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OHIO STATE UNIVERSITY EXTENSION

COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES

Hello, Coshocton County! In just a few short days, we will turn the calendar to August. I have noticed during the past week how we are losing day light, the smell in the air is changing, and the morning dews are feeling more like fall.

The Coshocton Soil & Water Conservation district led a great pasture walk last night at Schumaker Farm in West Lafayette. Thanks to Jim and Chad for hosting a great walk. A reminder the next pasture walk will be on August 25 at the Todd Endsley farm.

The coronavirus pandemic continues to alter many events and this week was no different. We appreciate your patience as we continue to change directions based on the latest directives from the State of Ohio and OSU Extension. 2020 continues to be a year that we will never forget, but one that we would like to!

Stay well!

Sincerely,

David Marrison

Coshocton County OSU Extension ANR Educator

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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

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Budgeting Using $3.40 Corn and $8.50 Soybean

By: Gary Schnitkey, Krista Swanson, Nick Paulson, Jonathan Coppess (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/2020/07/2021-budgeting-using-3-40-corn-and-8-50-soybean-prices.html

Corn and soybean budgets for 2021 are shown using prices of $3.40 per bushel for corn and $8.50 per bushel for soybeans. Without additional Federal aid, these prices would result in low returns, perhaps lower than will occur in 2020. Given 2021 revenue projections, costs will have to be reduced to reach a breakeven return level. All production inputs should be scrutinized, but we suggest a particular focus on fertilizers applied and number of tillage passes. We also suggest use of variable cash rental arrangements for 2021, with an appropriate base rent given the price environment and additional rent contingent on the level of Federal aid.

2021 Price Scenario

Prices used in 2021 budgeting are $3.40 per bushel for corn and $8.50 per bushel for soybeans. These prices reflect current-levels of futures prices for 2021 harvest-time delivery. On July 20, settlement prices on Chicago Mercantile Exchange (CME) contracts were $3.66 per bushel for the December 2021 contract and $8.92 per bushel for the November 2021 contract. Usual basis places cash prices near $3.40 per bushel for corn and $8.50 per bushel for soybeans.

The planning prices of $3.40 for corn and $8.50 for soybeans are near projections for a post-COVID scenario in an April 28, 2020 farmdoc daily article. In that article, we suggested 2021 Market Year Average (MYA) prices of $3.40 for corn and $8.30 for soybeans. The soybean price used in this article is slightly more optimistic than in the April 28 article. The budget prices are consistent with a V-shaped recovery, a quick recovery after COVID-19 control measures are relaxed. There are signs that a V-shaped recovery is a possibility, with both meat processing capabilities and ethanol production rebounding. Of course, it also is possible that COVID-19 control measures will be longer-lived, perhaps continuing well into 2021, resulting in expectations for lower prices than used here.

Projected prices for 2021 are below prices farmers have received since ethanol use stopped increasing in 2013 (see farmdoc daily, June 10, 2020). From 2014 to 2019, average corn price for farmers enrolled in Illinois Farm Business Farm Management (FBFM) has been $3.62, $.22 higher than the $3.40 planning price. Average soybean price from 2014 to 2019 has been $9.57 per bushel, $1.07 higher than the $8.40 planning price.

2021 Gross Revenue

Table 1 shows budgets for high-productivity farmland in central Illinois. For 2021, trend-yields are 217 bushels per acre for corn and 68 bushels per acre for soybeans. Higher yields are possible. Given the importance of Illinois in total production of both crops, higher yields likely would result in lower prices, leaving revenue roughly the same.

Built into budgets are $30 per acre of ARC/PLC payments associated with Commodity title programs (i.e., Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC)). Because base acres are not dependent on planting, the same $30 ARC/PLC payment is budgeted for both corn and soybeans. The $30 payment is roughly a $60 payment on corn and no soybean payment. These are 2021 payments, which will be received in October 2022. The ARC/PLC payments will occur in October 2021, but these payments will be associated with 2020 production.

Table 1. Revenue and Cost Projections for Central Illinois, High-Productivity Cash Rent Farmland, 2018 - 2021P

	Corn				Soybeans			
	2018	2019	2020P	2021P	2018	2019	2020P	2021P
Yield per acre	237	208	215	217	74	64	68	68
Price per bu	$3.60	$3.55	$3.25	$3.45	$9.36	$8.55	$8.25	$8.50
	$/acre	$/acre	$/acre	$/acre	$/acre	$/acre	$/acre	$/acre
Crop revenue	$853	$738	$699	$749	$693	$547	$561	$578
ARC/PLC	0	10	35	30	0	10	35	30
MFP payments	1	82	0	0	121	82	0	0
CFAP payments	0	28	0	0	0	12	0	0
Other Federal aid[1]	0	0	80	0	0	0	80	0
Crop insurance proceeds	2	14	0	0	14	15	0	0
Gross Revenue	**$856**	**$872**	**$814**	**$779**	**$828**	**$666**	**$676**	**$608**
Fertilizers	131	154	130	128	42	45	40	38
Pesticides	76	76	75	75	46	46	45	45
Seed	115	114	115	116	73	73	73	74
Drying	14	22	15	15	1	0	0	0
Storage	15	15	15	15	8	8	8	8
Crop insurance	22	22	22	21	14	15	15	14
Total direct costs	$373	$403	$372	$370	$184	$187	$181	$179
Machine hire/lease	14	16	16	16	10	14	14	14
Utilities	5	5	5	5	4	5	5	5
Machine repair	25	26	24	24	18	23	19	21
Fuel and oil	18	17	15	14	13	15	13	12
Light vehicle	2	1	1	1	1	1	1	1
Mach. depreciation	64	63	63	62	56	55	54	63
Total power costs	$128	$128	$124	$122	$102	$113	$106	$116
Hired labor	19	18	18	18	18	17	17	17
Building repair and rent	5	6	6	6	4	5	5	5
Building depreciation	12	11	11	11	10	10	10	10
Insurance	10	9	9	9	10	11	11	11
Misc	10	9	9	9	10	9	9	9
Interest (non-land)	17	22	22	23	15	20	20	21
Total overhead costs	$73	$75	$75	$76	$67	$72	$72	$73
Total Non-Land Costs[2]	**$574**	**$606**	**$571**	**$568**	**353**	**372**	**359**	**359**
Operator and Land Return[3]	**$282**	**$266**	**$243**	**$211**	**$475**	**$294**	**$317**	**$249**
Cash rent	274	275	275	275	274	275	275	275
Farmer Return[4]	**$8**	**-$9**	**-$32**	**-$64**	**$201**	**$19**	**$42**	**-$26**

[1] Other Federal aid is built in for 2020 based on expectations. No programs have been legislated or announced.

[2] Sum of direct, power, and overhead costs.

[3] Equals gross revenue minus total non-land costs, and represents a return to the land owner and farmer.

[4] Equals Operator and land return minus cash rent.

Source: Historical values come from Illinois Farm Business Farm Management (FBFM). Summaries can be found in a paper entitled "Revenues and Costs for Illinois Grain Crops" available in the management section of farmdoc.

Gross revenue is project at $779 per acre for corn, significantly below gross revenues in 2018 ($856), 2019 ($872), and 2020 (projected at $814). The $779 gross revenue would be the first time gross revenue has been below $800 per acre since 2009. Soybean revenue is projected at $608 per acre, lower by over $40 per acre than the other revenues in 2018 through 2020. Lower 2021 revenue occurs because Federal aid outside of ARC/PLC payments is not budgeted. Market Facilitation Program (MFP) and Coronavirus Food Assistance Program (CFAP) payments significantly supported revenue for the 2018 and 2019 production years. For soybeans, MFP payments totaled $121 per acre in 2018, and MFP and CFAP payments totaled $94 per acre in 2019. Expectations for another $80 of Federal aid in 2020 is included in the budget and would support 2020 income, although this Federal aid is not legislated or announced by the U.S. Department of Agriculture. Without any Federal aid in 2021, gross revenue will be lower than in recent years without an increase in commodity prices.

Reductions in 2021 Costs

Table 1 includes estimates of direct, power, and overhead costs for 2021. These costs result in total non-land costs of $568 per acre for corn and $359 per acre for soybeans. Budgets also include $275 per acre for cash rent, the same rate used in 2018 and 2019. Given those revenue and cost estimates, farmer return is -$64 per acre for corn and -$26 per acre for soybeans. Both of those return estimates are negative. In recent years, soybeans had a positive return although corn returns have been negative.

Costs will need to be reduced for farmer returns to approach positive levels. While each farm will have specific areas for cutting costs, results from field level data from Precision Conservation Management (see Illinois Corn Growers Association, The Business Case for Conservation) suggests focusing on reducing fertilizer applications and tillage passes. Building flexibility into rental arrangements also seems prudent.

Fertilizer costs: In recent years, University recommendations have been reduced for phosphorus and potassium (Nafziger, 2014). Agronomic research suggests that removal rates are about 15% less than the recommended levels before 2014. Reducing phosphorus and potassium costs by 15% would result in $10 lower costs per acre for corn and $6 per acre less for soybeans.

Moreover, nitrogen rates for corn may be lowered in certain cases. Maximum return to nitrogen rates can be obtained from a Corn Nitrogen Rate Calculator, and typically run between 170 and 190-pounds of nitrogen per acre. A 20-pound over-application of nitrogen would add $6 per acre in costs.

Power costs: Farmers who tend to be more profitable tend to have lower power costs in depreciation, repairs, and fuels. Over time, more tillage on an acre will tend to raise depreciation and repair levels. Reducing tillage passes to lower levels will reduce costs. Results from Precision Conservation Management (PCM) suggest that more than one tillage pass does not increase yields on either corn or soybeans; thus, reducing tillage passes could have the impact of reducing costs and increasing returns.

Adjusting land rents: Average cash rents have not declined in recent years, even with notably lower corn and soybean prices. A major factor associated with the stability in cash rents has been MFP payments and CFAP payments in 2018 and 2019. Without those, farmer returns on cash rented land would have been at negative levels. Returns shown for 2020 include estimated Federal aid totaling $80 per acre which has not been announced or legislated up to this point. Even with the additional estimated Federal aid, corn returns are still negative with an average cash rent.

Many 2021 rental arrangements will be negotiated this fall. At this point, there may be a temptation to not reduce cash rents under the assumption that another round of Federal aid in the form of an MFP/CFAP-style program will occur in 2021. There is no guarantee of Federal aid in 2021, and it is after an election year which may suggest less aid is forthcoming, regardless of election outcomes. Given the importance of Federal aid, we suggest lowering the base cash rent to around $200 for high-productivity farmland and using a variable cash rent arrangement for 2021. Importantly, the variable cash rent will include Federal aid in its calculation, and it will flex upward if either revenue is higher than expected or Federal aid occurs.

Summary

Ad hoc Federal aid in the form of MFPs and CFAP payments have been important in recent years. Continuing Federal aid is not guaranteed in 2021. For 2021, low returns will again prompt farmers to evaluate options for cutting costs. Fertilizer and power costs seem like obvious areas for focus. Building flexibility into cash rents which reflect cash flow outcomes seems prudent.

References

Illinois Corn Growers Association. The Business Case for Conservation. https://www.ilcorn.org/file/315/Illinois%20Corn%20PCM%20Booklet_single%20pages_no%20bleed_hires.pdf

Nafziger, E. "New Grain Phosphorus and Potassium Numbers." Bulletin, Integrated Pest Management, Department of Crop Sciences, University of Illinois, September 7, 2017. http://bulletin.ipm.illinois.edu/?p=3967

Schnitkey, G., K. Swanson, J. Coppess, N. Paulson and C. Zulauf. "MFP and CFAP Payments, Corn and Soybean Uses, and Future Farm Profitability." farmdoc daily (10):106, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 10, 2020.

Schnitkey, G., K. Swanson, T. Hubbs, C. Zulauf, N. Paulson, J. Coppess "Estimates of MYA Prices for 2019 thorough 2021, Pre and Post COVID-19, Corn and Soybeans." farmdoc daily (10):78, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, April 28, 2020.

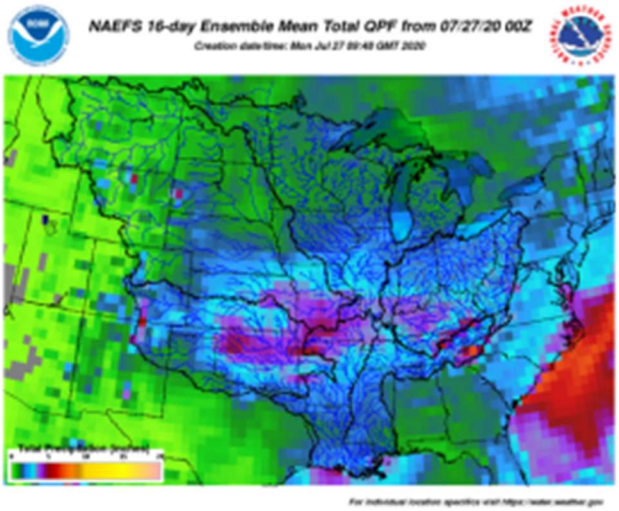
Recommended citation format: Schnitkey, G., K. Swanson, N. Paulson, C. Zulauf and J. Coppess. "2021 Budgeting Using $3.40 Corn and $8.50 Soybean Prices." farmdoc daily (10):134, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, July 21, 2020.

Climate and Hydrology Pattern to Relax in August

By: Jim Noel

Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2020-24/climate-and-hydrology-pattern-relax-august

The overall drier pattern in many but not all places in Ohio this summer appears like it will relax closer to normal in August. The greatest uncertainty with the outlook will center around how the tropical moisture impacts the eastern United States.



The August outlook for temperatures indicates 1-2F above normal but a lot closer to normal than what we have seen this summer with the heat. The last time we have seen this much hot weather was 2015 and 2012. The good news is the worst of the heat for 2020 appears over. What this means is we should see a lot more maximum temperatures in the 80s with some 90s thrown in. Expected minimum temperatures mostly in the 60s to lower 70s.

The August outlook for rainfall indicates somewhat improving conditions. There is uncertainty here due to tropical moisture and where it flows. Normal rainfall is in the 3-4 inch range and rainfall is expected to average in the 2-4 inches range with a few higher totals. This will put us a lot closer to normal wetness. The 2 inch totals are more likely in northern Ohio and the 4 inches totals are more likely in southern Ohio. It appears that the scattered drought conditions in Ohio are likely peaking and some improvement is possible over the next several months.

The outlook for September to November for the end of growing season into harvest season suggests warmer than normal weather will persist and low chances for an early freeze. Rainfall is shaping up to not be too far from normal.

2020 Ohio Wheat Performance Test

By: Laura Lindsey & Matthew Hankinson
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2020-24/2020-ohio-wheat-performance-test

Yield results for the 2020 Ohio Wheat Performance Test are online at: https://www.oardc.ohio-state.edu/wheattrials/default.asp?year=2020

The purpose of the Ohio Wheat Performance Test is to evaluate wheat varieties, blends, brands, and breeding lines for yield, grain quality, and other important performance characteristics. This information gives wheat producers comparative information for selecting the varieties best suited for their production system and market. Varieties differ in yield potential, winter hardiness, maturity, standability, disease and insect resistance, and other agronomic characteristics. Selection should be based on performance from multiple test sites and years.

In fall 2019, wheat was planted at four out of the five locations within 10 days of the fly-free date. Due to poor soil conditions, wheat was planted in Wood County 21 days after the fly-free date; however, wheat grain yield averaged 99.5 bu/acre at that location. Wheat entered dormancy in good to excellent condition. Early season wheat growth and development were slower than previous years due to cool temperatures and above average precipitation. Harvest conditions were favorable and harvest dates average. Results from Union County were not included in this report due to extreme field variability caused by high rainfall. Overall, grain test weight averaged 58.8 lb/bu (compared to an average test weight of 55.0 lb/bu in 2019). Across the Wood, Wayne, Darke, and Pickaway locations, grain yield averaged 93.8 bu/acre.

New Crop Staging Videos

By: Alexander Lindsey & Amanda Douridas
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2020-24/new-crop-staging-videos

Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2020-24/new-crop-staging-videos
A new suite of crop staging videos have been built by faculty at The Ohio State University that highlight corn, soybean, and alfalfa. The videos highlight some common staging methods for each crop, and connect the staging guidelines to practice using live plants in the field. The videos can be found in the “Crop Growth Stages” playlist on the AgCrops YouTube Channel: https://www.youtube.com/channel/UCbqpb60QXN3UJIBa5is6kHw/playlists.

These compliment some of the wheat staging videos previously posted on the AgCrops YouTube channel as well. As the crops progress through the reproductive stages, expect some more videos to be posted!

Accurate crop staging is important to time management practices in the field. Many pesticides may have stage limitations for applications in addition to a height restriction. Growing conditions may also affect how stage and height interact, in that turgor pressure and water availability may affect stem elongation. Additionally, stage progression can be impacted by planting date and heat unit accumulation. Solely using calendar dates to make decisions may lead to suboptimal timing of management practices it a specific crop stage is being targeted.

When staging fields of corn, soybeans, and wheat, you will want to check multiple areas of the field and stage multiple plants in each area. The stage of the field is then identified as the predominant stage of the plants checked (over half of the plants are at the identified stage). Staging alfalfa usually uses 40-50 stems collected from various spots in the field, and each stem is individually staged. Once completed, the average is taken of the stems to determine the stage of the field.

ODA Asks Public to Not Plant Unsolicited Packages of Seeds

Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2020-24/oda-asks-public-not-plant-any-unsolicited-packages-seeds

The Ohio Department of Agriculture (ODA) has been notified that several Ohio residents have received unsolicited packages in the mail containing seeds that appear to have originated from China. The types of seeds in the packages are currently unknown and may contain invasive plant species. Similar seed packets have been received recently in several other locations across the United States.

If you receive a package of this type, please DO NOT plant these seeds. If they are in sealed packaging, do not open the sealed package. You can report the seeds to ODA online at: https://agri.ohio.gov/wps/portal/gov/oda/divisions/plant-health/resources/seed-reporter or you may contact the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Anti-smuggling Hotline by calling 800-877-3835 or by emailing SITC.Mail@aphis.usda.gov. Also, if possible, please retain the original packaging, as that information may be useful to trade compliance officers as they work through this issue.

Unsolicited seeds could be invasive species, contain noxious weeds, could introduce diseases to local plants, or could be harmful to livestock. Invasive species and noxious weeds can displace native plants and increase costs of food production. ODA and APHIS work hard to prevent the introduction of invasive species and protect Ohio agriculture. All foreign seeds shipped to the United States should have a phytosanitary certificate which guarantees the seeds meet important requirements.
We will have the latest information regarding this investigation at https://agri.ohio.gov/wps/portal/gov/oda/divisions/plant-health/resources/seed-reporter.

Management Considerations for Backgrounding Cattle

By: Steve Boyles, OSU Beef Extension Specialist
Source: https://u.osu.edu/beef/2020/07/29/management-considerations-for-backgrounding-calves-2/

Backgrounding is the growing of steers and heifers from weaning until they enter the feedlot for finishing. Backgrounding and Stocker cattle are similar although backgrounding is sometimes associated with a drylot, and stockering cattle is thought of as pasture-based system. However any system that takes advantage of economical feed sources can be investigated.
Why might someone consider backgrounding or growing cattle?
The producer has time and economical feed resources
The market at weaning is not as favorable and is investigating alternative marketing times

Some feedyards prefer buying/feeding yearlings. They can expect fewer health problems and can feed two turns of cattle in a year.
It could be a way of upgrading mismanaged cattle so as to add value. Since the cattle can be on feed for several months, they can fit the preference by some feeders for preconditioned cattle

There are many systems for backgrounding. A common one is calves are retained or bought in the fall and sold a few months later. A backgrounding system can be part of a cow-calf operation or part of a finishing operation.

You can handle about 1.4 calves on the feed needed for one beef cow. Since the cattle are not owned very long in typical backgrounding and stockering operations, buying and selling skills are very important. If you are growing cattle for someone on a contract you will want to review Buying and Selling Cattle on a Slide. You may own/retain the cattle for a relatively short time, therefore what you buy (or the price you could get at weaning) and the selling price as a backgrounded calf is very important. Rate of gain increases in importance the longer you own the cattle. Have an idea of the value of the feed resources you have on hand in addition to those you purchase. Investigate the use of implants and feed additives for growing cattle to optimize feed efficiency.

If feed resources are available, backgrounding calves allows marketing them at a later time when feedlot capacity may be greater and demand stronger.

One might budget for 2% death loss to protect yourself. Skills in detecting sick cattle are essential. Take time to observe the cattle during feeding using proper Bunk Management. The article Watching Cattle for Sickness could be instructive. Work with your veterinarian in having a health management plan. Work with you local auction facility to see if they can be part of a preconditioning sale.

Rate of gain needs to allow for growth but you do not want the cattle to become fat. Historically, this has been around 1.5 to 2.0 pounds of daily gain. With larger frame cattle we can approach 2.5 pounds a day gain. Faster rates of gain can reduce cost per unit of gain. Since these are young cattle they can respond to high quality forage based diets. Cattle backgrounded in the fall and winter that are destined for pasture should not be fleshy if gaining 1.5 to 2.0 pounds per day.

There is a wide array of feeds to consider. Many of these have articles about them located at the OSU Beef Team Library (Nutrition Section) or our OSU Beef Team YouTube Channel (scroll down towards the bottom). For more about backgrounding, review this article from last year, Backgrounding; A Phase of Growing Calves in Preparation for the Feedlot, that highlights a recent University of Nebraska study exhibiting that calves first placed on a grower diet out perform those that go directly to a finishing diet.

Reference: Sewell, H., V. Jacobs, J. Gerrish. Backgrounding calves. Part 1-Assessing the opportunity. Univ. MO. Factsheet 2095

Be Flexible in Your Marketing Plan

By: Dr. Andrew Griffith, Assistant Professor, Department of Agricultural and Resource Economics, University of Tennessee
Source: https://u.osu.edu/beef/2020/07/29/be-flexible-in-your-marketing-plan/

The marketing process is always a topic of discussion. There have been several vague questions that broach this topic and result in a longer discussion. Given the dynamics of marketing, here are a few thoughts that may be useful.

Selling is not the same as marketing. Anyone that owns cattle can sell cattle, but most do very little marketing. Selling and marketing do not have to take place at the same time. Cattle can be marketed long before they are sold and leave the farm. This can come in the form of marketing using price risk management tools such as futures, options, livestock risk protection insurance, or a forward contract. Thus, the cattle are marketed, but they can be sold later.

Another thought is that producers should attempt to be as flexible as possible in their marketing plan. Cattle producers tend to do the same thing every year as it relates to how and when they sell animals, or they consign their animals to a sale on a specific date. There can be advantages to this approach, but it reduces flexibility to take advantage of strong market prices.

Dairy Excel- Where Do You Do Your Strategic Planning?

By David Marrison
Written for The Farm & Dairy Newspaper, published July 30

Hello, Northeast Ohio! The term "dog days of summer" traditionally refers to the hot and sultry days we receive during July and August. The Old Farmer's Almanac considers the "dog days" to be the 40 days between July 3 and August 11.

In ancient Greece, the "dog days" were believed to be a time of drought, bad luck, and unrest, when dogs and men alike would be driven mad by the extreme heat. (Hmm, so maybe it is not the coronavirus that is causing us all the trouble this month?)

For many when they think of the dog days of summer, they think of 90 degree temperatures, ice cream, and time cooling off in the pool. But for me, I think of the hot sun, lemonade in a water jug, humidity, sweat, and scratched up arms. You see, the summers of my childhood were spent baling over 17,000 bales of hay with my dad and grandfather.

Even to this day, my preference when making hay is to be stacking in the mow. I actually enjoy the heat. But more than that, I enjoy the solitude. Especially, the quiet time between loads of hay when I can pause, sweat, and think. In fact, some of my best thoughts and strategic planning has been done while stacking hay.

The Sergay Group, Inc defines strategic thinking as *"the process of developing and evaluating every decision and action in light of current and future circumstances, the direction you want to go in and the results you want to achieve. It involves being able to apply possibility thinking to every situation. It is not about doing "business as usual" but rather pushing the envelope to see what can be done smarter and what else can be done "instead of", or as an "add on", that would maximize opportunities."*

You may not like to sweat in the hay mow to think but there are many other ways to create time to think. My wife Emily gets up early every morning before the rest of us are awake to read, reflect and journal. Another friend carves the first 15 to 30 minutes of each day for non-digital thinking and planning. No technology allowed. He just pulls out a plain old piece of paper and pen and works through the issues required to make his business more successful.

So how are you taking time? Maybe it is a walk around the hay field or through the pasture. Maybe it is tractor time or fishing. Maybe it is by resting under the old willow tree in the backyard. Some may have to get completely away from all the distractions on the farm and retreat to a cabin in the woods.

Regardless of how or where you think about your business, make sure to carve out time to think strategically. I think it is safe to say that 2020 has provided us with lots of things to think about. Economics are tight in agriculture, especially in the dairy industry. By now, most of our 2020 budgets and market assumptions have been thrown out the window.

One item which our OSU Extension Farm Office team encourages you to think about is the potential of cash flow issues as we progress into fall. All indicators are suggesting that cash is going to be extremely tight for farms this fall. Our advice is to take a deep dive into your financial numbers now. Revisit your initial budgets and compare them against your year-to-date numbers. The time to make adjustments to spending is now, not in December.

Are there purchases that can be delayed? Will you need to dip into cash reserves or seek a credit reserve? How has your cost of production for each enterprise changed because of COVID-19? Are there marketing windows or contracts that need explored? Will you have to hold off on equipment purchases? Should you explore re-financing to take advantage of lower interest rates? Should you increase custom work this fall to bring in additional cash? Should nonfarm expenses be lowered? Are there land leases that need to be renegotiated or canceled for 2021? Should some of the less productive assets be sold to raise cash?

Our farm business analysis team is able to help you complete a comprehensive review of your farm finances. These are worth their weight in gold. Check out farmprofitability.osu.edu for more information on how they can assist you.

Good luck as you find your "hay mow" to do some thinking before the fall harvest rush arrives. In closing, as I think of the dog days of summer, I am reminded of a quote from Jean Paul Malfatti which states "A friend is a friend and a dog is a dog. A friend will never be a dog, but a dog won't ever quit being a friend." Have a good and safe day.

Poison Hemlock- Irritant or Killer?

By: Gary Graham, Holmes County Extension
Published for the Bargain Hunter newspaper

Drive any roadway right now in beautiful Holmes County (or any county for that matter) and you will see the nemesis Conium maculatum better known as poison hemlock. A member of the carrot or parsley (Apiaceae) family you would think it to be harmless….think again. Originally brought to the United States from Europe in the early 1800's for its attractive flowers and promoted as a garden plant. Today like all good intended plants, it has escaped into the environment and is now found along roadsides, edges of fields, along creek beds and fallow ground. In case you did not know, poison hemlock is both an irritant and a killer.

The Carrot Characters:

The carrot family (Apiaceae) has lots of bad family members. Many of us farm kids have picked bouquets of Daucus carota or Queens Ann's lace. Queens Ann's lace is one of the better siblings in the carrot family tree. Cow parsnip (Heracleum maximum) is a bad sibling with phototoxic sap that causes burns on the skin especially when the sun is shining. Its root once dried has historically been used for medicinal purposes. The most evil sibling is the big brother, giant hogweed (Heracleum mantegazzianum). This 10 to 15 foot tall sibling should be shown much respect as contact with its phototoxic sap can leave you with a chemical burn that will stay with you the rest of your life and in large enough quantities can kill. Giant hogweed is also spreading rapidly across Ohio. OSU Extension has a good fact sheet (ANR-35) on giant hogweed. To the untrained eye, all the carrot characters can be mistaken for one another.

The dreaded poison hemlock is a bad sibling in these character of carrots. However, poison hemlock has a very sinister history. Ancient Greeks used poison hemlock to execute political prisoners, including the Greek philosopher Socrates, because it can be fatal if ingested. Native American tribes used the sap of poison hemlock on their hunting arrows. The toxic compounds in hemlock are coniine, gammaconiceine, and related piperidine alkaloids, which cause respiratory failure and death when ingested by mammals.

How to Tell these Carrot Characters Apart?:

With all the carrots having the tell-tale white flower clusters it can be hard to tell them apart from a distance. White flowers aside there are height, leaf, and stem differences. Hemlock, the focus of this article, has the finest fern like leaflets. The flowers are small at two to three inches across. The hollow stems are smooth, hairless with purple-spotted areas throughout. Giant hogweed is also hollow with purple spotted areas however, it has hairs and raised blisters filled with its phiototoxic sap. In addition, at 15 foot tall and flowers up to two feet across you should be able to distinguish the two purple spotted monster siblings from each other. Do Not let any parts of either of these plants touch your bare skin, as you will be burned.

How Poisonous is Poison Hemlock?:

Simply handling the plant can cause toxic reactions in humans. All parts of the plant are poisonous to people and livestock including the sap, leaves, stems, seeds, and the roots. Young leaves in the spring are the most toxic. Thankfully, the leaves taste unpleasant to livestock so they seldom directly or intentionally consume enough of the plant to kill them. However, the leaves do not lose their toxicity when dried. If the plants are mowed and bailed within grass hay, alpha, etc. then fed to livestock, they could ingest enough to become toxic. Lethal doses can be small, so it is important not to let animals graze or feed on poison hemlock. In the case of horses, 4 to 5 pounds of the leaves may be lethal. A half to 1 pound can be lethal for cattle and only 4 to 8 oz. for sheep. Young animals are more susceptible to the poisoning. Symptoms may appear within 1 hour of ingestion. This starts with a nervous stimulation and can progress in 2 to 3 hours into respiratory paralysis. In rare cases the animal may have convulsions. In many cases symptoms include, bloating, incoordination, intestinal irritation, dilation of pupils, rapid and weak pulse, loss of appetite, salivation, and blue coloration about the mouth. Ingestion of poison hemlock in days 55 to 75 of gestation may result in birth defects and possible aborting of the fetus.

How to Manage:

For starters, if you cannot tell them apart do not touch any of the bad carrots without covering exposed skin. Use caution when managing this plant. While poison hemlock can be partially managed by mowing and tilling,

the most effective control approach involves properly timed applications of selective or non-selective post-emergent herbicides. It is a prolific seed producer with one plant capable of producing 38,000 seeds that are viable for three to six years. Poison hemlock is a bi-annual that spends its first year as a rosette and developing its root system. In the second year, it puts on vertical growth of six to ten feet and displays the white flowers and fern like leaf structure. So applications of herbicides made in the first season rosette stage is best but should also be made in the second season flowering stage, before seeds are produced.
Spring chemical applications while in the rosette stage are best accomplished with non-selective post-emergent herbicides including glyphosate. Crossbow/Crossroad/Candor, and Banvel are fairly effective on small plants where the larger plants are best treated with glyphosate. Before plants start to bud 2,4-D plus dicamba will work too.

The Time to Take Action is NOW!
Chemical applications now will kill off the plants before seed dispersal begins (September to February). If a non-chemical approach is desired mow at a height of 3 to 4 inches in early April when in the rosette stage. Repeat a month later and on a continued monthly regimented timing throughout the next few years. A mowing approach will need to be repeated multiple years. This will not eradicate poison hemlock it will only reduce the size of the infestation by weakening the plant. Repeated for multiple years can deplete the seedbank, but the physical location of the infestations are often impossible or too dangerous to mow. In addition if mowed, the equipment should be thoroughly cleaned before moved to a new location as seed can be transported to new areas and a new infestation will start. This is why the chemical approach is best.

Whichever approach mechanical mowing or chemically or a combination of both, it requires a long-term plan on your part to get control. Remember the seeds are viable for 3 to 6 years so either method is NOT a one and done. Take action now to reduce the plants from dispersing this year's seeds and then start an aggressive chemical program next spring.

If attempting manual removal of this dangerous and invasive plant you must wear long sleeves, gloves, eye protection and even a face shield is highly recommended. You want to protect all skin areas to keep the plants phototoxic sap off your skin. Wash up thoroughly after handling. Proper disposal of the plant residue is key to prevent injury to people and animals. Bag or burn large amounts of poison hemlock. Flaming the plants in the rosette stage can be effective but also requires multiple procedures to get the seed bank.

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Coshocton Extension Office Update

The Coshocton County Extension Office is currently open Monday, Wednesday, and Friday from 8:00 a.m. to 5:00 p.m. with 8:00 to 9:00 a.m. being reserved for the most vulnerable population. As we re-open, there will be some new guidelines in place; these include:

- We ask that you please call ahead of your visit so we can have your items prepared for you.
- We are rotating staff on different days, so calling ahead ensures that the appropriate staff member is there to meet your needs.
- One family will be allowed to come into the office at a time.
- Face masks are required (and we will provide one for you if you do not have one)
- Use of hand sanitizer required and is also provided

OSU Extension is committed to keeping you safe. We thank you for your patience during the past few months and as we move forward, helping to make the best better.