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Trends in the Management of Stored Grain

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Kentucky farmers proudly provide high quality grains for feed, food, spirits and fuel use throughout the southeastern U.S. and around the world. They produced a record level of soybeans, and the 6th largest corn crop in 2018 (Table 1) due to record acreage and near record yields. In comparison, the 2017 crops were the 2nd and 5th largest, respectively (Table 2), due to record yields on 60,000 fewer combined acres than 2018. In most years, both crops are stored on-farm between one to six months before delivery to a commercial elevator, feed mill, distiller, ethanol plant or other grain buyer. These large crops have put pressure on existing storage capacity, so we're seeing an expansion of on-farm and off-farm facilities. USDA estimates indicate an average of 4 million bushels of new storage in the state per year, bringing the total capacity just under 300 million bushels (Figure 1). On-farm storage capacity in Kentucky is historically 2-3 times that of off-farm facilities, so a reasonable estimate is about 7 million added bushels per year on Kentucky farms. Interestingly, on-farm storage represents over 70% of the total and is among the highest in the U.S. Also, grain production has been expanding in some areas of the state where commercial storage is limited so the potential growth for conventional storage systems is increasing.

Average commodity prices for 2017 and 2018 place the total value of grain crops at just over $1.9 and $1.8 billion, respectively. Post-harvest losses of 1% or more are not uncommon during storage and most often result in discounts by the elevator or grain buyer, which represents a minimum of about $18 million or more in lost income statewide! Hence, prudent management of stored grain is essential to protect product value and quality during handling, drying and storage. The University of Kentucky Biosystems and Agricultural Engineering Department's extension education program is dedicated to providing timely information that emphasizes

safe handling practices, energy efficient drying methods, and proven storage management tools that help producers and elevator managers maintain high quality grain after harvest.

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	Acres (1000)		Yield	Production		Total value,	
Crop	Planted	Harvested	bu/ac	bu (1000)	Avg. $/bu	$1000	% Total
Corn	1,340	1,230	175	215,250	$ 3.80	$ 817,950	44.7
Soybean	2,000	1,990	52	103,480	$ 8.80	$ 910,624	49.7
Wheat	450	300	66	19,800	$ 5.15	$ 101,970	5.6
Total	3,790	3,520		338,530		$ 1,830,544	100.0

Table 1. Kentucky grain production, average of monthly prices and production value for 2018. (Source: Kentucky Agri-News, March 2019 (www.nass.usda.gov/ky).

	Acres (1000)		Yield	Production		Total value,	
Crop	Planted	Harvested	bu/ac	bu (1000)	Avg. $/bu	$1000	% Total
Corn	1,320	1,220	178	217,160	$ 3.69	$ 801,320	42.0
Soybean	1,950	1,940	53	102,820	$ 9.70	$ 997,354	52.2
Wheat	480	310	77	23,870	$ 4.68	$ 111,712	5.8
Total	3,750	3,470		344,850		$ 1,910,386	100.0

Table 2. Kentucky grain production, average of monthly prices and production value for 2017. (Source: Kentucky Agri-News, March 2018 (www.nass.usda.gov/ky).

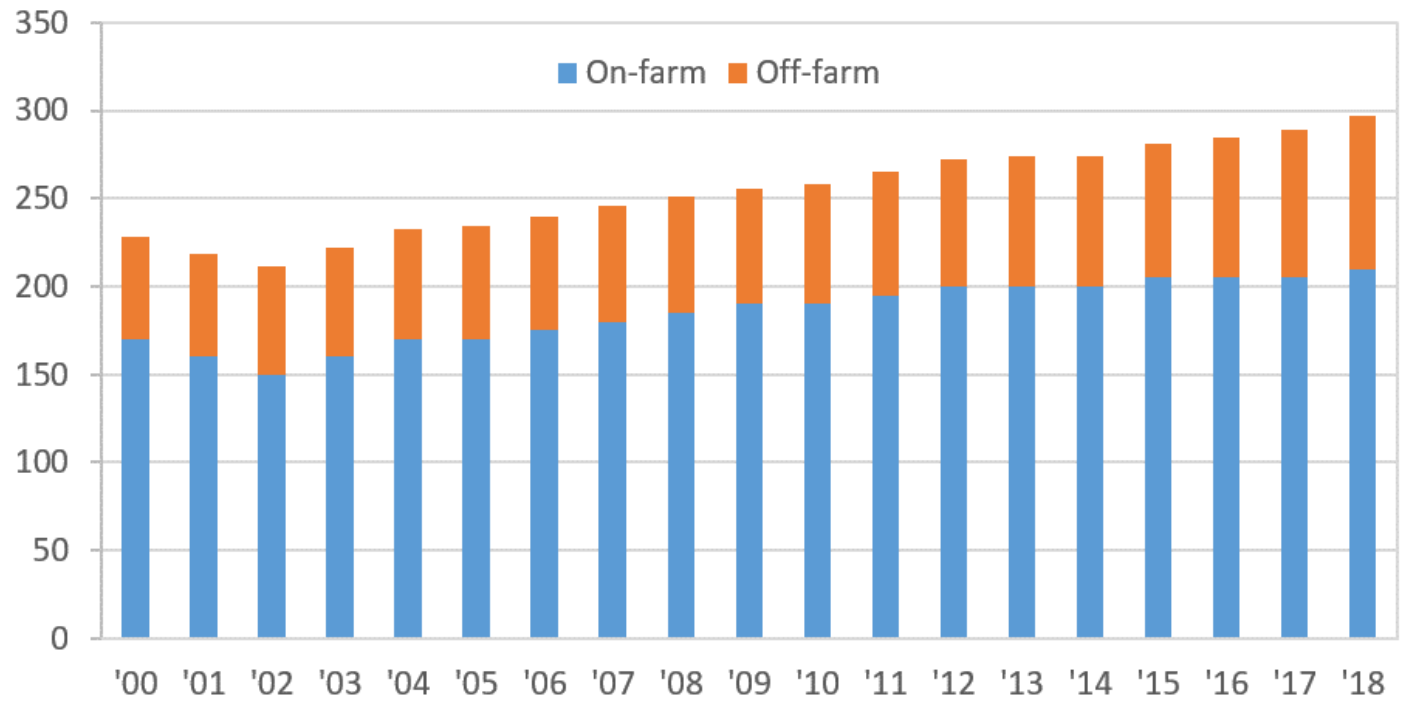

Figure 1. On-farm and off-farm grain storage capacities (Mbu) by year in Kentucky.

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