

**COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES**

Hello, Coshocton County! This month's weather has been a blessing for area farmers as it has allowed us to get a good jump on soybean and corn harvest. But holding true to what was forecasted earlier this month, it appears as we are going to move to cooler temperatures and greater probability for rain as we move to the second half of the month. I hope the rain is minimal so we can continue to operate full steam ahead.

We are always concerned about combine fires during harvest and I have included a nice article from our Ag Safety office with some timely reminders.

OSU Budgets for 2021 have been released and I have attached them to this newsletter. Dairy farmers will also want to be sure to listen in on a few dairy webinars coming up.

Be safe during harvest! Have a good and safe week!

Sincerely,

*David L. Marrison*

Coshocton County OSU Extension ANR Educator

October 14, 2020 Issue

Ohio Corn, Soybean and Wheat  
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for 2021

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Milk Prices, Components, Questions &  
CFAP 2

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## ***Ohio Corn, Soybean, and Wheat Enterprise Budgets- Projected Returns for 2021***

### **Ohio Corn, Soybean and Wheat Enterprise Budgets - Projected Returns for 2021**

Barry Ward, Leader, Production Business Management- Ohio State University Extension

Source: <https://u.osu.edu/ohioagmanager/2020/10/14/ohio-corn-soybean-and-wheat-enterprise-budgets-projected-returns-for-2021/>

Production costs for Ohio field crops are forecast to be slightly lower than last year with lower expenses for fertilizer, fuel and interest. Variable costs for corn in Ohio for 2021 are projected to range from \$359 to \$433 per acre depending on land productivity. Variable costs for 2021 Ohio soybeans are projected to range from \$199 to \$220 per acre. Wheat variable expenses for 2021 are projected to range from \$162 to \$191 per acre. Grain prices currently used as assumptions in the 2021 crop enterprise budgets are \$3.70/bushel for corn, \$9.40/bushel for soybeans and \$5.70/bushel for wheat. Projected returns above variable costs (contribution margin) range from \$172 to \$357 per acre for corn and \$222 to \$404 per acre for soybeans. Projected returns above variable costs for wheat range from \$179 to \$314 per acre.

Return to Land is a measure calculated to sometime assist in land rental and purchase decision making. The measure is calculated by starting with total receipts or revenue from the crop and subtracting all expenses except the land expense. Returns to Land for Ohio corn (Total receipts minus total costs except land cost) are projected to range from \$11 to \$184 per acre in 2021 depending on land production capabilities. Returns to land for Ohio soybeans are expected to range from \$109 to \$282 per acre depending on land production capabilities. Returns to land for wheat (not including straw or double-crop returns) are projected to range from \$95 per acre to \$222 per acre.

Total costs projected for trend line corn production in Ohio are estimated to be \$761 per acre. This includes all variable costs as well as fixed costs (or overhead if you prefer) including machinery, labor, management and land costs. Fixed machinery costs of \$75 per acre include depreciation, interest, insurance and housing. A land charge of \$195 per acre is based on data from the Western Ohio Cropland Values and Cash Rents Survey Summary. Labor and management costs combined are calculated at \$71 per acre. Details of budget assumptions and numbers can be found in footnotes included in each budget.

Total costs projected for trend line soybean production in Ohio are estimated to be \$522 per acre. (Fixed machinery costs: \$59 per acre, land charge: \$195 per acre, labor and management costs combined: \$45 per acre.)

Total costs projected for trend line wheat production in Ohio are estimated to be \$459 per acre. (Fixed machinery costs: \$34 per acre, land charge: \$195 per acre, labor and management costs combined: \$43 per acre.)

Budget projections for commodity crops for 2021 have been completed and posted to the **Farm Office** website: <https://farmoffice.osu.edu/farm-mgt-tools/farm-budgets>

## ***Are Wedding Barns Considered AgriTourism?***

By: Peggy Kirk Hall, Wednesday, October 07th, 2020

Source: <https://farmoffice.osu.edu/blog/wed-10072020-135pm/court-appeals-confirms-decision-not-allow-weddings-hay-farm-%E2%80%9Cagritourism%E2%80%9D>

When does the business of hosting weddings on a farm qualify as “agritourism” under Ohio law? That was the question faced by Ohio’s Second District Court of Appeals in a legal battle between Caesarscreek Township and the owners of a farm property in Greene County. The answer to the question is important because local zoning can’t prohibit the hosting of weddings and similar events if they fall under Ohio’s definition of “agritourism.” Those that don’t qualify as “agritourism” are subject to local zoning prohibitions and regulations. According to the court’s recent decision, the determination depends largely upon the facts of the situation, but merely taking place on an agricultural property does not automatically qualify a wedding or event as “agritourism.”

The case regards the Lusardis, who own a 13.5 acre property in Caesarscreek Township containing a pole barn and outbuilding, a one-acre pond, several acres of woods, and an eight acre hayfield on which the Lusardis had produced hay for several years. Their plan was to offer corn mazes, hayrides and celebratory events like weddings and receptions on the property. To do so, the Lusardis had to demonstrate to the township's Board of Zoning Appeals (BZA) that their activities fit within Ohio's definition of "agritourism" and thus must be allowed according to Ohio law. That definition in ORC 901.80 states:

- "Agritourism means an agriculturally related educational, entertainment, historical, cultural, or recreational activity, including you-pick operations or farm markets, conducted on a farm that allows or invites members of the general public to observe, participate in or enjoy that activity."

In applying the definition of agritourism to its local zoning, Caesarscreek Township requires an agritourism provider to explain how the "educational, entertainment, historical, cultural or recreational" activities it plans to offer are "agriculturally related" to the property and the surrounding agricultural community. In their agritourism application with the township, the Lusardis explained that guests could use the property to celebrate an agriculturally themed event, enjoy the scenery, hay fields and woods, learn about plants and wildlife, have bonfires, play corn hole, fish, and get married outside, in the woods, or in the hayfield. The township zoning inspector, however, testified to the BZA that he did not see a relationship between weddings and receptions and the Lusardi property itself. A wedding or reception would not have a "basic relationship" to the existing agricultural use of the property or the surrounding area and the agricultural use of the property was incidental, at best, to the wedding and reception business, argued the zoning inspector.



The township BZA agreed with the zoning inspector. It determined that the Lusardi's corn maze and hayride activities qualified as agritourism, but held that any celebratory events such as weddings would not be "agriculturally related" to the property and thus did not fit within the definition of agritourism and could not take place on the property. The Lusardis appealed the BZA's decision to the Greene County Court of Common Pleas, whose duty under Ohio law was to determine whether the BZA's conclusion was "unconstitutional, illegal, arbitrary, capricious, unreasonable or unsupported by the preponderance of substantial, reliable, and probative evidence on the whole record." The common pleas court found the BZA's conclusion reasonable and upheld the decision. The BZA's determination that weddings don't bear a general relevance to agriculture was understandable, whereas corn mazes and hay rides do bear a reasonable relationship to agriculture, the court stated.

The Lusardis appealed the common pleas court decision to the Ohio Court of Appeals. Its duty in reviewing the case was to determine whether the common pleas court had abused its discretion by making a judgment on a question of law that is "unreasonable, arbitrary or unconscionable." The appellate court concluded that the common pleas court had not abused its discretion by affirming the BZA decision. Agreeing that it was reasonable for the BZA to conclude that the celebratory events were not sufficiently related to the agricultural property, the court stated that "just because an activity is on agricultural property does not make it "agritourism" and is not, by itself, enough to make the activity "agriculturally related."

The "what does 'agriculturally related' mean?" question is one we've pondered since the Ohio legislature created the definition of agritourism in 2016. An important rule to draw from this case is that the answer must be made on a case-by-case basis. The Lusardis asked the court of appeals to decide whether any celebratory event on an agricultural property would be agriculturally related and would therefore constitute "agritourism" as a matter of law, but the court refused to do so. "Whether a particular activity constitutes "agritourism" is an issue that shades to gray quite quickly," stated the court. "Given the great variety of factual situations, we



decline to rule on whether celebratory events constitute “agritourism” as a matter of law.”

Also noteworthy is the court’s attention to the BZA’s analysis of the activities that were to take place on the Lusardi property. The BZA pointed to a lack of evidence that any crops or flowers grown on the property would be used in the events. Also remiss was evidence that the only agricultural crop grown on the property—hay—was somehow connected to the celebratory events that would take place. The court observed that these evidentiary flaws supported the BZA’s conclusion that the Lusardis were proposing an event venue with an incidental theme rather than an agricultural activity with an incidental event.

Wedding barn issues have been a cause of controversy in recent years. The *Lusardi v. Caesarscreek Township* decision follows an Ohio Supreme Court case earlier this year regarding whether a wedding barn fit within the agricultural exemption from zoning for buildings and structures used “primarily for vinting and selling wine.” In that case, the Supreme Court determined that making and selling wine was the primary use of the barn and that weddings and events were incidental, yet were related to the production because event guests had to purchase the wine produced at the farm. Taken together, these cases illustrate the importance Ohio’s agricultural zoning exemption places on production activities. Where agricultural goods are being produced and sold, additional incidental activities such as celebratory events that are related to agricultural production will likely fall under the agricultural exemption. But as the *Lusardi* case illustrates, local zoning may prohibit celebratory events that don’t have a clear connection to agricultural production and instead appear to be the primary rather than incidental use of the property.

Read the case of *Lusardi v. Caesarscreek Township Board of Zoning Appeals* at:  
<http://www.supremecourt.ohio.gov/rod/docs/pdf/2/2020/2020-Ohio-4401.pdf>

## ***Be Prepared for Combine Fires During Harvest Season***

by: Dee Jepsen

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2020-35/be-prepared-combine-fires-during-harvest-season>

The combination of high temperatures and dry conditions are the perfect conditions for field fires and combine fires during harvest. Dry grasses, crop residues, and woodland debris along many of our farm fields provide fuel for field fires. Likewise, leaked fuel, cracked hydraulic hoses, heated bearings, overheated belts and chains can provide the ignition for equipment fires.



The combine is a critical piece of equipment for fall harvest. Here are several precautions for protecting combines from fire this season.

Photo credit: Flickr

### Prevent Combine Fires from Starting

Work crews should take extra precautions to prevent fires from starting.

- Park a hot combine away from out-buildings. Keeping a combine out of barns, sheds, and away from other flammables is a common prevention strategy in case a hot spot ignites. Insurance claims can double when equipment fires are responsible for loss of farm structures.
- Regular maintenance is priority. Check the machine daily for any overheated bearings or damage in the exhaust system. Keep the fittings greased. Maintain proper coolant and oil levels. Repair fuel or oil hoses, including fittings and metal lines, if they appear to leak.
- Keep dried plant material from accumulating on the equipment. Frequently blow dry chaff, leaves and other crop materials that have accumulated on the equipment with a portable leaf blower or air compressor. Be sure to inspect the engine compartment and other areas where chaff accumulates around bearings, belts and other moving parts.
- Maintain the electrical system. Pay attention to machine components that draw a heavy electrical load,

such as starter motors and heating/cooling systems. Monitor circuits for any overloading, especially if fuses blow regularly. Keep wiring in good condition and replace frayed wiring or worn out connectors.

- Refuel a cool engine whenever possible. Never refuel a combine with the engine running. It is recommended to turn off the engine and wait 15 minutes; this helps to reduce the risk of a spill volatilizing and igniting.
- Prevent static electricity while operating in a dry field. Use a ground chain attached to the combine frame to prevent static charges from igniting dry chaff and harvest residue, letting the chain drag on the ground while in the field.

### Protection Strategies for Combatting Fires

Have equipment ready to fight field and combine fires.

- Have 2 fully charged fire extinguishers on the combine. ABC fire extinguishers are recommended on farm machinery. In a combine, keep a 10-pound unit in the cab and a 20-pound unit mounted at ground level.
- Have 1 fully charged fire extinguisher in the tractor, grain cart, and pickup truck. ABC fire extinguishers are recommended on farm machinery. These extinguishers are good for fires at incipient phases – meaning at the first sign of smoke or a small flame.
- Have a portable water tank and shovel on standby. A water tank at the edge of the field can help extinguish field fires. A shovel can be used to throw dirt over burning field residue. However, stay back if the fire takes off.

### What to Do When a Fire Appears

When a fire appears, it is important to put worker protection before saving equipment.

- Turn off the engine. If in the combine cab, turn off the engine and exit the machine.
- Call 911 before trying to extinguish the fire yourself. In many situations, first responders cannot arrive on the scene fast enough to extinguish a fire. Calling 911 puts professionals in action sooner than later.
- Use a fire extinguisher. If the fire is in the cab, stand on the exterior platform and use the 10-pound fire extinguisher from the outside of the cab. If the fire is inside the equipment, use caution when opening the engine compartment or other hatches as small fires can flare with extra air. Stay a safe distance away from the fire as you use the 20-pound extinguisher.
- Use water and a shovel on small field debris fires. These items can stop field fires from spreading.
- Have an emergency plan in place and be sure all employees know the plan. Combine fires happen fast – be sure to talk to employees (the hired and the “helper crews”) to know what to do if smoke or fire appears. The safety of the people always comes before the saving of equipment.

## **Still Planting Wheat?**

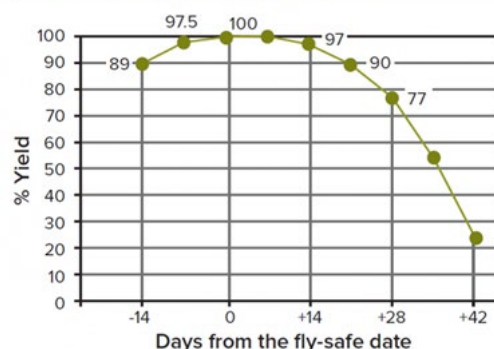
By: Laura Lindsey and Pierce Paul

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2020-35/still-planting-wheat>

Generally, the best time to plant wheat is the 10-day period starting the day after the fly-free-safe date. When wheat is planted more than 10 days after the fly-free-safe date, there is an increased change of reduced fall growth and reduced winter hardiness. The effect of planting date on wheat yield is shown in Figure 6-2 of the Ohio Agronomy Guide, 15th edition.

There is still time to plant wheat. Wheat planted 3 to 4 weeks after the fly-free-safe date can achieve a similar yield as earlier planted wheat if freezing weather does not occur until late November or early December. However, as we enter three to four weeks after the fly-free-safe date, growers should plant at a higher seeding rate than the regularly recommended 1.2 to 1.6 million seeds per acre in 7.5-inch rows. Instead, plant at a rate of 1.6 to 2.0 million seeds per acre. The number of seeds per

Figure 6-2. Effect of planting date on wheat.



pound and germination rate are important for determining the correct seeding rate and calibration. There are fewer seeds per pound of large seeds than per pound of small seeds. The number of seeds per pound can be found on the seed bag. Additionally, late planting also means plants will be smaller than normal when entering dormancy and have smaller and shallower root systems than normal, making them more susceptible to heaving next March. The best heaving control is to get the seed placed between 1.0 and 1.5 inches deep when planting and to plant without tillage.

## ***Multi-Species Grazing as an Alternative to Pasture Spraying***

By: James Doyle, Extension Natural Resource Management Field Specialist, South Dakota State University (Previously published by [South Dakota State University Extension: August 6, 2020](#))

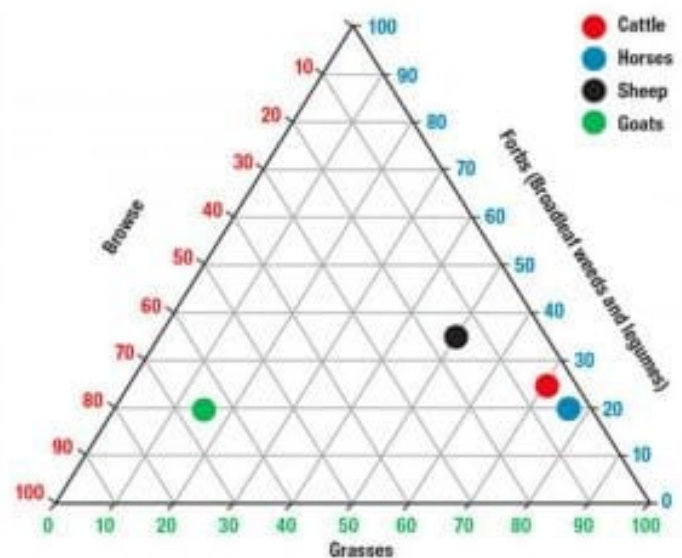
Source: <https://u.osu.edu/sheep/2020/10/13/multi-species-grazing-as-an-alternative-to-pasture-spraying/#more-3956>

Broadacre spraying of pastures is intended to reduce undesirable plants and increase grasses for livestock. This practice often results in unintended consequences including damage and reduction of native forbs and reduced profitability. One approach to managing perceived “weedy” plants that can offset those negative outcomes is incorporating different species of livestock into a grazing operation.

All species of livestock have different dietary preferences, and producers can harness this to help manage their plant communities in an ecologically and economically sustainable manner. Small ruminants, in particular sheep and goats, are the most common livestock species that are added alongside a cattle enterprise.

All species of livestock have different preferences when it comes to selecting the species of plants they consume, as demonstrated in the image above.

Generally speaking, cattle diets are dominated by grass, a moderate forb component, and very little browse (or woody plants); goats are on the opposite end of the spectrum, with a strong preference for browse, followed by forbs and a minor grass component; sheep are intermediate, with a selection for forbs, grass, and a moderate browse component. By incorporating additional livestock species, producers can manage previously undesirable plants with a positive outcome. Broadcast spraying can have very damaging effects on native forbs, and rarely results in lasting eradication of undesirable plants. Additionally, a pasture spray program can be very expensive, with little evidence to suggest that the expense is recaptured in increased grass production and pounds of beef harvested. In contrast, sheep or goats can effectively utilize plants that cattle avoid. Harvesting these additional plant species with a different species of livestock can effectively increase the pounds of livestock produced per acre, without damaging the plant community. This can provide a level of management of undesirable species in conjunction with increased economic returns. In fact, this may lead you to question whether some of those “weeds” might actually be good to have around!



(Image Source: Rocky Lemus, Progressive Forage)

As with any livestock, it is important to not overstock the pasture or range when bringing in a new species. First and foremost, the stocking rate of the livestock needs to be in line with the production of the land. A general rule of thumb when adding sheep to a cattle enterprise is that one ewe can be run alongside each cow without negatively affecting the pasture health or forage availability for cattle. For instance, a 100 cow operation could add 100 ewes to their pastures, without reducing capacity for the cows, or damaging the pastures; this demonstrates how it is possible to harness the differences in dietary preferences to increase the overall output

of your pastures. With goats, this ratio may be even higher because of the greater difference between the diet of goats and cattle. This 1:1 ratio is just a rough starting point. Producers should inventory their pastures to have an idea of the different plant species present. Pastures with very high forb or shrub content may be able to support more sheep, and conversely pastures that are almost entirely grass may not be able to run as many sheep alongside the cattle. As with any new enterprise, the best approach is to start conservatively, observe the animal behavior and effects on the pasture, and then adjust accordingly.

Bringing a new species of livestock on to an operation comes with plenty of challenges, as well as opportunities that should be considered carefully. One of the primary challenges with sheep or goats is fencing, as most cattle fences will not contain them reliably. Woven wire is an ideal fence for the small ruminants, but additional hot wires added to an existing fence can be a relatively inexpensive way to improve a fence. Additionally, improvements in portable electric fence have made it increasingly easier to manage sheep and goats in pastures that don't have permanent fencing in place. Additionally, portable fencing can enable managers to more effectively target grazing on certain species or areas. Lambing or kidding can also demand a significant amount of labor that should be considered. On the other hand, lambing/kidding results in an additional crop of market livestock to sell that can improve the overall returns, as well as smooth cash flow by providing income at different times of the year and diversifying income across different markets. Of course, going out and purchasing a flock of sheep or goats is not the only way to realize the benefits of their presence. This can provide an excellent opportunity for land managers to partner with sheep owners to provide access to pasture while receiving a rental income for the grazing, the ecological benefits of a new species, and less of the risk/hassle associated with developing a new enterprise. Finally, it is important to note that landowners are still obligated to control noxious weeds on their property, which may still require targeted mowing/clipping or spot spraying. As with anything, multi species grazing should be considered as another tool managers can utilize, but not a silver bullet for everything.

## ***Milk Prices, Components, Questions & CFAP 2***

Dianne Shoemaker,

Originally Published in Farm & Dairy Newsletter

2020 will go down in the record books as unforgettable for many reasons. Ohio dairy farmers will certainly remember the \$24 July Class III price that looked and felt like \$16 when the milk check came... which followed the equally memorable \$21 June Class III price that turned into \$13.99 per cwt in the milk check.

Record-negative producer price differentials wreaked havoc whether there were risk-management plans in place – or not. Questions abound. Why did this happen? How? What does the future hold for dairy consumption, trade, and prices?

To help answer these questions, we invite you to grab your lunch and join us for a 3-part miniseries in November. Each session starts at noon and ends at 1:00 pm including time for questions and answers with our speakers.

Put these dates on your calendar:

Thursday, November 5<sup>th</sup> **How did we get to a -\$8 PPD?**

- Mark Stephenson, Director of Dairy Policy Analysis, University of Wisconsin

Tuesday, November 17<sup>th</sup> **Dairy Fundamental Outlook and Trade**

- William Loux, Director of Global Trade Analysis, Dairy Export Council
- Mike McCully, McCully Group



## Tuesday, November 24<sup>th</sup> Dairy Risk Management Tools

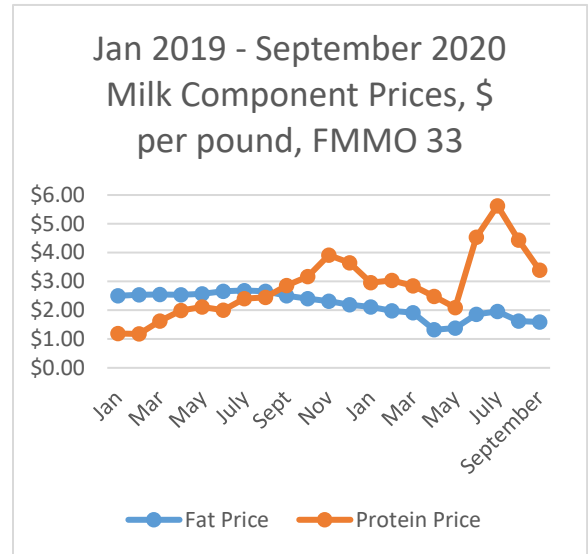
- Kenny Burdine, Livestock Marketing and Management, University of Kentucky
- Jason Hartschuh, ANR Educator, The Ohio State University
- Chris Zoller, ANR Educator, The Ohio State University

We are still living in a virtual world, so these sessions will be broadcast live via the Zoom platform. No worries if you have not used Zoom before. If I can handle it, so can you! You will need a decent internet connection and can connect with either a computer or use a smart phone.

There is no cost for the program, but please register ahead at: <http://go.osu.edu/DairyRiskManagement>. You will receive an email with information about joining the program via the Zoom platform. Participate in any or all of the sessions as your schedule allows. Play it safe and log on a few minutes before noon. I look forward to “seeing” you there.

### Component Update

By the time this column appears in print, the September PPD will have been announced, but as I write this, we do know that the September Class III price is \$16.43 based on fat worth \$1.59 per pound and protein valued at \$3.39 per pound. Even with the value of protein dropping more than a dollar per pound from August, and \$2.23 off of the July high, it is still the component to focus on to bring more value to your milk check.



### CFAP 2

Sign up is open through December 11<sup>th</sup> at your county's Farm Service Agency Office for the CFAP 2 program. Intended to assist with financial issues caused by market disruption due to COVID 19, it follows but is independent of the CFAP 1 program. Dairy farms can receive \$1.20 per cwt for milk produced from April 1 through August 31, 2020, and \$1.20 per cwt for estimated milk production from September 1 through December 31, 2020. Estimated production is based on daily average milk produced (and sold) between April 1 and August 31. Find an example calculation in the September Buckeye Dairy News at <http://dairy.osu.edu>. Your FSA office will assist with your application. Also find more detailed information at [fsa.gov/cfap](https://fsa.gov/cfap).

Check out  
<http://go.osu.edu/coshocton-agnews>  
for back issues of the Coshocton  
County Agriculture & Natural  
Resources Newsletter



## CORN PRODUCTION BUDGET- 2021

### Conservation Tillage Practices: N-Source - NH3

Reflects 2000 acres, Conservation Tillage Corn/No-Till RR Soybeans

Updated:

9/2020

ITEM	EXPLANATION			YOUR PROD. NUMBERS	PRICE PER UNIT	YIELD (bu/A) <sup>1</sup>			YOUR BUDGET
						140	175	210	
									215
RECEIPTS									
Corn <sup>1</sup>				\$3.70	/bu	518.30	647.87	777.44	795.50
ARC/PLC Payment (paid October 2022) <sup>2</sup>						12.75	12.75	12.75	12.75
Crop Insurance Indemnity						0.00	0.00	0.00	0.00
Ad Hoc Payment						0.00	0.00	0.00	0.00
Grower or Market Premium						0.00	0.00	0.00	0.00
TOTAL RECEIPTS						531.05	660.62	790.19	808.25
VARIABLE COSTS									
Seed (kernels) <sup>3</sup>	28000	32000	34000	34000	\$3.25	/1000	91.00	104.00	110.50
	Seed Cost Per Bag				\$260.00	/bag			
Fertilizer <sup>4</sup>									
Starter Fertilizer						0.00	0.00	0.00	0.00
N (lbs.)	168.0	186.0	206.0	206.0	0.28	/lb	57.12	62.17	67.78
P <sub>2</sub> O <sub>5</sub> (lbs)	49.0	61.3	73.5	75.3	0.41	/lb	20.27	25.34	31.11
K <sub>2</sub> O(lbs)	28.0	35.0	42.0	43.0	0.27	/lb	7.59	9.48	11.65
Lime(ton)		0.25		0.25	25	/ton	6.25	6.25	6.25
Chemicals <sup>5</sup>	Herbicide					46.22	46.22	46.22	46.22
	Fungicide					0.00	0.00	0.00	0.00
	Insecticide					0.00	0.00	0.00	0.00
Drying <sup>6</sup>	20.0	% moisture at harvest		0.039	/cent/bu/point	27.32	34.14	40.97	41.93
Hauling <sup>7</sup>	\$0.155	/per bushel				21.71	27.14	32.57	33.33
Fuel, Oil, Grease <sup>8</sup>						11.00	11.00	11.00	11.00
Repairs <sup>9</sup>						25.54	25.54	25.54	25.54
Crop Insurance <sup>10</sup>						11.00	13.00	15.00	15.00
Miscellaneous <sup>11</sup>						5.10	5.10	5.10	5.10
Hired Custom Work <sup>12</sup>						22.20	22.20	22.20	22.20
Hired Labor <sup>13</sup>						0.00	0.00	0.00	0.00
Int. on Oper. Cap. <sup>14</sup>	7	mo.		4.00%		6.82	7.40	7.85	7.87
TOTAL VARIABLE COSTS									
			-Per Acre			359.14	398.99	432.77	435.47
			-Per Bushel			2.56	2.28	2.06	2.03
FIXED COSTS									
Labor Charge <sup>15</sup>	2.25	hours		17.00	/hr	38.25	38.25	38.25	38.25
Management Charge <sup>16</sup>	5%	of gross revenue				26.55	33.03	39.51	40.41
Mach. And Equip. Charge <sup>17</sup>						75.22	75.22	75.22	75.22
Land Charge <sup>18</sup>		Rent				155.00	195.00	242.00	242.00
Miscellaneous <sup>19</sup>						20.50	20.50	20.50	20.50
TOTAL FIXED COSTS						315.52	362.00	415.48	416.38
TOTAL COSTS									
			-Per Acre			674.66	760.99	848.25	851.85
			-Per Bushel			4.82	4.35	4.04	3.96
RETURN ABOVE VARIABLE COSTS <sup>20</sup>						171.91	261.63	357.43	372.78
RETURN ABOVE VARIABLE AND LAND COSTS						16.91	66.63	115.43	130.78
RETURN ABOVE TOTAL COSTS						-143.61	-100.37	-58.05	-43.60
RETURN TO LAND						11.39	94.63	183.95	198.40
RETURN TO LABOR AND MANAGEMENT						-78.81	-29.09	19.71	35.06
RETURN TO LAND, LABOR AND MANAGEMENT						76.19	165.91	261.71	277.06

Values highlighted in gold may be changed to assist in computing "Your Budget" Column using macros embedded within the spreadsheet.

Values highlighted in light blue are cells embedded with macros and will be calculated for the user based on data entered.

These cells may be input manually, but macros will be overwritten!

Values highlighted in gray are stand alone cells that require direct input from the user.

<sup>1</sup> Yield is based on Ohio NASS 20 Year Trend Yield for Ohio plus and minus 20%.

Price is based on current CME December Futures less \$0.20 basis.

<sup>2</sup> Commodity Program Payment estimates were calculated by using a 40 year trend estimate for Ohio commodity specific yields and the 2021/2022 marketing year average price: USDA baseline: ARC-CO, ARC-IC & PLC.

Payments for corn, soybeans and wheat were weighted by the share of acres enrolled in ARC-CO, ARC-IC and PLC and then by the share of commodity specific base acres to the aggregate total. Both numbers were provided by the Farm Service Agency.

<sup>3</sup> Seed price based on traited seed corn, 80,000 kernels/bag.

Includes seed treatment at low level.

<sup>4</sup> Assumes maintenance application of P & K fertilizer needed, corn-soybean rotation, 3.8 O.M., 20 CEC, and soil test values of 25 ppm P/A and 125 ppm K/A. Fertilizer prices vary over time and area. Check with local sources for current prices.

Assumes NH<sub>3</sub>(82-0-0): \$460 /ton MAP(11-52-0): \$430 /ton Potash(0-0-60): \$325 /ton

Nitrogen (N) rates based on the Maximum Return to Nitrogen (MRTN) approach. Corn Nitrogen Rate Calculator <http://cnrc.agron.iastate.edu/>  
N cost includes cost of N-Serve.

<sup>5</sup> Based on use of: preplant Corvus plus atrazine, post glyphosate with ammonium sulfate (AMS).

<sup>6</sup> Drying costs are based on Ohio Farm Custom Rates - 3.9 cents per bushel per point of moisture removed - 5% moisture removed

<sup>7</sup> Hauling based on Ohio Farm Custom Rates charge per bushel - Farm to Market - 30 miles, one-way

<sup>8</sup> See 'machinery costs' tab for specific calculations. Lubrication costs are assumed to be 10% of fuel costs

<sup>9</sup> See 'machinery costs' tab for specific calculations.

<sup>10</sup> Crop Insurance: Revenue Protection (with Trend Adjusted Yield Endorsement), Basic (without SCO), 80% coverage level.

<sup>11</sup> Includes marketing, farm insurance, dues and professional fees, supplies, utilities, soil tests, small tools, software/hardware, business use of vehicle, transport of supplies and equipment, etc...

<sup>12</sup> Includes hired custom operations for dry bulk fertilizer application and anhydrous ammonia (NH<sub>3</sub>) application

<sup>13</sup> Part or all of labor may be a variable cost if paid labor varies with acres farmed.

Labor is considered a fixed cost if labor costs do not change with acres farmed.

Labor rate includes cash wages plus benefits.

<sup>14</sup> Interest on all variable costs, except drying, hauling and crop insurance

<sup>15</sup> Part or all of labor may be a variable cost if paid labor varies with acres farmed.

Labor is considered a fixed cost if labor costs do not change with acres farmed.

Labor rate includes cash wages plus benefits.

Labor hours: FINBIN, Labor rate: Ohio Farm Custom Rates

<sup>16</sup> Management Charge is calculated as 5% of total receipts.

<sup>17</sup> Machinery and Equipment Charge Reflects 2000 acres, conservation tillage corn/no-till RR soybean rotation.

See 'machinery costs' tab for specific calculations.

<sup>18</sup> Average based on "Ohio Cropland Values and Cash Rents" factsheet found at: <http://ohioline.osu.edu/>

Land charges vary throughout the state, check your local rates.

<sup>19</sup> Includes marketing, farm insurance, dues and professional fees, supplies, utilities, soil tests, small tools, software/hardware, business use of vehicle, transport of supplies and equipment, etc...

<sup>20</sup> Return Above Variable Costs equals total receipts minus total variable costs.

Return Above Variable and Land Costs equals total receipts minus total variable and land costs.

Return Above Total Costs equals total receipts minus total costs.

Return to Land equals total receipts minus total costs except land costs.

Return to Labor and Management equals total receipts minus total expenses except operator labor and management cost.

Return to Land, Labor and Management equals total receipts minus total expenses

except operator labor and management and land costs.

#### Authors:

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# SOYBEAN PRODUCTION BUDGET (Roundup Ready) - 2021

## No-Tillage Practices

Reflects 2000 acres, Conservation Tillage Corn/No-Till RR Soybeans

Updated:

9/2020

ITEM	EXPLANATION	YOUR PROD. NUMBERS	PRICE PER UNIT	YIELD (bu/A) <sup>1</sup>			YOUR BUDGET
				43	54	65	67
<b>RECEIPTS</b>							
Soybeans <sup>1</sup>			<b>\$9.40</b> bu	407.58	509.48	611.38	<b>629.80</b>
ARC/PLC Payment (paid October 2022) <sup>2</sup>				12.75	12.75	12.75	<b>12.75</b>
Crop Insurance Indemnity				0.00	0.00	0.00	<b>0.00</b>
Ad Hoc Payment				0.00	0.00	0.00	<b>0.00</b>
Grower or Market Premium				0.00	0.00	0.00	<b>0.00</b>
<b>TOTAL RECEIPTS</b>				420.33	522.23	624.13	<b>642.55</b>
<b>VARIABLE COSTS</b>							
Seed <sup>3</sup>	160000 seeds	<b>160000</b>	<b>0.393</b> /1000	62.88	62.88	62.88	<b>62.88</b>
Fertilizer <sup>4</sup>	/acre		seeds				
P2O5(lbs)	34.7 43.4 52.0	<b>53.6</b>	<b>0.41</b> lb	14.34	17.93	21.51	<b>22.16</b>
K2O(lbs)	49.9 62.3 74.8	<b>77.05</b>	<b>0.27</b> lb	13.50	16.88	20.26	<b>20.87</b>
Lime(ton)	0.25	<b>0.25</b>	<b>25</b> ton	6.25	6.25	6.25	<b>6.25</b>
Chemicals <sup>5</sup>	Herbicide			41.99	41.99	41.99	<b>41.99</b>
	Insecticide			0.00	0.00	0.00	<b>0.00</b>
	Fungicide			0.00	0.00	0.00	<b>0.00</b>
Hauling <sup>6</sup>	<b>\$0.155</b> /per bushel			6.72	8.40	10.08	<b>10.39</b>
Fuel, Oil, Grease <sup>7</sup>				9.26	9.26	9.26	<b>9.26</b>
Repairs <sup>8</sup>				21.60	21.60	21.60	<b>21.60</b>
Crop Insurance <sup>9</sup>				8.00	10.00	12.00	<b>12.00</b>
Miscellaneous <sup>10</sup>				3.40	3.40	3.40	<b>3.40</b>
Hired Custom Work <sup>11</sup>				7.00	7.00	7.00	<b>7.00</b>
Hired Labor <sup>12</sup>				0.00	0.00	0.00	<b>0.00</b>
Int. on Oper. Cap. <sup>13</sup>	<b>6</b> mo.		<b>4.00%</b>	3.60	3.74	3.88	3.91
<b>TOTAL VARIABLE COSTS</b>	<b>-Per Acre</b>			198.56	209.34	220.12	<b>221.71</b>
	<b>-Per Bushel</b>			4.58	3.86	3.38	<b>3.31</b>
<b>FIXED COSTS</b>							
Labor Charge <sup>14</sup>	<b>1.1</b> hours		<b>17.00</b> /hr	18.70	18.70	18.70	<b>18.70</b>
Management Charge <sup>15</sup>	<b>5%</b> of gross income			21.02	26.11	31.21	<b>32.13</b>
Mach. and Equip. Charge <sup>16</sup>				59.20	59.20	59.20	59.20
Land Charge <sup>17</sup>				155.00	195.00	242.00	<b>242.00</b>
Miscellaneous <sup>18</sup>				13.40	13.40	13.40	<b>13.40</b>
<b>TOTAL FIXED COSTS</b>				267.31	312.41	364.50	<b>365.42</b>
<b>TOTAL COSTS</b>	<b>-Per Acre</b>			465.87	521.75	584.62	<b>587.13</b>
	<b>-Per Bushel</b>			10.74	9.63	8.99	<b>8.76</b>
<b>RETURN ABOVE VARIABLE COSTS<sup>19</sup></b>				221.78	312.89	404.01	420.84
<b>RETURN ABOVE VARIABLE AND LAND COSTS</b>				66.78	117.89	162.01	178.84
<b>RETURN ABOVE TOTAL COSTS</b>				-45.54	0.48	39.50	55.42
<b>RETURN TO LAND</b>				109.46	195.48	281.50	297.42
<b>RETURN TO LABOR AND MANAGEMENT</b>				-5.82	45.30	89.41	106.25
<b>RETURN TO LAND, LABOR, AND MANAGEMENT</b>				149.18	240.30	331.41	348.25

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Values highlighted in light blue are cells embedded with macros and will be calculated for the user based on data entered.

These cells may be input manually, but macros will be overwritten!

Values highlighted in gray are stand alone cells that require direct input from the user.

<sup>1</sup> Yield is based on Ohio NASS 20 Year Trend Yield for Ohio plus and minus 20%.

Price is based on current CME November Futures less \$0.30 basis.

<sup>2</sup> Commodity Program Payment estimates were calculated by using a 40 year trend estimate for Ohio commodity specific yields and the 2021/2022 marketing year average price: USDA baseline: ARC-CO, ARC-IC & PLC.

Payments for corn, soybeans and wheat were weighted by the share of acres enrolled in ARC-CO, ARC-IC and PLC and then by the share of commodity specific base acres to the aggregate total. Both numbers were provided by the Farm Service Agency.

<sup>3</sup> Seed costs are per 1000 seeds, treated.

<sup>4</sup> Assumes only maintenance application of fertilizer needed, corn-soybean rotation, 3.8 O.M., 20 CEC, and soil test values of 25 ppm P/A and 125 ppm K/A. Fertilizer prices vary over time and area. Check with local sources for current prices.

Assumes MAP(11-52-0): 430 /ton Potash(0-0-60): 325 /ton

<sup>5</sup> Based on use of: fall applied glyphosate plus 2,4-D with ammonium sulfate (AMS), preplant Valor XLT & metribuzin w/ AMS post glyphosate with MSO and AMS. Glyphosate tolerant soybeans are often used in part as a tool for perennial weed control. While this intrinsic value is not included in the budget, it should be considered when exploring opportunities with glyphosate tolerant soybeans.

<sup>6</sup> Hauling based on Ohio Farm Custom Rates charge per bushel - Farm to Market - 30 miles, one-way

<sup>7</sup> See 'machinery costs' tab for specific calculations. Lubrication costs are assumed to be 10% of fuel costs

<sup>8</sup> See 'machinery costs' tab for specific calculations.

<sup>9</sup> Crop Insurance: Revenue Protection (with Trend Adjusted Yield Endorsement), Basic (without SCO), 80% coverage level.

<sup>10</sup> Includes marketing, farm insurance, dues and professional fees, supplies, utilities, soil tests, small tools, software/hardware, business use of vehicle, transport of supplies and equipment, etc...

<sup>11</sup> Includes hired custom operations for dry bulk fertilizer application

<sup>12</sup> Part or all of labor may be a variable cost if paid labor varies with acres farmed.

Labor is considered a fixed cost if labor costs do not change with acres farmed.

Labor rate includes cash wages plus benefits.

<sup>13</sup> Interest on all variable costs, except hauling and crop insurance

<sup>14</sup> Part or all of labor may be a variable cost if paid labor varies with acres farmed.

Labor is considered a fixed cost if labor costs do not change with acres farmed.

Labor rate includes cash wages plus benefits.

Labor hours: FINBIN, Labor rate: Ohio Farm Custom Rates

<sup>15</sup> Management Charge is calculated as 5% of total receipts.

<sup>16</sup> Machinery and Equipment Charge Reflects 2000 acres, conservation tillage corn/no-till RR soybean rotation.

See 'machinery costs' tab for specific calculations.

<sup>17</sup> Average based on "Ohio Cropland Values and Cash Rents" factsheet found at: <http://ohioline.osu.edu/>

Land charges vary throughout the state, check your local rates.

<sup>18</sup> Includes marketing, farm insurance, dues and professional fees, supplies, utilities, soil tests, small tools, software/hardware, business use of vehicle, transport of supplies and equipment, etc...

<sup>19</sup> Return Above Variable Costs equals total receipts minus total variable costs.

Return Above Variable and Land Costs equals total receipts minus total variable and land costs.

Return Above Total Costs equals total receipts minus total costs.

Return to Land equals total receipts minus total costs except land costs.

Return to Labor and Management equals total receipts minus total expenses except operator labor and management cost.

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## WHEAT PRODUCTION BUDGET (Grain and Straw) - 2021 Conservation Tillage Practices

Reflects 2000 acres, Conservation Tillage Wheat/Corn/No-Till RR Soybeans

ITEM	EXPLANATION	YOUR PROD. NUMBERS	PRICE PER UNIT	Updated:			9//2020
				YIELD (bu/A)			YOUR BUDGET
				58	72	86	92
<b>RECEIPTS</b>							
Wheat (Grain Only) <sup>1</sup>			\$5.55 /bu	319.24	399.05	478.85	510.60
ARC/PLC Payment (paid October 2022) <sup>2</sup>				12.75	12.75	12.75	12.75
Crop Insurance Indemnity				0.00	0.00	0.00	0.00
Ad Hoc Payment				0.00	0.00	0.00	0.00
Grower or Market Premium				0.00	0.00	0.00	0.00
<b>TOTAL WHEAT RECEIPTS</b>				331.99	411.80	491.60	523.35
<b>VARIABLE COSTS</b>							
Seed	1,400,000 seeds	1,400,000	0.0310 /1000	43.40	43.40	43.40	43.40
Fertilizer <sup>3</sup>							
N (lbs.)	63.5 82.6 101.8	109.4	0.393 /lb	24.95	32.46	39.97	42.96
P <sub>2</sub> O <sub>5</sub> (lbs)	28.8 36.0 43.1	46.0	0.413 /lb	11.89	14.86	17.84	19.02
K <sub>2</sub> O(lbs)	14.4 18.0 21.6	23.0	0.271 /lb	3.89	4.87	5.84	6.23
Lime(ton)	0.25		25 /ton	6.25	6.25	6.25	6.25
Chemicals <sup>4</sup>	Herbicide			14.65	14.65	14.65	14.65
	Insecticide			0.00	0.00	0.00	0.00
	Fungicide			0.00	0.00	0.00	0.00
Hauling <sup>5</sup>	\$0.155 /per bushel			8.92	11.14	13.37	14.26
Fuel, Oil, Grease <sup>6</sup>				6.67	6.67	6.67	6.67
Repairs <sup>7</sup>				13.81	13.81	13.81	13.81
Crop Insurance <sup>8</sup>				5.50	6.00	6.50	6.50
Miscellaneous <sup>9</sup>				3.00	3.00	3.00	3.00
Hired Custom Work <sup>10</sup>				14.60	14.60	14.60	14.60
Hired Labor <sup>11</sup>				0.00	0.00	0.00	0.00
Int. on Oper. Cap. <sup>12</sup>	9 mo.		4.00%	4.29	4.64	4.98	5.12
<b>TOTAL VARIABLE COSTS</b>	<b>-Per Acre</b>			161.82	176.35	190.88	196.46
	<b>-Per Bushel</b>			2.81	2.45	2.21	2.14
<b>FIXED COSTS</b>							
Labor Charge <sup>13</sup>	1.35 hours		17.00 /hr	22.95	22.95	22.95	22.95
Management Charge <sup>14</sup>	5% of gross revenue			15.96	19.95	23.94	25.53
Mach. And Equip. Charge <sup>15</sup>				33.79	33.79	33.79	33.79
Land Charge <sup>16</sup>				155.00	195.00	242.00	242.00
Miscellaneous <sup>17</sup>				10.70	10.70	10.70	10.70
<b>TOTAL FIXED COSTS</b>				238.40	282.39	333.38	334.97
<b>TOTAL COSTS (Grain Only)</b>	<b>-Per Acre</b>			400.21	458.74	524.26	531.43
	<b>-Per Bushel</b>			8.11	7.16	6.66	6.60
<b>RETURN ABOVE VARIABLE COSTS<sup>18</sup></b>							
<b>RETURN ABOVE VARIABLE AND LAND COSTS</b>				15.17	40.45	58.72	84.89
<b>RETURN ABOVE TOTAL COSTS</b>				-68.23	-46.94	-32.66	-8.08
<b>RETURN TO LAND</b>				86.77	148.06	209.34	233.92
<b>RETURN TO LABOR AND MANAGEMENT</b>				-29.32	-4.04	14.24	40.40
<b>RETURN TO LAND, LABOR AND MANAGEMENT</b>				125.68	190.96	256.24	282.40

WHEAT STRAW		Tons Straw / Acre							
RECEIPTS (Straw Only)	1.2	1.5	1.8	1.5	120	/ton			
Small Squares / Acre	53	67	80	67	2.75	/bale	146.67	183.33	220.00
183.33									
VARIABLE COSTS (Straw Only)									
Fertilizer <sup>3</sup>									
P <sub>2</sub> O <sub>5</sub> (lbs)	3.8	4.8	5.7	4.8	0.413	/lb	1.58	1.97	2.37
K <sub>2</sub> O(lbs)	29.9	37.4	44.9	37.4	0.271	/lb	8.11	10.13	12.16
									10.13
Hired Custom Work <sup>10</sup>							81.77	100.43	119.10
Hired Labor <sup>11</sup>							0.00	0.00	0.00
									0.00
Int. on Oper. Cap. <sup>12</sup>		3	mo.		4.00%		0.10	0.12	0.15
									0.12
TOTAL VARIABLE COSTS- Per Acre							91.45	112.54	133.63
112.54									
FIXED COSTS (Straw Only)									
Labor Charge <sup>13</sup>		0.5	hours		17.00	/hour	8.50	8.50	8.50
									8.50
Management Charge <sup>14</sup>		5%	of gross revenue				7.33	9.17	11.00
									9.17
Miscellaneous <sup>17</sup>							2.20	2.20	2.20
									2.20
TOTAL FIXED COSTS							18.03	19.87	21.70
									19.87
TOTAL COSTS (Straw Only)- Per Acre							109.48	132.41	155.33
									132.41
RETURN TO LABOR AND MANAGEMENT (Straw Only) <sup>18</sup>							53.02	68.59	84.17
									68.59
RETURN ABOVE VARIABLE COSTS (Straw Only)							55.22	70.79	86.37
									70.79
RETURN ABOVE TOTAL COSTS (Straw Only)							37.18	50.93	64.67
									50.93

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These cells may be input manually, but macros will be overwritten!

Values highlighted in gray are stand alone cells that require direct input from the user.

<sup>1</sup> Yield is based on Ohio NASS 20 Year Trend Yield for Ohio plus and minus 20%.

Price is based on current CME September Futures contract price less 0.20 basis.

<sup>2</sup> Commodity Program Payment estimates were calculated by using a 40 year trend estimate for Ohio commodity specific yields and the 2021/2022 marketing year average price: USDA baseline: ARC-CO, ARC-IC & PLC.

Payments for corn, soybeans and wheat were weighted by the share of acres enrolled in ARC-CO, ARC-IC and PLC and then by the share of commodity specific base acres to the aggregate total. Both numbers were provided by the Farm Service Agency.

<sup>3</sup> Assumes only maintenance application of fertilizer needed, 3.8 O.M., 20 CEC, and soil test values of 25 ppm P/A and 125 ppm K/A.

Fertilizer prices vary over time and area. Check with local sources for current prices.

Assumes UAN(28-0-0): \$220 /ton MAP(11-52-0): \$430 /ton Potash(0-0-60): \$325 /ton

<sup>4</sup> Based on use of Spring application of 0.6 oz of Harmony Extra SG TotalSol, 1 pint of 2,4-D (4 lb/gal) and (non-ionic surfactant) NIS

<sup>5</sup> Hauling based on Ohio Farm Custom Rates charge per bushel - Farm to Market - 30 miles, one-way

<sup>6</sup> See 'machinery costs' tab for specific calculations. Lubrication costs are assumed to be 10% of fuel costs

<sup>7</sup> See 'machinery costs' tab for specific calculations.

<sup>8</sup> Crop Insurance: Revenue Protection (with Trend Adjusted Yield Endorsement), Basic (without SCO), 70% coverage level.

<sup>9</sup> Includes marketing, farm insurance, dues and professional fees, supplies, utilities, soil tests, small tools, software/hardware, business use of vehicle, transport of supplies and equipment, etc...

<sup>10</sup> Includes hired custom operations for grain: dry bulk fertilizer application and liquid fertilizer application for straw: raking per acre and bale, load, haul and store per bale

<sup>11</sup> Part or all of labor may be a variable cost if paid labor varies with acres farmed.

It's a fixed cost if labor costs do not change with acres farmed.

<sup>12</sup> Interest on all variable costs, except hauling and crop insurance

<sup>13</sup> Part or all of labor may be a variable cost if paid labor varies with acres farmed.

It's a fixed cost if labor costs do not change with acres farmed.

Labor hours: FINBIN, Labor rate: Ohio Farm Custom Rates

<sup>14</sup> Management Charge is calculated as 5% of total receipts.

<sup>15</sup> Machinery and Equipment Charge Reflects 2000 acres, conservation tillage corn & wheat/no-till RR soybean rotation. Wheat grown 1/5 years.

See 'machinery costs' tab for specific calculations.

<sup>16</sup> Average based on "Ohio Cropland Values and Cash Rents" factsheet found at: <http://ohioline.osu.edu/>

Land charges vary throughout the state, check your local rates.

<sup>17</sup> Includes marketing, farm insurance, dues and professional fees, supplies, utilities, soil tests, small tools, software/hardware, business use of vehicle, transport of supplies and equipment, etc...

<sup>18</sup> Return Above Variable Costs equals total receipts minus total variable costs.

Return Above Variable and Land Costs equals total receipts minus total variable and land costs.

Return Above Total Costs equals total receipts minus total costs.

Return to Land equals total receipts minus total costs except land costs.

Return to Labor and Management equals total receipts minus total expenses except operator labor and management cost.

Return to Land, Labor and Management equals total receipts minus total expenses except operator labor and management and land costs.

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