

A man wearing a tan baseball cap and a red and white plaid shirt is shown in profile, looking down at a small amount of wheat he is holding in his hands. He is standing in a vast field of golden wheat that stretches to the horizon. The sky above is a clear, bright blue with scattered white clouds. A green horizontal band is overlaid on the image, containing the title text, and a yellow vertical band is on the right side.

Crop Planning Guide

2023

saskatchewan.ca/crops

Saskatchewan 

Crop Planning Guide 2023

Each year, the Ministry of Agriculture develops the Crop Planning Guide to help producers estimate the costs and returns of producing common crops.

The detailed calculations in this guide are based on the inputs and returns associated with attaining a target yield in the 80th percentile for each soil zone. Actual costs and yields on each farm will differ due to the condition and type of equipment, the selection of crop protection products and other inputs, agronomic practices, soil class and weather conditions. Producers are expected to set their own target yields and costs. A downloadable spreadsheet is available on saskatchewan.ca/crops by searching for Crop Planning Guide.

The general agronomic and economic assumptions that apply to all crops remain consistent with previous years. Each crop has its own page with agronomic information and a blank column for producers to input their own costs and revenues. This guide also includes a yield sensitivity analysis that summarizes returns that can be expected if an operation attains an average

yield, rather than the target yields used in the detailed calculations. This is intended to help producers baseline their yields and to assess any economic benefits of increasing their inputs and management efforts.

In the last year, commodity prices have fluctuated. The prices used in this document represent the most recent estimates available from Agriculture and Agri-Food Canada. We recognize that price estimates used in this guide, including fertilizer and crop protection products, may not accurately reflect current and local prices. Similarly, interest rates have been increasing in 2022, which have an effect on interest on variable expenses, land investment and building investment. Producers are encouraged to use the worksheets in this guide or the online calculator to input their own numbers for reference.

Ministry regional specialists are also available to provide advice about appropriate agronomic practices and cost assumptions.

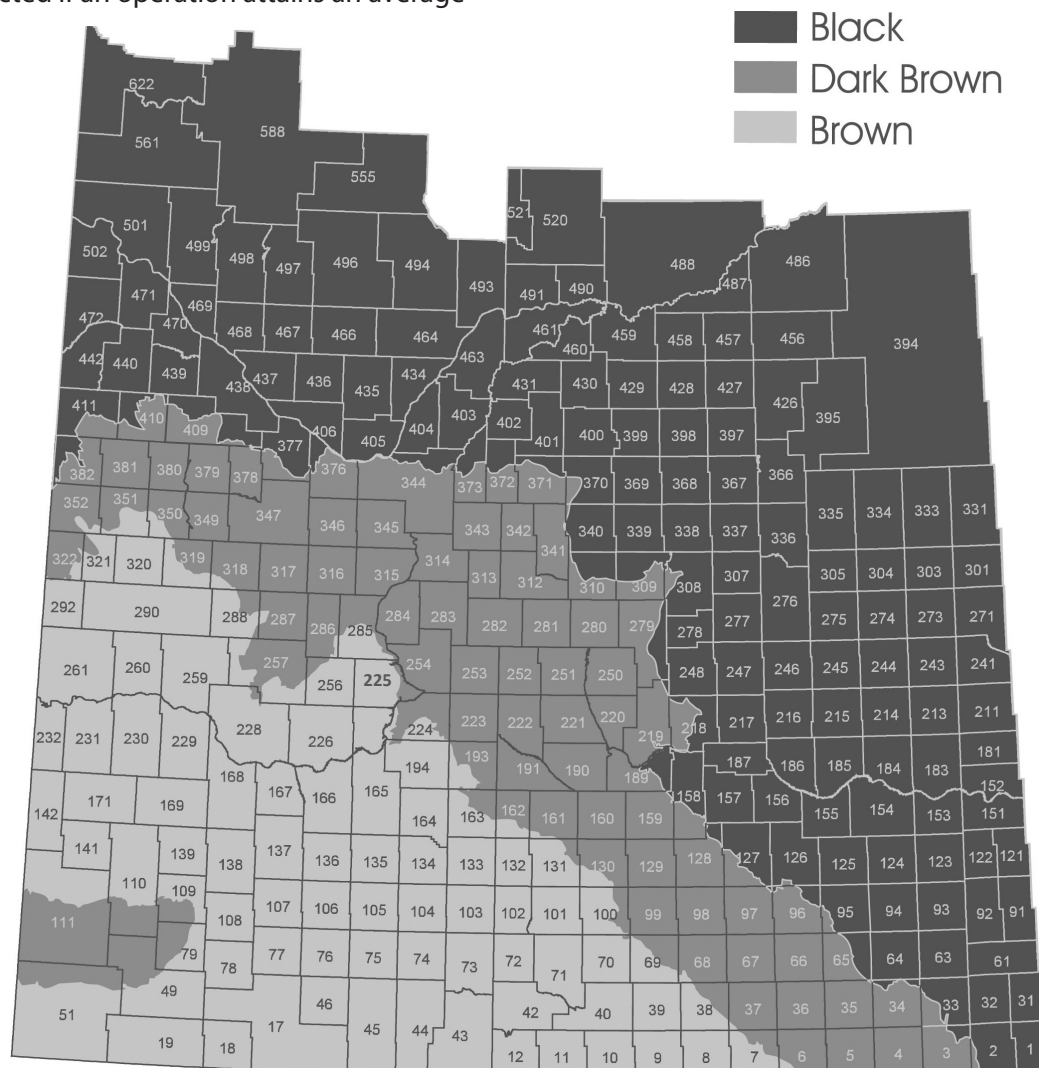
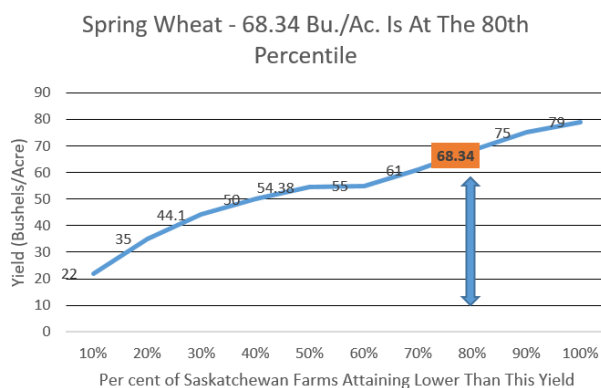


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General Assumptions for All Soil Zones

1. **Crop prices** are the average annual crop year farm gate price adopted from Agriculture and Agri-Food Canada's most recent winter farm income forecast data or from reports of local grain buyers, vetted through regional crop specialists. The farm gate price represents the actual payment received by farmers. This includes crops sold through forward contracts and at spot prices. Crop prices can shift quickly and drastically due to market conditions, making information outdated within this guide. Producers should always check current prices and adjust figures as needed.
2. **Targeted crop yields** represent the five-year average of the 80th percentile of production for each crop in each soil zone. That is, for each of the past five years the point where 80 per cent of producers would have attained a lower yield for that crop is determined (see the image below for an example). That value for each of the five years is then averaged. The calculation uses producer data submitted to Saskatchewan Crop Insurance Corporation and released each spring. These target yields reflect a higher level of management, improvements in plant genetics and enhanced nutrient and crop protection management. Producers should adjust the target yield to meet their goals and management style.



3. **Seeding rates** are determined by seed size, expected mortality, germination and desired plant population.
4. **Seed costs** are based on the use of certified seed and low-disturbance direct seeding, collected from producers and vetted through regional crop experts.
5. **Variety selection** should be made to best suit the agro-climatic conditions. More information can be found by searching for Varieties of Grain Crops at saskatchewan.ca/crops.
6. **Fertilizer needs** are highly variable and must be adjusted to meet conditions. The calculations in this guide are based on most-recent prices from a selection of dealers throughout the province and the estimated amount of nutrients removed from the soil in order for the crop to attain the target yield. These are not recommended application rates for specific operations. The ministry encourages producers to soil test on a consistent basis in order to measure residual soil fertility and calculate

the total crop nutrient application required to achieve targeted crop yields. This is consistent with 4R Nutrient Stewardship management practices. It is recommended to follow the guidelines for safe rates of fertilizer placed with the seed when determining the right rate of all nutrients. For pulse crops, producers should focus on applying the correct inoculant. Producers are reminded to adjust both the volume of nutrients applied and the price of each nutrient.

7. **Crop protection** efforts must be adjusted to meet each producer's conditions. The assumptions in this guide cover common applications to demonstrate potential costs. These are not recommended crop protection applications for specific operations. Producers must cost their individual responses to weed, insect and disease pressures. Please refer to the Guide to Crop Protection available at saskatchewan.ca/crops.

The costs of crop protection products are calculated using the full registered rate of application and suggested retail prices from a selection of dealers across the province. Prices can vary significantly by vendor. Refer to the Guide to Crop Protection for registered pest control products.

Insect and disease control efforts will be aided by extended crop rotations, which reduce yield losses due to disease. Extended crop rotations also help ensure that management tools, such as resistant varieties and fungicides, remain effective by reducing selection pressure on the pathogen population. This guide assumes that commonly encountered insects or crop diseases are controlled through the use of the appropriate product given the crop and insect or disease combinations.

Weed control efforts presented reflect the practice of herbicide layering as much as possible. Herbicide layering helps prevent and manage herbicide-resistant weed populations. Layering may involve the use of two or more modes of action for control of some weeds. The timing and number of applications used to estimate herbicide costs are indicated in a chart on each crop's specific page. Below are the descriptions to the applications in the chart:

- **Pre-Harvest:** Pre-harvest glyphosate treatment to the previous crop. The benefit of perennial weed control from this application accrues to the crop that is planted after the application.
- **Fall application:** Post-harvest fall application. Typically for winter annual weeds. The benefit of this application will also accrue to the crop that is planted after the application.
- **Pre-Seed:** Pre-seed burn off that replaces tillage in a low-disturbance direct seeding system. There are two windows of application presented in the chart which represent one or two herbicides used at the pre-seed timing where the primary activity is on emerged weeds. Soil-active herbicides that may be mixed with the burn off

applications are treated separately below. Typically, the first application will be glyphosate. When glyphosate is applied alone, it is assumed that this is done at 360 grams of acid equivalent (active) per acre. If a second application is indicated, this will be a tank mix partnered with glyphosate for burn off purposes and has limited residual impact, if any. In a tank mix, the rate of glyphosate is assumed to be 180 grams acid equivalent (active) per acre.

- **Soil Application:** Soil-active herbicide that provides residual soil activity for control of emerging weeds beyond emergence and into the crop growth period. These are typically added for herbicide resistance management but also to contribute to increased crop yields by eliminating early weeds. Rates of some soil-active herbicides are adjusted for typical organic matter levels in the different soil zones.
 - **In-Crop:** In-crop foliar application opportunities are provided for up to three herbicides. These are applied either in a mix or as separate sequential applications where tank mixing is not compatible. There are three windows of application allotted as indicated by each column in the chart.
 - **Desiccation:** Harvest aid application prior to harvest. This is done for the purpose of rapid dry down of the crop to facilitate timely harvest. This does not include glyphosate, which may be included as a mix with some harvest aid options.
8. **Machinery operating** costs include fuel usage and repair. Fuel costs are based on estimated fuel consumptions for the various farming operations with diesel fuel priced at \$1.403/litre. Machinery repair rates are based on the Ministry's 2022-23 Custom Rate and Rental Guide and are set at 2.6 per cent of the yearly machinery investment cost.
 9. **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 \$27 per hour for 2023.
 10. **Crop insurance premiums** are the five-year average of the premiums paid by producers who attain the targeted yield for the soil zone. The premiums used in this guide do not reflect actual producers' costs given surcharges and taxes.
 11. **Hail insurance premiums** are based on average coverage per acre of \$350 multiplied by rate of 3.5 per cent = \$12.25/acre.
 12. **Utilities** include the costs of electricity, natural gas, water and telephone expenses based on the standard farm business rates of major utility providers.
 13. **Interest on variable expenses** is calculated using a rate of 4.5 per cent on all variable expenses.

The interest is applied for eight months for all crops except hybrid fall rye and winter wheat. For these two crops, the interest costs are calculated for 18 months.

14. **Building repair** rates are 2.4 per cent of building investment per acre.
15. **Business overhead** is made up of legal, accounting, insurance, licenses and miscellaneous. Business overhead costs are indexed by applying the farm input price index to Statistics Canada's 2021 Census of Agriculture.
16. **Machinery investment** is calculated by applying an interest rate to 75 per cent of machinery investment and an opportunity cost to the remaining 25 per cent that would have been provided as a down payment on machinery. This is a new approach to calculating these costs and is consistent with the Ministry of Agriculture's Custom Rate and Rental Guide assumptions. An interest rate at five per cent and an opportunity cost rate of 1.5 per cent are utilized. These calculations are applied to the average investment in machinery by soil zone. Based on Statistics Canada data, it is estimated that a brown soil zone farm has \$395.15 per cultivated acre invested in machinery, a dark brown soil zone farm has \$445.59 per cultivated acre invested and a black soil zone farm has \$504.31 invested per cultivated acre. Machinery costs are substantial and these are average rates per soil zone. Producers are reminded to adjust these figures to meet their unique circumstances.
17. **Machinery depreciation** is calculated using a straight-line formula at 10.7 per cent annual depreciation rate.
18. **Building investment** cost is calculated at a 5.81 per cent interest of annual building investment. Based on data provided by Statistics Canada, it is estimated that a brown soil zone farm has \$25 per cultivated acre invested in buildings, a dark brown soil zone farm has \$33 per cultivated acre invested and a black soil zone farm has \$44 per cultivated acre invested.
19. **Building depreciation** is calculated at five per cent per year on a straight-line basis of building investment.
20. **Land investment** cost is calculated at a 5.81 per cent interest return on investment of \$2,244 per cultivated acre in the brown soil zone, \$2,580 per cultivated acre in the dark brown soil zone and \$2,412 per cultivated acre in the black soil zone. This year's calculations show higher costs for land investment because borrowing conditions have become less favorable. Producers should adjust this figure to reflect payments they make towards land. This is where any land rental rates should be accounted for.
21. **Labour and management** refers to owner/operator labour and management and is not included in these estimates.

2023 Feed Barley

Economics

My Farm	Brown	Dark Brown	Black
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Revenue Per Acre

Target Yield (bu./ac.) (A)		60.2	70.3	85.4
Estimated Farm Gate Price (\$/bu.) (B)		6.16	6.16	6.16
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		370.65	432.86	526.25

Expenses Per Acre

Variable Expenses/Acre				
Seed		31.31	34.72	39.37
- Seed Treatments/Inoculants		7.44	8.26	9.36
Fertilizer - Nitrogen (N)		75.75	88.77	107.71
- Phosphorus (P ₂ O ₅)		25.73	29.40	36.75
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		24.27	24.27	24.27
- Insecticides		22.52	22.52	22.52
- Fungicides		18.98	18.98	18.98
Machinery Operating - Fuel		19.08	23.85	29.81
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		21.25	21.50	21.50
Crop Insurance Premium		8.11	6.49	5.76
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		8.41	9.20	10.39
Total Variable Expenses (D)		288.60	316.02	356.67

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28

Labour and Management (F)*

Total Expenses (D+E+F)=(G)		487.41	545.40	589.95
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Return Per Acre

Return Over Variable Expenses (C-D)		82.05	116.84	169.58
Return Over Total Expenses (C-G)		-116.76	-112.54	-63.70

Break Even Yield (bu./ac.)

To Cover Variable Expenses		46.85	51.30	57.90
To Cover Total Expenses		79.12	88.54	95.77

Break Even Price (\$/bu.)

To Cover Variable Expenses		4.80	4.50	4.17
To Cover Total Expenses		8.10	7.76	6.91

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		44.55	57.41	72.11
Return Over Variable Expenses		-14.17	37.63	87.53
Return Over Total Expenses		-212.98	-191.75	-145.75

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: Seeding rates are based on a target plant stand in plants per square foot. This guide assumes a producer will seed to achieve 25 plants per square foot in the black soil zone, 22 in the dark brown soil zone and 20 in the brown soil zone, with a thousand kernel weight of 45 grams and 85 per cent emergence.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 91 lb./ac. N and 40 lb./ac. P₂O₅ for the black soil zone, 75 lb./ac. N and 32 lb./ac. P₂O₅ for the dark brown soil zone and 64 lb./ac. N and 28 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Diverse crop rotations are recommended to help reduce disease pressure and suppress weeds to manage herbicide resistance. Barley is a very competitive crop that will suppress growth of weeds. Feed barley markets may be more tolerant of weed escapes than malt barley.

Crop Protection

Insect control: Cutworms, aphids, thrips, mites, grasshoppers, armyworm, slugs and wireworms might require control. Seed treatments are available for wireworm control.

Disease control: Cereal crops can be affected by both leaf diseases and fusarium head blight (FHB). When disease pressure is moderate, a single application at FHB timing can be effective in managing both types of diseases. This estimation includes the cost of a single fungicide application in the black soil zone. When disease pressure is high, an additional fungicide application for leaf diseases may be required. Fungicide applications should be made based on field history and disease risk during the growing season.

Weed control: Because barley is competitive, growers can often reduce the number of herbicide applications from those listed. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
		✓	✓		✓	✓	

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Malt Barley

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		49.2	57.6	69.4
Estimated Farm Gate Price (\$/bu.) (B)		6.76	6.76	6.76
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		332.73	389.04	468.94

Expenses Per Acre

Variable Expenses/Acre				
Seed		31.31	34.72	39.37
- Seed Treatments/Inoculants		7.44	8.26	9.36
Fertilizer - Nitrogen (N)		61.55	72.20	87.59
- Phosphorus (P ₂ O ₅)		21.13	24.81	29.40
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		57.96	57.96	62.36
- Insecticides		22.52	22.52	22.52
- Fungicides		18.98	18.98	18.98
Machinery Operating - Fuel		19.08	23.85	29.81
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		21.25	21.50	21.50
Crop Insurance Premium		6.65	5.32	4.68
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		8.81	9.55	10.67
Total Variable Expenses (D)		302.43	327.73	366.49
Other Expenses/Acre				
Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28
Labour and Management (F)*				
Total Expenses (D+E+F)=(G)		501.24	557.10	599.77

Return Per Acre

Return Over Variable Expenses (C-D)		30.30	61.31	102.45
Return Over Total Expenses (C-G)		-168.51	-168.06	-130.83
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		44.74	48.48	54.21
To Cover Total Expenses		74.15	82.41	88.72

Break Even Price (\$/bu.)

To Cover Variable Expenses		6.14	5.69	5.28
To Cover Total Expenses		10.18	9.68	8.65

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		36.44	47.02	58.55
Return Over Variable Expenses		-56.10	-9.87	29.33
Return Over Total Expenses		-254.91	-239.24	-203.95

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: Seeding rates are based on a target plant stand in plants per square foot. This guide assumes a producer will seed to achieve 25 plants per square foot in the black soil zone, 22 in the dark brown soil zone and 20 brown soil zone, with a thousand kernel weight of 45 grams and 85 per cent emergence.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 74 lb./ac. N and 32 lb./ac. P₂O₅ for the black soil zone, 61 lb./ac. N and 27 lb./ac. P₂O₅ for the dark brown soil zone and 52 lb./ac. N and 23 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Diverse crop rotations are recommended to help reduce disease pressure and suppress weeds to manage herbicide resistance. Barley is a very competitive crop that will suppress growth of weeds.

Crop Protection

Insect control: Cutworms, aphids, thrips, mites, grasshoppers, armyworm, slugs and wireworms might require control. Seed treatments are available for wireworm control.

Disease control: Cereal crops can be affected by both leaf diseases and fusarium head blight (FHB). When disease pressure is moderate, a single application at FHB timing can be effective in managing both types of diseases. This estimation includes the cost of a single fungicide application. When disease pressure is high, an additional fungicide application for leaf diseases may be required. Fungicide applications should be made based on field history and disease risk during the growing season.

Weed control: Because barley is competitive, growers can often reduce the number of herbicide applications from those listed. A soil-applied herbicide was used to manage Group 1 resistant wild oats. Refer to the Guide to Crop Protection available at saskatchewan.ca/crops for more information about Group 1 resistance. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓	✓	✓	✓		

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Corn

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		65.0	71.7	91.3
Estimated Farm Gate Price (\$/bu.) (B)		8.17	8.17	8.17
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		530.72	585.38	746.17

Expenses Per Acre

Variable Expenses/Acre				
Seed		91.80	91.80	91.80
- Seed Treatments/Inoculants		24.30	24.30	24.30
Fertilizer - Nitrogen (N)		82.85	91.14	115.99
- Phosphorus (P ₂ O ₅)		28.48	31.24	40.43
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		55.29	44.42	55.29
- Insecticides		21.03	21.03	21.03
- Fungicides		0.00	0.00	0.00
Machinery Operating - Fuel		21.32	26.65	33.31
- Repair		13.31	14.62	16.14
Custom Work and Hired Labour		49.49	45.93	58.71
Crop Insurance Premium		7.31	8.58	9.07
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		12.32	12.49	14.50
Total Variable Expenses (D)		422.98	428.68	497.72

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		54.76	60.16	66.44
Building Depreciation		1.25	1.65	2.20
Machinery Investment		21.11	23.19	25.61
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		216.10	246.66	250.57

Labour and Management (F)*

Total Expenses (D+E+F)=(G)		639.08	675.34	748.29
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Return Per Acre

Return Over Variable Expenses (C-D)		107.74	156.70	248.45
Return Over Total Expenses (C-G)		-108.36	-89.96	-2.12

Break Even Yield (bu./ac.)

To Cover Variable Expenses		51.77	52.47	60.92
To Cover Total Expenses		78.22	82.66	91.59

Break Even Price(\$/bu.)

To Cover Variable Expenses		6.51	5.98	5.45
To Cover Total Expenses		9.84	9.43	8.19

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		51.57	52.75	76.77
Return Over Variable Expenses		-1.65	2.29	129.49
Return Over Total Expenses		-217.75	-244.37	-121.08

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Variety Selection: Corn varieties are not listed in the Varieties of Grain Crops found on saskatchewan.ca/crops. Please contact your retailer for more information.

Seeding: A plant population of 30,000 plants/ac is used for all three soil zones.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 98 lb./ac. N and 44 lb./ac. P₂O₅ for black soil zone and 77 lb./ac. N and 34 lb./ac. P₂O₅ in dark brown soil zone and 70 lb./ac. N and 31 lb./ac. P₂O₅ in brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Extended crop rotations can be used to reduce disease pressure by allowing infected residue to decompose between host crops. This is particularly important for residue-borne diseases caused by bacteria, such as Goss's Wilt, as fungicides will not protect against this disease. Corn is not competitive with weeds. Some herbicide choices in corn can significantly restrict cropping options the following year.

Crop Protection

Insect control: Cutworms, wireworms, seedcorn maggot, corn rootworm, aphids, spider mite, grasshoppers, European corn borer, corn earworm and armyworms might require control. Seed treatments are available for wireworm and seedcorn maggot control. Varieties resistant to European corn borer, corn earworm, and corn rootworm are available.

Disease control: The cost of fungicide is not included in this estimate. Disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: Corn must be kept free of weeds until 10 leaf tips are visible to prevent significant yield losses. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
		✓	✓	✓	✓	✓		

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Hybrid Fall Rye

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		34.3	53.5	65.0
Estimated Farm Gate Price (\$/bu.) (B)		7.92	7.92	7.92
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		271.26	424.04	514.48

Expenses Per Acre

Variable Expenses/Acre				
Seed		47.25	47.25	47.25
- Seed Treatments/Inoculants		0.00	0.00	0.00
Fertilizer - Nitrogen (N)		47.34	73.38	89.96
- Phosphorus (P ₂ O ₅)		15.62	23.89	29.40
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		27.84	27.84	27.84
- Insecticides		9.62	9.62	9.62
- Fungicides		0.00	0.00	0.00
Machinery Operating - Fuel		19.08	23.85	29.81
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		21.25	21.25	21.50
Crop Insurance Premium		7.72	7.17	5.69
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		14.95	17.71	19.66
Total Variable Expenses (D)		236.42	280.03	310.97

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28

Labour and Management (F)*

Total Expenses (D+E+F)=(G)		435.23	509.40	544.25
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Return Per Acre

Return Over Variable Expenses (C-D)		34.84	144.01	203.51
Return Over Total Expenses (C-G)		-163.97	-85.36	-29.77

Break Even Yield (bu./ac.)

To Cover Variable Expenses		29.85	35.36	39.26
To Cover Total Expenses		54.95	64.32	68.72

Break Even Price (\$/bu.)

To Cover Variable Expenses		6.90	5.23	4.79
To Cover Total Expenses		12.71	9.51	8.38

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		26.77	39.37	50.39
Return Over Variable Expenses		-24.40	31.78	88.12
Return Over Total Expenses		-223.21	-197.59	-145.16

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: Certified seed is needed every year for hybrids. A seeding rate of 0.8 units/ac. is used for all soil zones. One unit is equal to one million viable seeds.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 76 lb./ac N and 32 lb./ac. P₂O₅ for the black soil zone, 62 lb./ac. N and 26 lb./ac. P₂O₅ for the dark brown soil zone and 40 lb./ac. N and 17 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Diverse crop rotations are recommended to help reduce disease pressure and suppress weeds to manage herbicide resistance. Fall rye is a very competitive crop that will suppress growth of spring germinating weeds.

Crop Protection

Insect control: Cutworms, aphids, thrips, mites, grasshoppers, armyworm, slugs and wireworms might require control. Seed treatments are available for wireworm control.

Disease control: The cost of fungicide is not included in this estimate. Disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: Rye has very few herbicide options. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
		✓	✓		✓	✓	

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Oats

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		53.8	79.8	123.2
Estimated Farm Gate Price (\$/bu.) (B)		5.19	5.19	5.19
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		279.33	413.95	639.41

Expenses Per Acre

Variable Expenses/Acre

Seed		27.20	33.92	40.64
- Seed Treatments/Inoculants		6.27	7.81	9.36
Fertilizer - Nitrogen (N)		43.79	63.92	99.42
- Phosphorus (P ₂ O ₅)		13.78	20.21	31.24
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		25.25	25.25	25.25
- Insecticides		22.52	22.52	22.52
- Fungicides		0.00	0.00	18.98
Machinery Operating - Fuel		19.08	23.85	29.81
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		21.25	21.50	21.50
Crop Insurance Premium		7.35	8.54	8.11
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		6.37	7.67	10.11
Total Variable Expenses (D)		218.61	263.26	347.19

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28
Labour and Management (F)*				
Total Expenses (D+E+F)=(G)		417.42	492.63	580.47

Return Per Acre

Return Over Variable Expenses (C-D)		60.72	150.69	292.22
Return Over Total Expenses (C-G)		-138.09	-78.68	58.94
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		42.12	50.72	66.90
To Cover Total Expenses		80.43	94.92	111.84
Break Even Price (\$/bu.)				
To Cover Variable Expenses		4.06	3.30	2.82
To Cover Total Expenses		7.76	6.18	4.71

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		34.37	59.01	99.21
Return Over Variable Expenses		-40.23	43.00	167.71
Return Over Total Expenses		-239.04	-186.37	-65.57

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: A seed rate of 127 lb./ac. is used in the black soil zone, 106 lb./ac. in the dark brown soil zone and 85 lb./ac. in the brown soil zone. Seeding rates are based on a target plant stand in plants per square foot. This guide assumes a producer will seed to achieve 20 plants per square meter in the brown soil zone, 25 plants per square meter in the dark brown soil zone and 30 plants per square meter in the black soil zone, 37.5 thousand kernel weight and 85 per cent emergence.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 84 lb./ac. N and 34 lb./ac. P₂O₅ for the black soil zone, 54 lb./ac. N and 22 lb./ac. P₂O₅ for the dark brown soil zone and 37 lb./ac. N and 15 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Diverse crop rotations are recommended to help reduce disease pressure as well as suppress weeds to manage herbicide resistance. Oat is a very competitive crop that will suppress growth of spring germinating weeds. Wild oats cannot be controlled in tame oat with herbicides.

Crop Protection

Insect control: Cutworms, aphids, thrips, mites, grasshoppers, armyworm, slugs and wireworms might require control. Seed treatments are available for wireworm control.

Disease control: Leaf diseases may result in yield losses in oat crops. Fungicide application can be used to protect leaf tissue from disease infection. This estimation includes the cost of a single fungicide application in the black soil zone. Fungicide application should be based on disease pressure in the field.

Weed control: Because oats are very competitive, growers can often reduce the number of herbicide applications from those listed. Some buyers of milling oats do not allow use of pre-harvest glyphosate in their contracts. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
	✓	✓	✓		✓		

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Durum Wheat

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown
Target Yield (bu./ac.) (A)		41.5	53.7
Estimated Farm Gate Price (\$/bu.) (B)		12.03	12.03
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		499.49	645.41

Expenses Per Acre

Variable Expenses/Acre			
Seed		31.35	34.32
- Seed Treatments/Inoculants		7.00	7.67
Fertilizer - Nitrogen (N)		81.67	105.34
- Phosphorus (P ₂ O ₅)		24.81	32.16
- Sulphur (S) and Other		0.00	0.00
Plant Protection - Herbicides		16.47	16.47
- Insecticides		22.52	22.52
- Fungicides		18.98	18.98
Machinery Operating - Fuel		19.08	23.85
- Repair		10.27	11.59
Custom Work and Hired Labour		22.75	22.50
Crop Insurance Premium		7.01	8.62
Hail Insurance Premium		12.25	12.25
Utilities and Miscellaneous		3.23	4.23
Interest on Variable Expenses		8.32	9.61
Total Variable Expenses (D)		285.71	330.10

Other Expenses/Acre

Building Repair		0.60	0.80
Property Taxes		4.33	5.66
Business Overhead		2.22	3.39
Machinery Depreciation		42.28	47.68
Building Depreciation		1.25	1.65
Machinery Investment		16.30	18.38
Building Investment		1.45	1.92
Land Investment		130.38	149.90
Total Other Expenses (E)		198.81	229.37

Labour and Management (F)*

Total Expenses (D+E+F)=(G)		484.51	559.48
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Return Per Acre

Return Over Variable Expenses (C-D)		213.78	315.31
Return Over Total Expenses (C-G)		14.98	85.93
Break Even Yield (bu./ac.)			
To Cover Variable Expenses		23.75	27.44
To Cover Total Expenses		40.28	46.51

Break Even Price(\$/bu.)

To Cover Variable Expenses		6.88	6.15
To Cover Total Expenses		11.67	10.43

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		32.33	43.73
Return Over Variable Expenses		103.22	195.97
Return Over Total Expenses		-95.58	-33.41

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: Seeding rates are based on a target plant stand in plants per square foot. This guide assumes a producer will seed to achieve 22 plants per square foot in dark brown soil zone and 20 in the brown soil zone, with a thousand kernel weight of 42.1 grams and 85 per cent emergence. Durum is recommended in the brown and dark brown soil zones.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 89 lb./ac. N and 35 lb./ac. P₂O₅ for the dark brown soil zone and 69 lb./ac. N and 27 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Diverse crop rotations are recommended to help reduce disease pressure and suppress weed growth. Like all cereals, durum is relatively competitive crop against weeds.

Crop Protection

Insect control: Wheat midge, cutworms, aphids, thrips, mite, grasshoppers, armyworms, slugs, wheat stem sawfly and wireworms might require control. Varietal blends with resistance are available if heavy wheat midge pressures are anticipated. Wheat stem sawfly resistant varieties are available. Seed treatments are available for wireworm control. An insecticide application to control wheat midge is assumed, but in practice should be made based on scouting to determine economic risk. No insecticide applications for wheat midge would be required for midge tolerant varieties.

Disease control: Cereal crops can be affected by both leaf diseases and fusarium head blight (FHB). When disease pressure is moderate, a single application at FHB timing can be effective in managing both types of diseases. This estimation includes the cost of a single fungicide application. When disease pressure is high an additional fungicide application for leaf diseases might be required. Fungicide applications should be made based on field history and disease risk during the growing season.

Weed control: Durum lacks many options for soil-applied herbicides for herbicide layering programs. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
		✓	✓		✓	✓	

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Hard Red Spring Wheat

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		44.1	53.3	62.5
Estimated Farm Gate Price (\$/bu.) (B)		10.15	10.15	10.15
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		447.51	540.79	633.97

Expenses Per Acre

Variable Expenses/Acre				
Seed		24.96	27.52	31.04
- Seed Treatments/Inoculants		5.75	6.34	7.15
Fertilizer - Nitrogen (N)		86.40	104.16	121.91
- Phosphorus (P ₂ O ₅)		26.65	32.16	37.67
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		56.10	59.60	62.76
- Insecticides		22.52	22.52	22.52
- Fungicides		18.98	18.98	18.98
Machinery Operating - Fuel		19.08	23.85	29.81
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		22.75	22.50	23.50
Crop Insurance Premium		5.05	4.60	4.78
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		9.42	10.51	11.71
Total Variable Expenses (D)		323.41	360.80	402.08
Other Expenses/Acre				
Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28
Labour and Management (F)*				
Total Expenses (D+E+F)=(G)		522.21	590.17	635.36

Return Per Acre

Return Over Variable Expenses (C-D)		124.10	179.99	231.89
Return Over Total Expenses (C-G)		-74.70	-49.38	-1.39
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		31.86	35.55	39.61
To Cover Total Expenses		51.45	58.15	62.60
Break Even Price (\$/bu.)				
To Cover Variable Expenses		7.34	6.77	6.44
To Cover Total Expenses		11.84	11.08	10.17
Yield Sensitivity (same expenses, but average yield)				
Provincial Average Yield (bu./ac.)		34.54	44.46	53.28
Return Over Variable Expenses		27.17	90.47	138.71
Return Over Total Expenses		-171.63	-138.90	-94.57

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: Seeding rates are based on a target plant stand in plants per square foot. This guide assumes a producer will seed to achieve 25 plants per square foot in the black soil zone, 22 in the dark brown soil zone and 20 in the brown soil zone, with a thousand kernel weight of 34.5 grams and 85 per cent emergence.

Fertilization: Fertility costs are based on nutrient removal rates given the target yield. These are: 103 lb./ac. N and 41 lb./ac. P₂O₅ for the black soil zone, 88 lb./ac. N and 35 lb./ac. P₂O₅ for the dark brown soil zone and 73 lb./ac. N and 29 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Rotation plays an important role in the suppression of weed growth. A break between cereal crops will help reduce disease pressure by allowing infested crop residue to decompose.

Crop Protection

Insect control: Wheat midge, cutworms, aphids, thrips, mites, grasshoppers, armyworms, slugs, wheat stem sawfly and wireworms might require control. An insecticide application to control wheat midge is assumed, but in practice should be made based on scouting to determine economic risk. No insecticide application for wheat midge would be required for midge tolerant varieties. Please refer to the Guide to Crop Protection available at saskatchewan.ca/crops for registered pest control products for specific pests.

Disease control: Cereal crops can be affected by both leaf diseases and fusarium head blight (FHB). When disease pressure is moderate, a single application at FHB timing can be effective in managing both types of diseases. This estimation includes the cost of a single fungicide application. When disease pressure is high, an additional fungicide application for leaf diseases may be required. Fungicide applications should be made based on field history and disease risk during the growing season.

Weed control: Spring wheat has many herbicide options to choose from. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
		✓	✓	✓	✓		

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Winter Wheat

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		41.9	45.9	59.9
Estimated Farm Gate Price (\$/bu.) (B)		9.91	9.91	9.91
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		415.13	455.17	593.51

Expenses Per Acre

Variable Expenses/Acre				
Seed		31.35	34.32	36.60
- Seed Treatments/Inoculants		7.00	7.67	7.85
Fertilizer - Nitrogen (N)		81.67	105.34	80.49
- Phosphorus (P ₂ O ₅)		24.81	32.16	31.24
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		16.47	16.47	55.85
- Insecticides		22.52	22.52	22.52
- Fungicides		18.98	18.98	18.98
Machinery Operating - Fuel		19.08	23.85	29.81
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		22.75	22.50	23.50
Crop Insurance Premium		7.01	8.62	9.37
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		8.32	9.61	23.39
Total Variable Expenses (D)		285.71	330.10	369.85
Other Expenses/Acre				
Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28
Labour and Management (F)*				
Total Expenses (D+E+F)=(G)		484.51	559.48	603.13

Return Per Acre

Return Over Variable Expenses (C-D)		129.42	125.07	223.66
Return Over Total Expenses (C-G)		-69.38	-104.31	-9.62
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		28.83	33.31	37.32
To Cover Total Expenses		48.89	56.46	60.86

Break Even Price (\$/bu.)

To Cover Variable Expenses		6.82	7.19	6.18
To Cover Total Expenses		11.57	12.18	10.07

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		31.97	38.21	49.24
Return Over Variable Expenses		31.11	48.56	118.12
Return Over Total Expenses		-167.69	-180.82	-115.16

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: Seeding rates are based on a target plant stand in plants per square foot. This guide assumes a producer will seed to achieve 30 plants per square foot in the black soil zone, 28 in the dark brown soil zone and 25 in the brown soil zone, with a thousand kernel weight of 36 grams and 85 per cent emergence.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 68 lb./ac. N and 34 lb./ac. P₂O₅ for the black soil zone, 52 lb./ac. N and 26 lb./ac. P₂O₅ for the dark brown soil zone and 48 lb./ac. N and 23 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Diverse crop rotations are recommended to help reduce disease pressure and suppress weeds to manage herbicide resistance. Winter wheat is a very competitive crop that will suppress growth of spring germinating weeds.

Crop Protection

Insect control: Wheat midge, cutworms, aphids, thrips, mites, grasshoppers, armyworms, slugs and wireworms might require control. Seed treatments are available for wireworm control.

Disease control: Fungicide applications in winter wheat typically target leaf diseases. This estimation includes the cost of a single fungicide application for leaf diseases in the black and dark brown soil zones. Fungicide applications should be made based on field history and disease risk during the growing season. Winter wheat can be affected by both leaf diseases and fusarium head blight (FHB). However, winter wheat crops typically pass the susceptible growth stage when conditions favor FHB development.

Weed control: Winter wheat is prone to infestation with winter annual weeds, particularly downy and Japanese brome. Herbicide choices were made with this weed in mind, but should be adjusted on individual farms based on the weeds present. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓	✓	✓	✓	✓	

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Canola

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		36.16	42.77	48.06
Estimated Farm Gate Price (\$/bu.) (B)		17.61	17.61	17.61
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		636.78	753.18	846.34

Expenses Per Acre

Variable Expenses/Acre				
Seed		79.75	79.75	79.75
- Seed Treatments/Inoculants		9.00	9.00	9.00
Fertilizer - Nitrogen (N)		89.96	106.53	120.73
- Phosphorus (P ₂ O ₅)		37.67	45.02	50.54
- Sulphur (S) and Other		4.77	5.96	6.56
Plant Protection - Herbicides		66.93	66.93	76.32
- Insecticides		2.78	2.78	2.78
- Fungicides		0.00	14.63	14.63
Machinery Operating - Fuel		20.20	25.25	31.56
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		21.50	21.50	21.50
Crop Insurance Premium		13.11	10.51	10.97
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		11.14	12.48	13.64
Total Variable Expenses (D)		382.56	428.41	468.22

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28

Labour and Management (F)*				
Total Expenses (D+E+F)=(G)		581.36	657.78	701.50

Return Per Acre

Return Over Variable Expenses (C-D)		254.22	324.77	378.12
Return Over Total Expenses (C-G)		55.42	95.40	144.84

Break Even Yield (bu./ac.)

To Cover Variable Expenses		21.72	24.33	26.59
To Cover Total Expenses		33.01	37.35	39.84

Break Even Price (\$/bu.)

To Cover Variable Expenses		10.58	10.02	9.74
To Cover Total Expenses		16.08	15.38	14.60

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		29.10	35.27	41.45
Return Over Variable Expenses		129.89	192.69	261.71
Return Over Total Expenses		-68.91	-36.68	28.43

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: A seeding rate of five lb./ac. is used for each soil zone.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 102 lb./ac. N and 55 lb./ac. P₂O₅ and 17 lb./ac. S for the black soil zone, 90 lb./ac. N and 49 lb./ac. P₂O₅ and 15 lb./ac. S for the dark brown soil zone and 76 lb./ac. N and 41 lb./ac. P₂O₅ and 12 lb./ac. S for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation will help to reduce root maggot and pressure from diseases, such as clubroot, by reducing or maintaining low pathogen levels in the field.

Crop Protection

Insect control: Flea beetles, cutworms, lygus bugs, cabbage seedpod weevil, diamondback moth, bertha armyworm, alfalfa looper, cabbage looper, and occasionally imported cabbageworm, grasshoppers and slugs might require control. Seed treatments are available for flea beetle and cutworm control.

Disease control: Sclerotinia stem rot is the main disease managed with the application of foliar fungicides. This estimation includes the cost of a single fungicide application in the dark brown and black soil zones. Disease pressure will vary from year to year and field to field and is influenced by environmental conditions. Fungicide application decisions should be made based on disease risk when the crop is susceptible to infection.

Weed control: A soil-active herbicide to reduce competition from cleavers was included in brown and dark brown soils. This was exchanged for a foliar tank mix option in the black soils. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓	✓	✓	✓	✓	✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Flax

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		22.4	26.4	30.7
Estimated Farm Gate Price (\$/bu.) (B)		18.50	18.50	18.50
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		415.14	488.03	568.14

Expenses Per Acre

Variable Expenses/Acre				
Seed		24.80	27.90	31.00
- Seed Treatments/Inoculants		0.00	0.00	0.00
Fertilizer - Nitrogen (N)		61.55	73.38	85.22
- Phosphorus (P ₂ O ₅)		14.70	17.46	20.21
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		54.24	51.00	32.66
- Insecticides		2.78	2.78	2.78
- Fungicides		0.00	14.63	14.63
Machinery Operating - Fuel		19.08	23.85	29.81
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		21.25	21.50	21.50
Crop Insurance Premium		9.18	8.06	8.95
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		7.00	8.06	8.31
Total Variable Expenses (D)		240.33	276.69	285.32

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28

Labour and Management (F)*

Total Expenses (D+E+F)=(G)		439.13	506.06	518.60
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Return Per Acre

Return Over Variable Expenses (C-D)		174.81	211.34	282.82
Return Over Total Expenses (C-G)		-23.99	-18.03	49.54

Break Even Yield (bu./ac.)

To Cover Variable Expenses		12.99	14.96	15.42
To Cover Total Expenses		23.74	27.35	28.03

Break Even Price (\$/bu.)

To Cover Variable Expenses		10.71	10.49	9.29
To Cover Total Expenses		19.57	19.18	16.89

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		16.53	19.68	22.83
Return Over Variable Expenses		65.48	87.39	137.04
Return Over Total Expenses		-133.32	-141.98	-96.24

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: Seeding rates used are 50 lb./ac. in the black soil zone, 45 lb./ac. in the dark brown soil zone and 40 lb./ac. in the brown soil zone.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 72 lb./ac. N and 22 lb./ac. P₂O₅ for the black soil zone, 62 lb./ac. N and 19 lb./ac. P₂O₅ for the dark brown soil zone and 52 lb./ac. N and 16 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure by allowing infected crop residue to decompose between susceptible crops. Flax is not competitive against weeds and very sensitive to herbicide residues in the soil.

Crop Protection

Insect control: Wireworms, cutworms, lygus bugs, potato aphid, grasshoppers, bertha armyworm, armyworm and beet webworm might require control.

Disease control: A single fungicide application for pasmo management has been included in this estimate. Early pasmo infection can result in losses of yield and quality. Fungicide application should be based on disease risk when the crop is susceptible to disease infection.

Weed control: Flax has limited herbicide options. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
		✓	✓	✓	✓	✓	

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Brown Mustard

Economics

My Farm

Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)		970.00
Estimated Farm Gate Price (\$/lb.) (B)		0.80
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		776.00

Expenses Per Acre

Variable Expenses/Acre		
Seed		47.58
- Seed Treatments/Inoculants		0.54
Fertilizer - Nitrogen (N)		43.79
- Phosphorus (P ₂ O ₅)		18.38
- Sulphur (S) and Other		5.96
Plant Protection - Herbicides		46.44
- Insecticides		3.27
- Fungicides		0.00
Machinery Operating - Fuel		29.46
- Repair		10.27
Custom Work and Hired Labour		20.75
Crop Insurance Premium		7.55
Hail Insurance Premium		12.25
Utilities and Miscellaneous		3.23
Interest on Variable Expenses		7.48
Total Variable Expenses (D)		256.95
Other Expenses/Acre		
Building Repair		0.60
Property Taxes		4.33
Business Overhead		2.22
Machinery Depreciation		42.28
Building Depreciation		1.25
Machinery Investment		16.30
Building Investment		1.45
Land Investment		130.38
Total Other Expenses (E)		198.81
Labour and Management (F)*		
Total Expenses (D+E+F)=(G)		455.76

Return Per Acre

Return Over Variable Expenses (C-D)		519.05
Return Over Total Expenses (C-G)		320.24
Break Even Yield (lbs./ac.)		
To Cover Variable Expenses		321.19
To Cover Total Expenses		569.70

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.26
To Cover Total Expenses		0.47

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		705.50
Return Over Variable Expenses		307.45
Return Over Total Expenses		108.64

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: A seed rate of six lb./ac. is used. The brown soil zone is recommended.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 37 lb./ac. N, 20 lb./ac. P₂O₅ and 15 lb./ac. S. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Diverse crop rotations are recommended to help reduce disease pressure and suppress weed growth.

Crop Protection

Insect control: Flea beetles, cutworms, lygus bugs, cabbage seedpod weevil, diamondback moth, bertha armyworm, cabbage looper and occasionally imported cabbageworm, grasshoppers and slugs might require control. Seed treatments are available for flea beetle and cutworm control.

Disease control: The cost of fungicide is not included in this estimate. Disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓		✓	✓			✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Oriental Mustard

Economics

My Farm Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	1,036.20
Estimated Farm Gate Price (\$/lb.) (B)	0.85
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	880.77

Expenses Per Acre

Variable Expenses/Acre	
Seed	27.00
- Seed Treatments/Inoculants	0.54
Fertilizer - Nitrogen (N)	46.16
- Phosphorus (P ₂ O ₅)	19.30
- Sulphur (S) and Other	5.96
Plant Protection - Herbicides	46.44
- Insecticides	3.27
- Fungicides	0.00
Machinery Operating - Fuel	29.46
- Repair	10.27
Custom Work and Hired Labour	20.75
Crop Insurance Premium	7.06
Hail Insurance Premium	12.25
Utilities and Miscellaneous	3.23
Interest on Variable Expenses	6.95
Total Variable Expenses (D)	238.63
Other Expenses/Acre	
Building Repair	0.60
Property Taxes	4.33
Business Overhead	2.22
Machinery Depreciation	42.28
Building Depreciation	1.25
Machinery Investment	16.30
Building Investment	1.45
Land Investment	130.38
Total Other Expenses (E)	198.81
Labour and Management (F)*	
Total Expenses (D+E+F)=(G)	437.44

Return Per Acre

Return Over Variable Expenses (C-D)	642.14
Return Over Total Expenses (C-G)	443.33
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	280.75
To Cover Total Expenses	514.64
Break Even Price (\$/lb.)	
To Cover Variable Expenses	0.23
To Cover Total Expenses	0.42

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	793.70
Return Over Variable Expenses	436.02
Return Over Total Expenses	237.21

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: A seed rate of six lb./ac. is used. The brown soil zone is recommended.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 39 lb./ac. N, 21 lb./ac. P₂O₅ and 15 lb./ac. S. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure and pathogen levels in the field.

Crop Protection

Insect control: Flea beetles, cutworms, lygus bugs, cabbage seedpod weevil, diamondback moth, bertha armyworm, cabbage looper and occasionally imported cabbageworm, grasshoppers and slugs might require control. Seed treatments are available for flea beetle and cutworm control.

Disease control: The cost of fungicide is not included in this estimate. Disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: Mustards are relatively resilient to weed competition. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓		✓	✓			✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Yellow Mustard

Economics

My Farm Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	815.70
Estimated Farm Gate Price (\$/lb.) (B)	0.80
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	652.56

Expenses Per Acre

Variable Expenses/Acre	
Seed	63.50
- Seed Treatments/Inoculants	0.90
Fertilizer - Nitrogen (N)	36.69
- Phosphorus (P ₂ O ₅)	15.62
- Sulphur (S) and Other	5.96
Plant Protection - Herbicides	46.85
- Insecticides	3.27
- Fungicides	0.00
Machinery Operating - Fuel	29.46
- Repair	10.27
Custom Work and Hired Labour	20.75
Crop Insurance Premium	11.36
Hail Insurance Premium	12.25
Utilities and Miscellaneous	3.23
Interest on Variable Expenses	7.80
Total Variable Expenses (D)	267.91

Other Expenses/Acre

Building Repair	0.60
Property Taxes	4.33
Business Overhead	2.22
Machinery Depreciation	42.28
Building Depreciation	1.25
Machinery Investment	16.30
Building Investment	1.45
Land Investment	130.38
Total Other Expenses (E)	198.81
Labour and Management (F)*	
Total Expenses (D+E+F)=(G)	466.72

Return Per Acre

Return Over Variable Expenses (C-D)	384.65
Return Over Total Expenses (C-G)	185.84
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	334.89
To Cover Total Expenses	583.40

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.33
To Cover Total Expenses	0.57

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	573.20
Return Over Variable Expenses	190.65
Return Over Total Expenses	-8.16

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: A seed rate of 10 lb./ac. is used. The brown soil zone is recommended.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 31 lb./ac. N, 17 lb./ac. P₂O₅ and 15 lb./ac. S. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure and pathogen levels in the field.

Crop Protection

Insect control: Flea beetles, cutworms, lygus bugs, cabbage seedpod weevil, diamondback moth, bertha armyworm, cabbage looper and occasionally imported cabbageworm, grasshoppers and slugs might require control. Seed treatments are available for flea beetle and cutworm control.

Disease control: The cost of fungicide is not included in this estimate. Disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: Yellow mustard has limited herbicide options. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓		✓	✓			✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Sunflower Oilseed (EMSS)

Economics

My Farm

Dark
Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	2,072.30
Estimated Farm Gate Price (\$/lb.) (B)	0.42
Estimated Gross Revenue \$/ac.) (AxB)=(C)	870.37

Expenses Per Acre

Variable Expenses/Acre

Seed	59.80
- Seed Treatments/Inoculants	0.00
Fertilizer - Nitrogen (N)	88.77
- Phosphorus (P ₂ O ₅)	27.56
- Sulphur (S) and Other	51.92
Plant Protection - Herbicides	56.93
- Insecticides	5.72
- Fungicides	0.00
Machinery Operating - Fuel	30.86
- Repair	11.59
Custom Work and Hired Labour	21.25
Crop Insurance Premium	5.98
Hail Insurance Premium	12.25
Utilities and Miscellaneous	4.23
Interest on Variable Expenses	11.31
Total Variable Expenses (D)	388.18

Other Expenses/Acre

Building Repair	0.80
Property Taxes	5.66
Business Overhead	3.39
Machinery Depreciation	47.68
Building Depreciation	1.65
Machinery Investment	18.38
Building Investment	1.92
Land Investment	149.90
Total Other Expenses (E)	229.37

Labour and Management (F)*

Total Expenses (D+E+F)=(G)	617.55
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Return Per Acre

Return Over Variable Expenses (C-D)	482.19
Return Over Total Expenses (C-G)	252.82
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	924.24
To Cover Total Expenses	1,470.36

Break Even Price (\$/lb.).

To Cover Variable Expenses	0.19
To Cover Total Expenses	0.30

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	1,829.80
Return Over Variable Expenses	380.34
Return Over Total Expenses	150.97

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: This guide assumes a producer will seed to achieve a plant population of 26,000/ac. This estimation is for the moist long season area with both dark brown and black soil, located in the south-east of the province.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 75 lb./ac. N, 30 lb./ac. P₂O₅, 50 lb./ac. K and 26 lb./ac. S. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: If a sunflower midge infestation is anticipated, new fields should be established away from fields damaged the previous season. Crop rotation can be used to reduce insects and disease pressure and pathogen levels in the field.

Crop Protection

Insect control: Wireworms, cutworms, sunflower beetle, grasshoppers, lygus bugs, sunflower seed weevil, banded sunflower moth and sunflower moth might require control. Seed treatments are available for wireworm and sunflower beetle control.

Disease control: The cost of fungicide is not included in this estimate. Disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓		✓	✓	✓		✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Soybean**

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		18.0	24.6	30.1
Estimated Farm Gate Price (\$/bu.) (B)		17.20	17.20	17.20
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		309.60	423.46	518.24

Expenses Per Acre

Variable Expenses/Acre				
Seed		113.74	113.74	113.74
- Seed Treatments/Inoculants		14.00	14.00	14.00
Fertilizer - Nitrogen (N)		3.55	4.73	5.80
- Phosphorus (P ₂ O ₅)		12.86	17.46	21.13
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		72.79	72.79	72.41
- Insecticides		15.34	15.34	15.34
- Fungicides		0.00	0.00	0.00
Machinery Operating - Fuel		21.32	26.65	33.31
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		22.75	22.50	23.50
Crop Insurance Premium		6.12	5.05	4.76
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		9.25	9.61	10.03
Total Variable Expenses (D)		317.47	329.94	344.27
Other Expenses/Acre				
Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28
Labour and Management (F)*				
Total Expenses (D+E+F)=(G)		516.28	559.31	577.55

Return Per Acre

Return Over Variable Expenses (C-D)		-7.87	93.52	173.97
Return Over Total Expenses (C-G)		-206.68	-135.85	-59.31
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		18.46	19.18	20.02
To Cover Total Expenses		30.02	32.52	33.58

Break Even Price (\$/bu.)

To Cover Variable Expenses		17.64	13.40	11.43
To Cover Total Expenses		28.68	22.72	19.17

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		15.07	19.11	24.25
Return Over Variable Expenses		-58.27	-1.25	72.83
Return Over Total Expenses		-257.08	-230.62	-160.45

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: A plant population of four to five plants per square foot is recommended. This corresponds to 150,000 to 200,000 plants per acre. Seed survivability averages 75 per cent, which is usually achieved when using a drill. Solid seeded soybeans with narrow rows (eight to 10 in.) improve crop yields, raise the height of bottom pods and reduce the need for multiple in-crop herbicide applications for weed control.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: five lb./ac. N and 23 lb./ac. P₂O₅ for the black soil zone, four lb./ac. N and 19 lb./ac. P₂O₅ for the dark brown soil zone and three lb./ac. N and 14 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests. Soybean requires a specific species of rhizobia not native to Saskatchewan soil. Double inoculation is recommended on new fields. Most varieties come pre-treated and pre-liquid inoculated. Addition of a second inoculant of granular or peat is recommended.

Crop Rotation: Crop rotation will help to reduce disease pressure by reducing or maintaining low pathogen levels in the field. Soybeans are not competitive with weeds.

Crop Protection

Insect control: Wireworms, seedcorn maggot, cutworms, soybean aphid, leafhoppers, lygus bugs, spider mites, armyworms, corn earworm and grasshoppers might require control. Seed treatments are available for wireworm and seedcorn maggot control.

Disease control: The cost of fungicide is not included in this estimate. Disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: Soybeans need to be kept free of weeds from the first trifoliate leaf to the third trifoliate leaf to minimize yield losses. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
		✓	✓	✓	✓	✓		✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

**These soybeans are glyphosate tolerant.

2023 Desi Chickpea

Economics

My Farm

Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)		1,631.40
Estimated Farm Gate Price (\$/lb.) (B)		0.30
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		489.42

Expenses Per Acre

Variable Expenses/Acre		
Seed		46.50
- Seed Treatments/Inoculants		5.81
Fertilizer - Nitrogen (N)		5.92
- Phosphorus (P2O5)		24.81
- Sulphur (S) and Other		0.00
Plant Protection - Herbicides		82.63
- Insecticides		15.34
- Fungicides		31.32
Machinery Operating - Fuel		30.86
- Repair		10.27
Custom Work and Hired Labour		20.25
Crop Insurance Premium		11.40
Hail Insurance Premium		12.25
Utilities and Miscellaneous		3.23
Interest on Variable Expenses		9.02
Total Variable Expenses (D)		309.60

Other Expenses/Acre

Building Repair		0.60
Property Taxes		4.33
Business Overhead		2.22
Machinery Depreciation		42.28
Building Depreciation		1.25
Machinery Investment		16.30
Building Investment		1.45
Land Investment		130.38
Total Other Expenses (E)		198.81

Labour and Management (F)*

Total Expenses (D+E+F)=(G)		508.41
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Return Per Acre

Return Over Variable Expenses (C-D)		179.82
Return Over Total Expenses (C-G)		-18.99
Break Even Yield (lbs./ac.)		
To Cover Variable Expenses		1,032.01
To Cover Total Expenses		1,694.70

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.19
To Cover Total Expenses		0.31

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1,300.70
Return Over Variable Expenses		80.61
Return Over Total Expenses		-118.20

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: Seed rates for the desi chickpea is 93 lb./ac. The brown soil zone is recommended.

Fertilization: Inoculant with the correct strains of rhizobium should be applied. Fertility cost is based on nutrient removal rates given the targeted crop yield. These are five lb./ac. N and 27 lb./ac. P2O5. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Diverse crop rotations are recommended to help reduce disease pressure and suppress weed growth.

Crop Protection

Insect control: Wireworms, cutworms, pea aphid, potato leafhopper and grasshoppers might require control. Seed treatments are available for wireworm control.

Disease control: Ascochyta blight is a foliar disease that can result in yield losses when environmental conditions favour disease development. When disease pressure is high more than one fungicide application may be required. Two fungicide applications are included in this estimate. Fungicide application decisions should be based on disease risk during the growing season.

Weed control: Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓	✓		✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Kabuli Chickpea, Large

Economics

My Farm Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)		1,896.00
Estimated Farm Gate Price (\$/lb.) (B)		0.54
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		1023.84

Expenses Per Acre

Variable Expenses/Acre		
Seed		98.60
- Seed Treatments/Inoculants		13.81
Fertilizer - Nitrogen (N)		7.10
- Phosphorus (P ₂ O ₅)		27.56
- Sulphur (S) and Other		0.00
Plant Protection - Herbicides		82.63
- Insecticides		15.34
- Fungicides		31.32
Machinery Operating - Fuel		30.86
- Repair		10.27
Custom Work and Hired Labour		20.25
Crop Insurance Premium		17.90
Hail Insurance Premium		12.25
Utilities and Miscellaneous		3.23
Interest on Variable Expenses		11.13
Total Variable Expenses (D)		382.26

Other Expenses/Acre

Building Repair		0.60
Property Taxes		4.33
Business Overhead		2.22
Machinery Depreciation		42.28
Building Depreciation		1.25
Machinery Investment		16.30
Building Investment		1.45
Land Investment		130.38
Total Other Expenses (E)		198.81
Labour and Management (F)*		
Total Expenses (D+E+F)=(G)		581.06

Return Per Acre

Return Over Variable Expenses (C-D)		641.58
Return Over Total Expenses (C-G)		442.78
Break Even Yield (lbs./ac.)		
To Cover Variable Expenses		707.88
To Cover Total Expenses		1,076.04

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.20
To Cover Total Expenses		0.31

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1,433.00
Return Over Variable Expenses		391.56
Return Over Total Expenses		192.76

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: A seed rate is 145 lb./ac. is used. The brown soil zone is recommended.

Fertilization: Inoculant with the correct strains of rhizobium should be applied. Fertility cost is based on nutrient removal rates given the targeted crop yield. These are six lb./ac. N and 30 lb./ac. P₂O₅. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure.

Crop Protection

Insect control: Wireworms, cutworms, pea aphid, potato leafhopper and grasshoppers might require control. Seed treatments are available for wireworm control.

Disease control: Ascochyta blight is a foliar disease that can result in yield losses when environmental conditions favor disease development. When disease pressure is high more than once fungicide application may be required. Two fungicide applications are included in this estimate. Fungicide application decisions should be based on disease risk during the growing season.

Weed control: Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓	✓		✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Kabuli Chickpea, Small

Economics

My Farm

Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)		1,697.60
Estimated Farm Gate Price (\$/lb.) (B)		0.40
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		679.04

Expenses Per Acre

Variable Expenses/Acre		
Seed		74.12
- Seed Treatments/Inoculants		13.81
Fertilizer - Nitrogen (N)		7.10
- Phosphorus (P ₂ O ₅)		22.97
- Sulphur (S) and Other		0.00
Plant Protection - Herbicides		82.63
- Insecticides		15.34
- Fungicides		31.32
Machinery Operating - Fuel		30.86
- Repair		10.27
Custom Work and Hired Labour		20.25
Crop Insurance Premium		14.67
Hail Insurance Premium		12.25
Utilities and Miscellaneous		3.23
Interest on Variable Expenses		10.16
Total Variable Expenses (D)		348.98

Other Expenses/Acre

Building Repair		0.60
Property Taxes		4.33
Business Overhead		2.22
Machinery Depreciation		42.28
Building Depreciation		1.25
Machinery Investment		16.30
Building Investment		1.45
Land Investment		130.38
Total Other Expenses (E)		198.81

Labour and Management (F)*

Total Expenses (D+E+F)=(G)		547.79
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Return Per Acre

Return Over Variable Expenses (C-D)		330.06
Return Over Total Expenses (C-G)		131.25

Break Even Yield (lbs./ac.)

To Cover Variable Expenses		872.46
To Cover Total Expenses		1,369.47

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.21
To Cover Total Expenses		0.32

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1,344.80
Return Over Variable Expenses		188.94
Return Over Total Expenses		-9.87

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: A seed rate is 109 lb./ac. is used. The brown soil zone is recommended.

Fertilization: Inoculant with the correct strains of rhizobium should be applied. Fertility cost is based on nutrient removal rates given the targeted crop yield. These are six lb./ac. N and 25 lb./ac. P₂O₅. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure.

Crop Protection

Insect control: Wireworms, cutworms, pea aphid, potato leafhopper and grasshoppers might require control. Seed treatments are available for wireworm control.

Disease control: Ascochyta blight is a foliar disease that can result in yield losses when environmental conditions favour disease development. When disease pressure is high, more than one fungicide application may be required. Two fungicide applications are included in this estimate. Fungicide application decisions should be based on disease risk during the growing season.

Weed control: Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓	✓		✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Large Green Lentils

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black**
Target Yield (lb./ac.) (A)		1,344.80	1,631.40	1,565.30
Estimated Farm Gate Price (\$/lb.) (B)		0.49	0.49	0.49
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		658.95	799.39	767.00

Expenses Per Acre

Variable Expenses/Acre				
Seed		60.06	60.06	60.06
- Seed Treatments/Inoculants		5.68	5.68	5.68
Fertilizer - Nitrogen (N)		3.79	4.50	4.26
- Phosphorus (P ₂ O ₅)		13.78	16.54	15.62
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		56.16	56.16	74.00
- Insecticides		15.34	15.34	15.34
- Fungicides		19.70	19.70	19.70
Machinery Operating - Fuel		21.32	26.65	33.31
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		22.25	21.50	23.25
Crop Insurance Premium		12.13	14.37	12.44
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		7.68	8.06	8.82
Total Variable Expenses (D)		263.64	276.63	302.74

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28
Labour and Management (F)*				
Total Expenses (D+E+F)=(G)		462.45	506.00	536.02

Return Per Acre

Return Over Variable Expenses (C-D)		395.31	522.76	464.26
Return Over Total Expenses (C-G)		196.50	293.39	230.98
Break Even Yield (lbs./ac.)				
To Cover Variable Expenses		538.05	564.55	617.83
To Cover Total Expenses		943.78	1032.66	1093.91

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.20	0.17	0.19
To Cover Total Expenses		0.34	0.31	0.34

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1014.10	1278.70	1234.60
Return Over Variable Expenses		233.27	349.93	302.21
Return Over Total Expenses		34.46	120.56	68.93

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: A seed rate of 91 lb./ac. is used for all soil zones.

Fertilization: Inoculant with the correct strains of rhizobium should be applied. Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: four lb./ac. N and 17 lb./ac. P₂O₅ for the black soil zone, four lb./ac. N and 18 lb./ac. P₂O₅ for the dark brown soil zone and three lb./ac. N and 15 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation will help to reduce disease pressure by reducing pathogen levels in the field. Extended rotations are essential in fields with risk of aphanomyces root rot. Lentils are not competitive with weeds.

Crop Protection

Insect control: Wireworms, cutworms lygus bugs, potato leafhopper, pea aphid and grasshoppers might require control. Seed treatments are available for wireworm control.

Disease control: Fungicides will offer protection against foliar diseases such as anthracnose. Fungicide application should be based on disease risk. This estimation includes the cost of a single fungicide application. In years with high disease pressure and extended periods of favorable environmental conditions, more than one fungicide application may be required.

Weed control: Lentils need to be kept weed-free until the 10 node stage to minimize yield losses. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓	✓	✓	✓	✓	✓

* Farm managers need to determine their own actual labour and management costs and add it to total expenses.

**Lentils are grown in the thin black soil zone that is transitional with the dark brown soil zone. Here, the right amount of moisture coupled with good growing conditions are fitting to obtain higher yields.

2023 Red Lentils

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black**
Target Yield (lb./ac.) (A)		1,565.30	1,851.90	2,138.50
Estimated Farm Gate Price (\$/lb.) (B)		0.33	0.33	0.33
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		516.55	611.13	705.71

Expenses Per Acre

Variable Expenses/Acre				
Seed		28.20	28.20	28.20
- Seed Treatments/Inoculants		3.75	3.75	3.75
Fertilizer - Nitrogen (N)		4.26	5.21	6.04
- Phosphorus (P ₂ O ₅)		15.62	19.30	22.05
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		56.16	56.16	74.00
- Insecticides		15.34	15.34	15.34
- Fungicides		19.70	19.70	19.70
Machinery Operating - Fuel		21.32	26.65	33.31
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		22.25	21.50	23.25
Crop Insurance Premium		11.15	11.36	11.21
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		6.70	7.06	8.01
Total Variable Expenses (D)		230.20	242.29	275.11

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28
Labour and Management (F)*				
Total Expenses (D+E+F)=(G)		429.01	471.66	508.39

Return Per Acre

Return Over Variable Expenses (C-D)		286.35	368.84	430.60
Return Over Total Expenses (C-G)		87.54	139.47	197.32
Break Even Yield (lbs./ac.)				
To Cover Variable Expenses		697.57	734.21	833.66
To Cover Total Expenses		1,300.02	1,429.28	1,540.57

Break Even Price (\$/lb.).

To Cover Variable Expenses		0.15	0.13	0.13
To Cover Total Expenses		0.27	0.25	0.24

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1,212.50	1,433.00	1,719.60
Return Over Variable Expenses		169.93	230.60	292.36
Return Over Total Expenses		-28.88	1.23	59.08

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: A seed rate of 60 lb./ac. is used for all soil zones.

Fertilization: Inoculant with the correct strains of rhizobium should be applied. Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: five lb./ac. N and 24 lb./ac. P₂O₅ for the black soil zone, four lb./ac. N and 21 lb./ac. P₂O₅ for the dark brown soil zone and four lb./ac. N and 17 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation will help to reduce disease pressure by reducing pathogen levels in the field. Extended rotations are essential in fields with risk of aphanomyces root rot. Lentils are not competitive with weeds.

Crop Protection

Insect control: Wireworms, cutworms, lygus bugs, potato leafhopper, pea aphid and grasshoppers might require control. Seed treatments are available for wireworm control.

Disease control: Fungicides will offer protection against foliar diseases such as anthracnose. Fungicide application should be based on disease risk. This estimation includes the cost of a single fungicide application. In years with high disease pressure and extended periods of favorable environmental conditions, more than one fungicide application may be required.

Weed control: Lentils need to be kept weed free until the 10 node stage to minimize yield losses. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓	✓	✓	✓	✓	✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

**Lentils are grown in the thin black soil zone that is transitional with the dark brown soil zone. Here, the right amount of moisture coupled with good growing conditions are fitting to obtain higher yields.

2023 Edible Green Peas

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		34.2	43.4	51.4
Estimated Farm Gate Price (\$/bu.) (B)		13.00	13.00	13.00
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		444.21	563.68	668.72

Expenses Per Acre

Variable Expenses/Acre

Seed		45.21	51.48	58.08
- Seed Treatments/Inoculants		8.55	9.74	10.99
Fertilizer - Nitrogen (N)		6.51	8.29	9.82
- Phosphorus (P ₂ O ₅)		23.89	30.32	35.83
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		74.69	71.45	78.95
- Insecticides		15.34	15.34	15.34
- Fungicides		14.63	14.63	14.63
Machinery Operating - Fuel		21.32	26.65	33.31
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		20.75	20.75	20.75
Crop Insurance Premium		5.71	5.13	6.02
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		7.87	8.46	9.42
Total Variable Expenses (D)		270.23	290.31	323.40

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28

Labour and Management (F)*

Total Expenses (D+E+F)=(G)		469.03	519.68	556.68
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Return Per Acre

Return Over Variable Expenses (C-D)		173.98	273.37	345.32
Return Over Total Expenses (C-G)		-24.82	44.00	112.04

Break Even Yield (bu./ac.)

To Cover Variable Expenses		20.79	22.33	24.88
To Cover Total Expenses		36.08	39.98	42.82

Break Even Price (\$/bu.)

To Cover Variable Expenses		7.91	6.70	6.29
To Cover Total Expenses		13.73	11.99	10.82

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		25.72	34.91	41.52
Return Over Variable Expenses		64.13	163.52	216.36
Return Over Total Expenses		-134.67	-65.85	-16.92

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production. Note that the yield data used in this calculation combines both yellow and green peas. Producers are reminded to insert their own target yields.

Seeding: A seed rate of 176 lb./ac. is used in the black soil zone, 156 lb/ac in the dark brown soil zone and 137 lb./ac. in the brown soil zone.

Fertilization: Inoculant with the correct strains of rhizobium should be applied. Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: eight lb./ac. N and 39 lb./ac. P₂O₅ for the black soil zone, seven lb./ac. N and 33 lb./ac. P₂O₅ for the dark brown soil zone and six lb./ac. N and 26 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation will help to reduce pea leaf weevil and disease pressure by reducing pathogen levels in the field. Extended rotations are essential in fields with risk of aphanomyces root rot.

Crop Protection

Insect control: Wireworms, cutworms, lygus bugs, leafhoppers, pea aphid, grasshoppers, alfalfa looper and pea leaf weevil might require control. Seed treatments are available for wireworm and pea leaf weevil control. Refer to the ministry's forecasts of local pea leaf weevil pressures at saskatchewan.ca/crops.

Disease control: Fungicides will offer protection against foliar diseases such as mycosphaerella blight. This estimation includes the cost of a single fungicide application. Fungicide application should be based on disease risk.

Weed control: Weeds in peas need to be controlled until 10 to 14 days after emergence to minimize yield losses. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓	✓	✓	✓		✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Edible Yellow Peas

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		34.2	43.4	51.4
Estimated Farm Gate Price (\$/bu.) (B)		12.00	12.00	12.00
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		410.04	520.32	617.28

Expenses Per Acre

Variable Expenses/Acre

Seed		45.54	52.14	58.74
- Seed Treatments/Inoculants		8.62	9.87	11.11
Fertilizer - Nitrogen (N)		6.51	8.29	9.82
- Phosphorus (P ₂ O ₅)		23.89	30.32	35.83
- Sulphur (S) and Other		0.00	0.00	0.00
Plant Protection - Herbicides		74.69	71.45	78.95
- Insecticides		15.34	15.34	15.34
- Fungicides		14.63	14.63	14.63
Machinery Operating - Fuel		21.32	26.65	33.31
- Repair		10.27	11.59	13.11
Custom Work and Hired Labour		20.75	20.75	20.75
Crop Insurance Premium		5.71	5.13	6.02
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.89
Interest on Variable Expenses		7.88	8.48	9.44
Total Variable Expenses (D)		270.63	291.11	324.20

Other Expenses/Acre

Building Repair		0.60	0.80	1.06
Property Taxes		4.33	5.66	8.59
Business Overhead		2.22	3.39	3.98
Machinery Depreciation		42.28	47.68	53.96
Building Depreciation		1.25	1.65	2.20
Machinery Investment		16.30	18.38	20.80
Building Investment		1.45	1.92	2.56
Land Investment		130.38	149.90	140.14
Total Other Expenses (E)		198.81	229.37	233.28
Labour and Management (F)*				
Total Expenses (D+E+F)=(G)		469.44	520.49	557.49

Return Per Acre

Return Over Variable Expenses (C-D)		139.41	229.21	293.08
Return Over Total Expenses (C-G)		-59.40	-0.17	59.79
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		22.55	24.26	27.02
To Cover Total Expenses		39.12	43.37	46.46

Break Even Price (\$/bu.)

To Cover Variable Expenses		7.92	6.71	6.30
To Cover Total Expenses		13.74	12.00	10.84

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		25.72	34.91	41.52
Return Over Variable Expenses		50.26	140.06	186.29
Return Over Total Expenses		-148.55	-89.32	-47.00

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production. Note that the yield data used in this calculation combines both yellow and green peas. Producers are reminded to insert their own target yields.

Seeding: A seed rate of 178 lb./ac. is used in the black soil zone, 158 lb./ac. in the dark brown soil zone and 138 lb./ac. in the brown soil zone.

Fertilization: Inoculant with the correct strains of rhizobium should be applied. Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: eight lb./ac. N and 39 lb./ac. P₂O₅ for the black soil zone, seven lb./ac. N and 33 lb./ac. P₂O₅ for the dark brown soil zone and six lb./ac. N and 26 lb./ac. P₂O₅ for the brown soil zone. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation will help to reduce pea leaf weevil and disease pressure by reducing pathogen levels in the field. Extended rotations are essential in fields with risk of aphanomyces root rot.

Crop Protection

Insect control: Wireworms, cutworms, lygus bugs, leafhoppers, pea aphid, grasshoppers, alfalfa looper and pea leaf weevil might require control. Seed treatments are available for wireworm and pea leaf weevil control. Refer to the ministry's forecasts of local pea leaf weevil pressures at saskatchewan.ca/crops.

Disease control: Fungicides will offer protection against foliar diseases, such as mycosphaerella blight. This estimation includes the cost of a single fungicide application. Fungicide application should be based on disease risk.

Weed control: Weeds in peas need to be controlled until 10 to 14 days after emergence to minimize yield losses. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓	✓	✓	✓		✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Black Bean**

Economics

Revenue Per Acre

Target Yield (lb./ac.) (A)		1,200.00
Est. Farm Gate Price \$/lb. (B)		0.60
Estimated Gross Revenue/ac (AxB)=C		720.00

Expenses Per Acre

Variable Expenses/Acre

Seed		79.20
- Seed Treatments/Inoculants		3.43
Fertilizer - Nitrogen (N)		23.67
- Phosphorus (P ₂ O ₅)		6.43
- Sulphur (S) and Other		0.00
Plant Protection - Herbicides		66.50
- Insecticides		5.72
- Fungicides		6.88
Machinery Operating - Fuel		26.65
- Repair		11.59
Custom Work and Hired Labour		20.25
Crop Insurance Premium		15.38
Hail Insurance Premium		12.25
Utilities and Miscellaneous		4.23
Interest on Variable Expenses		9.51
Total Variable Expenses (D)		291.70

Other Expenses/Acre

Building Repair		0.80
Property Taxes		5.66
Business Overhead		3.39
Machinery Depreciation		47.68
Building Depreciation		1.65
Machinery Investment		18.38
Building Investment		1.92
Land Investment		149.90
Total Other Expenses (E)		229.37

Labour and Management (F)*

Total Expenses (D+E+F)=(G)		521.07
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Return Per Acre

Return Over Variable Expenses (C-D)		428.30
Return Over Total Expenses (C-G)		198.93
Break Even Yield (lbs./ac.)		
To Cover Variable Expenses		486.17
To Cover Total Expenses		868.45

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.24
To Cover Total Expenses		0.43

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		870.00
Return Over Variable Expenses		230.30
Return Over Total Expenses		0.93

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: A seed rate of 55 lb./ac. is used. The dark brown soil zone is recommended.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 20 lb./ac. N and seven lb./ac. P₂O₅. Producers are encouraged to use their own rates based on soil tests. Dry beans do not respond well to inoculant.

Crop Rotation: Crop rotation can be used to reduce disease pressure and pathogen levels in the field.

Crop Protection

Insect control: Aphids, leafhoppers, cutworms, corn borer and lygus bugs might require control.

Disease control: White mould and common bacterial blight are the most common diseases of dry bean. This estimate includes a single fungicide application for white mould management.

Weed control: Dry beans need to be maintained weed free between the second trifoliate stage and the onset of flowering (three weeks to five or six weeks after emergence) to minimize yield loss. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓		✓	✓			✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

** Yield and costs are for Dryland Pinto Beans only.

2023 Faba bean

Economics

My Farm Black

Revenue Per Acre

Target Yield (lb./ac.) (A)		3,130.60
Estimated Farm Gate Price (\$/lb.) (B)		0.23
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		720.04

Expenses Per Acre

Variable Expenses/Acre		
Seed		72.40
- Seed Treatments/Inoculants		11.30
Fertilizer - Nitrogen (N)		17.52
- Phosphorus (P ₂ O ₅)		64.32
- Sulphur (S) and Other		0.00
Plant Protection - Herbicides		63.26
- Insecticides		5.72
- Fungicides		14.63
Machinery Operating - Fuel		30.86
- Repair		13.11
Custom Work and Hired Labour		20.25
Crop Insurance Premium		8.38
Hail Insurance Premium		12.25
Utilities and Miscellaneous		4.89
Interest on Variable Expenses		10.17
Total Variable Expenses (D)		349.05

Other Expenses/Acre

Building Repair		1.06
Property Taxes		8.59
Business Overhead		3.98
Machinery Depreciation		53.96
Building Depreciation		2.20
Machinery Investment		20.80
Building Investment		2.56
Land Investment		140.14
Total Other Expenses (E)		233.28

Labour and Management (F)*

Total Expenses (D+E+F)=(G) **582.34**

Return Per Acre

Return Over Variable Expenses (C-D)		370.99
Return Over Total Expenses (C-G)		137.70

Break Even Yield (lbs./ac.)

To Cover Variable Expenses		1,517.63
To Cover Total Expenses		2,531.90

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.11
To Cover Total Expenses		0.19

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		2,358.90
Return Over Variable Expenses		193.50
Return Over Total Expenses		-39.79

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: A seed rate of 181 lb./ac. is used. Faba beans are recommended for the black soil zone.

Fertilization: Inoculant with correct strain of rhizobium should be applied. Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 15 lb./ac. N and 70 lb./ac. P₂O₅. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure by allowing infected crop residue to decompose between susceptible crops.

Crop Protection

Insect control: Wireworms, cutworms, lygus bugs, potato leafhopper, pea aphid, grasshoppers, and pea leaf weevil might require control. Seed treatments are available for wireworm and pea leaf weevil control. Refer to ministry forecasts of local pea leaf weevil pressures at saskatchewan.ca/crops.

Disease control: Chocolate spot is a foliar disease that can result in poor seed set and flower abortion. A single application of fungicides for the management of chocolate spot has been included in this estimate. Fungicide application should be based on disease risk within the growing season.

Weed control: Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓			✓

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Camelina

Economics

My Farm

Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	1,411.00
Estimated Farm Gate Price (\$/lb.) (B)	0.30
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	423.30

Expenses Per Acre

Variable Expenses/Acre

Seed	33.00
- Seed Treatments/Inoculants	0.00
Fertilizer - Nitrogen (N)	76.94
- Phosphorus (P ₂ O ₅)	18.38
- Sulphur (S) and Other	5.96
Plant Protection - Herbicides	52.35
- Insecticides	0.00
- Fungicides	0.00
Machinery Operating - Fuel	29.46
- Repair	10.27
Custom Work and Hired Labour	20.75
Crop Insurance Premium	4.19
Hail Insurance Premium	12.25
Utilities and Miscellaneous	3.23
Interest on Variable Expenses	8.00
Total Variable Expenses (D)	274.77

Other Expenses/Acre

Building Repair	0.60
Property Taxes	4.33
Business Overhead	2.22
Machinery Depreciation	42.28
Building Depreciation	1.25
Machinery Investment	16.30
Building Investment	1.45
Land Investment	130.38
Total Other Expenses (E)	198.81

Labour and Management (F)*

Total Expenses (D+E+F)=(G)	473.58
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Return Per Acre

Return Over Variable Expenses (C-D)	148.53
Return Over Total Expenses (C-G)	-50.28
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	915.90
To Cover Total Expenses	1578.59

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.19
To Cover Total Expenses	0.34

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	1146.40
Return Over Variable Expenses	69.15
Return Over Total Expenses	-129.66

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: A seed rate of six lb./ac. is used. Camelina is commonly grown in the brown soil zone.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 65 lb./ac. N, 20 lb./ac. P₂O₅ and 15 lb./ac. S. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure by allowing infected crop residue to decompose between susceptible crops.

Crop Protection

Insect control: Only one biological insecticide, with efficacy against bertha armyworm and diamondback moth, is registered for this crop.

Disease control: The cost of fungicide is not included in this estimate. A disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: A pre-harvest application of glyphosate in the previous crop to manage perennial weeds as well as a glyphosate burn off prior to seeding. Camelina has registered soil applied and in-crop herbicide options. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓		✓	✓		

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Canary Seed

Economics

My Farm	Dark Brown
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Revenue Per Acre

Target Yield (lbs./ac.) (A)	1,609.40
Estimated Farm Gate Price (\$/lb.) (B)	0.41
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	659.85

Expenses Per Acre

Variable Expenses/Acre	
Seed	21.00
- Seed Treatments/Inoculants	0.00
Fertilizer - Nitrogen (N)	62.73
- Phosphorus (P ₂ O ₅)	41.35
- Sulphur (S) and Other	28.02
Plant Protection - Herbicides	51.09
- Insecticides	9.62
- Fungicides	7.76
Machinery Operating - Fuel	28.05
- Repair	11.59
Custom Work and Hired Labour	22.50
Crop Insurance Premium	7.74
Hail Insurance Premium	12.25
Utilities and Miscellaneous	4.23
Interest on Variable Expenses	9.24
Total Variable Expenses (D)	317.18

Other Expenses/Acre

Building Repair	0.80
Property Taxes	5.66
Business Overhead	3.39
Machinery Depreciation	47.68
Building Depreciation	1.65
Machinery Investment	18.38
Building Investment	1.92
Land Investment	149.90
Total Other Expenses (E)	229.37

Labour and Management (F)*

Total Expenses (D+E+F)=(G)	546.55
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Return Per Acre

Return Over Variable Expenses (C-D)	342.67
Return Over Total Expenses (C-G)	113.30
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	773.60
To Cover Total Expenses	1333.05

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.20
To Cover Total Expenses	0.34

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	1212.50
Return Over Variable Expenses	179.95
Return Over Total Expenses	-49.42

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column. Calculations provided are for the 80th percentile of production.

Seeding: A seeding rate of 35 lb./ac. is assumed. Canary seed is grown in all soil zones, but heavy clay soil is preferred.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 53 lb./ac. N, 45 lb./ac. P₂O₅, 27 lb./ac. K₂O and 14 lb./ac. S. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure by allowing infected crop residue to decompose between susceptible crops.

Crop Protection

Insect control: Canaryseed is susceptible to aphids, so an insecticide application to manage for aphids is assumed.

Disease control: Septoria leaf mottle is a foliar disease of canaryseed that can result in yield losses when environmental conditions favor disease development. A single fungicide application for septoria leaf mottle has been included in this estimate. Fungicide application decisions should be made based on disease risk during the growing season.

Weed control: Canaryseed has limited herbicide options for grass control making application of a soil-active for wild oat control a necessity. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓	✓	✓	✓		

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Caraway (Second Season)*

Economics Revenue Per Acre

Target Yield (lbs./ac.) (A)		850.00
Estimated Farm Gate Price (\$/lb.) (B)		0.80
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		680.00

Expenses Per Acre

Variable Expenses/Acre		
Seed		9.60
- Seed Treatments/Inoculants		0.00
Fertilizer - Nitrogen (N)		53.26
- Phosphorus (P ₂ O ₅)		32.16
- Sulphur (S) and Other		17.47
Plant Protection - Herbicides		66.48
- Insecticides		0.00
- Fungicides		0.00
Machinery Operating - Fuel		56.11
- Repair		26.22
Custom Work and Hired Labour		20.25
Crop Insurance Premium		19.68
Hail Insurance Premium		12.25
Utilities and Miscellaneous		4.89
Interest on Variable Expenses		9.55
Total Variable Expenses (D)		327.92

Other Expenses/Acre (for two years since biennial)

Building Repair		2.12
Property Taxes		17.17
Business Overhead		7.95
Machinery Depreciation		107.92
Building Depreciation		4.40
Machinery Investment		41.61
Building Investment		5.11
Land Investment		280.27
Total Other Expenses (E)*		466.56

Labour and Management (F)**

Total Expenses (D+E+F)=(G)		794.48
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Return Per Acre (after two years)

Return Over Variable Expenses (C-D)		352.08
Return Over Total Expenses (C-G)		-114.48

Break Even Yield (lbs./ac.)

To Cover Variable Expenses		409.90
To Cover Total Expenses		993.10

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.39
To Cover Total Expenses		0.93

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		463.00
Return Over Variable Expenses		42.48
Return Over Total Expenses		-424.08

My Farm

Black

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: Seed rate of 12 lb./ac. is used. Caraway is primarily a biennial crop and typically seeded with a companion crop so that the field provides a return in both crop years. Caraway and coriander have the same management cost. Therefore, if no companion crop is sown, include production costs used for coriander, with the exception of seeding, harvest and handling, to account for management costs of caraway in the first year. Recommended soil is black.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 45 lb./ac. N, 35 lb./ac. P₂O₅ and 21 lb./ac. K₂O. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure by allowing infected crop residue to decompose between susceptible crops. Crops in the carrot family are very sensitive to Group 2 residues in the soil. Please refer to the ministry's Guide to Crop Protection available at saskatchewan.ca/crops for more information.

Crop Protection

Insect control: A limited number of registered products is available for slugs in field crops.

Disease control: Blossom blight can result in yield losses when conditions favor disease development. A single application of a fungicide is included in this estimate.

Weed control: Herbicide costs below are only for the second year of production. If caraway is not companion cropped in the first year, it requires the same weed control as coriander. Refer to the coriander section for more information. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used (Second Year Only)							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
					✓	✓	

*These other costs are carried for two years because caraway is a biennial crop. If a cover crop is grown and harvested in the first year, these costs could be halved.

** Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Coriander (and Caraway First Season)

Economics

My Farm Dark Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	1,212.50
Estimated Farm Gate Price (\$/lb.) (B)	0.60
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	727.50

Expenses Per Acre

Variable Expenses/Acre	
Seed	15.00
- Seed Treatments/Inoculants	0.00
Fertilizer - Nitrogen (N)	74.57
- Phosphorus (P ₂ O ₅)	33.08
- Sulphur (S) and Other	0.00
Plant Protection - Herbicides	69.10
- Insecticides	0.00
- Fungicides	34.99
Machinery Operating - Fuel	28.05
- Repair	11.59
Custom Work and Hired Labour	20.25
Crop Insurance Premium	9.97
Hail Insurance Premium	12.25
Utilities and Miscellaneous	4.23
Interest on Variable Expenses	9.39
Total Variable Expenses (D)	322.47

Other Expenses/Acre

Building Repair	0.80
Property Taxes	5.66
Business Overhead	3.39
Machinery Depreciation	47.68
Building Depreciation	1.65
Machinery Investment	18.38
Building Investment	1.92
Land Investment	149.90
Total Other Expenses (E)	229.37

Labour and Management (F)*

Total Expenses (D+E+F)=(G)	551.84
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Return Per Acre

Return Over Variable Expenses (C-D)	405.03
Return Over Total Expenses (C-G)	175.66
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	537.45
To Cover Total Expenses	919.74

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.27
To Cover Total Expenses	0.46

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	948.00
Return Over Variable Expenses	246.33
Return Over Total Expenses	16.96

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: A seed rate of 25 lb./ac. is used. The dark brown soil zone is recommended.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 63 lb./ac. N and 36 lb./ac. P₂O₅. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure. Crops in the carrot family are very sensitive to Group 2 residues in the soil. Please refer to the Ministry's Guide to Crop Protection available at saskatchewan.ca/crops for more information.

Crop Protection

Insect control: A limited number of insecticides are registered for aphid and slug control.

Disease control: Blossom blight can result in yield losses when conditions favour disease development. A single application of fungicide for blossom blight management is included in this estimate. Fungicide applications should be made based on disease risk during the growing season.

Weed control: Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓		✓	✓	✓		

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Fenugreek

Economics

My Farm Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	1,175.00
Estimated Farm Gate Price (\$/lb.) (B)	0.30
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	352.50

Expenses Per Acre

Variable Expenses/Acre	
Seed	15.00
- Seed Treatments/Inoculants	0.00
Fertilizer - Nitrogen (N)	3.55
- Phosphorus (P2O5)	12.86
- Sulphur (S) and Other	0.00
Plant Protection - Herbicides	28.51
- Insecticides	0.00
- Fungicides	0.00
Machinery Operating - Fuel	23.85
- Repair	10.27
Custom Work and Hired Labour	20.25
Crop Insurance Premium	0.00
Hail Insurance Premium	12.25
Utilities and Miscellaneous	3.23
Interest on Variable Expenses	3.89
Total Variable Expenses (D)	133.66

Other Expenses/Acre

Building Repair	0.60
Property Taxes	4.33
Business Overhead	2.22
Machinery Depreciation	42.28
Building Depreciation	1.25
Machinery Investment	16.30
Building Investment	1.45
Land Investment	130.38
Total Other Expenses (E)	198.81

Labour and Management (F)*

Total Expenses (D+E+F)=(G)	332.47
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Return Per Acre

Return Over Variable Expenses (C-D)	218.84
Return Over Total Expenses (C-G)	20.03
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	445.55
To Cover Total Expenses	1108.24

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.11
To Cover Total Expenses	0.28

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	740.30
Return Over Variable Expenses	88.43
Return Over Total Expenses	-110.38

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: A seed rate of 30 lb./ac. is used. The brown soil zone is recommended.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: three lb./ac. N and 14 lb./ac. P2O5. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure and pathogen levels in the field.

Crop Protection

Disease control: The cost of fungicide is not included in this estimate. Disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: Fenugreek has limited herbicide options. Herbicide costs are based on the following herbicide timings. Please refer to general assumptions for details.

Application Timing Window Used							
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop		
		1	2		1	2	3
✓		✓			✓		

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.

2023 Quinoa

Economics

My Farm	Black
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Revenue Per Acre

Target Yield (lbs./ac.) (A)		1,000.00
Estimated Farm Gate Price (\$/lb.) (B)		0.90
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		900.00

Expenses Per Acre

Variable Expenses/Acre		
Seed		63.00
- Seed Treatments/Inoculants		0.00
Fertilizer - Nitrogen (N)		49.71
- Phosphorus (P ₂ O ₅)		16.54
- Sulphur (S) and Other		11.53
Plant Protection - Herbicides		10.50
- Insecticides		21.45
- Fungicides		0.00
Machinery Operating - Fuel		23.85
- Repair		13.11
Custom Work and Hired Labour		20.25
Crop Insurance Premium		0.00
Hail Insurance Premium		12.25
Utilities and Miscellaneous		4.89
Interest on Variable Expenses		7.41
Total Variable Expenses (D)		254.49
Other Expenses/Acre		
Building Repair		1.06
Property Taxes		8.59
Business Overhead		3.98
Machinery Depreciation		53.96
Building Depreciation		2.20
Machinery Investment		20.80
Building Investment		2.56
Land Investment		140.14
Total Other Expenses (E)		233.28
Labour and Management (F)*		
Total Expenses (D+E+F)=(G)		487.77

Return Per Acre

Return Over Variable Expenses (C-D)		645.51
Return Over Total Expenses (C-G)		412.23
Break Even Yield (lbs./ac.)		
To Cover Variable Expenses		282.77
To Cover Total Expenses		541.97

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.25
To Cover Total Expenses		0.49

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		630.00
Return Over Variable Expenses		312.51
Return Over Total Expenses		79.23

Agronomics

Note: refer to the online calculator on saskatchewan.ca/crops for the "My Farm" column.

Seeding: A seed rate of 10 lb./ac. is used. The black soil zone is recommended.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 42 lb./ac. N, 18 lb./ac. P₂O₅, 11 lb./ac. K₂O and six lb./ac. S. Producers are encouraged to use their own rates based on soil tests.

Crop Rotation: Crop rotation can be used to reduce disease pressure and pathogen levels in the field.

Crop Protection

Insect control: A limited number of insecticides are registered for European corn borer control.

Disease control: The cost of fungicide is not included in this estimate. Disease risk assessment is encouraged to guide fungicide application decisions.

Weed control: Quinoa has no registered herbicide options. However, producers can apply a pre-harvest application of glyphosate in the previous crop to manage perennial weeds, as well as a glyphosate burn off prior to seeding. Please see below chart and refer to general assumptions for details on pre-harvest glyphosate application.

Application Timing Window Used								
Pre-harvest	Fall-applied	Pre-seed		Soil	In-crop			Desiccation
		1	2		1	2	3	
✓		✓						

*Farm managers need to determine their own actual labour and management costs and add it to total expenses.



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