

Economic & Policy Update

Edited by:
Will Snell and Samantha Mastin



April 2019 Newsletter

Volume 19, Issue 4

Farm Financial Stress Resources Available

Members of the Agricultural Economics Department's extension team have pulled together a set of resources for farmers that are struggling with financial stress and looking to improve, or make changes to, their farming operations. Some of the material is original content and other material includes descriptions and links to outside sources. Topics include financial statements and performance measures, FSA loan programs, tax implications of discontinuing a farming operation, bankruptcy and debt reorganization, transitioning from farming, and managing stress and mental health. Contributors include Jonathan Shepherd, Jordan Shockley, Todd Davis, Greg Halich, Alison Davis, Steve Isaacs, Jerry Pierce, Sarah Bowker, and Kenny Burdine. The publication can be found on the Agricultural Economics webpage at <http://agecon.ca.uky.edu/>. Look for the link entitled, "Farmer Resources for Financial Stress".

The Impact of Fixed Costs on Hay Enterprise Profitability

When hay producers estimate cost of production they often focus exclusively on "cash costs" or variable cost of production such as fuel, repairs, supplies, and fertilizer. They all too often ignore their "fixed costs" of production such as depreciation, interest, insurance, and certain taxes. Although there are legitimate reasons to concentrate on cash costs in the short-run, it is a mistake in the long-run to ignore fixed costs as they are real costs. Fixed costs for equipment are often ignored because they are generally paid in lump sums, and thus there is a disconnect between equipment use and these costs. For example, each time you fill up the fuel tank you have a good estimate on the fuel cost for the running the tractor for the last ten hours. The same is not true for

depreciation or interest on that tractor. Many of you may have no idea what that cost you.

These fixed costs add up. For hay operations that are overcapitalized (too much equipment for their level of production), the combined depreciation and interest cost for equipment are sometimes as high as all their cash costs combined. These hay operations will never be profitable and unfortunately, it may take them years to realize this. The high fixed costs will be a drag on the hay enterprise regardless of how efficient they are with the rest of the operation. Determining how much equipment you can afford to have based on the size of your hay operation may be the most important decision you make regarding the profitability of your operation.

Depreciation

There are two common misconceptions related to depreciation. The first misconception is that IRS depreciation is real depreciation. Real depreciation is the how much a piece of equipment loses value each year. It is rarely the same as IRS depreciation formulas, which are there for tax purposes only. According to the IRS, a tractor is fully depreciated after seven years. Real depreciation is the difference between what you bought that tractor for and what you could sell it for today. Hopefully that tractor is still worth more than half of its original value after seven years. The rest of this article deals with real depreciation.

The second misconception is that all depreciation is a “fixed” cost, when in fact part of it is a “variable” cost. For example, let’s say you buy two identical new tractors. One you put 500 hours on the tachometer in one year and the other you park in the barn and never use. At the end of the first year you sell both tractors. Even though you didn’t use the second tractor, will it bring as much as you paid for it one year ago? Definitely not in a normal situation. This drop in value is the fixed depreciation. It doesn’t matter if you use that piece of equipment or not, it will drop in value. On the other hand, you now sell the tractor that you ran for 500 hours. Will this tractor bring as much as the one you parked in the barn? Again, in a normal situation the answer is a definite no. The difference in value between these two tractors is the “variable” depreciation: the more equipment is used, the steeper the drop in value.

Interest

Interest on equipment is the other major fixed cost we will examine. If you have a loan on your equipment, interest is an obvious cost (although one you are still likely to forget about in the short-run). If however, you self-financed a piece of equipment, it probably isn’t an obvious cost, but I will argue it is

still real a cost. For example, if you have a loan on your farm for 6%, with a balance of \$100,000 and you self-finance a piece of equipment for \$25,000, you could have taken that \$25,000 and paid off part of your farm mortgage. In general, the cost you allocate for self-financed capital should be the highest interest rate you have outstanding on your farming enterprise. If you are one of the fortunate few that have no loans on their farming operation you should charge yourself a reasonable interest rate based on what you could earn on that capital in a relatively risk free investment elsewhere. This will likely be a lower rate compared to the rate for borrowed money. Technically, the interest rate should be adjusted by the inflation rate to come up with a real interest rate. If the inflation rate was 2%, we would adjust that 6% mortgage down to a 4% real rate.

Examples

Table 1 (on the following page) shows two capital investment scenarios for a hay operation, one with a total capital investment of \$100,000, and one with \$50,000 investment. Note that for the tractors, it is assumed that they are also used for other farming enterprises (e.g. the main cattle operation for feeding hay, clipping pastures, etc.), and thus we will pro-rate this capital by the relative amount of time they are used for each enterprise. In these examples, we are assuming they are used 70% of the time for the hay operation. The rest of the equipment is used only for the hay operation and thus we allocate the full value of that equipment to the hay operation. Some of this equipment may be purchased new, and some used. Obviously, most or all of the equipment in the \$50K scenarios would have been purchased used. There are many ways we could have come up with both of these two scenarios to reach the same total dollar figures.

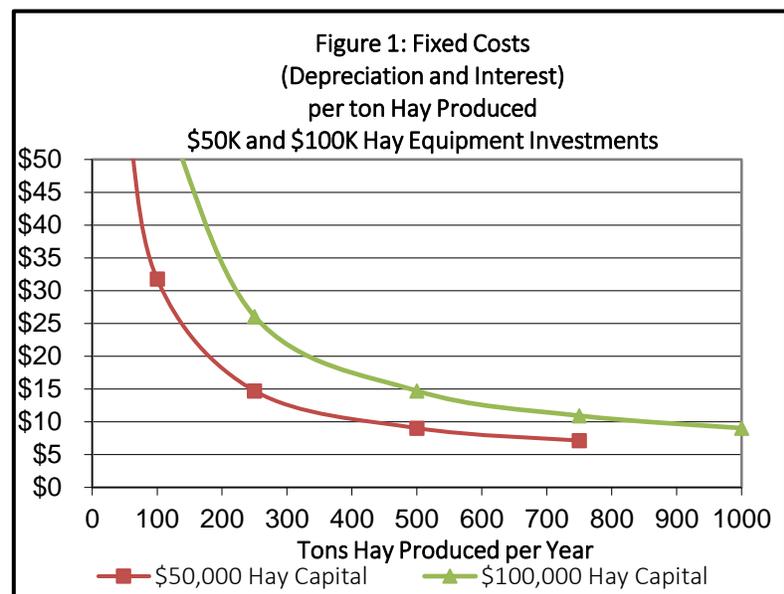
Table 1: Hay Production Capital Cost Scenarios						
	\$100,000 Scenario			\$50,000 Scenario		
Equipment	Initial Value	Percent Hay	Hay Capital (Initial)	Initial Value	Percent Hay	Hay Capital (Initial)
Tractor 1	\$40,000	70%	\$28,000	\$20,000	70%	\$14,000
Tractor 2	\$20,000	70%	\$14,000	\$10,000	70%	\$7,000
Tractor 3	\$7,000	70%	\$4,900			
Baler	\$20,000	100%	\$20,000	\$13,500	100%	\$13,500
Mower	\$15,000	100%	\$15,000	\$8,000	100%	\$8,000
Rake/Tedder	\$10,000	100%	\$10,000	\$4,000	100%	\$4,000
Wagon/Trailer	\$7,100	100%	\$7,100	\$2,500	100%	\$2,500
Miscellaneous	\$1,000	100%	\$1,000	\$1,000	100%	\$1,000
TOTALS			\$100,000			\$50,000

The actual rate at which equipment loses value is highly variable based on the original value of the equipment, age, type of equipment, brand of equipment, and specific market conditions. For example, newer equipment will lose value quicker than older equipment, and balers will lose value quicker than tractors. The fixed portion of depreciation was assumed to be 2 percent per year from the initial value, for a period of five years. Thus with the \$100K initial hay capital scenario, the final value after 5 years if this equipment was parked in the barn without any production would be \$90K. With the \$50K initial hay capital scenario, the final value after 5 years if this equipment was parked in the barn without any production would be \$45K.

Variable depreciation based on total hay production was assumed to be \$4 per ton per year. Thus producing 500 tons of hay each year would bring the value of the equipment down an additional \$10,000 after five years of production. The fixed and variable depreciation used here are rough estimates: they may be accurate for one farm with a particular equipment arrangement, and may be off a moderate amount for another farm. However, the general concepts regarding how the combined fixed costs change as production changes will hold.

The interest rate was assumed to be 4 percent, and the resulting interest cost along with the fixed and

variable depreciation are combined to determine the total fixed costs (depreciation and interest) on a per ton of hay produced basis. Figure 1 below summarizes these overall fixed costs of production with the \$100K and \$50K capital cost scenarios. For example, if you had \$100,000 in hay capital and produced 500 tons of hay per year, you would draw a line straight up from 500 tons until you hit the \$100K scenario (curve on the right), then draw a horizontal line from that point to the left until you intersect the left axis, and read the result which would be \$15.



This means that your estimated fixed costs (fixed depreciation, variable depreciation, and interest) are estimated at \$15 per ton if you have \$100,000 of hay capital and produce 500 tons of hay per year. If you produced 250 tons of hay per year with this same equipment your fixed costs would increase to roughly \$26 per ton, and if you produced 1,000 tons of hay per year your fixed costs would drop to about \$9 per ton.¹

Notice how, at relatively low production levels for each capital investment scenario, fixed costs are high and decrease rapidly with small increases in production (the fixed cost curve is steep). Also notice that at higher relative production levels each fixed cost curve starts to level out. Ideally, you want to be at or near that production level where it starts to level out to justify your capital investment.

For example, with the \$100,000 hay capital scenario, fixed costs per ton of hay produced are \$26 per ton at a production level of 250 tons per year, and drop quickly to \$9 per ton at a production level of 1,000 tons per year. The main reason for this dramatic decrease is that even though total fixed costs are going up as we increase production from 250 to 1,000 tons per year, it is only the variable depreciation cost that is increasing, the fixed portion of depreciation and interest stay the same. The total fixed costs increased 39% going from 250 tons per year to 1,000 tons per year, but the production level increased four-fold (300%). Dividing a small increase in total costs by a large increase in overall production results in a rapidly decreasing fixed cost curve.

^{1/} One important note is that the 70% tractor capital allocation for the hay operation is a likely estimate for a cow-calf operation that makes its own hay. This percentage would go down if the tractors are also used on other farm enterprises such as grain or tobacco. Tractors make up 47% and 42% of the total costs respectively for the \$100K and \$50K capital investment scenarios. If for example, the tractors were used 50% of the time on other enterprises and 50% of the time on the combined hay-cattle enterprise, the \$100K capital scenario would drop to \$76.5K, and the \$50K capital scenario would drop to \$39.5K.

Implications

What is an appropriate fixed cost level for a hay operation? While you would desire it to be as low as possible, you also have to consider the tradeoff between reducing your fixed costs and potentially having higher labor and repair costs. Cutting equipment costs beyond a point will be counterproductive. In the end, you need to strike a balance.

However, in trying to strike this balance you can easily reach a cost that is too high to justify having that particular hay equipment for the size of your operation. For beef cow quality round bales I tell producers they need to target getting their fixed costs to \$15/ton, or at least something close to this level. This is because their hay is usually only worth \$60-75/ton on the open market. You simply will not have a chance at making a profit when you are approaching 1/3 of the value of the hay just in fixed costs before accounting for your cash production costs. If your combined fixed costs are \$25/ton you are almost certainly above the level that you will be able to make a profit, even if all your variable costs of production are well-managed.

For example, if you are producing 200 tons of hay per year this would be the amount of hay typically needed for a 75-100 cow operation. With \$100K in hay equipment, your total fixed costs would be around \$35/ton, well above any reasonable level of making a profit. With \$50K in hay equipment, your total fixed costs would be around \$17/ton. If your variable costs of production were well managed, you might be able to break-even on your hay enterprise (cover all costs) at the \$50K investment level.

What about if you are only producing 100 tons of hay per year? With \$50K in hay equipment, your total fixed costs would be over \$30/ton, which again is above any reasonable level of making a profit (the \$100K capital level shoots to the moon). This

production level would be the amount of hay typically needed for a 40-50 cow operation. How many cattle farms with 25-50 cows have hay equipment capital costs in the \$50-100K range? I'll let you answer the question, and think about the ramifications on the overall profitability of those cattle operations.

Does this mean a 40-50 cow operation can't make hay profitably? Not necessarily, as there are a few caveats. If that operation was also using the tractors a significant amount of the time with other enterprises (e.g. grain production) the fixed costs for the tractors at least would drop. If that 40-50 cow operation that used 100 tons of hay to feed cows also made 100 tons of hay as a custom operator for other cattle farmers the fixed costs would drop from \$32/ton to around \$20/ton. There is also the possibility of having less than \$50K invested in hay capital. While not many people probably want to admit it, there are many hay enterprises that would fall below the \$50K capital level and make considerably more than 100 tons of hay per year. It can be done, you are just not likely to be doing it in an air-conditioned cab.

If you have specific equipment-depreciation-interest scenarios that you would like to analyze, I would be glad to work with you on this. Contact me at Greg.Halich@uky.edu or at 859-257-8841.



Greg Halich, Associate Extension Professor in Farm Management Economics for Cattle and Grain Production, Agricultural Economics
greg.halich@uky.edu 859-257-8841

Depreciation: The Largest Check You'll Never Write

As the tax season comes to a close, one of the main topics of discussions for most producers is managing after-tax income through depreciation. Tax depreciation is allowed by the IRS as a business expense to recover the cost of certain assets used in business over a period of time. The IRS clearly defines rules and regulation concerning tax depreciation regarding cost recovery methods and class lives of various asset categories. The methodologies laid out by the IRS may or may not (in most cases will not) accurately represent the actual decrease in value of a particular asset due to age, wear, or technical obsolescence for a specific farming operation. Many producers leverage accelerated depreciation allowances such as Section 179 or Additional First-Year Depreciation (i.e., Bonus Depreciation) to deduct tangible farm assets like machinery, buildings, vehicles, and equipment to reduce after-tax income. These allowances provide the taxpayer the ability to deduct up to the entire cost of an asset in the purchase year as opposed to over a period of years. However, there is a distinct difference between the depreciation allowance for income tax purposes (tax depreciation) and the economic depreciation of a tangible farm asset. Economic depreciation reflects the "real" annual loss in value of a tangible farm asset due to age, use, and obsolescence. An example of this difference in depreciation methods can be reflected when buying a new farm truck. There is the old adage that you lose 20% of the value of a new vehicle when you drive it off the dealer lot. This is considered economic depreciation. However, if that farm truck is used in the business, you may deduct 100% of the value for that year as tax depreciation. You see, the difference in magnitude between the tax depreciation cost and economic depreciation cost can be significantly different when considering all tangible assets on the farm.

Economic depreciation is used for various management purposes including completing financial statements (income statements), determining farm financial performance measures (e.g., net farm income), and developing enterprise budgets for the farming business. One of the most significant contributors to economic depreciation in a farm business is machinery. Utilizing data from the Kentucky Farm Business Management (KFBM) program, depreciation accounts for 40% of the total machinery costs (includes fuel, repairs, and custom hire/lease) for Kentucky grain farms. Figure 1 (on the following page) illustrates that machinery depreciation per acre has been on the rise since 2002 for all grain farms in Kentucky, but recently is lower for those producers in the upper 1/3 in returns to management compared to those farms in the lower 1/3 in returns to management in the KFBM program. As machinery depreciation increases, returns to management (net returns) decreases. Therefore, machinery management is key to overall cost management, especially during the current economic situation with tight margins.

The actual value of economic depreciation cannot be known until the asset is sold but can be estimated by a simple calculation called the straight-line depreciation method. This method assigns the same cost every year that the asset is owned. Three elements are required to calculate economic depreciation for a tangible asset: purchase price, the useful economic life of the asset, and the salvage value (as a % of purchase price). The useful economic life is the estimated length of time from purchase until it is more economical to replace the current asset than to maintain. The useful economic life of machinery is often less than the service life of the machinery because most farmers upgrade to different machinery before it is completely worn out. KFBM uses a standard useful economic life of 10 years for most farm machinery and equipment. However, this can vary by producer, especially if you know you will trade in the machinery earlier than 10 years from the purchase date. The salvage value is the price you receive for the asset after the useful

economic life, and it is represented as a percent of the purchase price of the asset. This can be viewed as trade-in value, market value if you sell outright, or zero if you plan on keeping the asset until it is worn out. Some standard salvage values of farm machinery are listed below:

Tractor – 35%	Planter – 45%
Sprayer – 40%	Fertilizer Applicator – 40%
Harvester – 30%	

The following link provides salvage values of farm machinery based on age:
<https://www.extension.iastate.edu/agdm/crops/html/a3-29.html>

The purchase price, useful economic life, and salvage values are used in the following straight-line depreciation calculation for each farm asset:

$$\text{Economic Depreciation} = \frac{(\text{Purchase Price} - \text{Salvage Value})}{\text{Useful Economic Life}}$$

An example of calculating economic depreciation for a planter is outlined on the following page.

Economic depreciation should be calculated for every farm asset, especially machinery since it is the most significant expense. Therefore, you can manage costs by identifying which machines have high depreciation expenses and adjust accordingly. If your farm does have high depreciation costs, one option would be to consider performing custom hire work for others or renting out your farm machinery. Other options include selling oversized equipment and downsizing to machinery that is optimal in size for your operation. Finally, you can acquire more land for machinery operations. Each option has its pros and cons, but targeting machinery management can improve the overall profitability and longevity during times of tight margins.

Example: A 12-row planter is purchased for \$80,000. Using the standard useful economic life of 10 years and a salvage value of 45%, the following is the annual economic depreciation for the planter:

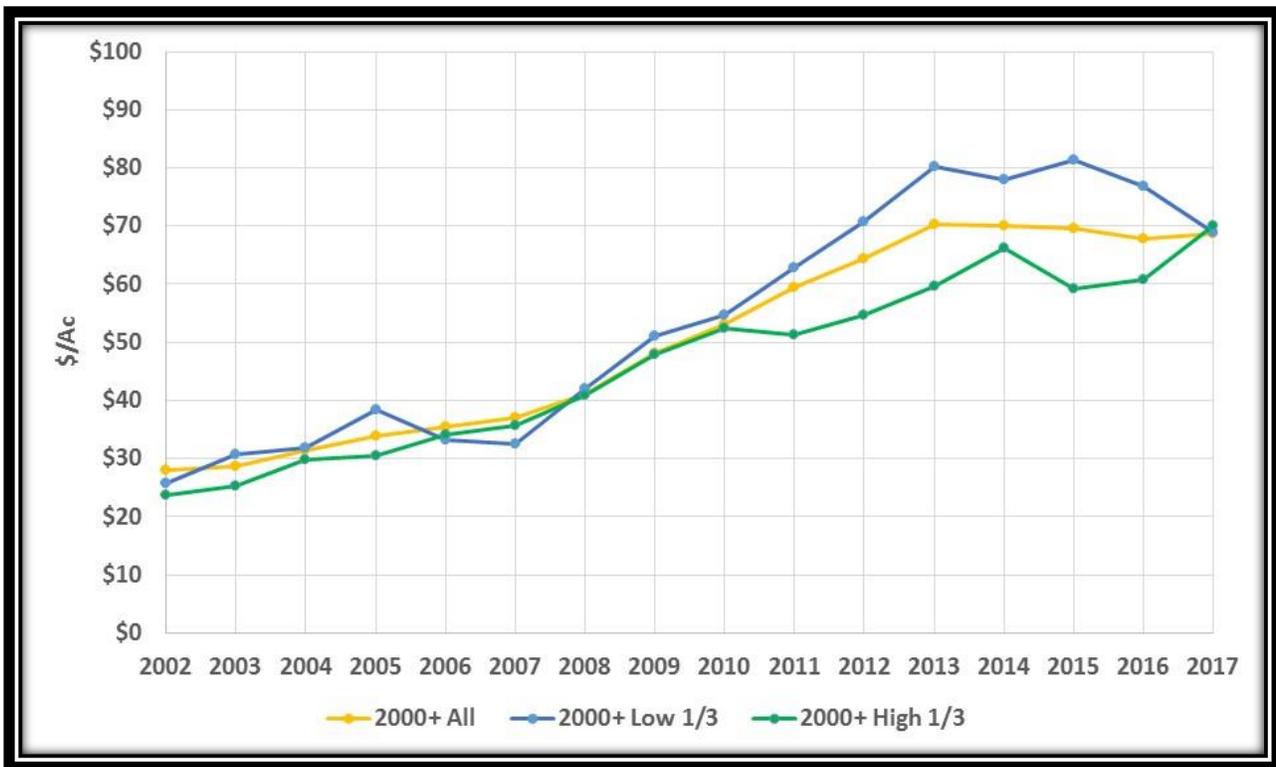
$$\text{Economic Depreciation} = \frac{(\$80,000 - \$80,000 * .45)}{10}$$

$$\text{Economic Depreciation} = \frac{(\$80,000 - \$36,000)}{10}$$

Economic Depreciation = \$4,400 annually

If you plant 2,500 acres a year, then the per acre economic depreciation would be \$4,400/2,500 = \$1.76/ac

Figure 1: Machinery Depreciation for Kentucky Grain Farms (+2000 Acres) by Returns to Management from the Kentucky Farm Business Management Program




Jordan M. Shockley, Assistant Extension Professor, Farm & Grain Management, Poultry Economics, Precision Ag, Biofuels, Dept. of Agricultural Economics
jordan.shockley@uky.edu 859-218-4391



Jonathon D. Shepherd
 PhD Graduate Student
idshepherd@uky.edu
 859-218-4395

Kentucky Highlights from 2017 USDA Census of Agriculture

In mid-April, the USDA released the results from the 2017 Census of Agriculture. The Census is conducted every five years and is completed primarily through a mail survey and a computer assisted self-interview. This article will highlight observations of the Kentucky data. The complete data tables can be located at the following website: <https://www.nass.usda.gov/Publications/AgCensus/2017/>. And for you true data diggers, I would refer you to Appendix A and Appendix B that covers methodology and definitions for the Census and changes to the Census from previous years.

Overall, there was a 10.9% decline in the number of farming operations from 2007 through 2017 (85,260 in 2007 and 75,966 in 2017). A farming operation is defined as having at least \$1,000 worth of agricultural production or sales for a given year. The number of agriculture cropland operations reporting data decreased 12.1 % from 2007 (57,528) to 2017 (50,565). However number of cropland harvested acres in the data increased 8.2% from 2007 (5,057,883 acres) to 2017 (5,474,346). Thus, in 2017, more than 25,000 surveys were from “farming operations” that did not have harvested cropland. The average size of a “Farm Operation” increased from 164 acres in 2007 to 171 acres in 2017. However, given the diversity of agriculture in Kentucky, this number can be misleading. If thinking of an average vegetable or poultry farm, this

number may be too high. If thinking of a typical grain farm, then this number is too low. But for an average beef cattle operation, this could be just right.

Both the smallest sized “operations” of 1 to 9.9 acres and the largest sized operations (more than 2,000 acres) increased in number, 35.6% and 24.2% respectively from 2007 to 2017. However all other size categories decreased in number. An increase in smallest size category could imply that more people bought some woodland acres or small vegetables plots for sales at a farmers market. A decrease in the middle-sized category and increase in the 2000+ category could mean that a smaller farm bought acres and moved up in size.

Value of crop production increased 81% but value of livestock sales decreased 6.5% from 2007 to 2017. The total of livestock and crop sales in 2007 was reported to be \$4.8 billion in 2007 and increased to \$5.7 billion in 2017. Crop production expenses increased from \$3.9 billion in 2007 to \$4.7 billion in 2017, a 19.7% increase. However livestock production expenses increased 35% over the same time period (\$523 million in 2007 to \$706 million in 2017).

In the table below are either harvest acres (crops) or inventory (livestock) of selected enterprises in Kentucky. For county level data, please refer to complete tables located at the website mentioned earlier.

	2017	2012	2007	% change 2007 to 2017
Beef Cows	1,031,675	985,075	1,166,385	-11.5%
Milk Cows	57,645	71,783	90,462	-36.3%
Hogs (Inventory)	415,702	313,360	348,023	19.4%
Corn	1,255,146	1,530,189	1,313,320	-4.4%
Corn Silage	65,505	84,785	86,542	-24.3%
Wheat	344,575	468,242	239,267	44.0%
Barley	4,618	7,236	2,626	75.9%
Soybeans	1,886,601	1,468,381	1,087,037	73.6%
Vegetables	8,962	7,474	7,776	15.3%

Several new categories were added to the Census for 2017. The table below provides the data for some of those categories, plus some other interesting information.

	2017	2012	2007
Primary Producer, <35 years age: Number of Operations	7,734		
Primary Producer, <35 years age: Number of Producers	9,334		
Primary Producer, <35 years age: Acres Operated	1,080,936		
Primary Producer, Military Service: Number of Operations	11,712		
Primary Producer, Military Service: Number of Producers	12,003		
Primary Producer, Military Service: Acres Operated	1,798,247		
Primary Producer, Female: Number of Operations	26,215		
Primary Producer, Female: Number of Producers	27,212		
Primary Producer, Female: Acres Operated	3,166,612		
Organic Commodity Sales (\$)	\$ 13,961,000	\$ 4,059,000	
Organic: Number of Operations	227	112	
Transitioning Organic: Number of Operations	90	49	229
Rent (Building & Land) Income: Number of Operations	9,670	9,283	5,765
Rent (Building & Land) Income: Dollars	\$ 113,248,000	\$ 83,859,000	\$ 38,353,000
Ag Tourism & Recreation, Income: Number of Operations	651	651	428
Ag Tourism & Recreation, Income: Dollars	\$ 17,013,000	\$ 7,039,000	\$ 3,332,000

If you are aware of a farm that is new to farming and was not sent a survey for the 2017 census but would like to be included in the next census, they can sign-up at the following website:

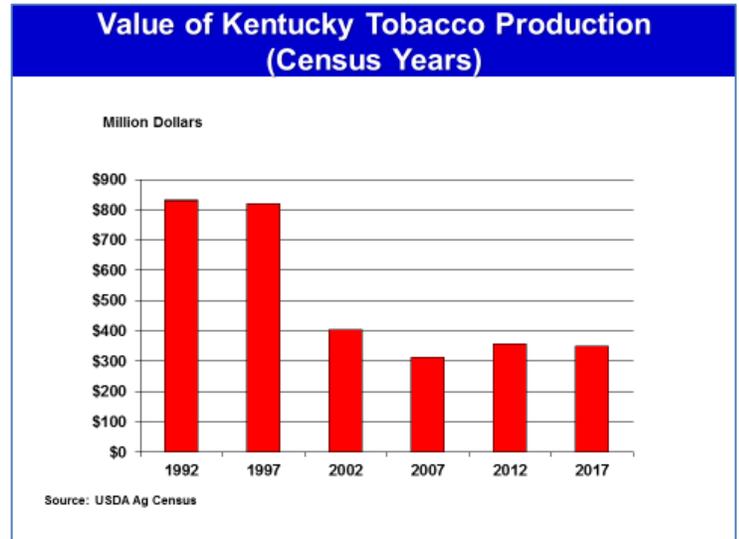
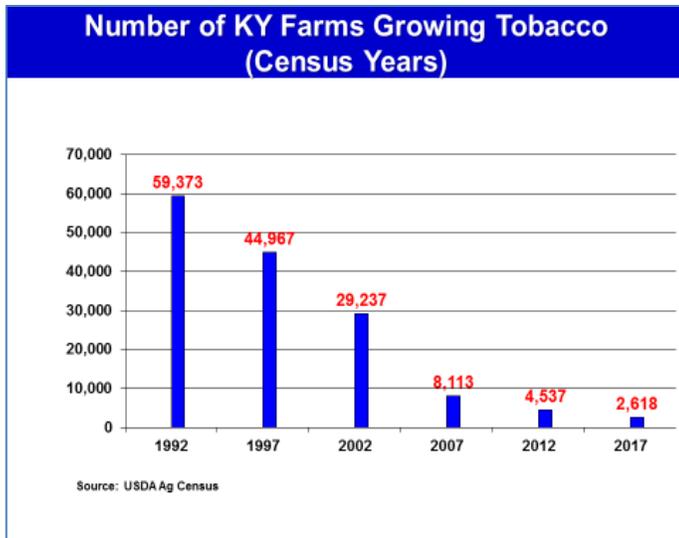
www.agcounts.usda.gov/legacy0/cgi-bin/counts



Laura Powers
 Area Extension Specialist in
 Farm Business Management
 Pennyroyal Farm Analysis Group
 (270) 886-5281
laura.powers@uky.edu

Census Data Confirms Continued Decline in Kentucky Tobacco Farms

Kentucky's tobacco sector has experienced arguably one of the largest structural changes of any sector in U.S. agriculture. According to the 2017 Ag Census, the number of Kentucky farms with tobacco acres in 2017 totaled 2,618, down from 4,537 farms in 2012. Adjustments over the past two years likely has reduced the number of Kentucky tobacco farms by even more. Despite the 42% reduction in tobacco farms, the 2017 value of



production remained fairly constant compared to 2012 (around \$350 million), but down over 50% from record levels exceeding \$800 million in the 1990s. Other highlights from the 2017 Ag Cenus related to tobacco include the following:

- Kentucky had 42% of the number of U.S. farms (6,237) growing tobacco in 2017 , followed by North Carolina (1,294), Pennsylvania (812), Tennessee (598), and Virginia (306)

State	Tobacco Farms (2017)	% of 2017 U.S. Tobacco Farms	Tobacco Farms (2012)	Tobacco Farms (2007)	Tobacco Farms (2002)	Change Since 2012	Change Since 2002
Kentucky	2,618	42%	4,537	8,113	29,237	-42%	-91%
North Carolina	1,294	21%	1,682	2,662	7,850	-23%	-84%
Pennsylvania	812	13%	1,312	1,152	897	-38%	-9%
Tennessee	598	10%	935	1,610	8,206	-36%	-93%
Virginia	306	5%	558	895	4,184	-45%	-93%
Others	609 1/	10%	990	1,802	6,603	-38%	-91%
Total U.S.	6,237	100.0%	10,014	16,234	56,977	-38%	-89%

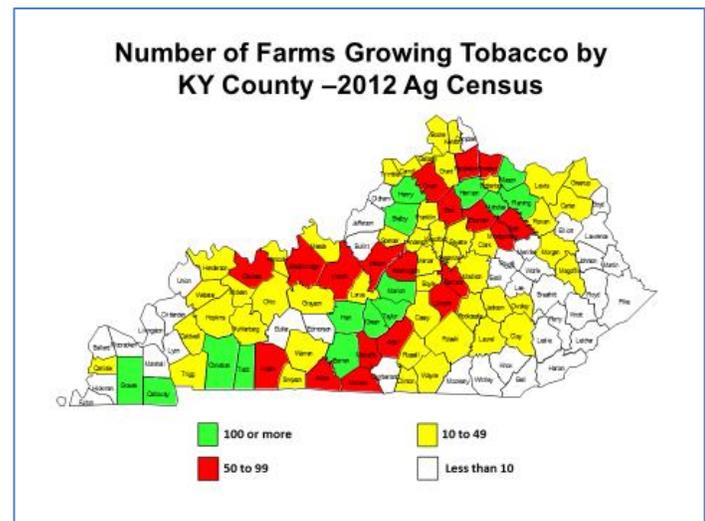
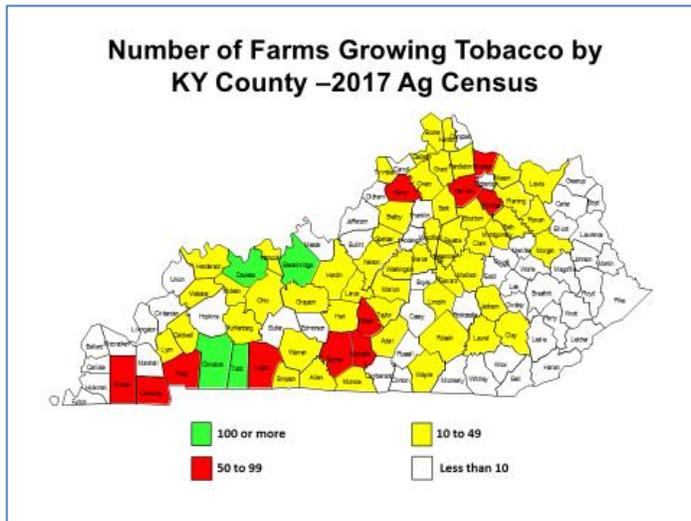
1/ Connecticut (46), Florida (19), Georgia (106), Illinois (20), Indiana (46), Louisiana (1), Maryland (40), Massachusetts (15), Missouri (7), Ohio (82), South Carolina (117), West Virginia (2), and Wisconsin (108)

- The average size of tobacco production per farm in Kentucky was 30.8 acres in 2017, compared to 19.4 acres in 2012, 10.8 acres in 2007 and 3.8 acres in 2002. In 2017, 204 Kentucky farms grew more than 100 acres versus 138 in 2012 and 72 in 2007

KY Tobacco Acreage Per Farm (2017)	Number of Farms	Percent of Farms
Less than 5 Acres	601	7%
5.0 to 14.9 Acres	874	11%
15.0 to 24.9 Acres	289	4%
25.0 to 49.8 Acres	391	5%
50.0 to 99.9 Acres	259	3%
More than 100 Acres	204	3%
Total	2,618	32%

KY Tobacco Acreage Per Farm (2012)	Number of Farms	Percent of Farms
Less than 2 Acres	215	5%
2.0 to 9.9 Acres	1,046	23%
5.0 to 9.9 Acres	1,047	23%
10.0 to 24.9 Acres	1,269	28%
25.0 to 49.8 Acres	540	12%
50.0 to 99.9 Acres	282	6%
More than 100 Acres	138	3%
Total	4,537	100%

- Twelve Kentucky counties increased the number of farms growing tobacco in 2017 compared to 2012 – Breckinridge (+10), Campbell (+2), Christian (+7), Daviess (+19), Grayson (+13), Lyon (+5), Morgan (+9), Muhlenberg (+2), Todd (+23), Trigg (+11), Union (+3), and Webster (+5).
- Only four Kentucky counties had more than 100 farms growing tobacco in 2017 (compared to 14 in the 2012 Census) led by Christian County with 137 farms, Todd with 125 farms, Daviess with 106 farms and Breckinridge with 105 farms.
- Green County lost the largest number of tobacco farms over the last two census periods with a total of 87 farms exiting tobacco production from 2012 to 2017, followed by Hart County losing 86 tobacco farms, Marion County losing 83 tobacco farms, and Shelby County losing 80 tobacco farms



- Christian County remained the #1 tobacco producing county for Kentucky in 2017 (with 14.4 million pounds valued at \$31.1 million), followed by Barren County (8.3 million pounds valued at \$16.4 million), Calloway County (7.3 million pounds valued at \$18.0 million), Daviess County (7.1 million pounds valued at \$13.4 million and Green County (7.0 million pounds valued at \$13.9 million).



William M. Snell, Extension Professor, Ag Policy, Marketing & Trade, Co-Director of Kentucky Agricultural Leadership Program, Editor of Ag. Economic & Policy Update. Dept. of Ag. Economics
Will.snell@uky.edu 859-257-7288

Regional Specialty Crop Sales Growth Updates from 2017 Census

Tim Woods, Alex Butler

The U.S. has seen modest growth in vegetable (33%) and fruit (53%) nominal farm gate cash receipts while farm nursery sales have been flat between 2007 and 2017, according to the latest Census of Agriculture data. Specialty crop sales in 2017 overall for the U.S. was reported at \$64.6 billion, up 28% from the \$50.3 billion reported in 2007. This is fairly significant for this sector, given the impacts of the economic downturn during 2008 for the nursery sector, and the increasing challenges of imports and labor for all specialty crops.

States in the Mid-South, in and around Kentucky have observed mixed results according to these data over these recent 10 years. Kentucky remains a relatively small player in terms of total specialty crop sales, but saw an 11% increase in nominal sales largely driven by increases in produce. The

biggest specialty crop growth in the region in absolute terms was seen in Virginia, with particularly large growth in their nursery sector. The nursery sector in Ohio also saw growth and continues to lead the region in overall sales. Other states such as Illinois and Tennessee have seen substantial declines from where they were in 2007. Kentucky nursery sales were down 5%.

Vegetable sales were pretty much higher across the region with regional growth outpacing the growth in vegetable sales nationally. Regional fruit sales, comprising a smaller value than vegetables, still managed to increase by 41% across the entire region, led substantially in sales and growth by Virginia.

The share of specialty crop production in the region compared to the U.S. has remained roughly the same over this period, accounting for just under 5% of specialty crop sales in the U.S.

	2007	2017
Regional share nursery	10.91%	11.45%
Regional share vegetables	3.89%	3.67%
Regional share fruit	0.90%	0.83%
Regional share Christmas trees	7.03%	6.34%
Regional share all specialty crops	5.13%	4.37%

Farm Gate Cash Receipts				
	Year	2007	2017	% Chg.
State	Sector	Sales in \$ mil.	Sales in \$ mil.	
Kentucky	Nursery	\$87.70	\$83.00	-5%
	Vegetable	\$20.90	\$33.60	61%
	Fruit	\$3.10	\$8.00	158%
	Christmas Tree	\$0.90	\$0.30	-67%
	Total Sales (\$mil.)	\$112.60	\$124.90	11%
Indiana	Nursery	\$126.20	\$131.60	4%
	Vegetable	\$78.70	\$136.00	73%
	Fruit	\$19.10	\$16.00	-16%
	Christmas Tree	\$2.70	\$2.90	7.4%
	Total Sales (\$mil.)	\$226.70	\$286.50	26%

Ohio	Nursery	\$444.90	\$485.16	9%
	Vegetable	\$135.40	\$148.85	10%
	Fruit	\$45.40	\$44.52	-2%
	Christmas Tree	\$7.20	\$4.90	-32%
	Total Sales (\$mil.)	\$632.90	\$683.42	8%
Illinois	Nursery	\$435.00	\$363.10	-17%
	Vegetable	\$103.90	\$119.80	15%
	Fruit	\$10.20	\$22.70	123%
	Christmas Tree	\$6.40	\$4.00	-38%
	Total Sales (\$mil.)	\$555.50	\$509.60	-8%
Tennessee	Nursery	\$325.00	\$299.62	-8%
	Vegetable	\$71.90	\$93.33	30%
	Fruit	\$2.60	\$18.27	603%
	Christmas Tree	\$2.00	\$1.31	-34%
	Total Sales (\$mil.)	\$401.50	\$412.54	3%
West Virginia	Nursery	\$23.40	\$32.50	39%
	Vegetable	\$5.80	\$10.60	83%
	Fruit	\$14.20	\$22.30	57%
	Christmas Tree	\$0.90	\$0.00	-100%
	Total Sales (\$mil.)	\$44.30	\$65.40	48%
Missouri	Nursery	\$121.00	\$119.70	-1%
	Vegetable	\$61.70	\$65.60	6%
	Fruit	\$4.30	\$28.10	553%
	Christmas Tree	\$1.10	\$0.90	-18.2%
	Total Sales (\$mil.)	\$188.10	\$214.30	14%
Virginia	Nursery	\$248.00	\$328.12	32%
	Vegetable	\$94.00	\$111.33	18%
	Fruit	\$68.20	\$76.33	12%
	Christmas Tree	\$6.90	\$11.03	60%
	Total Sales (\$mil.)	\$417.10	\$526.81	26%
		Sales in \$ bil.	Sales in \$ bil.	
U.S. Total	Nursery	\$16.60	\$16.10	-3.0%
	Vegetable	\$14.70	\$19.60	33%
	Fruit	\$18.60	\$28.50	53%
	Christmas Tree	\$0.40	\$0.40	0%
	Total Sales (\$ bil.)	\$50.30	\$64.60	28%

Sources: 2007 and 2017 Census of Agriculture, various states.



Timothy A. Woods, Extension Professor, Agribusiness Management & Marketing, Marketing Horticultural Products, Dept. of Ag. Economics
tjm.woods@uky.edu 859-257-7270



Alex Butler
 Extension Associate
 Phone: 859-218-4383
alex.butler@uky.edu



*College of Agriculture, Food and Environment
Department of Agricultural Economics*

**315 Charles E. Barnhart Bldg. Lexington, KY 40546-0276
Phone: 859-257-7288 Fax: 859-257-7290**

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