

Custom Machinery Rates Applicable to Kentucky (2007)

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These custom rates are based on reported rates from surveys in Ohio, Indiana, Missouri, Iowa, and Kansas. The rates calculated here are averages for these states and are adjusted to account for differences in fuel price, machinery costs, and wages at the time of the reported surveys. The adjusted rates are based on a \$2.25 on-farm diesel fuel price. Unadjusted rates are also reported for reference. There are some cases where adjusted rates could not be computed because estimates did not exist for fuel use, labor time, etc. Users are advised to use caution in using the unadjusted rates in these situations. The "Average Final Rate" presented here represents the averages of the adjusted survey rates from these states.

An important point to note is that a majority of the original survey respondents in these five states are likely large operators in the grain belt. Thus, the "Average Final Rate" presented here for grain-related activities are most suitable for western Kentucky. The user may want to adjust rates for grain-related activities upward in central Kentucky, and particularly eastern Kentucky.

To account for differences in efficiency and market conditions in the various geographical areas two additional rates are presented:

- 1) A rate of 15% below the "Average Final Rate".
- 2) A rate of 30% above the "Average Final Rate".

These two rates are presented to provide a range of rates that are likely to occur due to differences in efficiency and market conditions in various areas of Kentucky. A skewed distribution is used based on the assumption that the more efficient operators were likely to have responded to the surveys. Thus extending the distribution further from the mean on the high-end should capture more of the custom operators working with less-efficient equipment and/or working near urban areas with higher cost structures.

Not all states reported rates for each activity listed. Consequently, an additional category lists the number of states used for each calculation. The larger the number of states used in each calculation, the more robust the final estimates presented here will be. The user should use caution in using rates where only 1-2 states were used in the calculation.

As a final note, these rates are published to provide a baseline for estimating reasonable custom machinery rates in Kentucky. Actual custom rates will be determined through the supply and demand for services within localized markets and can vary substantially. This is the main reason that a range of rates are presented here rather than a single dollar estimate. Users of this publication should be careful that these estimates, particularly the averages, are not used to set rates in an area.

Grain/Crop Operations	15% Below Avg.	Avg. Final Rate	30% Above Avg.	# of Surveys Used	Avg. Unadjusted Rate
<i>Per Acre Basis Unless Specified Otherwise</i>					
Soil Preparation:					
Moldboard Plow	\$13.04	\$15.34	\$19.94	4	\$14.41
Chisel Plow	\$11.16	\$13.13	\$17.06	5	\$12.63
Disk (No Specification)	\$8.03	\$9.45	\$12.28	3	\$8.82
Tandem	\$8.76	\$10.30	\$13.39	2	\$10.26
Offset	\$8.13	\$9.57	\$12.43	2	\$9.57
Disk/Chiseling	\$11.34	\$13.34	\$17.34	3	\$13.29
Drag	\$7.96	\$9.36	\$12.17	1	\$9.15
Field Cultivation	\$7.78	\$9.15	\$11.90	5	\$8.80
Harrowing	\$6.11	\$7.19	\$9.35	3	\$7.09
Subsoiling	\$13.18	\$15.51	\$20.16	2	\$15.10
V-Rip	\$13.97	\$16.44	\$21.37	3	\$16.35
Chopping Cornstalks	\$7.28	\$8.56	\$11.13	3	\$7.84
Planting (Conventional):					
Corn	\$10.85	\$12.76	\$16.59	4	\$12.22
Corn + Fertilizer	\$13.78	\$16.21	\$21.07	1	\$15.85
Corn + Fertilizer/Chemicals	\$14.73	\$17.33	\$22.53	1	\$17.38
Soybeans - 15" rows	\$11.94	\$14.04	\$18.25	3	\$13.23
Soybeans - 30" rows	\$11.41	\$13.42	\$17.45	3	\$12.64
Soybeans Drilled	\$11.48	\$13.51	\$17.56	4	\$12.81
Small Grains Drilled	\$10.06	\$11.84	\$15.39	5	\$11.36
Planting (No-Till):					
Corn	\$11.90	\$14.00	\$18.19	4	\$13.40
Corn + Fertilizer	\$14.68	\$17.27	\$22.45	2	\$17.15
Soybeans - 15" rows	\$12.80	\$15.05	\$19.57	3	\$14.16
Soybeans - 30" rows	\$12.67	\$14.91	\$19.38	3	\$14.02
Soybeans Drilled	\$12.14	\$14.28	\$18.56	4	\$13.54
Small Grains Drilled	\$11.72	\$13.79	\$17.93	4	\$13.20
Planting Hayfield or Pasture:					
Drill (General)	\$11.52	\$13.56	\$17.63	2	\$13.47
Grass	\$9.59	\$11.28	\$14.67	1	\$11.44
Alfalfa/Legume	\$9.04	\$10.63	\$13.82	1	\$10.79
No-Till	\$12.29	\$14.45	\$18.79	1	\$14.63
Broadcast Grass/Legume (tractor)	\$6.79	\$7.99	\$10.39	2	\$7.25
Broadcast Grass/Legume (ATV)	\$5.43	\$6.39	\$8.31	2	\$6.36
Grain Harvest:					
Combine Corn (no yield specified)	\$22.01	\$25.89	\$33.66	4	\$24.50
Combine Corn - 105 Bushel Yield	\$22.83	\$26.86	\$34.92	1	\$22.01
Combine Corn - 135 Bushel Yield	\$23.11	\$27.18	\$35.34	1	\$22.29
Combine Corn - 165 Bushel Yield	\$23.71	\$27.90	\$36.27	1	\$22.92
Combine Corn					
Base Charge (per acre)	\$17.99	\$21.16	\$27.51	1	\$21.75
Extra charge above 75 bushels (per bu)	\$0.12	\$0.15	\$0.19	1	\$0.15

Grain/Crop Operations	15% Below Avg.	Avg. Final Rate	30% Above Avg.	# of Surveys Used	Avg. Unadjusted Rate
<i>Per Acre Basis Unless Specified Otherwise</i>					
Grain Harvest (continued):					
Ear Corn - Pick	\$19.70	\$23.18	\$30.13	2	\$22.63
Ear Corn - Pick for Seed	\$27.57	\$32.43	\$42.16	1	\$31.70
Combine Soybeans	\$21.53	\$25.33	\$32.93	4	\$24.01
Combine Soybeans					
Base Charge (per acre)	\$18.19	\$21.41	\$27.83	1	\$21.88
Extra charge above 26 bushels (per bu)	\$0.14	\$0.17	\$0.22	1	\$0.17
Combine Small Grains	\$20.56	\$24.18	\$31.44	4	\$22.96
Combine Small Grains					
Base Charge (per acre)	\$13.09	\$15.40	\$20.02	1	\$15.78
Extra charge above 21 bushels (per bu)	\$0.12	\$0.15	\$0.19	1	\$0.15
Fertilizer Application:					
Dry Fertilizer	\$3.65	\$4.30	\$5.59	4	\$4.07
Single Spread	\$3.61	\$4.25	\$5.53	1	\$4.34
Double Spread	\$4.84	\$5.69	\$7.40	1	\$5.81
Dry Fertilizer on Pasture	\$3.63	\$4.27	\$5.55	1	\$4.36
Dry Fertilizer + Seed Broadcast	\$4.36	\$5.13	\$6.67	1	\$5.24
Side-dress	\$5.44	\$6.40	\$8.31	1	\$6.53
Liquid Knife	\$7.05	\$8.29	\$10.78	3	\$7.65
Liquid Spray	\$4.32	\$5.08	\$6.61	5	\$4.88
Anhydrous	\$7.20	\$8.47	\$11.02	5	\$8.14
Lime Application (per ton)	\$4.25	\$5.00	\$6.50	2	\$4.88
Lime - Lime, Deliver and Spread (per ton)	\$11.70	\$13.76	\$17.89	1	\$14.05
Chemical Control:					
Spraying (self-propelled)	\$4.49	\$5.28	\$6.86	3	\$5.20
Spraying (pull-type)	\$4.60	\$5.41	\$7.03	4	\$5.14
Spraying (highboy)	\$5.38	\$6.33	\$8.23	2	\$5.82
Mechanical Weed Control:					
Rotary Hoeing	\$5.18	\$6.09	\$7.91	2	\$5.95
Conventional Cultivation	\$6.95	\$8.18	\$10.63	4	\$7.75
Complete Custom Operation:					
Corn	\$67.17	\$79.03	\$102.73	3	\$78.15
Soybeans	\$59.14	\$69.58	\$90.45	3	\$68.77
Small Grains	\$52.77	\$62.08	\$80.71	2	\$60.68

Notes: Rates for “Complete Custom Operation” include all machinery operations necessary to grow crops including soil preparation, planting, fertilizer application, weed/insect control, and harvest. These rates do not include input costs such as seed, fertilizer, herbicides, and insecticides.

Hay Operations	15% Below Avg.	Avg. Final Rate	30% Above Avg.	# of Surveys Used	Avg. Unadjusted Rate
<u>Mowing and Raking (per acre):</u>					
Mowing	\$8.53	\$10.03	\$13.04	5	\$9.60
Mowing/Conditioning	\$9.58	\$11.27	\$14.65	5	\$10.79
Raking - no specification	\$4.59	\$5.40	\$7.02	4	\$5.07
Raking - Side Delivery	\$2.84	\$3.34	\$4.34	2	\$3.31
Tedding	\$4.41	\$5.19	\$6.74	3	\$4.81
<u>Small Square Bales (per bale):</u>					
Baling (general)	\$0.48	\$0.56	\$0.73	4	\$0.54
Baling - wire (general)	\$0.60	\$0.71	\$0.92	1	\$0.71
Bale and Drop in Field	\$0.38	\$0.45	\$0.59	1	\$0.44
Bale and Load in Wagon	\$0.44	\$0.51	\$0.67	1	\$0.50
Haul and Store (baling not included)	\$0.40	\$0.47	\$0.61	3	\$0.46
Haul Over 20 miles (load per loaded mile)	\$2.07	\$2.43	\$3.16	1	\$2.42
<u>Complete Harvest (Actual):</u>					
Cut, Rake, Bale	\$0.93	\$1.09	\$1.42	1	\$1.10
Cut, Rake, Bale, Haul, and Store	\$1.34	\$1.58	\$2.05	2	\$1.58
<u>Complete Hay Harvest (Computed):</u>					
Cut, Rake, Bale	\$0.73	\$0.86	\$1.12	-	\$0.82
Cut, Rake, Bale, Haul, and Store	\$1.14	\$1.34	\$1.74	-	\$1.28
<u>Large Square Bales (per bale):</u>					
Baling - Large Square (no weight specified)	\$6.94	\$8.16	\$10.61	1	\$8.00
Baling - 600-800 lbs	\$6.91	\$8.14	\$10.58	1	\$6.98
Baling - Over 1000 lbs	\$8.70	\$10.23	\$13.30	1	\$8.69
Baling - 2000 lbs	\$10.85	\$12.76	\$16.59	1	\$12.90
<u>Large Round Bales (per bale):</u>					
Baling - No Weight Specification	\$7.24	\$8.52	\$11.07	1	\$8.35
Baling - No Weight Specification w/wrapping	\$8.18	\$9.62	\$12.51	1	\$9.35
Baling - 875 lbs	\$6.93	\$8.15	\$10.60	2	\$7.51
Baling - 875 lbs w/net wrap	\$7.05	\$8.29	\$10.78	1	\$8.38
Baling - 1200 lbs	\$7.64	\$8.99	\$11.69	3	\$8.54
Baling - 1200 lbs w/net wrap	\$7.89	\$9.28	\$12.06	2	\$9.41
Baling - 1500 lbs and Up	\$7.46	\$8.77	\$11.40	2	\$8.96
Baling - 1500 lbs and Up (w/net wrap)	\$8.24	\$9.70	\$12.61	2	\$9.88
Baling - Straw or Corn Stalks (no wt spec.)	\$8.76	\$10.30	\$13.40	1	\$10.10
Bale and Drop in Field (per ton)	\$15.14	\$17.81	\$23.15	1	\$17.35
Bale and Haul (per ton)	\$18.56	\$21.83	\$28.38	1	\$21.40

Hay Operations	15% Below Avg.	Avg. Final Rate	30% Above Avg.	# of Surveys Used	Avg. Unadjusted Rate
<u>Moving Round Bales:</u>					
Moving to Storage (bale)	\$2.77	\$3.26	\$4.24	3	\$3.05
Hauling (bale per loaded mile)	\$0.26	\$0.31	\$0.40	1	\$0.30
Hauling > 20 miles (load per loaded mile)	\$2.21	\$2.60	\$3.38	1	\$2.65
Move Bales w/truck or wagon 1 mile (bale)	\$1.84	\$2.17	\$2.82	1	\$2.21
Move Bales w/truck or wagon 2-20 miles (bale)	\$3.53	\$4.15	\$5.39	1	\$4.23
<u>Complete Hay Harvest - Round Bale (Actual):</u>					
<u>Cut, Rake, Bale</u>					
875 lbs	\$11.11	\$13.07	\$16.99	1	\$13.23
1200 lbs	\$11.85	\$13.94	\$18.12	1	\$14.14
1500 lbs and Up	\$12.37	\$14.55	\$18.92	1	\$14.81
<u>Cut, Rake, Bale w/net wrap</u>					
875 lbs	\$12.23	\$14.39	\$18.70	1	\$14.54
1200 lbs	\$13.09	\$15.40	\$20.03	1	\$15.60
1500 lbs and Up	\$13.55	\$15.94	\$20.72	1	\$16.19
<u>Complete Hay Harvest - Round Bale (Computed):</u>					
<u>Cut, Rake, Bale</u>					
875 lbs	\$11.39	\$13.40	\$17.42	-	\$12.84
1200 lbs	\$12.31	\$14.49	\$18.83	-	\$13.87
1500 lbs and Up	\$12.70	\$14.94	\$19.42	-	\$14.30

Notes: Data for large bales originally had numerous weight classifications. Operations for large bales were combined into three weight classes (for both square and round) that were closest to their actual weight.

Rates for "Complete Harvest (Actual)" include all machinery operations necessary to convert standing hay to bales including mowing, raking, and baling. This category represents the actual custom rate for operators who offered this complete service. However, there were few states that reported this category and thus these rates should be used with caution. "Complete Hay Harvest (Computed)" adds individual custom rates for mowing/conditioning, raking, baling, and moving/storing (where applicable) to estimate a custom rate for these combined operations for both small square bales and large round bales. Assumptions for the computed harvest include 1.3 tons of hay per cutting and 55 small square bales per cutting. "Complete Harvest (Actual)" may be different from "Complete Hay Harvest (Computed)" due to the limited number of state responses in the former category but may also be due to other factors such as the assumptions for hay yield per cutting.

Miscellaneous Operations	15% Below Avg.	Avg. Final Rate	30% Above Avg.	# of Surveys Used	Avg. Unadjusted Rate
Grain Storage (per bushel):					
Storage (month)				2	\$0.03
Storage (year)				2	\$0.13
Unload + 4 months storage				1	\$0.14
Unload				1	\$0.14
Handling by Auger				1	\$0.05
Grain Drying (per bushel):					
Moisture Removed per Point				2	\$0.04
Continuous Flow Dryer				1	\$0.03
Bin Dryer				1	\$0.03
Corn - 5 points removed				1	\$0.13
Corn - 10 points removed				1	\$0.24
Grain Hauling (per bushel):					
Farm to Market (30 miles)				1	\$0.13
Storage to Market (wagon)				1	\$0.07
To Market (truck 5 miles)				1	\$0.07
To Market (truck 25 miles)				1	\$0.12
To Market (truck 100 miles)				1	\$0.21
Field to Farm (11 miles)				1	\$0.09
Field to Farm (5 miles)				1	\$0.11
Field to Market				1	\$0.16
To Storage (wagon)				1	\$0.06
In Field Corn (acre)					
Base Charge (per bushel)				1	\$0.14
Extra charge above 15 miles				1	\$0.01
In Field Soybeans (acre)					
Base Charge (per bushel)				1	\$0.14
Extra charge above 16 miles				1	\$0.01
In Field Wheat (acre)					
Base Charge (per bushel)				1	\$0.15
Extra charge above 14 miles				1	\$0.01
Bin to Market 18-wheeler (loaded mile)				1	\$3.19
Labor (hour):					
Machinery Operator	\$9.11	\$10.71	\$13.93	2	\$10.50
General Farm Labor	\$7.80	\$9.18	\$11.94	1	\$9.00
Machinery Rental:					
Tractor per Horsepower (hour)	\$0.20	\$0.23	\$0.30	3	\$0.22
No-Till Corn Planter (acre)	\$13.57	\$15.97	\$20.76	1	\$15.65
No-Till Soybean Drill (acre)	\$7.76	\$9.13	\$11.87	1	\$8.95
No-Till Grain Drill (acre)	\$9.89	\$11.63	\$15.12	1	\$11.40
Grain Drill (acre)	\$6.59	\$7.75	\$10.08	1	\$7.60
Combine - Separator (hour)	\$97.84	\$115.11	\$149.64	2	\$113.67
Combine - 8 row corn head (hour)	\$94.07	\$110.67	\$143.87	1	\$97.19

Miscellaneous Operations	15% Below Avg.	Avg. Final Rate	30% Above Avg.	# of Surveys Used	Avg. Unadjusted Rate
<u>Machinery Rental (continued):</u>					
Combine - 25' grain head (hour)	\$101.63	\$119.56	\$155.43	1	\$105.00
Corn Head for Combine (acre)	\$4.68	\$5.51	\$7.16	1	\$5.40
Soybean Head for Combine (acre)	\$4.64	\$5.46	\$7.10	1	\$5.35
Grain Cart with Auger (hour)	\$30.90	\$36.35	\$47.25	1	\$31.92
Corn (acre)	\$3.73	\$4.39	\$5.70	1	\$4.30
Soybeans (acre)	\$2.95	\$3.47	\$4.51	1	\$3.40
Grain Wagon (bushel)	\$0.04	\$0.05	\$0.07	1	\$0.05
Skidstear Loader (day)	\$77.09	\$90.70	\$117.91	2	\$88.90
Dry Bulk Fertilizer Applicator (hour)	\$1.13	\$1.33	\$1.72	1	\$1.30
Liquid Fertilizer Applicator (hour)	\$1.82	\$2.14	\$2.79	1	\$2.10
Anhydrous Fertilizer Applicator (hour)	\$2.21	\$2.60	\$3.38	1	\$2.55
<u>Brush Hog (per acre):</u>					
Brush Hog - General	\$10.69	\$12.57	\$16.34	5	\$12.04
Pasture	\$8.82	\$10.37	\$13.48	1	\$10.47
CRP Land	\$10.13	\$11.92	\$15.49	3	\$11.16
Brush	\$13.88	\$16.33	\$21.23	1	\$16.40
Cornstalks	\$7.27	\$8.56	\$11.13	3	\$7.84
Brush Hog (per hour)	\$44.64	\$52.52	\$68.27	2	\$51.88
Fence Rows and Ditches (per hour)	\$35.31	\$41.54	\$54.00	1	\$40.60
<u>Silage-Harvest-Store:</u>					
Chopping (acre)	\$39.95	\$47.00	\$61.10	1	\$45.80
Chopping (per ton)	\$3.29	\$3.88	\$5.04	3	\$3.91
Chopping (per hour per row)	\$25.13	\$29.56	\$38.43	1	\$28.95
Chop, Haul, Fill Silo (per hour per row)	\$26.47	\$31.14	\$40.48	1	\$30.50
Chop, Haul, Fill Silo (per ton)	\$5.49	\$6.46	\$8.40	4	\$6.19
Chop, Haul, Fill Bunk (per ton)	\$6.77	\$7.97	\$10.36	1	\$6.70
Chop and Haul (per ton)	\$4.84	\$5.69	\$7.40	1	\$5.79
Hauling only (per ton)				1	\$2.22
<u>Drainage and Tile (mat'l extra):</u>					
<u>Ditching Machine:</u>					
4" Plastic/ft				1	\$0.23
6" Plastic/ft				2	\$0.47
8" Plastic/ft				1	\$0.30
<u>Drain Plow:</u>					
4" Plastic/ft				1	\$0.15
<u>Building Fence (no mat'l costs included):</u>					
<u>Woven + Barbed Wire</u>					
Easy Terrain/ft (includes set posts)				1	\$0.96
Easy Terrain/hr (includes set posts)				1	\$19.25
Rough Terrain/ft (incl. set posts)				1	\$1.01
Rough Terrain/hr (incl. set posts)				1	\$21.45

Miscellaneous Operations	15% Below Avg.	Avg. Final Rate	30% Above Avg.	# of Surveys Used	Avg. Unadjusted Rate
Building Fence (continued):					
Barbed Wire					
Easy Terrain/ft (includes set posts)				1	\$0.77
Easy Terrain/hr (includes set posts)				1	\$17.58
Rough Terrain/ft (includes set posts)				1	\$0.81
Rough Terrain/hr (includes set posts)				1	\$20.36
Barbed / hr (post setting not specified)				1	\$14.80
Barbed / ft (post setting not specified)				1	\$0.48
Woven / hr (post setting not specified)				1	\$13.85
Woven / ft (post setting not specified)				1	\$0.52
Post Hole Digging (hole)				2	\$2.63
Non-Rocky Soil (hole)				1	\$5.86
Non-Rocky Soil (hour)				1	\$31.89
Rocky Soil (hole)				1	\$10.56
Rocky Soil (hour)				1	\$32.63
Post Hole Driving (post)				1	\$1.80
Post Hole Driving (hour)				1	\$18.75
Fence Removal (hour)				1	\$27.94
Fence Removal (ft)				1	\$0.36
Miscellaneous :					
Shearing Sheep / head				1	\$2.60
Hauling Livestock-trailer/mile				2	\$2.29
Hauling Livestock-truck/mile				2	\$2.64
Bulldozer (feet of blade/hr)				2	\$8.68
Bulldozer Work <= 9' blade				1	\$66.24
Bulldozer Work > 9' blade				1	\$82.74
Bulldozer Work (hr)				1	\$99.79
Bulldozer <100 HP (hr)				1	\$77.50
Bulldozer 100-150 HP (hr)				1	\$97.36
Bulldozer >150 HP (hr)				1	\$108.33
Building Ponds (hr)				2	\$94.13
Building Ponds / cubic yard				1	\$1.98
Backhoe (hr)				2	\$62.24
Track Hoe (hr)				2	\$99.72
Snow Removal-loader (hr)				2	\$55.40
Snow Removal-blade (hr)				2	\$58.63
Snow Removal-blower (hr)				2	\$69.08
Pump and Spread Manure (1000 gallons)				1	\$10.39
Pump and Inject Manure (1000 gallons)				2	\$10.83
Load Solid Manure (hr)				1	\$44.40
Load and Spread Solid Manure (hr)				1	\$52.40

Notes: Grain hauling operation definitions were extremely varied and could not be combined. Users should use information in this section with care.