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MACHINERY COST ESTIMATES: SUMMARY

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More details on costs in this publication are given in four publications available in the management section of *farmdoc* (www.farmdoc.uiuc.edu):

1. *Machinery Cost Estimates: Tractors*
2. *Machinery Cost Estimates: Field Operations*
3. *Machinery Cost Estimates: Harvesting*
4. *Machinery Cost Estimates: Forage Field Operations.*

Table 1. List Prices and Estimated Costs Per Hour for Tractors of Different Sizes.

Tractor ¹	List Price ²	----- Costs -----			Fuel Use Per Hour
		Total	= Overhead	+ Fuel + Labor	
	\$/tractor	----- \$ per hour -----			gal.
75 PTO Hp Tractor	63,000	50.15	20.60	13.60 15.95	3.3
95 PTO Hp Tractor	69,000	55.65	22.50	17.20 15.95	4.2
110 PTO Hp Tractor	70,700	58.95	23.10	19.90 15.95	4.8
125 PTO Hp Tractor	82,100	65.35	26.80	22.60 15.95	5.5
140 PTO Hp Tractor	109,300	76.95	35.70	25.30 15.95	6.1
150 PTO Hp Tractor	108,200	78.35	35.30	27.10 15.95	6.6
165 PTO Hp Tractor	113,800	82.85	37.10	29.80 15.95	7.2
180 PTO Hp Tractor	134,700	92.35	43.90	32.50 15.95	7.9
200 PTO Hp Tractor, FWA	125,800	93.05	41.00	36.10 15.95	8.8
225 PTO Hp Tractor, FWA	155,700	107.45	50.80	40.70 15.95	9.9
250 PTO Hp Tractor, FWA	169,800	116.55	55.40	45.20 15.95	11.0
275 PTO Hp Tractor, FWA	206,900	133.15	67.50	49.70 15.95	12.0
325 PTO Hp Tractor, 4WD	232,700	150.55	75.90	58.70 15.95	14.2
375 PTO Hp Tractor, 4WD	210,700	152.45	68.70	67.80 15.95	16.4
425 PTO Hp Tractor, 4WD	228,800	167.35	74.60	76.80 15.95	18.6
475 PTO Hp Tractor, 4WD	267,200	188.95	87.20	85.80 15.95	20.8
530 PTO Hp Tractor, 4WD	286,500	205.25	93.50	95.80 15.95	23.2

¹ "FWA" indicates a front wheel assist tractor. "4WD" indicates a four wheel drive tractor.

² List prices for 2008. Purchase price is assumed to be 85% of the list price.

Table 2. Costs of Field Operations.

Operation	Total	Tractor Overhead	Implement Overhead	Fuel & Lube	Labor	Fuel Use
	----- \$ per acre -----					gal
Primary tillage						
Chisel plow	11.90	3.80	3.90	3.10	1.10	0.9
Horizontal disk, drag, rolling basket	12.40	3.50	5.00	2.80	1.10	0.8
Moldboard plow	26.60	8.70	6.90	7.60	3.40	2.2
Mulch tiller (disk, chisel)	17.80	6.40	5.20	4.70	1.50	1.4
Offset disk	12.30	3.90	3.60	3.00	1.80	0.9
Strip tillage	11.40	3.90	3.80	2.80	0.90	0.8
V-ripper (shanks only)	18.40	8.40	1.70	6.50	1.80	1.9
Secondary tillage						
Field cultivator	8.30	2.50	3.00	2.00	0.80	0.5
Mulch finisher (disk, chisel, drag)	15.60	3.90	3.90	3.90	3.90	0.9
Tandem disk	9.60	2.60	4.10	2.10	0.80	0.5
Planting						
Broadcast seeding	6.70	2.60	0.40	1.70	2.00	0.4
Conventional planter	10.30	1.70	6.50	1.30	0.80	0.3
Split-row planter ¹	10.80	1.80	6.70	1.50	0.80	0.4
No-till planter	12.20	2.00	7.60	1.80	0.80	0.4
Grain drill	10.00	3.10	3.30	2.20	1.40	0.5
No-till drill	15.50	3.80	7.30	2.70	1.70	0.7
Air Seeder	14.90	3.40	8.20	2.60	0.70	0.6
Crop care						
Rotary hoe	4.80	1.20	2.30	0.80	0.50	0.2
Row cultivating	8.50	2.30	3.30	2.00	0.90	0.5
Spraying and ammonia application						
Self-propelled	3.10		2.80	0.10	0.20	0.0
Pull-type	4.10	1.00	1.60	0.80	0.70	0.2
Anhydrous ammonia	9.30	3.50	1.70	2.50	1.60	0.6
Mowing	18.90	6.10	5.80	4.30	2.70	1.0

Table 3. Summary of Harvesting Costs.

Combining¹	
Corn	\$34.70 per acre
Soybean	\$30.10 per acre
Grain Cart²	
Corn	\$9.20 per acre
Soybean	\$5.60 per acre
Grain Hauling³	\$0.085 per bu.

¹ Based on a 265 HP combine used on 1,400 acres.

² Based on a \$25,000 grain cart used on 1,400 acres.

³ Hauling costs from field to storage will vary depending on distance to storage, unloading time, and other factors.

Table 4. Costs of Field and Forage Operations.

Operation	Total	Tractor Overhead	Implement Overhead	Fuel & Lube	Labor
----- \$ per acre -----					
Cutting and conditioning hay					
Sickle bar mower	14.30	4.60	2.80	3.40	3.50
Rotary mower	12.00	3.30	3.80	2.40	2.50
Pull-type mower/conditioner	17.10	4.60	5.80	4.60	2.10
Self-propelled mower/conditioner	16.50	--	11.40	3.70	1.40
Rake (side delivery)	7.70	1.90	3.10	1.40	1.30
Rake (wheeled)	5.50	1.70	1.20	1.30	1.30
Tedder	6.40	2.00	1.30	1.50	1.60
Baling hay					
Small square baler	25.00	6.00	6.70	7.40	4.90
1,000 lb. square baler	20.50	4.00	10.30	4.40	1.80
Round baler	25.00	6.30	7.40	6.80	4.50
Forage harvesting as silage					
Pull-type forage harvester					
First cut hay	18.50	7.20	4.20	3.90	3.20
Remaining cuts	14.40	5.30	3.90	3.50	1.70
Corn silage	66.10	28.10	21.60	7.50	8.90
Self-propelled forage harvester					
First cut hay	18.90	--	13.60	3.90	1.40
Remaining cuts	14.10	--	9.60	3.30	1.20
Corn silage	64.50	--	49.80	11.20	3.50