



Black Soil Zone



Brown Soil Zone



Dark Brown Soil Zone



Specialty Crops

CROP PLANNING GUIDE 2017



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

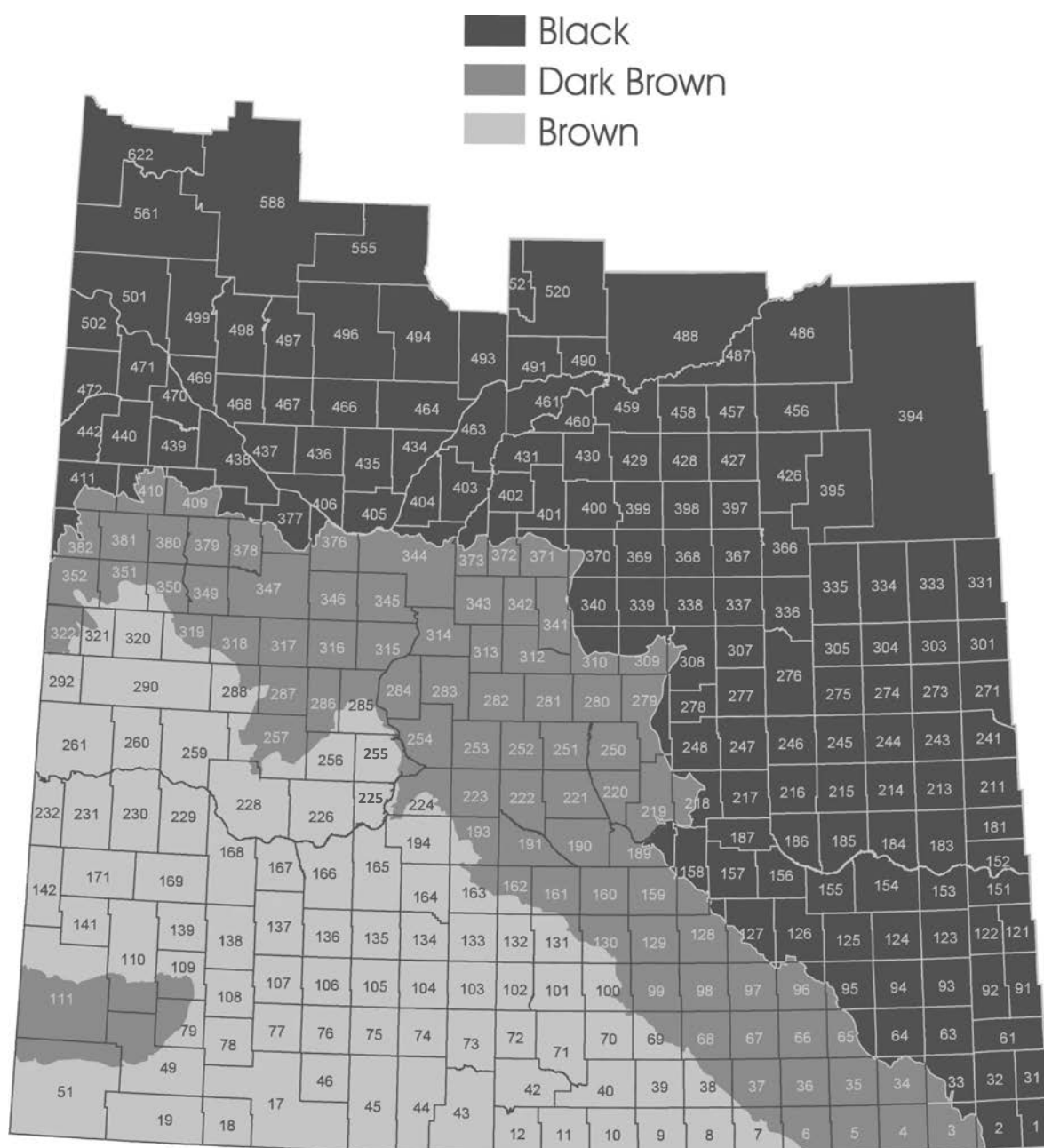
This year's Guide differs from those of previous years. It targets the possible above average yields, using a higher input system linked to recommended agronomic practices including the use of certified seed, soil nutrient testing and pesticide selection. The latter is targeted at minimizing yield losses, while reducing the risk of the development of pest (insect, plant disease and weed) resistance.

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.

A blank worksheet is provided at the end of this Guide for farm managers to use their own costs of production in their calculations and decision making. For those who would prefer, a downloadable spreadsheet is available on www.saskatchewan.ca by searching for "Crop Planner."

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



GENERAL ASSUMPTIONS FOR ALL SOIL ZONES

- 1. Crop prices** are predominantly based on the prices used in the Federal and Provincial Governments' internal December 2016 income and expense forecast. Crop pricing information can become outdated very quickly. Producers should continually adjust these figures as seeding approaches.
- 2. Estimated crop yields** are 20 per cent above the Saskatchewan Crop Insurance Corporation (SCIC) five-year averages of reported crop yields for the soil zones. Crop yields have been increased to reflect a higher level of management, improvements in plant genetics and higher input use.
- 3. Seeding rates** in the following Guide are expressed in pounds per acre, with the exception of corn, soybeans, hybrid fall rye and sunflowers. 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:** Pricing on fertilizer was gathered at the end of November 2016. It is assumed that Urea: 46-0-0 is \$413 per tonne (\$0.407 per pound). Potash: 0-0-60 is \$372 per tonne (\$0.281 per pound). Phosphorus: 11-52-0 is assumed to be \$616 per tonne (\$0.451 per pound). Sulphur: 20.5-0-0-24 is assumed to be \$393 per tonne (\$0.395 per pound). The price of key nutrients will fluctuate throughout the year and producers are reminded to continually adjust these figures as seeding approaches. Producers are encouraged to soil test on a consistent basis to measure soil fertility and precisely align crop nutrient needs to production expectations.
- 6. Chemicals:** Chemical costs in the Guide reflect the potential costs of managing growing herbicide resistance on Saskatchewan farms. As a result, costs for this input have notably increased from previous years. The possible need for the control of various diseases is also included in the crop protection plan. Furthermore, insecticide costs are estimated based on the appropriate control measures for possible insect pressures in 2017. The chemical management assumptions in this guide are made to demonstrate the cost of a comprehensive crop protection plan. Producers should use their own risk assessment and cost benefit calculation for possible interventions in response to individual weed, insect and disease pressures. All chemical costs are set using Suggested Retail Price (SRP) costs, as well as label rate application. Producer pricing for chemicals may vary from the retailer SRP.
- 7. Machinery operating costs:** Fuel costs are based on estimated fuel consumptions for the various farming operations with diesel fuel priced at \$0.72/litre.
- Machinery repair rates are based on the Custom Rate and Rental guide and are set at 2.6 per cent of the total machinery investment per acre.
- 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 \$21 per hour for 2017.
- 9. Crop insurance premiums** are the average of the premiums paid for the soil zone in 2016. 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 3.5 per cent for eight months and for 18 months for hybrid fall rye and winter wheat.
- 12. Building repair rates** are 2.2 per cent of building investment per acre.
- 13. Business overhead** is made up of legal, accounting, insurance, licenses and miscellaneous.
- 14. Machinery depreciation** is calculated on a straight-line basis at 10.7 per cent of machinery investment.
- 15. Building depreciation** is calculated at five per cent per year on a straight-line basis of building investment.
- 16. Machinery investments** is calculated at a 6.5 per cent return on investment. It is assumed that a Brown Soil Zone farm has \$256.71 per cultivated acre invested in machinery; a Dark Brown Soil Zone farm has \$293.68 per cultivated acre invested in machinery; and a Black Soil Zone farm has \$333.80 per cultivated acre invested in machinery.
- 17. Building investment cost** is calculated at a 2.6 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 \$27 per cultivated acre invested in buildings; and a Black Soil Zone farms has \$36 per cultivated acre invested in buildings.
- 18. Land investment cost** is calculated at a 2.6 per cent return on investment of \$1,299 per cultivated acre in the Brown Soil Zone; \$1,464 per cultivated acre in the Dark Brown Soil Zone; and \$1,398 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.

BLACK SOIL ZONE 2017

1. Seeding Rate and Certified Seed Price:

	Rate/ac.	Price (lb./plant/unit)
Spring Wheat	108 lb.	\$0.234
CPS Wheat	144 lb.	\$0.200
Winter Wheat	135 lb.	\$0.233
Malt Barley	132 lb.	\$0.251
Feed Barley	110 lb.	\$0.174
Hybrid Fall Rye	0.8 units	\$82.00
Oats	132 lb.	\$0.235
Corn	29,000 plants	\$0.00239
Large Green Lentils	91 lb.	\$0.833
Red Lentils	56 lb.	\$0.517
Edible Yellow Peas	178 lb.	\$0.240
Edible Green Peas	176 lb.	\$0.240
Soybean	1.4 units	\$55.86
Faba bean	181 lb.	\$0.217
Flax	39 lb.	\$0.422
Canola	5 lb.	\$13.13

2. Fertilizer:

	lb./ac.		
	N	P	S
Spring Wheat	89	35	0
CPS Wheat	114	45	0
Winter Wheat	61	30	0
Malt Barley	62	27	0
Feed Barley	76	33	0
Hybrid Fall Rye	87	37	0
Oats	78	32	0
Corn	111	50	0
Large Green Lentils	3	13	0
Red Lentils	4	18	0
Edible Yellow Peas	7	32	0
Edible Green Peas	7	32	0
Soybean	5	24	0
Faba bean	13	63	0
Flax	64	19	0
Canola	90	48	15

	Crops				
	Spring Wheat	CPS Wheat	Winter Wheat	Malt Barley	Feed Barley
REVENUE PER ACRE					
Estimated Yield (bu./ac.,lb./ac.) (A)	54.0	69.0	53.9	58.8	71.9
Estimated on Farm Market Price/bu.,lb. (B)	6.01	4.78	3.96	5.44	3.22
Estimated Gross Revenue/ac. (AxB)=(C)	324.54	329.82	213.44	319.87	231.52
EXPENSES PER ACRE					
Variable Expenses/acre					
Seed	25.27	28.80	31.46	33.13	19.14
Fertilizer - Nitrogen	36.26	46.44	24.85	25.26	30.96
- Phosphorus	15.80	20.31	13.54	12.19	14.89
- Sulphur and Other	0.00	0.00	0.00	0.00	0.00
Chemical - Herbicides	61.92	67.73	64.74	78.45	30.41
- Insecticides/Fungicides	35.90	35.90	9.25	31.11	31.11
- Seed Treatments/Inoculants	5.17	6.90	6.47	6.32	5.27
Machinery Operating - Fuel	15.28	15.28	15.28	15.28	15.28
- Repair	8.63	8.63	8.63	8.63	8.63
Custom Work and Hired Labour	19.00	19.00	19.00	17.00	17.00
Crop Insurance Premium	6.48	8.50	11.51	5.64	5.64
Utilities and Miscellaneous	4.83	4.83	4.83	4.83	4.83
Interest on Variable Expenses	5.46	6.11	10.98	5.54	4.26
Total Variable Expenses (D)	240.00	268.44	220.54	243.38	187.42
Other Expenses/acre					
Building Repair	0.79	0.79	0.79	0.79	0.79
Property Taxes	6.91	6.91	6.91	6.91	6.91
Business Overhead	3.52	3.52	3.52	3.52	3.52
Machinery Depreciation	35.72	35.72	35.72	35.72	35.72
Building Depreciation	1.80	1.80	1.80	1.80	1.80
Machinery Investment	21.70	21.70	21.70	21.70	21.70
Building Investment	0.95	0.95	0.95	0.95	0.95
Land Investment	36.91	36.91	36.91	36.91	36.91
Total Other Expenses (E)	108.29	108.29	108.29	108.29	108.29
Labour & Management (F)*					
Total Expenses (D+E+F)=(G)	348.29	376.73	328.83	351.68	295.72
RETURN PER ACRE					
Return Over Variable Expenses (C-D)	84.54	61.38	-7.10	76.49	44.10
Return Over Total Expenses (C-G)	-23.75	-46.91	-115.39	-31.81	-64.20
BREAK-EVEN YIELD PER ACRE					
To Cover Variable Expenses	39.93	56.16	55.69	44.74	58.21
To Cover Total Expenses	57.95	78.81	83.04	64.65	91.84
BREAK-EVEN PRICE PER BU./LB.					
To Cover Variable Expenses	4.44	3.89	4.09	4.14	2.61
To Cover Total Expenses	6.45	5.46	6.10	5.98	4.11

*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 2017 (CON'T)

	Crops										
	Hybrid Fall Rye	Oats	Corn**	Large Green Lentils	Red Lentils	Edible Yellow Peas	Edible Green Peas	Soybean	Faba Bean	Flax	Canola
REVENUE PER ACRE											
Estimated Yield (bu./ac.,lb./ac.) (A)	74.5	115.4	104.0	1192.3	1586.2	42.1	42.1	31.8	2801.6	27.5	42.4
Estimated on Farm Market Price/bu.,lb. (B)	4.83	2.62	4.97	0.45	0.30	7.59	8.14	12.43	0.12	10.71	10.58
Estimated Gross Revenue/ac. (AxB)=(C)	359.84	302.35	516.88	536.54	475.86	319.54	342.69	395.27	336.19	294.53	448.59
EXPENSES PER ACRE											
Variable Expenses/acre											
Seed	65.60	31.02	69.31	75.80	28.95	42.72	42.24	78.21	39.28	16.46	65.64
Fertilizer - Nitrogen	35.44	31.77	45.22	1.14	1.55	2.77	2.77	2.08	5.42	26.07	36.66
- Phosphorus	16.70	14.44	22.57	5.87	8.12	14.44	14.44	10.83	28.43	8.57	21.66
- Sulphur and Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.74
Chemical - Herbicides	30.77	25.25	36.62	85.22	85.22	71.68	71.68	52.04	93.63	57.72	50.86
- Insecticides/Fungicides	0.00	9.25	0.00	37.43	37.43	25.43	25.43	0.00	56.92	25.43	23.51
- Seed Treatments/Inoculants	0.00	4.16	0.00	11.83	14.84	12.86	12.71	0.20	23.53	1.87	0.00
Machinery Operating - Fuel	15.28	15.28	17.08	17.08	17.08	17.08	17.08	17.08	15.82	15.28	16.18
- Repair	8.63	8.63	10.13	8.63	8.63	8.63	8.63	8.63	8.63	8.63	8.63
Custom Work and Hired Labour	17.00	17.00	54.21	18.75	18.75	16.25	16.25	19.00	15.75	17.00	17.00
Crop Insurance Premium	10.09	7.42	12.92	23.91	26.64	9.23	9.23	7.97	11.61	11.04	13.07
Utilities and Miscellaneous	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83	4.83
Interest on Variable Expenses	10.70	3.94	6.35	6.76	5.87	5.26	5.24	4.68	7.07	4.49	6.14
Total Variable Expenses (D)	215.05	173.01	279.24	297.25	257.91	231.19	230.54	205.55	310.91	197.41	269.92
Other Expenses/acre											
Building Repair	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Property Taxes	6.91	6.91	6.91	6.91	6.91	6.91	6.91	6.91	6.91	6.91	6.91
Business Overhead	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52
Machinery Depreciation	35.72	35.72	41.90	35.72	35.72	35.72	35.72	35.72	35.72	35.72	35.72
Building Depreciation	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
Machinery Investment	21.70	21.70	25.46	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70
Building Investment	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Land Investment	36.91	36.91	36.91	36.91	36.91	36.91	36.91	36.91	36.91	36.91	36.91
Total Other Expenses (E)	108.29	108.29	118.24	108.29	108.29	108.29	108.29	108.29	108.29	108.29	108.29
Labour & Management (F)*											
Total Expenses (D+E+F)=(G)	323.34	281.30	397.48	405.54	366.20	339.48	338.83	313.84	419.20	305.70	378.21
RETURN PER ACRE											
Return Over Variable Expenses (C-D)	144.79	129.34	237.64	239.29	217.95	88.35	112.15	189.72	25.28	97.12	178.67
Return Over Total Expenses (C-G)	36.50	21.05	119.40	131.00	109.66	-19.94	3.86	81.43	-83.01	-11.17	70.38
BREAK-EVEN YIELD PER ACRE											
To Cover Variable Expenses	44.52	66.03	56.18	660.56	859.71	30.46	28.32	16.54	2590.94	18.43	25.51
To Cover Total Expenses	66.94	107.37	79.97	901.20	1220.68	44.73	41.63	25.25	3493.37	28.54	35.75
BREAK-EVEN PRICE PER BU./LB.											
To Cover Variable Expenses	2.89	1.50	2.68	0.25	0.16	5.49	5.48	6.46	0.11	7.18	6.37
To Cover Total Expenses	4.34	2.44	3.82	0.34	0.23	8.06	8.05	9.87	0.15	11.12	8.92

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

For more information contact:
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Saskatchewan Ministry of Agriculture



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