



NSW DEPARTMENT OF PRIMARY INDUSTRIES

GUIDE TO TRACTOR AND IMPLEMENT COSTS

186 KW PTO (250 HP) AND 224 KW ENGINE (305 HP)

Example tractor : John Deere 8430, Case HI MX275LINKAGE+FWA

New price: **\$235,146**
 Trade-in price: 45% of new = \$105,816
 Interest rate: 10%

Yearly work: **1000 hrs/yr**
 Age at trade-in: **5000 hrs = 5.00 years**

<u>Tractor Overhead Costs</u>		<u>per year cost</u>	<u>per hour cost</u>
Depreciation = $(\$235146 - \$105815.7) / 5 \text{ yrs} =$		\$25,866	\$25,866 / 1000hrs/yr= \$25.87
Interest = $(\$235146 + \$105815.7) / 2 * 10\% =$		\$17,048	\$17,048 / 1000hrs/yr= \$17.05
Insurance = $(\$10 / \$1000) * (\$235146 + \$105815.7) / 2 =$		\$1,705	\$1,705 / 1000hrs/yr= \$1.70
			Tractor Overhead Costs: \$44.62/hr
<u>Tractor Variable Costs</u>		<u>Use</u>	<u>Variable Costs Summary</u>
<u>Item</u>	<u>No.</u>	<u>Cost</u>	
Diesel fuel		\$1.12/L	FUEL: \$48.10/hr
Engine oil		\$6.20/L	
Transmission oil		\$6.00/L	OIL: \$1.38/hr
Air filter - inner	1	\$148/filter	
Air filter - outer	1	\$96/filter	
Fuel filter	1	\$173/filter	
Hydraulic oil filter	2	\$73/filter	
Oil filter	1	\$30/filter	
Water filter	1	\$33/filter	FILTERS: \$1.22/hr
Tyres- large 18.4 * 46R	4	\$2,290/tyre	TYRES: \$4.51/hr
Tyres- small 16.9 * 28R	2	\$1,095/tyre	BATTERIES: \$0.21/hr
Batteries	2	\$312/battery	REPAIRS: \$4.70/hr
Repairs		2% tractor price/yr	
			Tractor Variable Costs: \$60.12/hr
			TOTAL Tractor Costs per hour: \$104.74/hr
			(Based on 1000 hours work per year)

Example Implements:

	<u>(a)New price</u>	<u>(b)Trade-in</u>	<u>(c)Work</u>	<u>(d)Trade-in</u>
		0.35	hours/yr	age
Chisel plough: 11.3m width: 8km/ha: 7.232ha/hr	\$70,000	\$24,500	200	9 years
Cultivator: 12.2m width: 8km/ha: 7.808ha/hr	\$67,500	\$23,625	400	9 years
Conventional Air seeder: 13.7m width: 10km/ha: 9.59ha/hr	\$125,000	\$43,750	200	9 years
Min-till Air seeder+harrow: 12.2m width: 10km/ha: 8.54ha/hr	\$152,000	\$53,200	200	9 years
Spray unit: 24m width: 18km/ha: 36.72ha/hr	\$38,000	\$13,300	250	9 years
Cultivator: 8m width: 12km/ha: 8.64ha/hr	\$29,000	\$10,150	100	9 years
Mulcher with root cutters: 4m width: 15km/ha: 5.1ha/hr	\$54,000	\$18,900	100	3 years
Interrow cultivator: 8m width: 9km/ha: 6.48ha/hr	\$35,000	\$12,250	150	9 years
Middle busting rig: 8m width: 6km/ha: 4.32ha/hr	\$30,000	\$10,500	150	9 years
Planter: 8m width: 10km/ha: 7.2ha/hr	\$59,000	\$20,650	150	3 years
Shielded spray rig: 8m width: 15km/ha: 10.8ha/hr	\$11,000	\$3,850	100	5 years

Implement	Overhead Costs		Variable costs (g)Repair \$/yr 5%	Variable cost/hour g/c	Yearly Cost (h) e+f+g	Hourly Cost h/c
	(e)Depreciation (a-b)/d	(f) Interest ((a+b)/2)*10%				
Chisel plough	\$5,056	\$4,725	\$3,500	\$17.50	\$13,281	\$66.40
Cultivator	\$4,875	\$4,556	\$3,375	\$8.44	\$12,806	\$32.02
Conventional Air seeder	\$9,028	\$8,438	\$6,250	\$31.25	\$23,715	\$118.58
Min-till Air seeder+harrows	\$10,978	\$10,260	\$7,600	\$38.00	\$28,838	\$144.19
Spray unit	\$2,744	\$2,565	\$1,900	\$7.60	\$7,209	\$28.84
Cultivator	\$2,094	\$1,958	\$1,450	\$14.50	\$5,502	\$55.02
Mulcher with root cutters	\$11,700	\$3,645	\$2,700	\$27.00	\$18,045	\$180.45
Interrow cultivator	\$2,528	\$2,363	\$1,750	\$11.67	\$6,640	\$44.27
Middle busting rig	\$2,167	\$2,025	\$1,500	\$10.00	\$5,692	\$37.94
Planter	\$12,783	\$3,983	\$2,950	\$19.67	\$19,716	\$131.44
Shielded spray rig	\$1,430	\$743	\$550	\$5.50	\$2,723	\$27.23

Tractor and Implement Combinations

Variable Costs used in budgets

(based on hours/yr work as above)

	\$/hr	Speed
Tractor + Chisel plough	\$77.62/hr	0.14 hrs/ha
Tractor + Cultivator	\$68.56/hr	0.13 hrs/ha
Tractor + Conventional Air seeder	\$91.37/hr	0.10 hrs/ha
Tractor + Min-till Air seeder+harrows	\$98.12/hr	0.12 hrs/ha
Tractor + Spray unit	\$67.72/hr	0.03 hrs/ha
Tractor + Cultivator	\$74.62/hr	0.12 hrs/ha
Tractor + Mulcher with root cutters	\$87.12/hr	0.20 hrs/ha
Tractor + Interrow cultivator	\$71.79/hr	0.15 hrs/ha
Tractor + Middle busting rig	\$70.12/hr	0.23 hrs/ha
Tractor + Planter	\$79.79/hr	0.14 hrs/ha
Tractor + Shielded spray rig	\$65.62/hr	0.09 hrs/ha

165-170 KW PTO (225-230 HP) AND 194-200 KW ENGINE (260-268 HP)

Machine	Width (m)	Speed	Efficiency	ha/hrs	hrs/ha
Chisel plough	11.30	8 km/hr	80%	7.23	0.14
Cultivator	12.20	8 km/hr	80%	7.81	0.13
Conventional Air seeder	13.70	10 km/hr	70%	9.59	0.10
Min-till Air seeder+harrows	12.20	10 km/hr	70%	8.54	0.12
Spray unit	24.00	18 km/hr	85%	36.72	0.03
Cultivator	8.00	12 km/hr	90%	8.64	0.12
Mulcher with root cutters	4.00	15 km/hr	85%	5.10	0.20
Interrow cultivator	8.00	9 km/hr	90%	6.48	0.15
Middle busting rig	8.00	6 km/hr	90%	4.32	0.23
Planter	8.00	10 km/hr	90%	7.20	0.14
Shielded spray rig	8.00	15 km/hr	90%	10.80	0.09