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OHIO STATE UNIVERSITY EXTENSION

COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES

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Coshocton County Extension
724 South 7th Street, Room 110
Coshocton, Ohio 43812
Phone: 740-622-2265
Fax: 740-622-2197
Email: marrison.2@osu.edu
Web: http://coshocton.osu.edu

Hello Coshocton County! What another crazy weather week. The summer-like temperatures of this past weekend quickly turned back to cooler spring-like temperatures. However, it was good to see some field activity starting across the county this weekend. It is also a great time to see all the Redbud and Dogwood trees in bloom! Let's hope that as we move into May, that better weather will abound.

We were very pleased that 34 residents participated in Monday's Home Fruit Production workshop at Roscoe Village. It was a great evening learning about strawberries, brambles, and fruit trees.

We are pleased to be a distribution site for the ODA & OSU Extension Victory Garden seed distribution. Stop into our office to get your seed packet that includes lettuce, carrots, cucumbers, and sunflowers. First come, first served!

Looking forward to a great May. Have a good and safe week!

Sincerely,

David L. Marrison

Coshocton County OSU Extension ANR Educator

Potential Disruptions in Nitrogen Fertilizer Trade

By: Gary Schnitkey, Krista Swanson, Nick Paulson, and Jim Baltz, Department of Agricultural and Consumer Economics, University of Illinois and Carl Zulauf, Department of Agricultural, Environmental and Development Economics, Ohio State University
Source: https://farmdocdaily.illinois.edu/2022/04/potential-disruptions-in-nitrogen-fertilizer-trade.html

Most nitrogen fertilizers likely are in place for the 2022 production of spring crops in North America, albeit at much higher prices than in 2021. However, the continuing Ukraine-Russia war can limit fertilizer supplies for the crop that will be planted in South America later in 2022, leading to further upward price pressures for fertilizer used in North America for the 2023 production year. Herein, we detail the international trade of nitrogen fertilizers before hostilities in Ukraine-Russia began. Then we evaluate possible changes in supply resulting from the Ukraine-Russia War.

Data on International Nitrogen Trade

The Food and Agriculture Organization (FAO) of the United Nations maintains a database of the use, production, and trade of the three major fertilizer nutrients: nitrogen, phosphate, and potash. Table 1 shows the nitrogen data for 2019, the last year in which data is available. Nitrogen statistics are given for the top 20 countries in nitrogen use, along with a total for all countries in the European Union (EU). Values in the table are stated in terms of million metric tons of actual N, and include:

- Agricultural use — the estimate of the use of nitrogen fertilizer,
- Production— production of nitrogen fertilizer in the country,
- Production as a % of use – low values indicate that a country is highly reliant on imports,
- Exports — the amount of nitrogen exported out of the country,
- Imports — the amount of nitrogen imported into the country, and
- Net exports — equals exports minus imports. Positive values indicate that a country exports more than it imports. Generally, those countries with the largest values are the largest nitrogen source for other countries. Negative values mean that the country imports more than they export. Generally, those countries with the largest negative values are more reliant on nitrogen production from countries.

Table 1. Use, Production, Exports, and Imports of Nitrogen Fertilizer by Country in 2019, Million Metric of Actual N.

	Agricultural Use	Production	Production as % of Use	Exports	Imports	Net Exports[1]
China	26.74	32.40	121%	5.98	0.32	5.66
India	18.86	13.72	73%	0.08	6.53	-6.45
United States	11.67	13.26	114%	1.63	4.09	-2.46
Brazil	4.91	0.36	7%	0.04	4.88	-4.84
Pakistan	3.51	3.21	92%	0.00	0.32	-0.32
Indonesia	2.93	4.14	141%	0.91	0.39	0.52
Canada	2.57	3.93	153%	1.48	1.01	0.48
France	2.13	0.51	24%	0.32	1.94	-1.62
Russia	1.73	10.91	632%	7.19	0.04	7.15
Turkey	1.68	1.14	68%	0.35	1.69	-1.34
Viet Nam	1.49	1.10	74%	0.18	0.57	-0.39
Ukraine	1.47	0.98	67%	0.13	0.70	-0.57
Germany	1.37	1.51	110%	1.14	1.01	0.14
Australia	1.34	0.42	32%	0.08	1.30	-1.22
Mexico	1.33	0.51	39%	0.08	0.77	-0.69
Bangladesh	1.33	0.38	29%	0.00	0.42	-0.42
Argentina	1.28	0.51	40%	0.00	0.83	-0.83
Thailand	1.26	0.14	11%	0.15	1.28	-1.12
Egypt	1.25	4.20	337%	2.12	0.02	2.10
Poland	1.05	2.01	192%	0.84	0.68	0.16
Other countries	17.84	27.63	155%	23.75	17.63	6.12
European Union	8.50	8.57	101%	8.52	10.01	-1.49

[1] Exports minus imports

Source: FAOStats, Food and Agriculture Organization of the United Nations

farmdocDAILY

Data are collected through questionnaires administered by the FAO. These are estimates of fertilizer use, production, and trade. As such, they will vary from actual values and other sources. While estimates, the FAO values provide a valuable gauge of the relative size of importers and exporters. Data shown in Table 1 are for 2019. Analysis of earlier years indicates that the same countries remain as large importers or exporters.

Countries are arranged from highest to lowest agricultural use. Highlights of the top four countries are:

- China used 26.74 million tons of nitrogen in 2019, while it produced 32.40 million tons. China's production was 121% of use, meaning that China produced more nitrogen than it used. Exports from China were estimated at 5.98 million tons, imports at .32 million tons, giving net exports of 5.66 million tons. China is the largest user and producer of nitrogen by wide margins. China is the second-largest net exporter of nitrogen.
- India used 18.86 million tons and produced 13.72 million tons of nitrogen. Net exports equal -6.45 million tons, making India the largest importer of nitrogen fertilizers.
- The United States used 11.67 million tons of nitrogen fertilizer and produced 13.26 million tons. Net exports were -2.46 million tons, indicating that the U.S. was an importer of nitrogen. Note that FAO reports use at a lower value for agricultural use than that given in the Mineral Commodity Summary 2021 publication by the United States Geographical Survey (USGS), another source of nitrogen statistics for the United States. Both USGS and FAO have the U.S. importing nitrogen. Difference between the two sources likely deal with definitions, and the fact that USGS imputes agricultural use.
- Brazil used 4.91 million tons and produced .36 million tons. Net exports of Brazil are -4.84 million tons. Brazil only produces 7% of its nitrogen fertilizer.

Figure 1 shows net exports of nitrogen for 2019. Countries in blue are net exporters meaning that nitrogen moves from that country to other counties. The nine countries with over a 1.0 million tons of net exports:

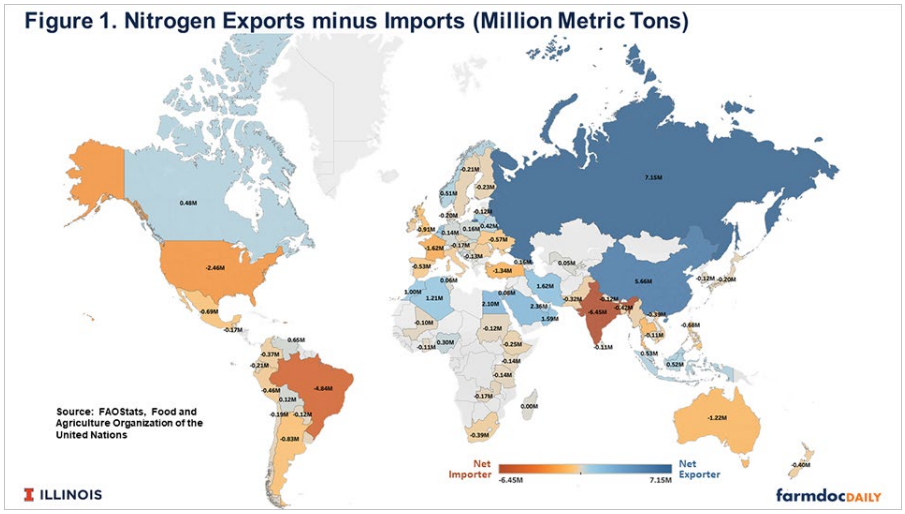
1. Russia with 7.12 million tons. Russia has a 21% share of exports across countries.
2. China with 5.66 million tons and a 17% share of exports,
3. Qatar with 2.26 million tons and a 7% share of exports,
4. Saudi Arabia with 2.12 million tons and a 6% share of exports,
5. Egypt with 2.10 million tons and a 6% share of exports,
6. The Netherlands with 1.68 million tons and a 5% share of exports,
7. Iran with 1.62 million tons and a 5% share of exports,
8. Oman with 1.59 million tons and a 5% share of exports,
9. Algeria with 1.21 million tons and a 4% share of exports.

Counties in orange in Figure 1 are importers. In 2019, the countries that were the largest importers were:

1. India with 6.45 million tons representing a 19% share of imports,
2. Brazil with 4.84 million tons representing 14% share of imports,
3. United States with 2.46 million tons representing 7% share of imports,
4. France with 1.62 million tons reprinting a 5% share of imports,
5. Turkey with 1.34 million tons representing a 4% share of imports,
6. Thailand with 1.12 million tons representing a 3% share of imports, and
7. Australia with 1.22 million tons representing a 3% share of imports.

Impacts of Ukraine-Russia War on Nitrogen Trade

The Ukraine-Russia war could have significant impacts on global nitrogen fertilizer trade. Fertilizer exports from Russia, the world's leading nitrogen fertilizer exporter, could be reduced because of the war. This could occur via direct disruptions to the physical flow of goods due to the war as well as sanctions on Russian exports by trade partners. How much of a reduction this will create remains to



be seen. However, given Russia's 21% share of exports, significant reductions would be difficult for other major exporters to completely offset. Alternatively, some countries could ban Russian fertilizer imports while others do not, causing substantial changes in nitrogen flows worldwide. In either case, nitrogen fertilizer prices would increase, with explosive increases more likely as the extent to which Russian export flows are limited increases.

Second, nitrogen fertilizer production in the European Union likely will be reduced. The EU now has a stated goal of eliminating natural gas imports from Russia, with Russia supplying 40% of western Europe's natural gas needs. Natural gas is a primary input into the production of nitrogen fertilizers. If the goal is upheld, the reduction in natural gas available likely will divert natural gas use from making nitrogen fertilizers to heating homes. Natural gas prices will increase, making nitrogen production from Europe costly compared to other places in the world. In 2019, the E.U. produced 8.57 million metric tons of nitrogen fertilizer. Reductions could result in the need to import nitrogen from outside the EU, with a limited appeal of receiving fertilizer from Russia.

Third, nitrogen fertilizer production in other countries could be reduced as natural gas currently used in fertilizer production in those nations is used instead to supply Western Europe's natural gas needs. Take Norway as an example. Norway is not part of the European Union and has relatively abundant natural gas supplies that have been used in nitrogen fertilizer production (.51 million tons of exports in 2019). Therefore, natural gas from Norway could be diverted from fertilizer production and instead go to western Europe.

There likely will be larger and more complex impacts of the Ukraine-Russia war on nitrogen fertilizer production than those outlined above. Suffice it to say:

1. Nitrogen exports from Russia could be reduced.
2. Western Europe could see sharp reductions in nitrogen fertilizer production.
3. Countries outside of the European Union could reduce nitrogen fertilizer production to provide Western Europe with natural gas.

Nitrogen producers outside the above supply-deprived countries will likely expand production, partially offsetting lost production. Still, production constraints exist, with a limited number of nitrogen-production facilities available, all of which have production limits. As a result, large reductions likely cannot be made up, which will lead to price increases to induce rationing.

Impacts on North and South America

Brazil imports almost all of its nitrogen fertilizers, with 21% of those imports coming from Russia (farmdoc daily, March 17, 2022). A reduction in Russian imports will cause Brazil to search for nitrogen fertilizers. Brazil could add supplies from its other significant suppliers of fertilizer: China, Qatar, Algeria, and Iran (farmdoc daily, March 17, 2022). Brazil could also find additional sources from Western Hemisphere countries, including Trinidad and Tobago and Canada, which supply the United States with nitrogen fertilizer. Potentially, Brazil could import nitrogen fertilizers from the United States.

The United States can produce most of its nitrogen needs within the country. Still, the United States requires imports, with major origin countries being Trinidad and Tobago, Canada, and Venezuela (see farmdoc daily, March 17, 2022). Those countries have the potential to supply Brazil. Moreover, U.S. fertilizer producers will have opportunities to provide Brazil with nitrogen. To keep nitrogen fertilizer in the U.S., fertilizer prices in the U.S. must rise to the point where fertilizer staying in the United States matches the opportunities to sell to Brazil.

Other countries in the Western Hemisphere also have similar issues as Brazil. Argentina, for example, imports much of its nitrogen fertilizer, likely adding additional needs for fertilizer.

The above discussion focused on the Western Hemisphere. Countries in the Eastern Hemisphere could also look for additional fertilizer sources. Again, reductions in export flow from Russia combined with lower supplies from Western Europe could cause some Eastern Hemisphere countries to look for sources from the Western Hemisphere.

Summary
Reductions in the supply of nitrogen fertilizers from Russia, the E.U. and other countries will have rippling effects worldwide. While it is doubtful that sanctions will interrupt a large part of nitrogen exports, some reduction seems likely. How big the price response depends on reductions from Russia and Western Europe. A significant supply decrease from Russia and Western Europe will result in a chain reaction of events that will likely increase worldwide prices. Farmers in the United States should expect to see increasing nitrogen fertilizer prices.

References
Colussi, J., G. Schnitkey and C. Zulauf. "War in Ukraine and its Effect on Fertilizer Exports to Brazil and the U.S.." farmdoc daily (12):34, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 17, 2022.
U.S. Geological Survey. Mineral Commodity Summaries 2022. https://doi.org/10.3133/mcs2022

Do We Treat Our Forages With The Same Respect as our Corn Field?

By: Stan Smith, OSU Extension PA, Fairfield County
Source: https://u.osu.edu/beef/2022/04/27/do-we-treat-our-forages-with-the-same-respect-as-our-corn-field/

Few can deny that year in and year out feed costs remain the single largest expense for a cow herd. In a typical year, feed costs can easily represent 50 to 70 percent of all costs in the operation with most of that expense being in the form of pasture or hay.

At the same time much has been said this winter about the extraordinary increases in the costs of production of corn, soybeans and most every crop we grow in Ohio. Accepting that, we realize likewise, the cost of maintaining, harvesting, and utilizing the basis of our beef cow ration – hay and pasture – are experiencing similar increases in cost. The question is, as we consider our alternatives are we treating those forages with the same respect as our row crops and carefully scrutinizing expenses and the management factors that can optimize the performance and productivity of our forages?

If precision fertilizer application is appropriate for corn fields, why not hay fields?

Let's take a closer look at a few of those cost and management factors.

It starts with the seed
If we're in a situation that calls for a new seeding or reseeding, very simply, do we put as much effort into selecting seed for the forage seeding as we have our corn and soybean seed? Much like with our traditional row crops, significant testing and research is involved in the development of forage seed genetics.

Do we have a fertilization plan for P and K?
I hope we agree we can't manage what hasn't been measured, and that includes soil fertility. If we grid or strategically sample our row crop fields, why wouldn't that management strategy be just as important for a forage field?

It's well known that a ton of forage removed from a hay field takes with it 12 pounds of P2O5 and 50 pounds of K2O. Are all areas of a hay field equally productive? If varying yields across a corn field result in P and K removal based on those varying yields, it stands to reason the same is happening in our hay fields. The most productive areas of any hay field are removing the most soil nutrients. To maintain soil fertility throughout the field those nutrients need to be replaced in the same quantities they were removed from throughout the field. What about the pasture field? Accepting the fact most P and K remains on the field in the form of manure from the pastured animal, is our grazing management such that the manure is being spread uniformly? Are there any trees in the pasture? Where do our cattle relax in the heat of the day? I'm betting the fertility is much higher near a tree than anywhere else in the pasture! Considering the current cost of P and K, strategically soil

testing pastures in sections or grids might yield some interesting results.

And, as we spread the fertilizer a soil test tells us is needed to optimize performance of our forages, do we utilize GPS guidance? I recall all the times back in the day I was sent out into the irregularly shaped hay field with the fertilizer spreader and the spread pattern looked like the Serpent mound by the time I ran out of fertilizer. I won't discuss here if I ran out after covering the entire field . . . only once!

Are we strategically using nitrogen on grass pastures?
Strategically timing nitrogen application might mean foregoing an early spring application since it's not uncommon to grow more first cutting hay or pasture than we can harvest in a timely fashion. However, 50 units of nitrogen applied to a grass hay or pasture field immediately after first or second cutting can significantly boost yield of the subsequent cutting.

Regardless if we're growing corn or forage, applying nitrogen after a first cutting onto warm soils at times of high air temperatures increases the risk of volatilization of urea-based nitrogen sources. Do we use a stable source of nitrogen such as ammonium sulfate? If using urea and rainfall is not on the horizon, have we considered including a nitrogen stabilizer or urease inhibitor? If phosphorus is being applied at the same time, the nitrogen that comes along with a phosphorus source like 18-46-0 is stable and effective.

Do we have a pest – weed and/or insect – control strategy for hay or pasture fields?
It's accepted that weeds hurt corn or soybean yields. I'd imagine that in a hay or pasture field every pound of weed produced likely results in one less pound of forage that can be utilized by livestock. Accepting that any plant in the wrong place is a weed, do we spend the same amount of effort controlling weeds in our forages as our row crops fields? Perhaps all that may be necessary is a strategically timed mowing of weeds or forage seed heads.

And, if we're going to manage pest problems do we need to talk about the value in scouting for pests throughout the year? Do we need to be reminded about the invasion of the fall armyworm some of us experienced unexpectedly late last summer?

Is forage harvest, be it mechanical or by grazing, a carefully timed and managed process?
We plan to harvest no corn or soybeans before (or after) their time. I don't think we need to go into detail here about the value in quality or tonnage of a timely forage or pasture harvest.

As we plan for 2022 are we treating our forages with the same respect as our corn fields? While there are no silver bullets for managing higher costs of production, perhaps it's time for forages to command that same respect that our row crops do!

What Can I Afford to Pay to Rent Hay Ground?

By: Dr. Andrew Griffith, Assistant Professor, Department of Agricultural and Resource Economics, University of Tennessee
Source: https://u.osu.edu/beef/2022/04/27/what-can-i-afford-to-pay-to-rent-hay-ground/

A few of weeks ago, a question concerning hay ground rent was asked. In essence, the question was what is the appropriate way to value such ground from either the owner's or renter's perspective? A good place to start is with the USDA Cash Rents survey information. Depending on the specific piece of land, an owner can lease the ground for row crops, hay, or pasture or choose to do nothing with it. Ground that can be row cropped generally has a higher value than hay and pasture, but if an owner does not want the land to be cropped then they should expect a lower lease rate.

From the standpoint of a person renting the land, it is important to have a grasp on cost of production and compare that to what it would cost to purchase hay of similar quality. After accounting for input costs including fertilizer, herbicides, and actual hay harvest expenses, what is the difference in purchasing hay and producing it on the rented ground? That difference provides the maximum that could be paid.

eFields Partnering with Growers to Evaluate Xyway™ Fungicide

by: Stephanie Kasrhoff & Elizabeth Hawkins
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2022-11/efields-partnering-growers-evaluate-xyway%E2%84%A2-fungicide

Preventing significant yield losses from disease is likely on the forefront of growers' minds following the 2021 growing season. A new product available to growers is FMC's fungicide Xyway™ LFR®. OSU Extension eFields program is partnering with growers to conduct on-farm trials evaluating the effect of an at-plant soil application of flutriafol (Xyway) on corn health and yield. Information from this trial will be used to improve corn disease management recommendations for growers throughout the state.

Symptoms of Northern corn leaf blight

At each field site, an untreated control will be compared to plots treated with Xyway applied either in-furrow and/or 2x2. Additionally, growers may also include the following treatments:

- Xyway + VT/R1 Foliar Fungicide
- VT/R1 Foliar Fungicide

For this study, a minimum of three replications is required, and four is preferred. Plots must also be randomized to eliminate bias due to plot order. Plots should be at least 500 feet long to ensure accurate yield monitor data.

If you are interested in hosting an on-farm trial, contact your local County Extension Office.
eFields is a program at The Ohio State University program dedicated to advancing production agriculture through field-scale research. To learn more visit digitalag.osu.edu.

Participate in a Study to Identify Major Barriers to Precision Agriculture Technology Adoption

By: John Fulton, Elizabeth Hawkins, Amanda Douridas, Hanna Bond
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2022-11/participate-study-identify-major-barriers-precision-agriculture

The Ohio State University Department of Food, Agricultural, and Biological Engineering (FABE) is looking for farmers, consultants, and other individuals who work alongside farmers to participate in a survey aimed at identifying major barriers that row crop farmers, consultants, and other personnel involved in crop production face when adopting precision agriculture technologies. Eligible participants must have row cropping operations in Arkansas, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Nebraska, North Dakota, Ohio, South Dakota, and Texas or preform consulting tasks or other tasks for famers who have row crop operations within the states stated above.

Participants who are interested in participating are required to take the survey found with the link here: https://osu.az1.qualtrics.com/jfe/form/SV_201IPMuZxRSESge. You will have six weeks from April 25, 2022 to June 15, 2022 to respond to the survey. Completing the survey will constitute your consent to participate in the study.

Inquires with questions about the survey or its use should be directed to John Fulton; fulton.20@osu.edu.

Long-Term Care Costs: What Are the Odds?

By Robert Moore, Attorney and Research Specialist, OSU Agricultural & Resource Law Program
Source: https://farmoffice.osu.edu/blog/wed-04202022-1047am/long-term-care-costs-what-are-odds

There is no doubt that Long-Term Care (LTC) costs are a financial threat to many farms. Some farmers go to great lengths to protect their farm assets from potential LTC costs. Protection strategies include gifting assets to family members, transferring farm assets to irrevocable trusts and buying LTC insurance. But what do the statistics say about the actual risk to farms for LTC costs?

According to the Administration for Community Living, someone turning age 65 today has an almost 70% chance of needing some type of long-term care services in their remaining years. Due to women having longer life expectancies, predictions are that women will need an average of 3.7 years of care and men will need 2.2 years. While one-third of today's 65-year-olds may never need long-term care support, 20% will need it for longer than 5 years. The following data from the ACL provides more details as to the type and length of care needed:

Distribution and Duration of LTC Services

Type of Care	Average Number of Years People Use This Type of Care	Percent of People Who Use this Type of Care
Any Services	3 years	69%
	At Home	
Unpaid Care Only	1 year	59%
Paid Care	< 1 year	42%
Any Care at Home	2 years	65%
	In Facilities	
Nursing Home Facilities	1 year	35%
Assisted Living	< 1 year	13%
Any Care in Facilities	1 year	37%

This table shows that of the three years of LTC needed on average, two of those years are expected to be provided at home and one year in a facility. It is noteworthy that a majority of LTC services are typically provided at home because most people do not want to leave home for a facility, some at-home care isn't paid for, and home care is less expensive than facility care. Many people may think all LTC will be provided in a facility, but as the data shows, this is not usually the case.

The next important statistic is cost. The following are costs of various LTC services from the 2021 Cost of Care Survey provided by Genworth Financial, Inc.

Long-Term Care Costs

	Ohio Median Costs, annual	National Median Costs, annual	Five-Year Annual Growth
Homemaker Services (44 hrs./wk)	$59,488	$59,484	5.39%
Home Health Aide Services (44 hrs./wk)	$60,632	$61,776	5.92%
Adult Day Health Care (5 days/week)	$20,800	$20,280	2.78%
Assisted Living Facility (one bedroom)	$55,620	$54,000	4.40%
Nursing Home – Semi-Private Room	$87,600	$94,896	2.93%
Nursing Home –Private Room	$98,550	$108,408	3.25%

Nursing home costs are significantly higher than in-home services. People may think of LTC costs in terms of nursing homes, but as discussed in the previous paragraph, the majority of LTC services are the less expensive, in-home type. So, while all LTC costs are significant, they might not be as high as commonly thought.

Let's use this data to come up with some possible numbers for an Ohio farmer. Assume the following:

- A 65year-old farmer has a 67% chance of needing LTC
- The length of that care will be around 3 years
- 1 year of care will be unpaid inhome services
- 1 year of care will be paid, inhome services at around $60,000/year
- 1 year of care will be in a nursing home at around $90,000/year

Based on the above assumptions, a 65-year-old Ohioan, on average, can expect about $100,000 in LTC care costs ($60,000 + $90,000 x 67%). Keep in mind that these costs are per person and a married couple will have double these potential costs. The next question is, can the average farmer absorb LTC costs without jeopardizing the farm? That's a question we'll examine in a future post in the Legal Groundwork Series.

To Arbitrate or Not to Arbitrate, That is the Question

By: Jeffrey K. Lewis, Esq., Program Coordinator, OSU Income Tax Schools & ANR Extension
Source: https://farmoffice.osu.edu/blog/mon-04252022-1219pm/arbitrate-or-not-arbitrate-question

One of the core principles of the American legal system is that people are free to enter into contracts and negotiate those terms as they see fit. But sometimes the law prohibits certain rights from being "signed away." The interplay between state and federal law and the ability to contract freely can be a complex and overlapping web of regulations, laws, precedent, and even morals. Recently, the Ohio Supreme Court ruled on a case that demonstrates the complex relationship between Ohio law and the ability of parties to negotiate certain terms within an oil and gas lease.

The Background. Ascent Resources-Utica, L.L.C. ("Defendant") acquired leases to the oil and gas rights of farmland located in Jefferson County, Ohio allowing it to physically occupy the land which included the right to explore the land for oil and gas, construct wells, erect telephone lines, powerlines, and pipelines, and to build roads. The leases also had a primary and secondary term language that specified that the leases would terminate after five years unless a well is producing oil or gas or unless Defendant had commenced drilling operations within 90 days of the expiration of the five-year term.

After five years had passed, the owners of the farmland in Jefferson County ("Plaintiffs") filed a lawsuit for declaratory judgment asking the Jefferson County Court of Common Pleas to find that the oil and gas leases

had expired because of Defendant's failure to produce oil or gas or to commence drilling within 90 days. Defendant counterclaimed that the leases had not expired because it had obtained permits to drill wells on the land and had begun constructing those wells before the expiration of the leases. Defendant also moved to stay the lawsuit, asserting that arbitration was the proper mechanism to determine whether the leases had expired, not a court.

What is Arbitration and is it Legal? Arbitration is a method of resolving disputes, outside of the court system, in which two contracting parties agree to settle a dispute using an independent, impartial third party (the "arbitrator"). Arbitration usually involves presenting evidence and arguments to the arbitrator, who will then decide how the dispute should be settled. Arbitration can be a quicker, less burdensome method of resolving a dispute. Because of this, parties to a contract will often agree to forgo their right to sue in a court of law, and instead, abide by any arbitration decision.

Ohio law also recognizes the rights of parties to agree to use arbitration, rather than a court, to settle a dispute. Ohio Revised Code § 2711.01(A) provides that "[a] provision in any written contract, except as provided in [§ 2711.01(B)], to settle by arbitration . . . shall be valid, irrevocable, and enforceable, except upon grounds that exist at law or in equity for the revocation of any contract." What this means is that Ohio will enforce arbitration clauses contained within a contract, except in limited circumstances. One of those limited circumstances arises in Ohio Revised Code § 2711.01(B). § 2711.01(B)(1) provides that "[s]ections 2711.01 to 2711.16 . . . do not apply to controversies involving the title to or the possession of real estate . . ." Because land and real estate are so precious, Ohio will not enforce an arbitration clause when the controversy involves the title to or possession of land or other real estate.

To be or not to be? After considering the above provisions of the Ohio Revised Code, the Jefferson County Court of Common Pleas denied Defendant's request to stay the proceedings pending arbitration. The Common Pleas Court concluded that Plaintiffs' claims involved the title to or possession of land and therefore was exempt from arbitration under Ohio law. However, the Seventh District Court of Appeals disagreed with the Jefferson County court. The Seventh District reasoned that the controversy was not about title to land or possession of land, rather it was about the termination of a lease, and therefore should be subject to the arbitration provisions within the leases.

The case eventually made its way to the Ohio Supreme Court, which was tasked with answering one single question: is an action seeking to determine that an oil and gas lease has expired by its own terms the type of controversy "involving the title to or the possession of real estate" so that the action is exempt from arbitration under Ohio Revised Code § 2711.01(B)(1)?

The Ohio Supreme Court determined that yes, under Ohio law, an action seeking to determine whether an oil and gas lease has expired by its own terms is not subject to arbitration. The Ohio Supreme Court reasoned that an oil and gas lease grants the lessee a property interest in the land and constitutes a title transaction because it affects title to real estate. Additionally, the Ohio Supreme Court found that an oil and gas lease affects the possession of land because a lessee has a vested right to the possession of the land to the extent reasonably necessary to carry out the terms of the lease. Lastly, the Ohio Supreme Court provided that if the conditions of the primary term or secondary term of an oil and gas lease are not met, then the lease terminates, and the property interest created by the oil and gas lease reverts back to the owner/lessor.

In reaching its holding, the Ohio Supreme Court concluded that Plaintiffs' lawsuit is exactly the type of controversy that involves the title to or the possession of real estate. If Plaintiffs are successful, then it will quiet title to the farmland, remove the leases as encumbrances to the property, and restore the possession of the land to the Plaintiffs. If Plaintiffs are unsuccessful, then title to the land will remain subject to the terms of the leases which affects the transferability of the land. Additionally, the Ohio Supreme Court concluded that if Plaintiffs were unsuccessful then Defendant would have the continued right to possess and occupy the land. Therefore, the Ohio Supreme Court found that Plaintiffs' controversy regarding the termination of oil and gas leases is the type of controversy that is exempt from arbitration clauses under § 2711.01(B)(1).

Conclusion. Although Ohio recognizes the ability of parties to freely negotiate and enter into contracts, there are cases when the law will step in to override provisions of a contract. The determination of title to and possession of real property is one of those instances. Such a determination can have drastic and long-lasting effects on the property rights of individuals. Therefore, as evidenced by this Ohio Supreme Court ruling, Ohio courts will not enforce an arbitration provision when the controversy is whether or not oil and gas leases have terminated. To read more of the Ohio Supreme Court's Opinion visit: https://www.supremecourt.ohio.gov/rod/docs/pdf/0/2022/2022-Ohio-869.pdf.

Measuring Forage Moisture Content Using an Air Fryer

By: John Jennings, Professor – Forages, Animal Sciences, University of Arkansas
(Previously published online with the Division of Agriculture Research and Extension, University of Arkansas)
Source: https://u.osu.edu/sheep/2022/04/26/measuring-forage-moisture-content-using-an-air-fryer/

Measuring moisture content of forage cut for hay or silage is an essential step to ensure storage stability and product quality. Hay baled with too much moisture can mold or be subject to spontaneous heating. Silage baled or chopped at moisture contents outside a recommended range may not ferment properly, reducing storage life and animal acceptance. A relatively new method of measuring forage moisture content is through use of an air fryer. this household appliance is basically a small convection oven. it can be used at the farm shop or can be operated in the field from a generator to provide accurate forage moisture readings.

Steps for using an air fryer to measure hay moisture

Materials needed:

- air fryer
- gram scale
- wire screen to hold sample in place during drying (needed on some models)
- plate or bowl to contain sample for weighing
- calculator

Steps:

1. Take a core sample from test bales or cut up a representative hay sample into small pieces (less than 1 inch) and weigh 100 grams onto a paper plate.
2. Pour the sample into the air fryer.
3. Place a screen over the sample to hold it in place during drying.
4. Set the air fryer to 250°F for 30 minutes.
5. Weigh the dried sample and calculate the dry matter content.

Calculating hay moisture
Remember that for 100-gram samples, the number of grams of moisture lost equals the percent moisture.

Example
A 100-gram sample was dried and the final weight was 80 grams

100 – 80 = 20 grams moisture lost = 20% moisture

If other than a 100-gram sample is used, use this equation to calculate hay moisture content:

starting weight (grams) – final weight (grams) / staring weight (grams) x 100 = % moisture

Example
The starting weight was 90 grams and the final weight of the sample is 70 grams. Subtract 70 grams (final

weight) from 90 grams (starting weight) to get the amount of moisture lost during drying. Divide the amount of moisture lost by the starting weight and multiply by 100 to get the final moisture percent.

90 – 70 = 20 grams of moisture lost

20/90 x 100 = 22% moisture

Victory Garden Seeds Distribution

By David Marrison, Coshocton County Extension Educator
Originally written for The Beacon Newspaper (April 28, 2022)

Hello Coshocton County! The wet and rollercoaster temperature ride of this month has not been very conducive to planting any of our major field crops or gardens. It has often been said that April showers bring May flowers. I am hoping that May not only brings flowers but also much drier weather!

Speaking of gardens, I am very pleased to announce that OSU Extension and the Coshocton County Master Gardener Volunteers are once again participating in the state of Ohio's Victory Garden seed distribution. Last year, we distributed 300 Victory Garden seed packets and this year we have 500 seed sample packets to give away. This year's packets will contain cucumber, carrot, lettuce, and sunflower seeds.

The history of Victory Gardens can be traced back to World War I when President Woodrow Wilson called on Americans to plant vegetable gardens to ward off the possible threat of food shortages. Front yards, backyards, schoolyards, and vacant lots were turned into vegetable gardens. It is estimated that 3 million new garden plots were planted in 1917 and more than 5 million in 1918.

Victory gardens were originally called war gardens or liberty gardens. Toward the end of WWI, Charles Lathrop Pack, head of the National War Garden Commission, coined the more up-beat term "victory garden." After the war, many of these gardens continued during peace time for the next two decades.

Then, World War II arrived bringing a time of food rationing. This led to another surge of victory gardens as in 1942, roughly 15 million families planted victory gardens. By 1944, it is estimated that 20 million victory gardens produced roughly 8 million tons of food or roughly 40 percent of all the fresh fruits and vegetables consumed in the United States.

Throughout both world wars, the victory garden campaign served as a successful means of boosting morale, expressing patriotism, safeguarding against domestic food shortages, and easing the strain on commercial farms feeding troops and civilians overseas.

Eighty years later, another world-wide event led to a resurgence of victory gardens; this being the coronavirus pandemic. With families staying at home, interest in vegetable gardening surged and OSU Extension and the Ohio Department of Agriculture collaborated to promote modern day victory gardens. In 2020, 10 counties received seeds to distribute and then 25 counties participated in 2021. And now in 2022, 42 counties across Ohio will be distributing seed packets in 2022.

Here in Coshocton County, we received our victory garden seed packets last week and they are now available at the Extension Office located in Room 110 at 724 South 7th Street in Coshocton. These packets are being distributed on a first come, first served basis. A reminder that our office is open Monday through Friday from 8:00 a.m. to 12 noon and from 1:00 to 5:00 p.m. Along with the seed packets, you will also receive a packet of Extension factsheets which will assist you as you grow your lettuce, cucumbers, carrots, and sunflowers.

I have always had a soft spot for Victory Gardens and their place in our country's history. When I lived in Ashtabula County, our Master Gardener Volunteers would have a victory garden display at the D-Day Ohio reenactment held in August each year at the Conneaut Ohio Beachfront. This event is a great chance to remember the historic Allied landing on Normandy Beach in France during World War II. If you are looking for a one-tank trip to take with your family this summer, this year's event will be held on August 18-20. It is well worth the drive to the northeast tip of Ohio. Check out details at https://www.ddayohio.us/

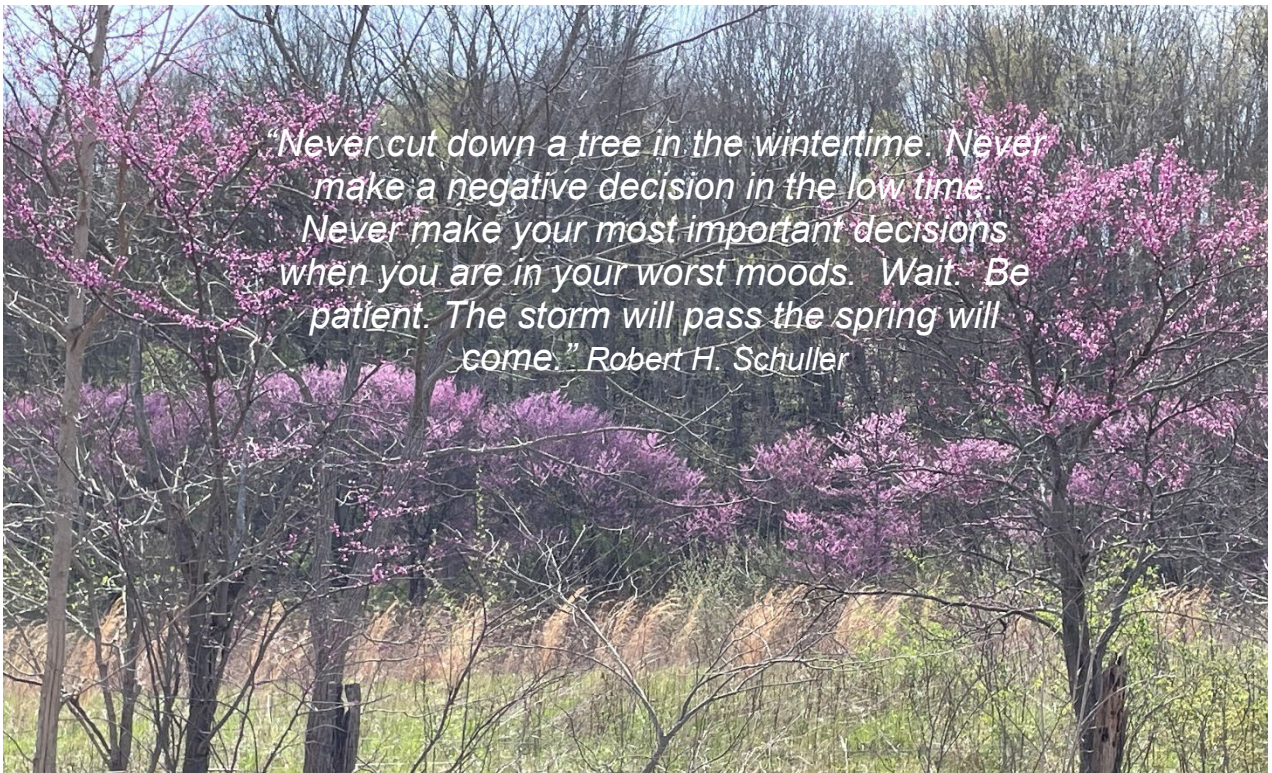
So, I encourage you to join us in planting a victory garden in 2022. It will give you a great chance to live the quote from Alfred Austin who stated, "The glory of gardening: hands in the dirt, head in the sun, heart with nature. To nurture a garden is to feed not just on the body, but the soul." Have a good and safe day!

"Name that Tree" Workshop Slated for June 29

Have a tree that you pass on a regular basis that you always wonder 'what is that? Or do you own a woodland and want to know exactly what trees you have? If so, OSU Extension and Clary Gardens will be hosting a **"Name that Tree Program"** on Wednesday, June 29 from 10:00 to 3:00 p.m. at Clary Gardens located at 588 West Chestnut Street in Coshocton, Ohio

This one-day workshop is designed to give participants in-depth training and practice on identifying trees using leaves and other common characteristics. The class begins in a new outdoor event pavilion with some introductory identification clues and samples that we use to work through a dichotomous key. The afternoon is spent out in the woods practicing (expect moderate walking).

The registration fee for this program is $40 per person. This registration fee includes the program, light refreshments, lunch, and handouts. There is limited seating so pre-registration is due by June 21. For more information about this program, contact the Coshocton County Extension office at 740-622-2265.



CFAES

OHIO STATE UNIVERSITY EXTENSION

“Name That Tree” Workshop

Wednesday, June 29, 2022
10:00 a.m. to 3:00 p.m.

Clary Gardens
588 West Chestnut Street
Coshocton, Ohio 43812

Have a tree that you pass on a regular basis that you always wonder ‘what is that? Own a woodland and want to know exactly what trees you have? Then this **Name That Tree Workshop** is for you! This one-day workshop is designed to give participants in-depth training and practice on identifying trees using leaves and other common characteristics. The class begins in a new outdoor event pavilion with some introductory identification clues and samples that we use to work through a dichotomous key. The afternoon is spent out in the woods practicing (expect moderate walking). This workshop is being co-hosted by OSU Extension and Clary Gardens

Class Agenda

9:30 a.m.	Registration
10:00 a.m.	Introduction to Tree ID
11:15 a.m.	Using a Key to ID
12:00 noon	Lunch (provided)
1:00 p.m.	Hands-On ID in the Woods
3:00 p.m.	Wrap-Up & Adjourn

REGISTRATION INFORMATION: The registration fee of $40 includes the program, light refreshments, lunch, and handouts. **There is limited seating so pre-registration is due by June 21.**

Name(s)_____

Address_____

Email_____ Phone_____

Clary Gardens

$40 per person registration ____# of attendees @ $40 each

Please make checks payable to OSU Extension and mail to OSU Extension, 724 South 7th Street, Room 110, Coshocton, Ohio 43812. For more information, call 740-622-2265.

THE OHIO STATE UNIVERSITY
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