

**MSU Extension**

Farm Business

2021 Custom Machine and Work Rate Estimates

Available at:

https://www.canr.msu.edu/farm_management/budgets-cost-of-production

Updated August 2021

Farm Labor Unskilled ² = \$ per hour	\$24.00	(per University of Minnesota)
Farm Labor skilled ² = \$ per hour	\$28.00	(per University of Minnesota)

TRACTORS ONLY: Note: additional tractor information available from University of Minnesota survey (link below) max. min.

No driver, or fuel cost	MFWD - 260 hp.	\$ 111.05	\$ 111.05
	MFWD - 225 hp.	\$ 99.95	\$ 62.92
	MFWD - 130 hp.	\$ 54.74	\$ 49.33
Est. Tractor Cost \$0.24/hp/hr. (range of \$0.16 - \$0.30)	2- WD - 75 hp.	\$ 36.00	\$ 22.01
Est. Fuel use .044 gal. diesel/PTO hp / hour	2- WD - 40 hp.	\$ 11.21	\$ 11.21

TILLAGE OPERATIONS: Custom \$/Acre ¹ (unless otherwise noted) max. min.

Plowing: Moldboard (6 bottom)	\$23.25	\$ 27.99	\$ 18.40
Chisel Plow (23 ft.)	\$16.32	\$ 18.61	\$ 14.41
Chisel - front disk (16.3 ft.)	\$19.10	\$ 20.00	\$ 18.61
Vertical tillage	\$16.44	\$ 18.45	\$ 13.84
Strip Tillage (12 row, 30")	\$20.15	\$ 20.15	\$ 20.15
Disk-V.Ripper combo (22.5 ft)	\$20.19	\$ 21.95	\$ 18.20
V- Ripper 30" O.C., 17 ft	\$18.53	\$ 21.25	\$ 15.65
Subsoiler 30" - 10ft (12-15")	\$20.23	\$ 21.01	\$ 18.69
Field Cultivator (23 ft.)	\$12.46	\$ 15.05	\$ 6.88
Harrow	\$9.75	\$ 9.75	\$ 9.75
Soil Finisher	\$16.36	\$ 17.77	\$ 14.95
Disk- Tandem 21 ft.	\$14.63	\$ 15.00	\$ 13.92
Row Cultivate (12 rows)	\$12.22	\$ 15.11	\$ 9.09
Stalk Shredder (20 ft.)	\$13.70	\$ 17.87	\$ 9.42
Rotary Hoe (21 ft.)	\$10.74	\$ 11.58	\$ 9.90
Land Rolling	\$6.80	\$ 6.80	\$ 6.80
Highboy spraying	\$6.50	\$ 6.50	\$ 6.50
Boom Sprayer-self-Prop.80ft.	\$7.36	\$ 8.58	\$ 6.45
Boom Sprayer-pull type 90ft.	\$6.50	\$ 6.55	\$ 6.45

PLANTING: Custom \$/Acre ¹ (unless otherwise noted) max. min.

Planter- 12 row -w/fert& insect 30" corn-soys	\$21.93	\$ 22.90	\$ 20.95
Planter- 12 row no attachments	\$18.95	\$ 20.60	\$ 16.61
Planter only- notill	\$20.49	\$ 22.06	\$ 18.91
Planter- soybean 15" rows	\$19.59	\$ 21.90	\$ 17.00
Planter- No Till w/splitter & w/fert	\$21.17	\$ 21.20	\$ 21.13
Variable rate seeding	\$2.35	\$ 2.35	\$ 2.35
Drill Soybeans Conventional	\$18.78	\$ 19.25	\$ 18.50
Drill- No Till (15 ft.)	\$21.27	\$ 28.53	\$ 15.64
Drill- No Till - drill only no tractor	\$15.26	\$ 17.17	\$ 13.35
Drill Grain, press wheels (16ft)	\$17.34	\$ 19.07	\$ 15.96
Grain drill- only-no tractor	\$10.30	\$ 10.30	\$ 10.30
Seed Tender	\$2.55	\$ 2.55	\$ 2.55
Pest Control- scouting	\$3.70	\$ 3.70	\$ 3.70
Pest Scouting-with drone	\$3.30	\$ 3.30	\$ 3.30

FERTILIZER:	Custom \$/Acre ¹ (unless otherwise noted)	max.	min.
Fertilizer Dry Bulk: Spreading	\$6.02	\$ 6.32	\$ 5.55
Fertilizer dry Bulk Spreader only-	\$5.25	\$ 5.25	\$ 5.25
Lime application/ton	\$6.00	\$ 6.00	\$ 6.00
Fertilizer- Liquid-Knifed In	\$10.31	\$ 13.00	\$ 6.65
Fertilizer - side dressing	\$11.30	\$ 11.80	\$ 10.48
Liquid-Sprayed	\$7.51	\$ 8.06	\$ 6.70
Fertilizer- Anhydrous: 21 ft.	\$11.65	\$ 12.25	\$ 11.04
Soil Testing - GPS grid samples	\$6.75	\$ 6.75	\$ 6.75
Manure Hauling-semi-solid&Load&Spread / hr.	\$132.50	\$ 135.00	\$ 130.00
Liquid Manure Spreader Injected-1000 gal.	\$72.93	\$ 132.50	\$ 13.35
Liquid Manure spreader only /hr.	\$9.36	\$ 9.36	\$ 9.36
Solid Manure spreader only /hr	\$75.97	\$ 99.43	\$ 52.50
Liquid Manure injected Drag Line -1000 gal.	\$10.48	\$ 11.65	\$ 9.30
Bobcat/Skid Loader / hr.	\$52.58	\$ 58.75	\$ 46.41
Mowing CRP or pasture / acre	\$17.19	\$ 19.20	\$ 15.18
Ditch Mowing/hr	\$66.35	\$ 66.35	\$ 66.35
Brush Hogging/ acre	\$33.20	\$ 33.20	\$ 33.20
Grain Drying- continuous flow /5 point/ bu.	\$0.09	\$ 0.14	\$ 0.04
Grain Drying- inbin dryer /point/bu.	\$0.04	\$ 0.04	\$ 0.04
Grain Auger/ bu.	\$0.06	\$ 0.06	\$ 0.06
Grain Auger only / bu	\$0.06	\$ 0.06	\$ 0.06
Blower- silo filling / hour	\$30.50	\$ 30.50	\$ 30.50
Grain Storage/ mo.	\$0.05	\$ 0.05	\$ 0.05
Grain Storage for season	\$0.15	\$ 0.15	\$ 0.15
Grain Haul - per bu.- field to farmstead	\$0.13	\$ 0.18	\$ 0.07
Grain Haul - per bu.- farm to mkt 25mi	\$7.38	\$ 14.60	\$ 0.16
Grain haul per loaded mile haul one way	\$0.21	\$ 0.28	\$ 0.10
Livestock hauling trailer/ loaded mile	\$2.55	\$ 2.55	\$ 2.55
Power Washing per hr.	\$47.55	\$ 47.55	\$ 47.55
Rock picking/acre	\$16.40	\$ 16.40	\$ 16.40
Backhoe /hour	\$101.39	\$ 105.71	\$ 94.45
GPS Auto Steer System	\$2.50	\$ 2.50	\$ 2.50
Custom Farming- Corn	\$112.11	\$ 127.25	\$ 96.97
Custom Farming- Soybeans	\$99.31	\$ 115.60	\$ 83.01
Custom Farming- Sm Grains	\$103.85	\$ 103.85	\$ 103.85

HARVESTING:	Custom \$/Acre ¹ (unless otherwise noted)	max.	min.
Combine - 8 row (Corn)	\$35.69	\$ 44.16	\$ 30.26
Corn Head for combine	\$26.98	\$ 44.16	\$ 9.80
Combine 8 row- stalk chopper head	\$43.33	\$ 47.76	\$ 38.90
Combine Small grains (20 ft head)	\$30.73	\$ 33.59	\$ 28.14
Combine Soybeans (30 ft. head)	\$32.18	\$ 34.20	\$ 29.39
Combine Soybeans- air reel- flex 25ft.	\$34.45	\$ 34.45	\$ 34.45
Soybean head for combine	\$10.35	\$ 10.35	\$ 10.35
Combine, cart, haul to storage - Corn	\$43.00	\$ 52.30	\$ 35.15
Combine, cart, haul to storage - Soybeans	\$40.75	\$ 49.90	\$ 33.30
GPS mapping addition to harvesting	\$2.50	\$ 2.50	\$ 2.50
Picker 2 row- Ear Corn + 3 wagons	\$31.90	\$ 31.90	\$ 31.90
Grain Cart- corn / acre	\$18.61	\$ 31.41	\$ 5.80
Chopping Forage- Pull type 3row	\$70.32	\$ 70.32	\$ 70.32
Chopping C.Silage-Self-prop 6row 625hp /hr	\$71.54	\$ 131.18	\$ 11.90
Chopping Silage- Self propelled- per ton	\$7.10	\$ 7.10	\$ 7.10
Snapple/acre	\$122.38	\$ 180.00	\$ 64.75
Bunk Filling-chop,haul,filling&packing/ton	\$9.00	\$ 9.00	\$ 9.00
Silage Bagging per ft. (9 ft diameter)	\$6.99	\$ 8.80	\$ 5.18
Mowing	\$12.92	\$ 14.48	\$ 11.35
Raking	\$6.86	\$ 8.95	\$ 2.73
Tedding	\$7.54	\$ 8.35	\$ 6.70
Windrowing - hay or straw	\$14.50	\$ 14.50	\$ 14.50
Swathing hay or small grains (25 ft.)	\$16.70	\$ 22.44	\$ 13.65
Mower-Conditioner Pull-type (9 ft.)	\$16.59	\$ 18.00	\$ 15.15
Mower - Conditioner- Rotary (12ft)	\$10.89	\$ 10.89	\$ 10.89
Small Square Baling /bale- Hay	\$1.22	\$ 1.80	\$ 0.59
Mow, Rake, Baler & Handle - small sqr.	\$1.00	\$ 1.00	\$ 1.00
Wrapping Bales	\$3.40	\$ 3.40	\$ 3.40
Baling Round- 600-800 # per bale	\$9.71	\$ 9.72	\$ 9.69
Baling Round -1200 -1500 #- per bale	\$11.89	\$ 13.20	\$ 10.78
Baler 1000# Round/ with wrapper	\$14.90	\$ 16.59	\$ 13.20
Mow-Rake-Bale-fld Haul- Lrg. Round/bale	\$23.20	\$ 23.20	\$ 23.20
Baling -1500 #- Lrg. Round-stalks/straw	\$11.53	\$ 12.45	\$ 10.67
Baling -1500#- Lrg.Round-stalks/straw-with wrap	\$13.95	\$ 13.95	\$ 13.95
Hauling round bales/loaded mile to storage	\$3.53	\$ 4.67	\$ 2.95
Hauling square bales/loaded mile	\$2.30	\$ 2.30	\$ 2.30
Baling – Lrg Sqr. Hay 4x3x8	\$11.39	\$ 15.32	\$ 9.04

¹ Custom \$ per acre: Represents the rate obtained from surveys of actual farm data surveys from Universities listed below to do this type of machine work for another farm on a general basis. Higher or lower rates apply in each situation depending on crop conditions, soil conditions, size of fields and their locations. These numbers include machine, power unit & operator where needed. For a more detailed breakdown, review of the university surveys is recommended (links provided below).

² Labor is charged at hourly rates that include benefits. The charge rates are \$24.00 per hour for unskilled labor and \$28.00 per hour for skilled labor. The skilled labor rate is generally used with the planting and harvesting equipment and sprayers. Labor per acre for an operation such as plowing or disking is calculated by using the work rate on the implement. Less labor per acre is used in a disking operation that covers more acres per hour than in a plowing operation. A small amount of extra labor is added over and above machine time to allow for downtime for tasks such as making adjustments and filling sprayers and planters. The labor adjustment ranges from 2 percent additional time for tillage to 25 percent for spraying. (per University of Minnesota, Center for Farm Financial Management)

- **University of Minnesota, Machinery Economic cost estimates for 2021** ©
<http://wlazarus.cfans.umn.edu/william-f-lazarus-farm-machinery-management/>
- **2021 Iowa Farm Custom Rate Survey - Ag Decision Maker** ©
<https://www.extension.iastate.edu/agdm/crops/pdf/a3-10.pdf>
- **Wisconsin Custom Rate Guide 2020** ©
https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/WI-CRate20.pdf
- **2021 Purdue University Farm Custom Rates** ©
<https://ag.purdue.edu/commercialag/home/resource/2021/04/custom-rates/>

*This report is a summary of information extracted from various sources. Your actual cost may vary greatly from the numbers presented. It is recommended that you calculate your own cost and economic returns necessary for the operation of machinery and equipment on your individual farm. This document was compiled by the Farm Business Management team, Michigan State University Extension. revised August 2021.