

Estimated Impact of 2007 Forage Losses

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Estimating the value of lost forage production in 2007 is challenging for many reasons. First, we are forced to make assumptions about forage production this far in 2007, and about likely fall production levels. Secondly, putting a value on hay and pasture is difficult, even in a normal year. Kentucky hay prices are difficult to monitor as most hay is fed on the farm where it was produced. Further, hay prices are considerably higher in a drought year when hay is scarce. Finally, it is difficult to know the exact acreage of different hay types and pasture qualities. In this case, best estimates were used.

The figures below are based on the most reasonable acreage data available and estimates for lost production from agronomists. Hay losses are broken into two categories, “alfalfa and alfalfa hay mixtures” and “all other hay”. This is consistent with USDA’s reporting of crop acreage, yields, and production. Pasture estimates are from the 2002 Census of agriculture. In all cases, the value of lost production is displayed in a sensitivity table showing the financial loss based on different percentage production decreases and forage values per ton.

Alfalfa and Alfalfa Mix Hay

USDA’s June 2007 crop acreage report estimated that Kentucky farmers intended to harvest around 270,000 acres of alfalfa and alfalfa mixtures for hay in 2007. USDA estimated these yields at 3.7 tons per acre in 2006. Table 1 below shows estimated losses from a baseline of 270,000 acres yielding 3.7 tons per acre. The assumed percentage loss from the 2006 yield level ranges from 30% to 50% and the estimated value of the alfalfa hay in 2007 ranges from \$100 to \$150 per ton.

Yield Decrease from 2006	Estimated Value of Hay per Ton		
	\$100 per Ton	\$125 per Ton	\$150 per Ton
30%	\$29,970,000	\$37,462,500	\$44,955,000
40%	\$39,960,000	\$49,950,000	\$59,940,000
50%	\$49,950,000	\$62,437,500	\$74,925,000

All other Hay

USDA’s June 2007 crop acreage report estimated that Kentucky farmers intended to harvest around 2,200,000 acres of non-alfalfa hay in 2007. This hay is predominantly grass-type hay. USDA estimated these yields at 2.4 tons per acre in 2006. Table 2, on the next page, shows estimated losses from a baseline of 2,200,000 acres yielding 2.4 tons per acre. The assumed percentage loss from the 2006 yield level ranges from 30% to 50% and the value of the hay ranges from \$60 to \$100 per ton.

Table 2. Estimated Value of non-Alfalfa Hay Loss in 2007			
	Estimated Value of Hay per Ton		
Yield Decrease from 2006	\$60 per Ton	\$80 per Ton	\$100 per Ton
30%	\$95,040,000	\$126,720,000	\$158,400,000
40%	\$126,720,000	\$168,960,000	\$211,200,000
50%	\$158,400,000	\$211,200,000	\$264,000,000

Pasture Impacts

The 2002 Census of Agriculture estimated land use in Kentucky. At that time, USDA estimated that there were 2,580,719 acres of cropland used only for pasture or grazing, 1,613,681 acres of additional pastureland and rangeland, and 903,863 acres of additional woodlands being grazed. In total, this would represent 5,098,263 acres of grazing land in Kentucky.

Table 3 shows estimated losses from a baseline of 5,098,263 acres yielding 1.5 tons of forage per acre. It is further assumed that when grazing, only 40% of this forage is actually utilized. Pasture is valued in the same way as non-alfalfa hay above, given the assumed utilization rate. The assumed percentage pasture production loss in 2007 ranges from 30% to 50% and the value of utilizable forage ranges from \$60 to \$100 per ton.

Table 3. Estimated Value of Lost Pasture Production in 2007			
	Estimated Value of Utilizable Forage per Ton		
Forage Decrease from 2006	\$60 per Ton	\$80 per Ton	\$100 per Ton
30%	\$55,061,240	\$73,414,987	\$91,768,734
40%	\$73,414,987	\$97,886,650	\$122,358,312
50%	\$91,768,734	\$122,358,312	\$152,947,890