soil is probably too wet," said Doug Adams, soil conservation technician for NRCS in Humboldt.

"Running equipment when the soil is too wet breaks up soil aggregates and causes the soil structure to collapse," said NRCS Soil Health Specialist Doug Peterson. "Healthy, no-tilled soils are better able to withstand the weight of the equipment in wet conditions."

Tilled crop fields tend to show more signs of damage, compared to no-till fields, says Adams. "In general, fields with a lack of soil structure are showing more ruts than fields that have been continuously no-

tilled," he said. "Undisturbed soils have better soil structure, which allows water and air movement. Tillage breaks up soil aggregates and causes structure to collapse."

Adams said soil structure is important because it keeps the soil surface from sealing over, which reduces water and air movement in the soil.

"Poor soil structure leads to increased amounts of water runoff and water ponding, and reduces water infiltration," Adam said.

For farmers who need to fix damaged and compacted soil, NRCS officials are recommending the following options:

- 1. Use spot tillage, rather than whole field tillage. If the combine or grain cart made tracks in seeps and wet spots, only treat those locations.
- 2. Only till in dry soil conditions this fall using less invasive tillage tools. Tilling in high moisture conditions will cause more compaction and destroy soil structure.
- 3. Plant winter hardy cover crops, such as cereal rye or winter wheat. The living root of the cover crop will start rebuilding soil structure and help prevent future com-



paction issues. For future years, consider planting radishes or turnips to help break compaction.

4. Before performing any tillage, producers should consider whether the operation meets highly erodible land conservation compliance requirements.

Adams said although spot tillage may be needed to remove ruts for future planting, the true "fix" is improving soil structure.

"So, while these areas need attention this fall, farmers need to prepare for the longterm by implementing a soil health management system that adds organic matter to the soil," Adams said, "This will help hold the soil particles together and resist further structure breakdown."

To help better manage for soil health, NRCS recommends five basic principles:

- 1. Keep the soil covered as much as posible.
- 2. Disturb the soil as little as possible.
- 3. Keep plants growing throughout the year to feed the soil.
- 4. Diversify as much as possible using crop rotations and cover crops.
- 5. Implement animals into your system.

Visit your local NRCS office if you need advice on reducing soil compaction and improving soil health.

# Landus Cooperative: Battle declining nutrient levels with MESZ, Potash and SO4

AMES – As folks are getting out in the field for fall fieldwork, Landus Cooperative is seeing declining nutrient trends in recent soil tests.

Trends show soil nutrient levels are being depleted and falling below optimum levels at a 10 percent rate year-over-year. Paired with the unfavorable weather effects we've seen throughout 2019, your soil may be at risk of returning to 2017 nutrient levels.

According to Landus, there are some of the fall-applied products to restore nutrients.

MicroEssentials SZ (MESZ): As com-

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uniquely designed to deliver nutrients evenly across the field, while delivering more value by increasing nutrient uptake.

Plus, while most blends and sulfur-enhanced fertilizer products contain sulfate sulfur alone, MicroEssentials delivers season-long sulfur availability through its combination of both sulfate and elemental sulfur. Potash & SO4: Feed next year's soybean crop by applying a blend of potash and SO4 this fall

SO4 is the only sulfur source that is non-acidifying. It is 21 percent calcium and 17 percent sulfur and doesn't contain nitrogen that can negatively affect nodulation on soybeans.

Correct and maintain soil PH by including 98G with your fall fertilization plan.

98G can correct soil PH faster and more completely than Ag lime. Made from 98 percent calcitic limestone mined in Iowa and ground to an ultra-fine powder before it is pelletized.

Currently, Landus is running a promotion on 98G pellets, through Dec. 31. It can be found here: https://www.landuscooperative.com/news-events/blog/why-is-maintaining-soil-ph-important.

Even though there were challenges with spring application and in the application of applying dry, NH3 and liquid all at the same time last year, getting a firm fall fertilizer application plan in place prevents that from happening again.



