

NORTHEAST OHIO AGRI-CULTURE NEWSLETTER

Your Weekly Agriculture Update for
Ashtabula, Portage and Trumbull Counties

Nov 15, 2022



4-H Kickoff in Trumbull County!

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Hello Northeast Ohio Counties!

The rain and snow has slowed down corn harvest this past week, and it looks like there may be some more time to make any timely repairs this week before moisture moves out of the forecast.

There have been several farm accidents this harvest season in the area. Take time each day review practices and equipment so you can enjoy the next harvest season. Here are a few great tips from our friends at Penn State Extension: <https://extension.psu.edu/fall-harvest-safety-tips>

Be safe and have a great week!

Lee Beers
Trumbull County
Extension
Educator

Andrew Holden
Ashtabula County
Extension
Educator

Angie Arnold
Portage County
Extension
Educator

Outlook for Nitrogen Prices in Spring 2023

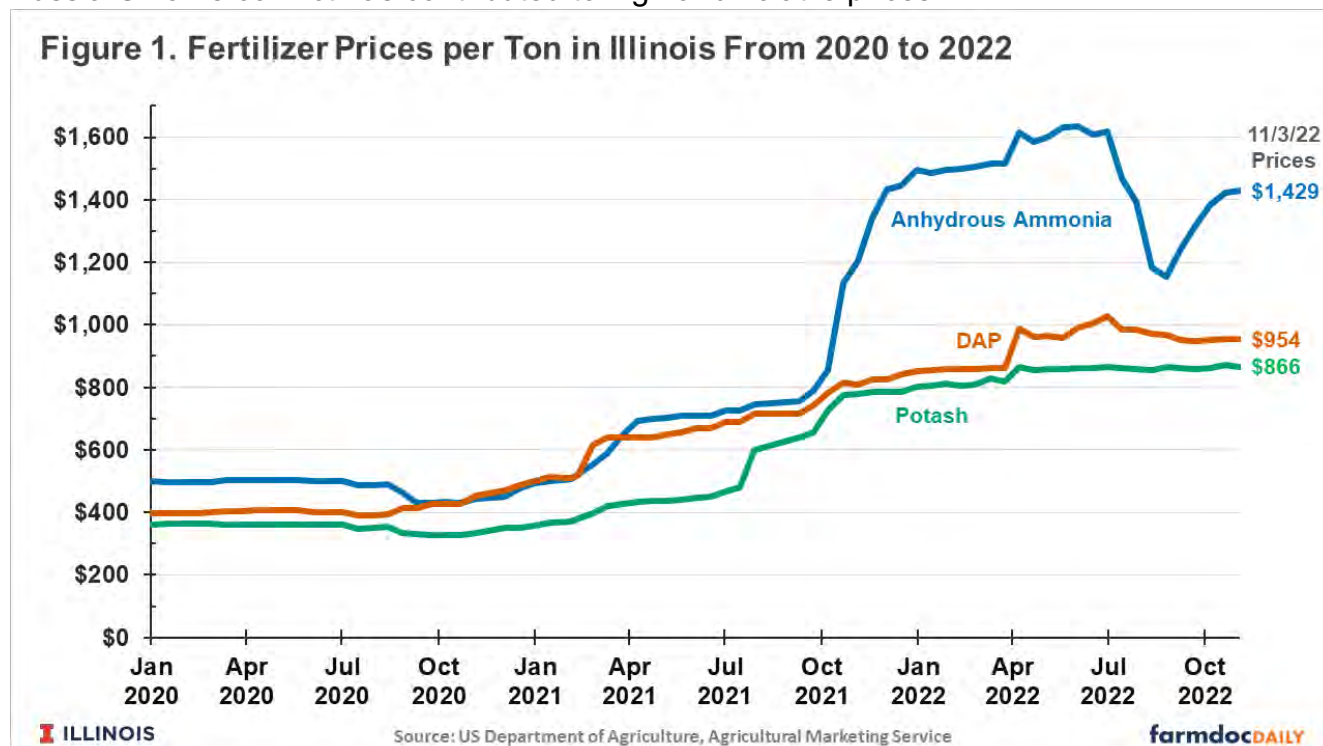
By Gary Schnitkey, Nick Paulson, Jim Baltz, Carl Zulauf

Source: <https://farmdocdaily.illinois.edu/2022/11/outlook-for-nitrogen-prices-in-spring-2023.html>

Current corn and natural gas price projections suggest anhydrous ammonia prices above \$1,100 per ton in the spring of 2023. In addition, global economic conditions and supply issues could increase nitrogen fertilizer prices. However, lower prices also are possible. Given high and volatile prices, we give four risk management strategies.

Current Prices and Situation

According to the Agricultural Marketing Service, an agency of the U.S. Department of Agriculture, anhydrous ammonia prices in Illinois averaged \$1,429 per ton on November 3, 2022, increasing substantially from \$1,153 per ton in August 2022 (see Figure 1). Nitrogen fertilizer prices have been high and volatile since August 2021, causing difficulties for farmers when making fertilizer decisions. Several factors contribute to these high, volatile prices, including the aftermath of Covid and resulting supply chain problems. High corn prices traditionally lead to high nitrogen fertilizer prices. In 2021, planned manufacturing shutdowns were lengthened because of weather issues in the lower Mississippi Delta, a major production area of nitrogen fertilizers. Moreover, the Russia-Ukraine conflict has contributed to high and volatile prices.



Farmers have concerns about both the availability and price of fertilizers. While one cannot rule out availability issues, U.S. manufacturers have incentives to produce nitrogen fertilizers. U.S. manufacturers typically make about 88% of nitrogen fertilizers used in the U.S., with the remaining 12% imported from producers outside the United States (see *farmdoc daily*, [March 17, 2022](#)). Natural gas is a major input into nitrogen production in the U.S. and Western Europe. Abundant supplies of natural gas exist in the U.S. Availability issues likely will only occur if weather conditions disrupt natural gas or nitrogen production or supply chain issues impact the transportation of nitrogen from production regions to use areas. Such scenarios must be considered, but they seem improbable to have large impacts. However, the prices of nitrogen fertilizers remain uncertain.

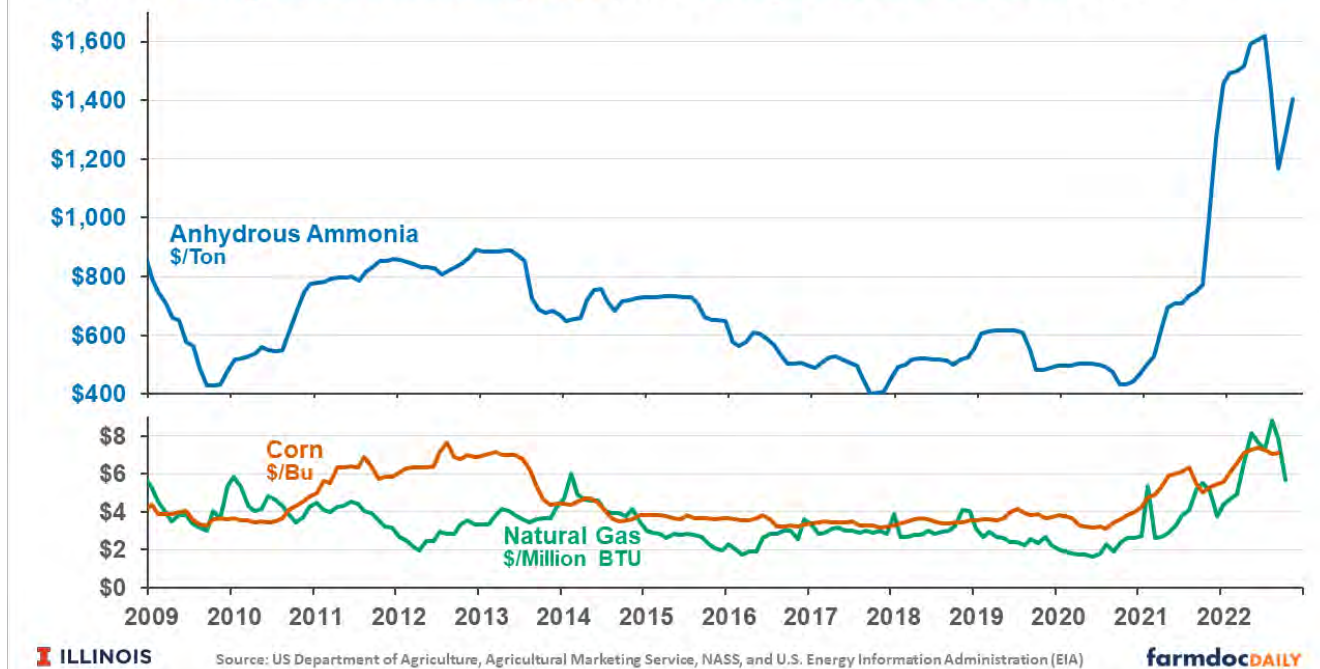
Factors Impacting Prices of Nitrogen Fertilizers

Factors influencing fertilizer prices moving into spring include the typical dynamics between corn, natural gas, and nitrogen fertilizer prices. Moreover, world events could impact prices, particularly related to the Russia-Ukraine conflict. Weather conditions will play a role as well.

Corn and Natural Gas Prices: Both corn and natural gas prices are positively correlated with nitrogen fertilizer prices (see *farmdoc daily*, [December 14, 2021](#), [July 19, 2022](#), and [September 27, 2022](#)). Corn prices continue to be strong, with USDA reporting the average September price for corn at \$7.09 per bushel. The Office of the Chief Economist, USDA, is projecting corn's Market Year Average price at \$6.80 for 2022 (see, [WASDE, November 2022](#)). A \$6.80 price would be the second highest in history, exceeded only by \$6.88 in 2012. Futures prices on Chicago Mercantile Exchange (CME) contracts suggest continued high corn prices, with all future contracts in 2023 currently having prices above \$6.50 per bushel. Corn prices can change quickly, but the outlook is for continued good prices through spring.

According to the [U.S. Energy Information Agency](#), natural gas prices at the Henry Hub averaged \$8.81 per million BTUs in August (see Figure 2). The last time Henry Hub prices exceeded this level was in July 2008 during the 2008 financial crisis.

Figure 2. Anhydrous Ammonia, Corn, and Henry Hub Natural Gas Prices

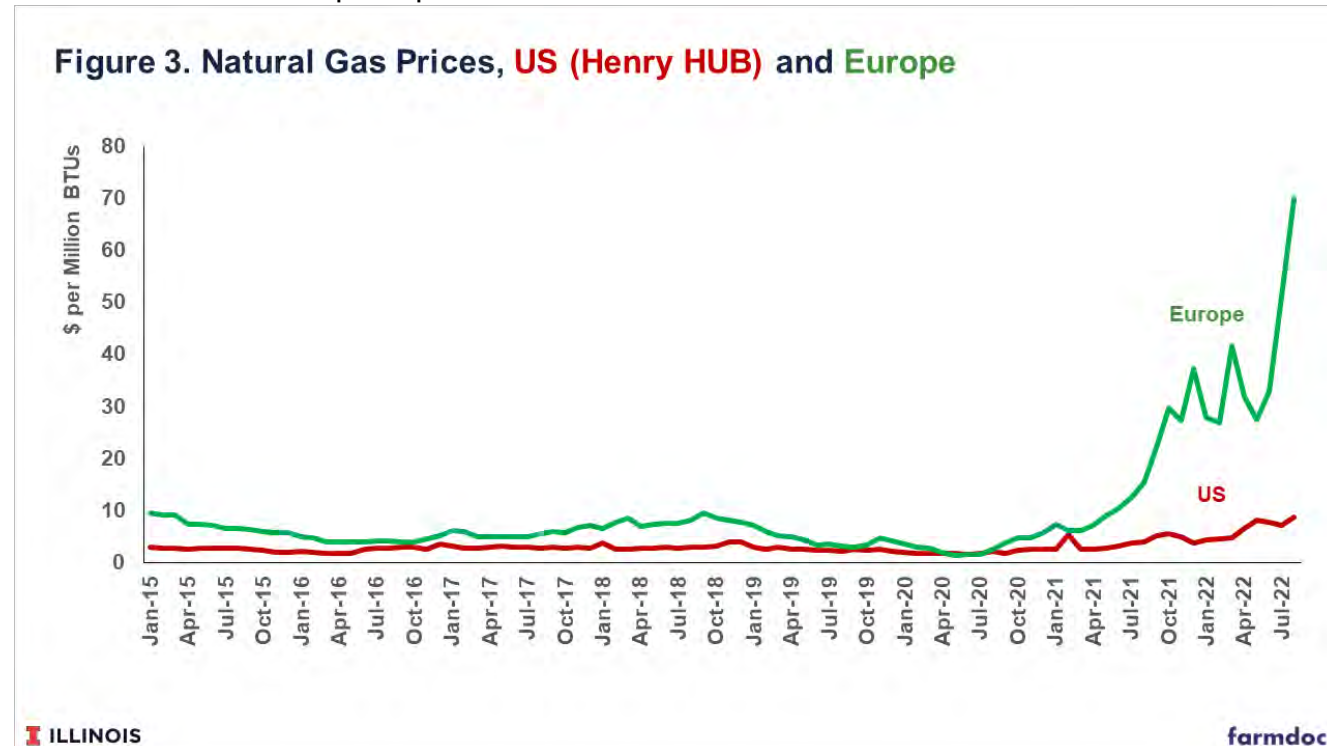


Since August, natural gas prices have moderated, with an October price of \$5.66 per million BTUs. Future markets point to Henry Hub prices near \$5 per million BTUs in spring 2022, comparable to levels in fall 2021. That \$5 per million BTU price still would be significantly above prices from 2009 to 2020 when natural gas prices averaged \$3.26 per million BTUs. Natural gas prices could be higher than the \$5 million BTU going into spring, with colder winter weather being a likely culprit in the increase. A mild winter could lead to lower natural gas prices.

Current forecasts suggest a \$6.80 per bushel corn price and a \$5 per million BTU natural gas price. Historical relationships suggest that these corn and natural gas prices would be consistent with Illinois anhydrous ammonia prices between \$1,100 and \$1,300 per ton, slightly below current levels. Turbulence around the world could impact Illinois prices.

World Conditions: Nitrogen fertilizer is traded in world markets, and disruptions in one part of the world will raise prices in other parts. The current conflict between Russia and Ukraine could have ramifications. Because of sanctions and other geopolitical considerations, Russia has reduced natural gas flows to Western Europe, resulting in higher natural gas prices in Europe than in the U.S. (see Figure 3). Since 2021, some manufacturers have curtailed fertilizer production in Europe because high natural gas prices made European production uncompetitive with production elsewhere. Reducing

European production increases world prices because fertilizer production from other sources fills in for European production.



Events in the Ukraine-Russia conflict are challenging to predict. An end to the conflict would likely result in lower natural gas and fertilizer prices. Grain prices likely would decline as well. On the other hand, a heightening of tensions could exacerbate natural gas and nitrogen flow from Western Europe, thereby raising prices.

Other events around the world could also impact nitrogen prices. For example, China is a significant nitrogen exporter (see *farmdoc daily*, [April 26, 2022](#)), and recession or geopolitical events could impact trade flows from China.

Supply Issues in the U.S. Supply issues could impact nitrogen fertilizer prices. The majority of U.S. nitrogen fertilizers are produced in the lower Mississippi Delta. Weather events there could disrupt production, although the seasonal hurricane season has ended. Natural gas production also could be disrupted because of weather or other supply issues. Transportation issues could be a concern as well.

Risk Management Strategies

In this volatile environment, the following strategies will aid in risk management.

1. Reduce rates to university recommended levels. Those recommendations are given on the Corn Nitrogen Tool for Midwest states. For 2023 expected prices, these recommendations are 159 pounds per acre for northern Illinois, 168

pounds per acre for central Illinois, and 187 pounds for Southern Illinois (*farmdoc daily*, October 11, 2022).

2. Price nitrogen fertilizers multiple times during the year, with one pricing point in the fall and one in the spring. Pricing nitrogen at multiple points will reduce the risk of pricing all nitrogen at its highest point and will result in an average price for the farm nearer the average for the season.
3. Wait to apply some of the nitrogen post-planting. Waiting to apply allows decisions to be made when corn prospects have a clearer focus.
4. Price grain as fertilizers are purchased. One of the greatest risks when purchasing high-priced fertilizer is the risk that corn prices fall before the crop is marketed. Marketing a portion of the crop with fertilizer purchases can mitigate this risk.

Summary

Continued volatile prices should be expected. A recent webinar dealt with nitrogen fertilizer decisions in 2023 provides more detail than given here.

Our new publication on Keeping Farmland in the Family

By Peggy Kirk-Hall

Source: <https://farmoffice.osu.edu/blog/tue-11152022-415pm/our-new-publication-keeping-farmland-family>

Farmland can be a family's most important asset, recognized for both its heritage and financial value. Here's some proof: over 1,900 "Century Farms" in Ohio have been in the same family for over 100 years. And 130 of those farms have been in the same family for over two centuries -- testaments to the importance of farmland to Ohio families.

But there are threats that can cause farmland to leave a family despite its value to family members. Long-term care costs, divorce, debt, co- ownership rights, poor estate planning -- these are situations that can put family farmland at risk. The good news is that legal strategies can counter these threats. In our new publication, *Keeping Farmland in the Family*, we offer five legal tools that can help keep farmland in a family:

- Agricultural or conservation easement
- Right of First Refusal

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- Long-term lease
- Limited Liability Company
- Trust

These legal tools offer a range of protection for family farmland, allowing a family to use a highly restrictive strategy that protects land for many generations or a less restrictive approach that secures land only for a generation or two. Examples provided throughout the publication can help farm families see how different scenarios play out. The guide does not intend to substitute for individual legal advice, but offers a family a starting point for discussion and decision making with an agricultural attorney.

Read **Keeping Farmland in the Family here**. We were able to produce this publication with financial assistance from the National Agricultural Law Center and the USDA's National Agricultural Library.

Farm Service Agency Loans for Beginning & Established Farmers: An Overview

By: Chris Zoller, Extension Educator, ANR, Tuscarawas County

Source: <https://u.osu.edu/ohioagmanager/2022/11/14/farm-service-agency-loans-for-beginning-established-farmers-an-overview/>

The Farm Service Agency (FSA) is housed within the U.S. Department of Agriculture (USDA) and offers a variety of loan programs. The goal of FSA loans is to help farmers obtain credit from commercial lenders. The various FSA loan options are discussed in this article.

Direct Farm Loans

Designed to help farmers start, purchase, or expand a farming operation. This includes beginning farmers who have limited financial history to obtain commercial credit and those who experience a financial hurdle because of natural disasters.

Guaranteed Farm Loans

These loans are serviced by commercial lenders (banks, Farm Credit System, or credit unions) and are available to farmers who wouldn't qualify for financing directly from a commercial lender. FSA guarantees between 90 percent and 95 percent of the loan against loss. The loan is serviced by a commercial lender.

Farm Ownership Loans

These can be used to purchase a farm, expand an existing farm, construct new buildings or improve existing structures, pay closing costs, and implement soil and water conservation practices. A maximum of \$600,000 is available as a direct

loan. FSA guarantees farm ownership loans to a maximum of \$1,825,000, with a maximum repayment period of 40 years.

Farm Operating Loans

These direct loans are available to a maximum of \$400,000 and can be used for operating expenses, machinery and equipment, minor real estate repairs or improvements, and to refinance debt. FSA will guarantee these loans up to a maximum of \$1,825,000 with repayments terms up to seven years.

As the name implies, annual operating loans are generally paid within 12 months or upon the sale of the commodities produced. Direct operating loans require applicants to have sufficient education, training, or at least one year of farm management experience in the last five years.

Down Payment Program

This program is designed to assist socially disadvantaged and beginning farmers purchase a farm and includes the following requirements:

- Cash down payment of at least five percent of the purchase price.
- Maximum loan amount does not exceed 45 percent of the far, the appraised value of the farm to be acquired or \$667,000. This equals a maximum loan amount of \$300,150.
- Repayment term is a maximum of 20 years.
- Interest rate is four percent below the direct farm ownership rate, but no less than 1.5 percent.
- Remaining balance from commercial lender or private party. FSA can provide up to a 95 percent guarantee.
- Lenders participating must have an amortization period of no less than 30 years and cannot require a balloon payment in the first 20 years of the loan.

Youth Loans

Young people involved in 4-H, FFA, or similar agricultural organizations may apply for direct loans with a maximum amount of \$5,000. The loan must provide an opportunity for the applicant to acquire education and experience in agriculture-related skills. Youth loans are available to anyone between the ages of 10 and 20 at the time of loan closing.

Emergency Loans

Farmers who experience loss as the result of a natural disaster may apply for these loans. The county or counties where the farm is located must be declared a disaster area by the President or Secretary of Agriculture. For production loss loans, applicants must document a 30 percent loss in a single enterprise. Emergency loans are available only as direct loans from FSA with a maximum loan amount of \$500,000.

Conservation Loans

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These loans are designed to assist farmers with the implementation of conservation practices included in a USDA approved conservation plan or Forestry Management Plan. The maximum loan amount is \$1,825,000 with a maximum repayment term of 30 years. Conservation loans are available only as guaranteed loans.

Beginning & Socially Disadvantaged Farmers

Congress provides a percentage of money each year specifically for beginning and socially disadvantaged farmers to assist with farm ownership and farm operating loans. The maximum loan amount is \$300,150.

Land Contract Guarantees

Beginning or socially disadvantaged farmers have an opportunity to apply for financial guarantees for land sale contracts. The seller may request either of the following:

- Prompt Payment Guarantee – a guarantee up to the amount of three amortized annual installments plus the cost of related real estate taxes and insurance.
- Standard Guarantee – a guarantee up to 90 percent of the outstanding principal balance under the land contract.

The purchase price may not exceed the lesser of \$500,000 or the market value and the borrower must provide a minimum down payment of five percent of the purchase price. The interest rate is fixed at a rate not to exceed the direct farm ownership interest rate in effect at the time of guarantee, plus three percentage points. The guarantee period is 10 years and contract payments must be amortized over a minimum of 20 years. Balloon payments are not allowed during the first 10 years of the guarantee.

Locating Your FSA Office

If you are interested in additional information about FSA loan programs, contact your local FSA office. Contact information is available here: <https://www.farmers.gov/working-with-us/service-center-locator>.

Upcoming Ohio Certified Crop Adviser Pre-Exam Preparation Class

Are you interested in becoming a Certified Crop Adviser (CCA), but are intimidated by the exams? You should consider attending the Ohio CCA Pre-Exam Preparation Class offered by Ohio State University Extension on January 11-12, 2023 at the Shelby County Ag Building, 810-820 Fair Rd, Sidney, Ohio 45365.

This class will provide an overview of the CCA program, and help you prepare for the test by covering basic principles in the four competency areas – nutrient management, soil and water management, pest management, and crop management. Even if you are not considering the CCA program, this class is a great basic agronomy course that any farmer, ag retailer, or anyone working with field crops will find valuable. A detailed agenda for each day's topics is below.

The cost for this two-day class is \$250/person which includes the publications listed below, lunch both days, and other program materials. Don't wait to register as class size is limited to 25, and registration closes on December 20, 2022.

Publications included with registration:

- Ohio Agronomy Guide
- Ohio, Indiana & Illinois Weed Control Guide
- The Ohio Corn, Soybean, Wheat and Forages Field Guide
- 2020 Tri-State Fertilizer Recommendations
- Modern Corn & Soybean Production

Secure online registration via credit card, debit card, or check is available on the Ohio AgriBusiness Association website: <https://go.osu.edu/cca2023>

The Local and International Exams are proctored online tests. You must pass both exams to obtain Certified Crop Adviser status. Both exams are now available on demand. You can register for both exams here: <https://www.certifiedcropadviser.org/exams/registration>.

For more information about the CCA program, visit <https://www.certifiedcropadviser.org/about-program>

Course contact:

Lee Beers, CCA
Ohio State University Extension
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330-638-6783

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Wednesday, January 11 <i>Registration 8:30-9:00 Class 9:00-5:00</i>	
Morning – <i>Harold Watters</i>	Afternoon – <i>Amanda Douridas</i>
Crop Management <ul style="list-style-type: none"> - Crop Production - Photosynthesis - Crop Physiology - Variety Selection 	Nutrient Management <ul style="list-style-type: none"> - Soil pH and Liming - Primary Nutrients - Secondary Nutrients - Micronutrients - CEC
Thursday, January 12 <i>Registration 8:00-8:30 Class 8:30-5:00</i>	
Morning – <i>Greg LaBarge</i>	Afternoon – <i>Lee Beers</i>
Soil & Water Management <ul style="list-style-type: none"> - Soil Properties - Soil Water - Surface and Ground Water - Soil & Wind Erosion 	Pest Management <ul style="list-style-type: none"> - Weeds - Insects - Diseases - Fertilizer & Pesticide Math

SOIL SENSOR YIELDS BENEFICIAL INFORMATION FOR FARMERS

By Susan V. Fisk

Source: <https://www.agronomy.org/news/science-news/soil-sensor-yields-beneficial-information-farmers>

If you're a gardener, you know that planting seeds in the ground doesn't always mean you'll have a good yield at the end of growing season. On a personal level, this can be disappointing. Farmers are in charge of growing dozens to thousands of acres of food. And, they face the same variability in the planting, growing, and harvesting processes as gardeners do.

Agronomists and soil scientists research best practices for farmers to help them make informed decisions on managing their fields and crops. Rintaro Kinoshita and a team of researchers determined that a tool, an "apparent electrical conductivity sensor (ECa)," can give important insights into farm field management.

Kinoshita is an assistant professor at Obihiro University of Agriculture and Veterinary Medicine, Japan, but performed this research while working at Cornell University, United States.

The study [was published](#) in Agronomy Journal, a publication of the American Society of Agronomy. “In larger farms there are factors that limit yield, or cause variations in yield within a field,” says Kinoshita. “Understanding these factors is crucial for optimizing resource investments and financial returns. It also helps avoid adverse environmental effects.”

Of course, the soil and its characteristics are some of the most important factors to farming. Spatial variation of crop yield is largely dependent on three factors: topography, soil, and pests/diseases. The soil factor is important and one that farmers can manage.

Farmers often rely on soil tests to understand the properties – but these take time and are expensive. Kinoshita and the team used sensor-based technologies that can collect various crop and soil information, without digging up the soils. These sensors are portable with the

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A tractor pulling an ECa sensor, along with an optical sensor and pH meter. Credit: Rintaro Kinoshita



Soil cores collected from the same farm fields. The research team compared results from soil tests to the finds from various sensing technologies to determine which were the most accurate. Credit: Rintaro Kinoshita

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help of farm equipment like tractors, and provide critical information. In order to calibrate the information, they compared their sensor data with that from soil samples.

Although the research was done while Kinoshita was working at Cornell University, the study was conducted in Maryland and Delaware, in the Coastal Plain and Piedmont. The team studied 26 cornfields in two contrasting geographical and topical areas.

The apparent electrical conductivity sensor (ECa) was the most successful in estimating soil properties compared to the soil samples taken. These sensors were able to predict soil texture – especially at different depths, and available water content. Since water is the only conducting phase, measurements of soil properties that affect water availability can be predicted using ECa. The measurements related to soil moisture and corn yield, which is valuable information for farmers.

The team also tested other technologies, but the findings were not as conclusive as the apparent electrical conductivity sensor. An advantage to collecting sensor measurements is that it is timely, usually taking 1-2 hours per fifty acres. Soil core testing, on the other hand, can take weeks to sometimes months depending on the soil properties.

“I chose to use the ECa sensor because it can measure soil properties in deeper layers (subsoils), where it is usually ignored for soil management but a very important reservoir of plant available water,” says Kinoshita. “This can be critical under variable weather conditions, especially drought, to stabilize crop yield and maintain high yield.”

Kinoshita explains it is important to start paying more attention to deeper soils to better manage crops, and for that the ECa sensor can be very helpful in revealing soil conditions that would otherwise be very difficult to see.



A penetrometer placed in a cornfield after harvest to measure soil hardness. Where the portable sensor could not estimate yield, the penetrometer was useful in identifying low-yielding areas. Credit: Rintaro Kinoshita

This research was supported by Willard Agri-Service of Frederick, Inc., with support from the Joint Japan/World Bank Graduate Scholarship Program.

In addition, Obihiro University is collaborating on a [virtual agronomy exchange program](#) with the University of Wisconsin-Madison. Both the Obihiro area of Japan and Wisconsin in the United States grow many of the same crops: potatoes, soybeans, and farm dairy products. They face some of the same challenges like soil conservation. The program focuses on food systems and soil science, where students learn about the characteristics of the soil for optimizing soil conservation and management by both researchers and local farmers.

2022 Ohio Maple Day

Source: <https://u.osu.edu/vegnetnews/2022/11/01/2022-ohio-maple-day/>

We are fast approaching the date for the **2022 Ohio Maple Day** event. Join us on **Dec. 10th** at Ashland University's John C. Meyer Convocation Center for a jam-packed program on all things maple. Updates on red maple research from both Ohio State's Gabe Karns and the University of Vermont's Proctor Maple Research Center's Abby van den Berg. Add to this other talks on reverse osmosis, marketing, and insects impacting maple trees.

A maple-themed lunch and a vendor room that features a variety of maple equipment dealers, consulting foresters, and other associated equipment help round out the day. There are also SAF continuing education credits available for the program.

You can register [here](#)

The poster features a background of autumn leaves in shades of red, orange, and yellow. At the top left, there is a red square with the white text "CFAES". To its right, a grey horizontal bar contains the text "OHIO STATE UNIVERSITY EXTENSION" in white. The main title "2022 Ohio Maple Days" is in a large, bold, white font. Below it, the date "Saturday December 10, 2022" and time "8:30 am - 4 pm" are listed. The location "Ashland University Convocation Center" and address "638 Jefferson St., Ashland, OH 44805" are provided. Registration costs are listed as "Regular Registration \$45" and "Vendor Registration \$100". The registration deadline is "December 1, 2022". The online registration link "woodlandstewards.osu.edu" is given. A paragraph of text describes the event as a one-day focused event on all things maple, including a vendor space, presentations on red maples, reverse osmosis, marketing, and maple insects, and a maple toolbox update. The registration link is repeated. At the bottom left is the Ohio State University logo and the text "THE OHIO STATE UNIVERSITY COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES". At the bottom right, it says "Register at http://woodlandstewards.osu.edu" and "SAF CEU's - 4 hrs. Cat. 1".

CFAES OHIO STATE UNIVERSITY EXTENSION

2022 Ohio Maple Days

Saturday December 10, 2022
8:30 am - 4 pm
Ashland University Convocation Center
638 Jefferson St., Ashland, OH 44805

Cost: Regular Registration \$45
Vendor Registration \$100
Registration Deadline: December 1, 2022
Online registration:
woodlandstewards.osu.edu

Join us December 10th for a one-day event focused on all things maple. There will be a dedicated space for vendors to setup. Learn what is going on in Ohio with maple. Presentations will cover red maples, reverse osmosis, marketing and maple insects. Learn about the maple toolbox and get a 'super sweet' update.

Register at
http://woodlandstewards.osu.edu
SAF CEU's - 4 hrs. Cat. 1

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2022 Ashtabula County Plat Book Available

The updated 2022 version of the Ashtabula County Plat Book is available for \$25 + tax at Ashtabula County - OSU Extension Office located at 39 Wall Street in Jefferson. This full color edition makes the perfect gift for the hunter, hiker or outdoorsman! Traditional landownership maps by township and range, a landowner index for easy cross referencing, and other county information are all available in the new plat book. Premium wall maps are also available. Visit mappingsolutionsGIS.com for digital versions of Ashtabula County landowner maps. Mapping Solutions is the publisher. Proceeds from the sale of the books benefit the 4-H program.

Limited 2019 books are also available ON SALE for \$10 OFF the original price of \$25 + tax. For more information contact the office at (440) 576-9008.

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<small>CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: http://go.osu.edu/cfaesdiversity.</small>		

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