

Brown Soil Zone



Dark Brown Soil Zone



Black Soil Zone



Specialty Crops



# CROP PLANNING GUIDE 2019

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Each year, Saskatchewan Agriculture makes available the Crop Planning Guide to help producers estimate the costs of producing various crops.

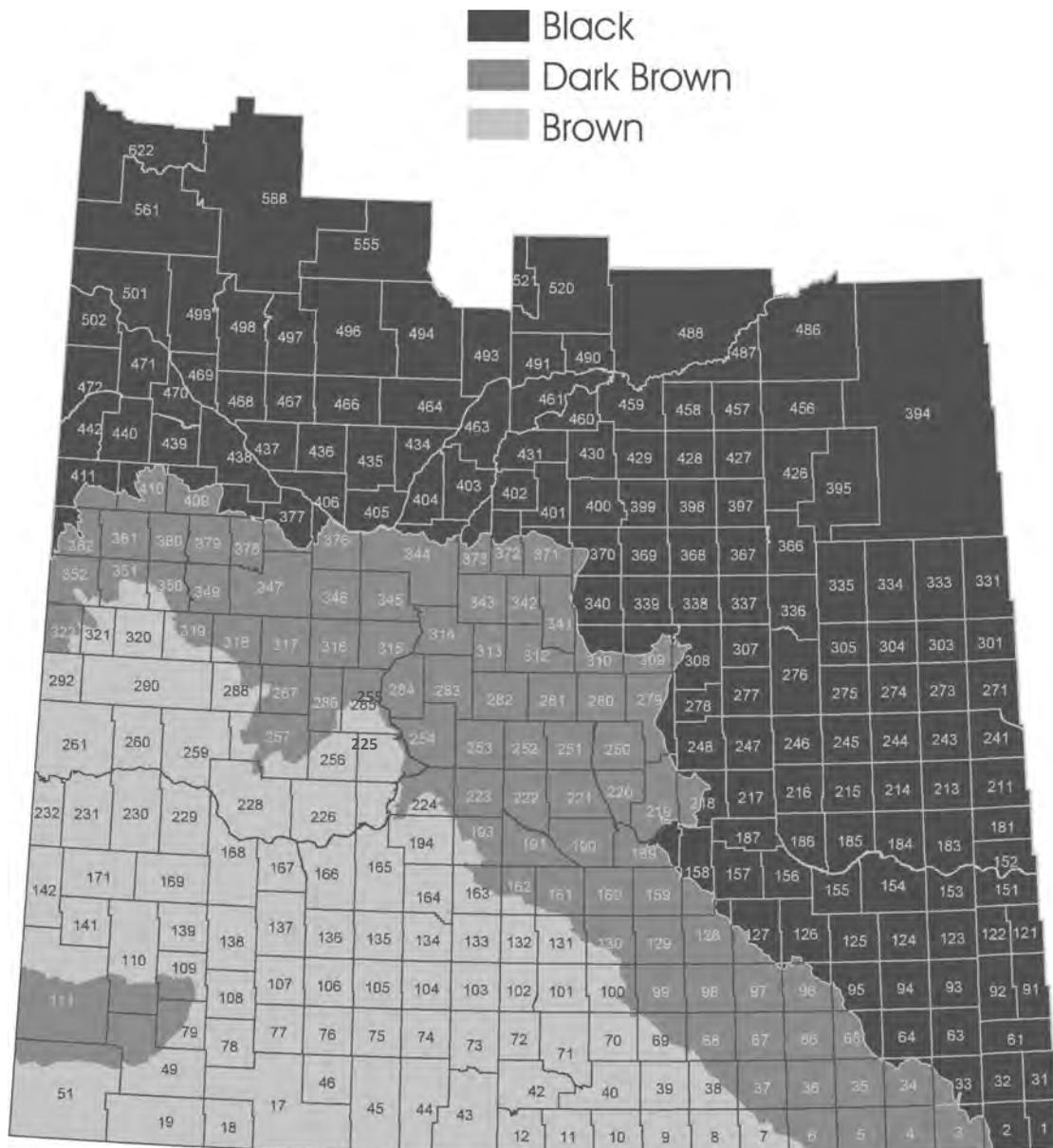
The Guide does not represent actual provincial average cost of production figures. Actual costs and yields on each farm will differ due to the age, amount and type of equipment, the selection of crop protection products and other inputs used, agronomic practices, soil class and weather conditions. Furthermore, producers will use their own risk assessment and cost-benefit calculations in production decisions, which will determine the actual costs of production that will result.

Farm managers can use the blank worksheet at the end of this guide to input their own costs of production in their calculations and decision making. Crop pricing information changes continuously.

Producers should adjust those figures accordingly to reflect their own expectations. A downloadable spreadsheet is also available on [saskatchewan.ca/agriculture](http://saskatchewan.ca/agriculture) by searching for "Crop Planner."

The sustained success of any crop relies on good agronomic management including a good crop rotation. If good agronomic practices are not allowed, the expected profitability of a crop will diminish and diseases such as clubroot may be prevalent over time.

Farm managers may also wish to consult with the Ministry's Crops Extension Specialists about the appropriate agronomic practices and cost assumptions that apply to their specific farm situation.



# GENERAL ASSUMPTIONS FOR ALL SOIL ZONES

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- 1. Crop prices** are based in part on the prices used in the November Farm Income Forecast. Crop pricing information can become outdated very quickly, so producers should continually adjust these figures as seeding approaches.
- 2. Estimated crop yields** are based on the five year average production of the top 20 per cent of Saskatchewan Crop Insurance Corporation (SCIC) customers.
- 3. Seeding rates** in the following guide are expressed in pounds per acre, with the exception of corn, soybeans, sunflowers and hybrid fall rye. These crops seeding costs are based on recommended plant population and units required to achieve those. Seeding rate conversions to bushels per acre may be made by dividing the stated seeding rate by the appropriate weight per bushel for each crop.
- 4. Seeding costs** are for certified seed. Certified seed is assumed to be used for all crops sown.
- 5. Fertilizer:** The Saskatchewan Ministry of Agriculture encourages producers to soil test on a consistent basis to measure soil fertility and precisely gauge crop nutrient needs to production expectations. This is consistent with 4R Nutrient Stewardship management practices. The price of key nutrients will fluctuate throughout the year and producers are reminded to continually adjust these figures as seeding approaches.
- 6. Chemicals:** Herbicide costs used in this guide reflect the practice of herbicide layering for prevention or management of herbicide-resistant populations. This practice may involve the use of two or more modes of action for control of some weeds in that crop. This guide assumes that commonly encountered insects and crop diseases are controlled through the use of the appropriate pesticides for the crop and pest combinations as a standard practice. The assumptions in this guide are only to demonstrate how the guide can be used to cost a crop protection plan. Producers must use their own costs based on the individual weed, insect and disease pressures. Chemical costs are set using Suggested Retail Price (SRP) costs as well as full rate application. Prices can vary significantly from SRP rates.
- 7. Machinery operating costs:** Fuel costs are based on estimated fuel consumptions for the various farming operations with diesel fuel priced at \$0.955/litre. Machinery repair rates are based on the Custom Rate and Rental Guide and are set at 2.6 per cent of the yearly machinery investment cost.
- 8. Custom work and hired labour** is made up of costs for custom farm operations, such as custom trucking and custom spraying. Skilled labour is assumed to be \$22 per hour for 2019.
- 9. Crop insurance premiums** are the average of the premiums paid for the soil zone in 2018. The coverage level is assumed to be 70 per cent. The premiums described do not reflect actual producer costs given surcharges and discounts.
- 10. Utilities** are electricity, natural gas, water and telephone expenses.
- 11. Interest on variable expenses:** Operating interest is calculated on all variable expenses at 3.93 per cent for eight months and for 18 months for hybrid fall rye and winter wheat.
- 12. Building repair rates** are assumed to be 2.2 per cent of building investment per acre.
- 13. Business overhead** is made up of legal, accounting, insurance, licences and miscellaneous.
- 14. Machinery depreciation** is calculated on a straight-line basis at 10.7 per cent of yearly machinery investment.
- 15. Building depreciation** is calculated at five per cent per year on a straight-line basis of building investment.
- 16. Machinery investment** is calculated at a 7.5 per cent return on investment. It is assumed that a Brown Soil Zone farm has \$330.27 per cultivated acre invested in machinery; a Dark Brown Soil Zone farm has \$372.43 per cultivated acre invested in machinery; and a Black Soil Zone farm has \$421.51 per cultivated acre invested in machinery. These calculations are based on data provided by Statistics Canada.
- 17. Building investment cost** is calculated at a three per cent return on investment. It is assumed that a Brown Soil Zone farm has \$21 per cultivated acre invested in buildings; a Dark Brown Soil Zone farm has \$28 per cultivated acre invested in buildings; and a Black Soil Zone farm has \$38 per cultivated acre invested in buildings. These calculations are based on data provided by Statistics Canada.
- 18. Land investment cost** is calculated at a 3.53 per cent return on investment of \$1,567 per cultivated acre in the Brown Soil Zone; \$1,766 per cultivated acre in the Dark Brown Soil Zone; and \$1,686 per cultivated acre in the Black Soil Zone.
- 19. Labour and management:** These budgets do not include an estimate for owner/operator labour and management. Typical management rates for business of this type are seven per cent of Gross Revenue.

# BLACK SOIL ZONE 2019

## 1. Seeding Rate and Certified Seed Price:

	Rate/ac.	Price (lb./plant/unit)
Spring Wheat	108 lb.	\$0.226
Winter Wheat	135 lb.	\$0.200
Malt Barley	132 lb.	\$0.221
Feed Barley	110 lb.	\$0.198
Oats	132 lb.	\$0.224
Corn	30,000 plants	\$0.002
Large Green Lentils	91 lb.	\$0.360
Red Lentils	56 lb.	\$0.300
Edible Yellow Peas	178 lb.	\$0.230
Edible Green Peas	176 lb.	\$0.263
Soybean	1.4 units	\$61.80
Faba bean	181 lb.	\$0.230
Flax	39 lb.	\$0.420
Hybrid Fall Rye	0.8 units	\$66.13
Canola	5 lb.	\$13.24

## 2. Fertilizer:

	lb./ac.		
	N	P	S
Spring Wheat	108	42	0
Winter Wheat	77	38	0
Malt Barley	81	35	0
Feed Barley	99	43	0
Oats	99	41	0
Hybrid Fall Rye	87	37	0
Corn	106	48	0
Large Green Lentils	4	21	0
Red Lentils	6	26	0
Edible Yellow Peas	10	45	0
Edible Green Peas	10	45	0
Soybean	6	28	0
Faba bean	17	79	0
Flax	84	26	0
Canola	111	60	18

	Crops				
	Spring Wheat	Winter Wheat	Malt Barley	Feed Barley	Hybrid Fall Rye
<b>REVENUE PER ACRE</b>					
Estimated Yield (bu./ac.,lb./ac.) (A)	65.2	67.8	76.2	93.2	74.5
Estimated on Farm Market Price/bu.,lb. (B)	6.75	5.05	4.74	3.94	5.41
<b>Estimated Gross Revenue/ac. (AxB)=(C)</b>	<b>440.10</b>	<b>342.39</b>	<b>361.19</b>	<b>367.21</b>	<b>403.05</b>
<b>EXPENSES PER ACRE</b>					
<b>Variable Expenses/acre</b>					
Seed	24.41	27.00	29.17	21.78	52.91
- Seed Treatments/Inoculants	6.95	8.69	8.50	7.08	0.00
Fertilizer - Nitrogen	62.53	44.58	46.90	57.32	50.37
- Phosphorus	23.15	20.94	19.29	23.70	20.39
- Sulphur and Other	0.00	0.00	0.00	0.00	0.00
Chemical - Herbicides	44.56	62.32	69.71	28.32	33.36
- Insecticides	6.07	0.00	0.00	0.00	0.00
- Fungicides	28.05	10.05	31.83	31.83	0.00
Machinery Operating - Fuel	24.34	24.33	24.27	25.50	22.45
- Repair	10.90	10.90	10.90	10.90	10.90
Custom Work and Hired Labour	19.75	19.75	17.75	17.75	17.75
Crop Insurance Premium	6.75	11.77	5.83	5.83	7.69
Utilities and Miscellaneous	4.90	4.90	4.90	4.90	4.90
Interest on Variable Expenses	6.87	14.44	7.04	6.15	12.99
<b>Total Variable Expenses (D)</b>	<b>269.23</b>	<b>259.67</b>	<b>276.10</b>	<b>241.07</b>	<b>233.71</b>
<b>Other Expenses/acre</b>					
Building Repair	0.85	0.85	0.85	0.85	0.85
Property Taxes	7.46	7.46	7.46	7.46	7.46
Business Overhead	3.50	3.50	3.50	3.50	3.50
Machinery Depreciation	45.10	45.10	45.10	45.10	45.10
Building Depreciation	1.90	1.90	1.90	1.90	1.90
Machinery Investment	31.61	31.61	31.61	31.61	31.61
Building Investment	1.34	1.34	1.34	1.34	1.34
Land Investment	59.55	59.55	59.55	59.55	59.55
<b>Total Other Expenses (E)</b>	<b>151.32</b>	<b>151.32</b>	<b>151.32</b>	<b>151.32</b>	<b>151.32</b>
Labour & Management (F)*					
<b>Total Expenses (D+E+F)=(G)</b>	<b>420.55</b>	<b>410.99</b>	<b>427.42</b>	<b>392.38</b>	<b>385.03</b>
<b>RETURN PER ACRE</b>					
<b>Return Over Variable Expenses (C-D)</b>	<b>170.87</b>	<b>82.72</b>	<b>85.09</b>	<b>126.14</b>	<b>169.34</b>
<b>Return Over Total Expenses (C-G)</b>	<b>19.55</b>	<b>-68.60</b>	<b>-66.23</b>	<b>-25.17</b>	<b>18.02</b>
<b>BREAK-EVEN YIELD PER ACRE</b>					
<b>To Cover Variable Expenses</b>	<b>39.89</b>	<b>51.42</b>	<b>58.25</b>	<b>61.18</b>	<b>43.20</b>
<b>To Cover Total Expenses</b>	<b>62.30</b>	<b>81.38</b>	<b>90.17</b>	<b>99.59</b>	<b>71.17</b>
<b>BREAK-EVEN PRICE PER BU./LB.</b>					
<b>To Cover Variable Expenses</b>	<b>4.13</b>	<b>3.83</b>	<b>3.62</b>	<b>2.59</b>	<b>3.14</b>
<b>To Cover Total Expenses</b>	<b>6.45</b>	<b>6.06</b>	<b>5.61</b>	<b>4.21</b>	<b>5.17</b>

\*These budgets do not include an estimate for owner/operator labour and management. Farm managers need to determine their own actual labour and management costs and add it to total expenses.

# BLACK SOIL ZONE 2019 (CON'T)

REVENUE PER ACRE	Crops									
	Oats	Corn**	Large Green Lentils	Red Lentils	Edible Yellow Peas	Edible Green Peas	Soybean	Faba Bean	Flax	Canola
Estimated Yield (bu./ac.,lb./ac.) (A)	145.3	99.1	1862.5	2337.9	58.8	58.8	37.4	3543.2	36.0	52.7
Estimated on Farm Market Price/bu.,lb. (B)	3.10	4.70	0.21	0.16	6.53	8.00	10.66	0.12	12.62	11.59
<b>Estimated Gross Revenue/ac. (AxB)=(C)</b>	<b>450.43</b>	<b>465.77</b>	<b>391.13</b>	<b>374.06</b>	<b>383.96</b>	<b>470.40</b>	<b>398.68</b>	<b>425.18</b>	<b>454.32</b>	<b>610.79</b>
<b>EXPENSES PER ACRE</b>										
<b>Variable Expenses/acre</b>										
Seed	29.57	93.60	32.76	16.80	40.94	46.29	86.52	40.73	16.19	66.19
- Seed Treatments/Inoculants	4.35	0.00	13.88	13.88	16.34	16.34	14.00	16.34	2.04	0.00
Fertilizer - Nitrogen	57.32	61.37	2.57	3.18	5.51	5.51	3.43	9.68	48.63	64.27
- Phosphorus	22.60	26.45	11.57	14.33	24.80	24.80	15.43	43.54	14.33	33.07
- Sulphur and Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.73
Chemical - Herbicides	23.70	27.07	71.11	71.11	66.21	66.21	52.34	73.32	58.34	49.99
- Insecticides	0.00	0.00	16.30	16.30	0.00	0.00	0.00	4.83	0.00	4.83
- Fungicides	10.05	0.00	22.50	22.50	29.26	29.26	0.00	58.51	29.26	8.89
Machinery Operating - Fuel	25.21	27.99	21.07	22.11	19.80	19.80	21.00	23.16	22.08	23.13
- Repair	10.90	12.40	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90
Custom Work and Hired Labour	17.75	54.96	19.50	19.50	17.00	17.00	19.75	16.50	17.75	17.75
Crop Insurance Premium	9.13	10.63	17.82	15.77	7.95	7.95	6.60	8.03	11.91	13.31
Utilities and Miscellaneous	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
Interest on Variable Expenses	5.64	8.36	6.41	6.05	6.37	6.51	6.15	8.12	6.18	7.98
<b>Total Variable Expenses (D)</b>	<b>221.12</b>	<b>327.73</b>	<b>251.30</b>	<b>237.34</b>	<b>249.99</b>	<b>255.48</b>	<b>241.03</b>	<b>318.56</b>	<b>242.51</b>	<b>312.94</b>
<b>Other Expenses/acre</b>										
Building Repair	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Property Taxes	7.46	7.46	7.46	7.46	7.46	7.46	7.46	7.46	7.46	7.46
Business Overhead	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Machinery Depreciation	45.10	51.29	45.10	45.10	45.10	45.10	45.10	45.10	45.10	45.10
Building Depreciation	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90
Machinery Investment	31.61	35.95	31.61	31.61	31.61	31.61	31.61	31.61	31.61	31.61
Building Investment	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
Land Investment	59.55	59.55	59.55	59.55	59.55	59.55	59.55	59.55	59.55	59.55
<b>Total Other Expenses (E)</b>	<b>151.32</b>	<b>161.84</b>	<b>151.32</b>	<b>151.32</b>	<b>151.32</b>	<b>151.32</b>	<b>151.32</b>	<b>151.32</b>	<b>151.32</b>	<b>151.32</b>
Labour & Management (F)*										
<b>Total Expenses (D+E+F)=(G)</b>	<b>372.43</b>	<b>489.58</b>	<b>402.62</b>	<b>388.66</b>	<b>401.31</b>	<b>406.80</b>	<b>392.34</b>	<b>469.88</b>	<b>393.82</b>	<b>464.26</b>
<b>RETURN PER ACRE</b>										
<b>Return Over Variable Expenses (C-D)</b>	<b>229.31</b>	<b>138.04</b>	<b>139.83</b>	<b>136.72</b>	<b>133.97</b>	<b>214.92</b>	<b>157.65</b>	<b>106.62</b>	<b>211.81</b>	<b>297.85</b>
<b>Return Over Total Expenses (C-G)</b>	<b>78.00</b>	<b>-23.81</b>	<b>-11.49</b>	<b>-14.60</b>	<b>-17.35</b>	<b>63.60</b>	<b>6.34</b>	<b>-44.70</b>	<b>60.50</b>	<b>146.53</b>
<b>BREAK-EVEN YIELD PER ACRE</b>										
<b>To Cover Variable Expenses</b>	<b>71.33</b>	<b>69.73</b>	<b>1196.68</b>	<b>1483.40</b>	<b>38.28</b>	<b>31.94</b>	<b>22.61</b>	<b>2654.71</b>	<b>19.22</b>	<b>27.00</b>
<b>To Cover Total Expenses</b>	<b>120.14</b>	<b>104.17</b>	<b>1917.22</b>	<b>2429.12</b>	<b>61.46</b>	<b>50.85</b>	<b>36.80</b>	<b>3915.67</b>	<b>31.21</b>	<b>40.06</b>
<b>BREAK-EVEN PRICE PER BU./LB.</b>										
<b>To Cover Variable Expenses</b>	<b>1.52</b>	<b>3.31</b>	<b>0.13</b>	<b>0.10</b>	<b>4.25</b>	<b>4.34</b>	<b>6.44</b>	<b>0.09</b>	<b>6.74</b>	<b>5.94</b>
<b>To Cover Total Expenses</b>	<b>2.56</b>	<b>4.94</b>	<b>0.22</b>	<b>0.17</b>	<b>6.82</b>	<b>6.92</b>	<b>10.49</b>	<b>0.13</b>	<b>10.94</b>	<b>8.81</b>

\*These budgets do not include an estimate for owner/operator labour and management. Farm managers need to determine their own actual labour and management costs and add it to total expenses.

\*\*As a greater investment in machinery is required for corn production, related per acre machinery costs (repairs, depreciation and investment costs) are also higher, compared to other crops.

CROP PRODUCTION COSTS ( /ACRE) MY FARM	USE THIS WORKSHEET TO ADJUST THE CROP BUDGET TO YOUR FARM COSTS			
<b>REVENUE PER ACRE</b>				
<b>A</b> Estimated yield (bu./ac.or lb./ac.)				
<b>B</b> Estimated on-farm market price per bushel or per pound				
<b>C Estimated Gross Revenue per acre (AxB)</b>				
<b>EXPENSES PER ACRE</b>				
Variable Expenses/acre				
Seed				
- Seed Treatments/Inoculants				
Fertilizer - Nitrogen				
- Phosphorus				
- Sulphur and Other				
Chemical - Herbicides				
- Insecticides				
- Fungicides				
Machinery Operating - Fuel				
- Repair				
Custom Work and Hired Labour				
Crop Insurance Premium				
Utilities and Miscellaneous				
Interest on Variable Expenses				
<b>D Total Variable Expenses</b>				
<b>Other Expenses/acre</b>				
Building Repair				
Property Taxes				
Business Overhead				
Machinery Depreciation				
Building Depreciation				
Machinery Investment				
Building Investment				
Land Investment				
<b>E Total Other Expenses</b>				
F Labour and Management				
<b>G Total Expenses (D+E+F)</b>				
<b>RETURNS PER ACRE</b>				
<b>Return Over Variable Expenses (C-D)</b>				
<b>Return Over Total Expenses (C-G)</b>				
<b>BREAK-EVEN YIELD PER ACRE (lb./ac. or bu./ac.)</b>				
<b>To Cover Variable Expenses</b>				
<b>To Cover Total Expenses</b>				
<b>BREAK-EVEN PRICE PER BU./LB.</b>				
<b>To Cover Variable Expenses</b>				
<b>To Cover Total Expenses</b>				

## For more information contact:

### Saskatchewan Agriculture Regional Offices

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**Kindersley**  
306-463-5513

**Outlook**  
306-867-5500

**Swift  
Current**  
306-778-8285

**Watrous**  
306-946-3230

**Moose Jaw**  
1-866-457-2377

**Prince Albert**  
306-953-2363

**Tisdale**  
306-878-8842

**Weyburn**  
306-848-2857

**North  
Battleford**  
306-446-7962

**Yorkton**  
306-786-1531

**Agriculture Knowledge Centre (Toll Free): 1-866-457-2377**

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