

Table 1. Power Unit Cost Data Used for 2016 Budgets

<i>Name</i>	<i>List Price</i>	<i>Age</i>	<i>Total Tach</i>	<i>Est. Hours per Year</i>
Large Tractor	317,791	10	1,500	300
Medium Tractor	216,382	5	2,500	500
Combine	351,122	10	1,500	300
Electric Pump	10,500	5	2,400	800
Diesel Pump for Pivot	15,750	10	2,400	800
Diesel Pump for Pipe	15,750	10	2,400	800
Windrower	148,828	10	2,500	120

Table 2. Machinery Cost Data Used for 2016 Budgets

<i>Operation Name</i>	<i>List Price</i>	<i>Age</i>	<i>Annual Use</i>	<i>Units per Hour</i>	<i>Diesel Use per Hour</i>
Anhydrous Apply	N/A	5	500	12.0	6.36
Bale Small Square	24,555	5	1,250	4.0	3.50
Cart*	42,000	5	440,000	1,540.0	3.00
Chisel	57,470	5	2,000	11.1	8.26
Chop Stalks	19,575	5	500	12.3	5.74
Combine Corn Head	52,488	5	1,000	7.0	10.50
Combine Grain Header	32,114	5	1,000	6.5	10.50

*units are in bushels

These pages are excerpted from 2016 Nebraska Crop Budgets, published by Nebraska Extension.

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Table 2. Machinery Cost Data Used for 2016 Budgets (Continued)

<i>Operation Name</i>	<i>List Price</i>	<i>Age</i>	<i>Annual Use</i>	<i>Units per Hour</i>	<i>Diesel Use per Hour</i>
Corrugate	30,000	5	300	7.0	4.39
Disk	44,080	5	2,000	10.9	8.29
Ditch Irrigation	N/A	5	1,000	1.8	0.00
Double Windrows	7,403	20	300	20.0	2.11
Drill	66,251	10	1,000	12.5	4.99
Drill w/Fertilizer	66,251	10	1,000	11.0	5.00
Fallow Master	57,470	5	2,000	12.5	8.62
Field Cultivation	57,470	5	2,000	15.0	8.20
Grass Drill	73,000	10	1,000	9.0	4.29
Harrow	N/A	5	1,000	18.6	2.05
Large Round Bale	41,983	5	1,000	10.0	2.88
Large Square Bale	120,658	5	1,000	16.0	6.19
Lift Beets	110,000	5	1,000	6.0	6.19
Load Large Square**	4,090	5	3,000	20.0	4.00
Move Large Round**	4,090	5	3,000	20.0	4.00
No-Till Drill	66,251	5	1,000	12.0	6.07
Pickett Windrowers	32,000	5	1,000	10.0	6.07
Pipe D 125 ft Lift***	N/A	10	2,600	2.3	3.03
Pivot D 125 ft Lift***	70,000	10	2,600	1.8	3.34
Pivot D 125 ft Lift w/fertigation***	75,000	10	2,600	1.8	3.34
Pivot E 125 ft Lift***	70,000	10	2,600	1.8	N/A
Pivot E 125 ft Lift w/fertigation***	75,000	10	2,600	1.8	N/A
Plant	72,828	5	1,000	10.0	2.73
Plant Narrow Row	72,828	5	1,000	10.0	2.58
Plant No-Till	125,418	5	1,000	10.0	3.38
Plow	15,239	5	1,000	7.5	6.00
Ridge Cultivate/Ditch	30,000	5	1,000	12.0	5.33
Ridge Cultivation	30,000	5	1,500	10.0	5.33
Ridge plant and band herbicide	77,828	5	1,500	10.0	3.41
Rod Weeder	N/A	5	1,000	13.2	5.35
Rod Weeder & Fertilizer	N/A	5	1,000	13.2	5.35
Roll	N/A	5	300	9.0	5.46
Roller Harrow	30,000	5	1,000	10.0	5.00
Rotary Hoe	25,000	5	1,000	14.7	3.67
Row Crop Cultivation	30,000	5	1,000	11.0	3.50
Seeder/Packer	62,545	5	1,000	8.0	4.29

**units are in tons

***units are in acre inches

Table 2. Machinery Cost Data Used for 2016 Budgets (Continued)

<i>Operation Name</i>	<i>List Price</i>	<i>Age</i>	<i>Annual Use</i>	<i>Units per Hour</i>	<i>Diesel Use per Hour</i>
Spray	36,000	5	2,500	25.0	2.64
Spray (Prior Year Stubble)	36,000	5	2,500	25.0	2.64
Spray Fertilizer	36,000	5	1,000	25.0	2.64
Spray Fertilizer and Herbicide	36,000	5	1,000	25.0	2.64
Spray Spring Burndown Herbicide	36,000	5	2,500	25.0	2.64
Spread Fertilizer	N/A	5	1,000	12.7	3.86
Stack Small Square**	13,000	5	1,250	10.0	2.00
Subsoil	30,000	5	500	9.0	8.25
Swath/Condition Hay	N/A	5	2,000	10.0	5.00
Till Plant Beets	48,000	5	1,000	6.0	8.25
Top Beets	50,000	5	1,000	5.8	3.50
Turn Windrows	7,403	5	1,000	12.0	2.10
Windrow Grain	N/A	5	500	10.0	5.00

**units are in tons

Table 3. Material Prices Used for 2016 Budgets

<i>Item</i>	<i>Price per Unit</i>
Additive	
UAN	\$1.65/gal
Crop Oil Concentrate	\$12.00/gal
NIS	\$22.00/gal
21-0-0-24S	\$0.35/lb

Custom	
Aerial Spray	\$9.50/acre
Spray	\$7.00/acre
Bale Large Square (1360 lb)	\$13.00/bale
Load Large Square Bales	\$2.00/bale
Dry 2 Points Removed	\$0.09/bu
Haul Grain	\$0.11/bu
Haul Dry Beans	\$0.28/cwt
Haul Millet	\$0.24/cwt
Haul Sunflowers	\$0.30/cwt
Chop, Haul, Pack Silage	\$11.00/ton
Haul & Apply Manure	\$6.00/ton
Haul Beets	\$5.00/ton

<i>Item</i>	<i>Price per Unit</i>
Fertilizer	
10-34-0	\$2.80/gal
10-34-0-1Z	\$2.85/gal
28-0-0	\$1.40/gal
46-0-0	\$0.48/lb N
82-0-0	\$0.43/lb N
32-0-0	\$0.47/lb N
32-0-0 (Applied by Pivot)	\$0.47/lb N
32-0-0 (Applied by R2)	\$0.47/lb N
11-52-0	\$0.28/lb
Uncomposted Manure	\$1.00/ton

Fungicide	
Headline AMP	\$320.00/gal
Priaxor	\$670.00/gal
Quadris	\$440.00/gal
Quilt Xcel	\$290.00/gal
Stratego YLD	\$720.00/gal
Tilt	\$105.00/gal
Copper	\$3.50/pt
Pea Seed Inoculant	\$8.00/lb

Table 3. Material Prices Used for 2016 Budgets (Continued)

<i>Item</i>	<i>Price per Unit</i>
Herbicide	
2,4-D Amine	\$15.00/gal
2,4-D Ester 4#	\$20.50/gal
AAtrex 4L	\$21.00/gal
Acuron	\$65.00/gal
Atrazine 4L	\$15.00/gal
Basagran	\$80.00/gal
Bicep II Magnum	\$50.00/gal
Bucril 4E	\$135.00/gal
Dicamba	\$75.00/gal
Distinct	\$40.00/gal
Expert	\$37.00/gal
Glyphosate w/Surf	\$16.00/gal
Gramoxone SL	\$43.00/gal
Huskie	\$120.00/gal
Landmaster BW	\$19.00/gal
Laudis	\$810.00/gal
Lumax EZ	\$80.00/gal
Outlook	\$150.00/gal
Prowl H2O	\$52.00/gal
Pursuit	\$490.00/gal
Raptor	\$610.00/gal
Roundup WeatherMax	\$38.00/gal
Rugged	\$45.00/gal
Select Max	\$110.00/gal
Sharpen	\$870.00/gal
Spartan 4F	\$750.00/gal
Vida	\$3.20/gal
Ally Extra SGW/TOTSOL	\$9.00/oz
Balance Flexx	\$6.00/oz
Peak	\$17.00/oz
Spirit	\$14.00/oz
Status	\$4.30/oz
Atrazine 90 DF	\$3.50/lb
Authority First DF	\$95.00/lb
Valor XLT	\$92.00/lb
Velpar 75DF	\$37.00/lb
Aim 2EC	\$200.00/qt

<i>Item</i>	<i>Price per Unit</i>
Insecticide	
Asana XL	\$85.00/gal
Brigade 2EC	\$145.00/gal
Capture LFR	\$360.00/gal
Lorsban 4 E	\$55.00/gal
Lorsban Advanced	\$55.00/gal
Mustang Max EC	\$190.00/gal
Warrior II/Zeon	\$380.00/gal
Regent 4 SC	\$9.60/oz
Lorsban 15 G	\$2.50/lb

Seed	
Cover Crop	\$20.00/acre
Cover Crop Legume	\$30.00/acre
Grass Seed	\$60.00/acre
Sugar Beets RR Poncho	\$180.00/acre
Corn	\$200.00/bag
Corn Bt & ECB	\$225.00/bag
Corn Bt, ECB & RW	\$240.00/bag
Corn Bt, ECB, RW & RR2	\$270.00/bag
Corn ECB & RR2	\$255.00/bag
Corn RR2	\$240.00/bag
Corn SmartStax RIB Complete	\$305.00/bag
RR Soybeans	\$52.00/bag
RR Soybeans Treated	\$65.00/bag
RR2 Soybeans	\$55.00/bag
Oats	\$9.00/bu
Peas	\$18.00/bu
Edible Beans	\$92.00/cwt
Alfalfa RR w/Inoculant	\$9.00/lb
Alfalfa w/Inoculant	\$6.00/lb
Millet	\$0.45/lb
RR2 Soybeans Treated	\$68.00/lb
Sorghum Safened/Insect	\$3.20/lb
Sorghum Sudan	\$0.70/lb
Sorghum Sudan Brown Midrib	\$1.20/lb
Sunflower	\$1.05/lb
Wheat	\$0.12/lb
Wheat (certified and treated)	\$0.31/lb

Table 3. Material Prices Used for 2016 Budgets (Continued)

<i>Item</i>	<i>Price per Unit</i>
Other	
Electricity Fixed	\$30.00/acre
Irrigation District O&M Charge	\$30.00/acre
Twine Large Round Bales	\$0.70/bale
Twine Large Square Bales	\$1.23/bale
Twine Small Square Bales	\$0.07/bale
Fence/water Repairs	\$260.00/circle
Move Cattle	\$20.00/hour
Electricity Usage	\$0.105/kw
Rental	
Grass Drill	\$15.00/acre
Seeder-Packer	\$13.00/acre

<i>Item</i>	<i>Price per Unit</i>
Scouting	
Scouting Dry Beans	\$10.00/acre
Scouting Dryland Corn	\$7.00/acre
Scouting Dryland Soybeans	\$7.00/acre
Scouting Dryland Wheat	\$7.00/acre
Scouting Grain Sorghum	\$7.00/acre
Scouting Irrigated Corn	\$10.00/acre
Scouting Irrigated Soybeans	\$10.00/acre
Scouting Irrigated Wheat	\$10.00/acre
Scouting Sugar Beets	\$16.00/acre

Converting Energy Numbers in Budgets

If your energy source is different from that used in the 2016 crop budgets, use *Table 4*, developed by Extension Irrigation Engineer Derrel Martin, to convert from diesel to other energy sources.

For example, to convert diesel in gallons to kilowatt-hours of electricity, the multiplier is 14.12. If electricity is \$0.138 per kilowatt, the calculation would be $14.12 \times 0.138 = \$1.95$. The 2016 crop budgets use \$2.25/gallon of diesel. If you use electricity, the cost would be about 50 percent of that cost. However, with electricity you must also include connect charges, and in order to get the best rates, you'll need to sign up for load management.

Table 4. Conversion of Diesel to Electricity Propane, Gasoline, and Natural Gas*.

Energy Source	Units	Multiplier
Electricity	Kilowatt-hours	14.12
Propane	Gallons	1.814
Gasoline	Gallons	1.443
Natural Gas	1000 Cubic Feet	0.2026

*Source: Estimating the Savings from Improving Pumping Plant Performance by UNL Irrigation Specialist Derrel Martin

Diesel Fuel Conversion for Center Pivots

The 2016 crop production budgets with center pivot irrigation were developed with a pumping lift of 125 feet and 35 psi pressure to determine the amount of diesel fuel used per hour. *Table 5* was developed by Derrel Martin to determine the amount of diesel fuel for various pumping lifts and pressures to pump an acre-inch of water.

For example, the amount of diesel required to pump an acre-inch of water with 125 feet of lift at 35 psi is 1.88 gallons with a pump performance rating of 100 percent. If the producer has a lift of 300 feet and a pressure of 50 psi, the diesel fuel required at a performance rating of 100 percent is 3.79 gallons per acre-inch. If the rating on the producer's pump is 80 percent, the diesel fuel required will be 4.74 gallons per acre-inch of water.

With this information, the producer can calculate the additional cost since the diesel fuel required is now 4.74 gallons per acre-inch vs. 1.88 gallons per acre-inch. This is 2.86 gallons more per acre-inch. If a crop budget requires 9 inches, the additional diesel fuel would be 25.74 gallons of diesel at \$2.25/gallon (9 inches x 2.86 gallons). The producer's additional cost would be \$57.92/acre.

Table 5. Table for adjusting the amount of diesel fuel required by center pivots for lifts and pressures other than the 125 feet of lift and 35 PSI used in the budgets. Gallons of diesel fuel required to pump an acre-inch of water at pump performance ratings of 100 percent*

Lift Feet	Pressure at							
	10	20	30	35	40	50	60	80
0	0.21	0.42	0.63	0.74	0.84	1.05	1.26	1.69
25	0.44	0.65	0.86	0.97	1.07	1.28	1.49	1.91
50	0.67	0.88	1.09	1.20	1.30	1.51	1.72	2.14
75	0.89	1.11	1.32	1.43	1.53	1.74	1.95	2.37
100	1.12	1.33	1.54	1.65	1.75	1.97	2.18	2.60
125	1.35	1.56	1.77	1.88	1.98	2.19	2.40	2.83
150	1.58	1.79	2.00	2.11	2.21	2.42	2.63	3.05
200	2.03	2.25	2.46	2.57	2.67	2.88	3.09	3.51
250	2.49	2.70	2.91	3.02	3.12	3.33	3.54	3.97
300	2.95	3.16	3.37	3.48	3.58	3.79	4.00	4.42
350	3.40	3.61	3.82	3.93	4.03	4.25	4.46	4.88
400	3.86	4.07	4.28	4.39	4.49	4.70	4.91	5.33
*Multiplier when pumping plant performance rating is less than 100 percent.								
Rating %	100	90	80	70	60	50		
Multiplier	1.00	1.11	1.25	1.43	1.67	2.00		

* Source: *Estimating the Savings From Improving Pumping Plant Performance* by UNL Extension Irrigation Specialist Derrel Martin.