

Crop Planning Guide

2022



Crop Planning Guide 2022

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 greatly. 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 may not accurately reflect current and local prices. Similarly, crop input prices like fertilizer have been highly volatile in late 2021 and the estimated prices may change. 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.

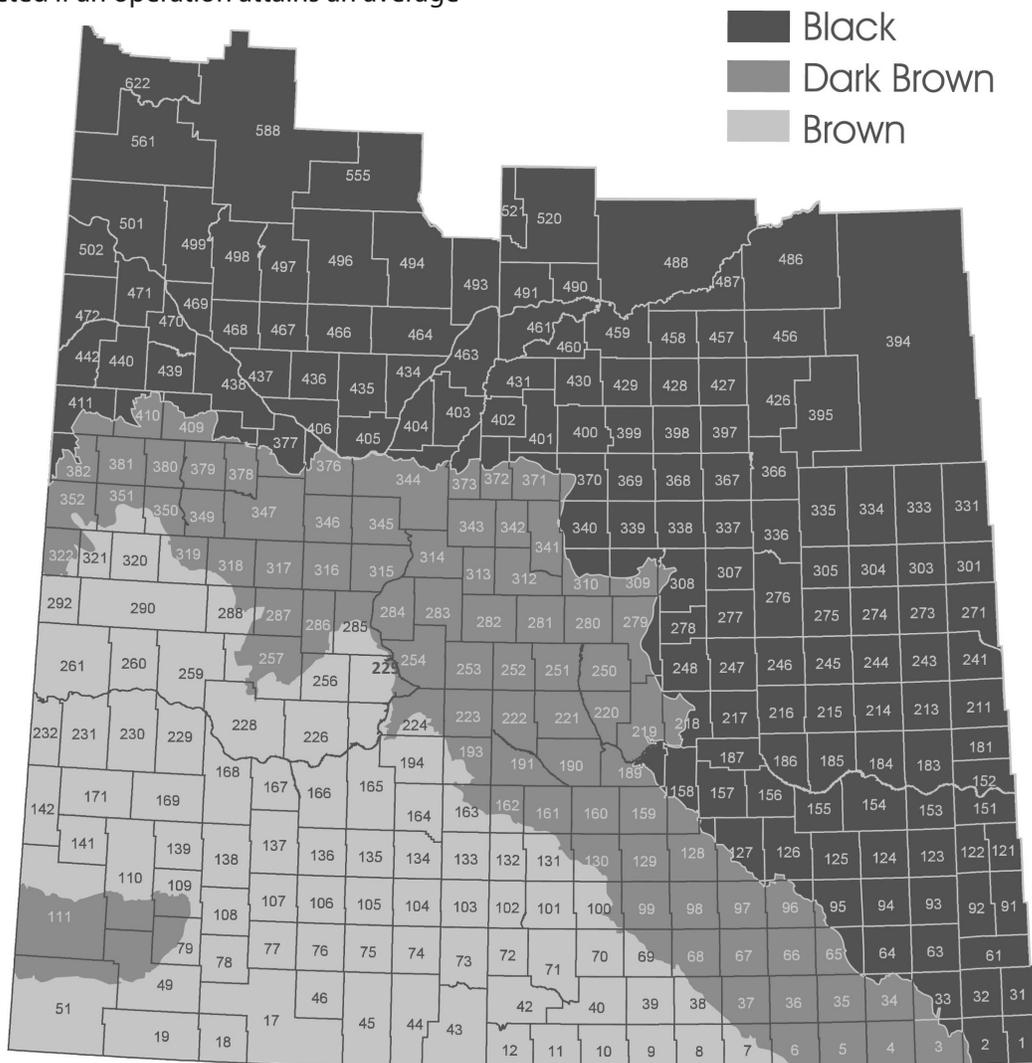
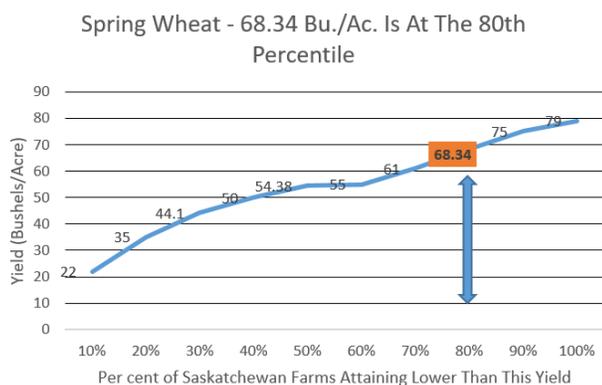


Table of Contents

General Assumptions for All Soil Zones	3
Coarse Grains	
Feed Barley.....	5
Malt Barley.....	6
Corn.....	7
Fall Rye, Hybrid.....	8
Oats.....	9
Durum Wheat.....	10
Hard Red Spring Wheat.....	11
Winter Wheat.....	12
Oilseeds	
Canola.....	13
Flax.....	14
Brown Mustard.....	15
Oriental Mustard.....	16
Yellow Mustard.....	17
Sunflower.....	18
Pulses	
Soybean.....	19
Desi Chickpea.....	20
Kabuli Chickpea, Large.....	21
Kabuli Chickpea, Small.....	22
Large Green Lentils	23
Red Lentils	24
Edible Green Peas	25
Edible Yellow Peas	26
Black Bean.....	27
Faba Bean.....	28
Speciality Crops	
Camelina.....	29
Canary Seed.....	30
Caraway.....	31
Coriander.....	32
Fenugreek.....	33
Quinoa.....	34

General Assumptions for All Soil Zones

- 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.
- 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.



- Seeding rates** are determined by seed size, expected mortality, germination and desired plant population.
- Seed costs** are based on the use of certified seed and low-disturbance direct seeding, collected from producers and vetted through regional crop experts.
- 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.
- 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 soil fertility and calculate the total crop

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

- 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.
- 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 \$0.901/litre. Machinery repair rates are based on the ministry's 2020-21 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 \$26.40 per hour for 2022.
 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% = \$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 3.01 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 2016 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 5 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 \$340.30 per cultivated acre invested in machinery, a dark brown soil zone farm has \$383.75 per cultivated acre invested and a black soil zone farm has \$434.32 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 1.63 per cent interest of annual building investment. Based on data provided by Statistics Canada, it is estimated that a brown soil zone farm has \$22 per cultivated acre invested in buildings, a dark brown soil zone farm has \$29 per cultivated acre invested and a black soil zone farm has \$40 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 1.63 per cent interest return on investment of \$2,070 per cultivated acre in the brown soil zone, \$2,380.50 per cultivated acre in the dark brown soil zone and \$2,225.25 per cultivated acre in the black soil zone. This year's calculations show lower costs for land investment because borrowing conditions have become more favourable. 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.

2022 Feed Barley

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		69.4	78.5	90.0
Estimated Farm Gate Price (\$/bu.) (B)		5.50	5.50	5.50
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		381.70	431.75	495.00

Expenses Per Acre

Variable Expenses/Acre

Seed		25.52	28.13	31.90
- Seed Treatments/Inoculants		0.68	0.75	0.85
Fertilizer - Nitrogen		98.54	110.52	127.83
- Phosphorus (P ₂ O ₅)		27.28	30.69	35.81
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		23.93	23.93	23.93
- Insecticides		21.89	21.89	21.89
- Fungicides		0.00	0.00	19.35
Machinery Operating - Fuel		12.25	15.31	19.14
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		20.80	21.05	21.05
Crop Insurance Premium		8.06	6.46	5.76
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		5.28	5.72	6.74
Total Variable Expenses (D)		268.56	290.92	342.68

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		361.48	398.45	459.55
-----------------------------------	--	---------------	---------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		113.14	140.83	152.32
Return Over Total Expenses (C-G)		20.22	33.30	35.45

Break Even Yield (bu./ac.)

To Cover Variable Expenses		48.83	52.89	62.31
To Cover Total Expenses		65.72	72.44	83.55

Break Even Price (\$/bu.)

To Cover Variable Expenses		3.87	3.71	3.81
To Cover Total Expenses		5.21	5.08	5.11

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		52.82	65.58	77.16
Return Over Variable Expenses		21.95	69.77	81.70
Return Over Total Expenses		-70.97	-37.76	-35.17

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: 96 lb./ac. N and 42 lb./ac. P₂O₅ for the black soil zone, 83 lb./ac. N and 36 lb./ac. P₂O₅ for the dark brown soil zone and 74 lb./ac. N and 32 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			Desiccation
		1	2		1	2	3	
		✓	✓		✓	✓		

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

2022 Malt Barley

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		56.8	64.3	73.7
Estimated Farm Gate Price (\$/bu.) (B)		6.11	6.11	6.11
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		347.05	393.00	450.49

Expenses Per Acre

Variable Expenses/Acre

Seed		32.61	35.69	40.61
- Seed Treatments/Inoculants		0.82	0.90	1.02
Fertilizer - Nitrogen		79.89	90.55	103.86
- Phosphorus (P2O5)		22.17	25.58	28.99
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		59.45	59.45	63.78
- Insecticides		21.89	21.89	21.89
- Fungicides		19.35	19.35	19.35
Machinery Operating - Fuel		12.25	15.31	19.14
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		20.80	21.05	21.05
Crop Insurance Premium		6.61	5.29	4.68
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		6.02	6.45	7.08
Total Variable Expenses (D)		306.19	327.97	359.88

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		399.11	435.49	476.75
-----------------------------------	--	---------------	---------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		40.86	65.03	90.61
Return Over Total Expenses (C-G)		-52.06	-42.49	-26.26

Break Even Yield (bu./ac.)

To Cover Variable Expenses		50.11	53.68	58.90
To Cover Total Expenses		65.32	71.28	78.03

Break Even Price (\$/bu.)

To Cover Variable Expenses		5.39	5.10	4.88
To Cover Total Expenses		7.03	6.77	6.47

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		43.26	53.79	67.52
Return Over Variable Expenses		-41.87	0.69	52.67
Return Over Total Expenses		-134.79	-106.83	-64.20

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: 83 lb./ac. N and 36 lb./ac. P2O5 for the black soil zone, 74 lb./ac. N and 32 lb./ac. P2O5 for the dark brown soil zone and 68 lb./ac. N and 30 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			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓			

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

2022 Corn

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		65.0	71.7	94.5
Estimated Farm Gate Price (\$/bu.) (B)		5.61	5.61	5.61
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		364.43	401.96	530.03

Expenses Per Acre

Variable Expenses/Acre

Seed		96.00	96.00	96.00
- Seed Treatments/Inoculants		24.30	24.30	24.30
Fertilizer - Nitrogen		93.21	102.53	134.49
- Phosphorus (P ₂ O ₅)		26.43	28.99	38.37
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		53.22	42.22	53.22
- Insecticides		20.96	20.96	20.96
- Fungicides		0.00	0.00	0.00
Machinery Operating - Fuel		13.69	17.12	21.39
- Repair		11.46	12.59	13.90
Custom Work and Hired Labour		49.04	45.48	58.26
Crop Insurance Premium		7.31	8.58	8.60
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		8.25	8.33	9.77
Total Variable Expenses (D)		419.35	423.57	496.40

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		47.16	51.81	57.22
Building Depreciation		1.10	1.45	2.00
Machinery Investment		18.18	19.97	22.06
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		107.81	122.41	131.76

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		527.16	545.99	628.16
-----------------------------------	--	---------------	---------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		-54.92	-21.61	33.63
Return Over Total Expenses (C-G)		-162.73	-144.03	-98.13

Break Even Yield (bu./ac.)

To Cover Variable Expenses		74.75	75.50	88.49
To Cover Total Expenses		93.97	97.32	111.97

Break Even Price(\$/bu.)

To Cover Variable Expenses		6.46	5.91	5.25
To Cover Total Expenses		8.12	7.62	6.65

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		51.57	62.99	82.67
Return Over Variable Expenses		-130.04	-70.20	-32.62
Return Over Total Expenses		-237.85	-192.62	-164.38

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: 101 lb./ac. N and 45 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 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.

2022 Hybrid Fall Rye

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		41.3	57.5	65.4
Estimated Farm Gate Price (\$/bu.) (B)		5.99	5.99	5.99
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		247.63	344.31	391.45

Expenses Per Acre

Variable Expenses/Acre

Seed		50.72	50.72	50.72
- Seed Treatments/Inoculants		0.00	0.00	0.00
Fertilizer - Nitrogen		63.92	89.22	101.20
- Phosphorus (P ₂ O ₅)		17.05	23.87	27.28
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		28.02	28.02	28.02
- Insecticides		9.49	9.49	9.49
- Fungicides		0.00	0.00	0.00
Machinery Operating - Fuel		12.25	15.31	19.14
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		20.80	20.80	21.05
Crop Insurance Premium		7.77	7.05	5.89
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		10.58	12.23	13.15
Total Variable Expenses (D)		244.92	283.17	304.37

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		337.85	390.70	421.24
-----------------------------------	--	---------------	---------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		2.71	61.14	87.08
Return Over Total Expenses (C-G)		-90.22	-46.39	-29.79

Break Even Yield (bu./ac.)

To Cover Variable Expenses		40.89	47.27	50.81
To Cover Total Expenses		56.40	65.23	70.32

Break Even Price (\$/bu.)

To Cover Variable Expenses		5.92	4.93	4.66
To Cover Total Expenses		8.17	6.80	6.45

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		32.68	44.09	52.36
Return Over Variable Expenses		-49.17	-19.07	9.27
Return Over Total Expenses		-142.10	-126.60	-107.60

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, 67 lb./ac. N and 28 lb./ac. P₂O₅ for the dark brown soil zone and 48 lb./ac. N and 20 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. A 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			Desiccation
		1	2		1	2	3	
		✓	✓		✓	✓		

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

2022 Oats

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		63.6	90.1	132.9
Estimated Farm Gate Price (\$/bu.) (B)		6.00	6.00	6.00
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		381.30	540.78	797.58

Expenses Per Acre

Variable Expenses/Acre				
Seed		50.35	50.35	50.35
- Seed Treatments/Inoculants		1.04	1.04	1.04
Fertilizer - Nitrogen		57.26	81.23	119.84
- Phosphorus (P ₂ O ₅)		15.35	21.32	31.55
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		24.78	24.78	24.78
- Insecticides		21.89	21.89	21.89
- Fungicides		0.00	0.00	19.35
Machinery Operating - Fuel		12.25	15.31	19.14
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		20.80	21.05	21.05
Crop Insurance Premium		7.35	8.56	8.11
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		4.72	5.46	6.93
Total Variable Expenses (D)		240.11	277.45	352.46

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87
Labour and Management* (F)				
Total Expenses (D+E+F)=(G)		333.04	384.98	469.33

Return Per Acre

Return Over Variable Expenses (C-D)		141.19	263.33	445.12
Return Over Total Expenses (C-G)		48.26	155.80	328.25
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		40.02	46.24	58.74
To Cover Total Expenses		55.51	64.16	78.22
Break Even Price (\$/bu.)				
To Cover Variable Expenses		3.78	3.08	2.65
To Cover Total Expenses		5.24	4.27	3.53

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		43.44	68.08	106.99
Return Over Variable Expenses		20.53	131.03	289.48
Return Over Total Expenses		-72.40	23.50	172.61

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 135 lb./ac. is used in all soil zones.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 90 lb./ac. N and 37 lb./ac. P₂O₅ for the black soil zone, 61 lb./ac. N and 25 lb./ac. P₂O₅ for the dark brown soil zone and 43 lb./ac. N and 18 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 oats 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 the 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			Desiccation
		1	2		1	2	3	
	✓	✓	✓		✓			

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

2022 Durum Wheat

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown
Target Yield (bu./ac.) (A)		48.9	57.7
Estimated Farm Gate Price (\$/bu.) (B)		12.50	12.50
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		610.88	721.13

Expenses Per Acre

Variable Expenses/Acre

Seed		44.80	49.49
- Seed Treatments/Inoculants		0.81	0.90
Fertilizer - Nitrogen		107.86	126.50
- Phosphorus (P ₂ O ₅)		27.28	31.55
- Sulphur and Other		0.00	0.00
Plant Protection - Herbicides		16.74	16.74
- Insecticides		21.89	21.89
- Fungicides		19.35	19.35
Machinery Operating - Fuel		12.25	15.31
- Repair		8.85	9.98
Custom Work and Hired Labour		22.30	22.05
Crop Insurance Premium		7.01	8.64
Hail Insurance Premium		12.25	12.25
Utilities and Miscellaneous		3.23	4.23
Interest on Variable Expenses		6.11	6.80
Total Variable Expenses (D)		310.73	345.68

Other Expenses/Acre

Building Repair		0.52	0.69
Property Taxes		4.24	5.55
Business Overhead		2.09	3.19
Machinery Depreciation		36.41	41.06
Building Depreciation		1.10	1.45
Machinery Investment		14.04	15.83
Building Investment		0.36	0.48
Land Investment		34.16	39.28
Total Other Expenses (E)		92.92	107.53

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		403.65	453.21
-----------------------------------	--	---------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		300.15	375.45
Return Over Total Expenses (C-G)		207.23	267.92
Break Even Yield (bu./ac.)			
To Cover Variable Expenses		24.86	27.65
To Cover Total Expenses		32.29	36.26

Break Even Price(\$/bu.)

To Cover Variable Expenses		6.36	5.99
To Cover Total Expenses		8.26	7.86

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		38.95	47.77
Return Over Variable Expenses		176.15	251.45
Return Over Total Expenses		83.23	143.92

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.

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: 102 lb./ac. N and 40 lb./ac. P₂O₅ for the dark brown soil zone and 89 lb./ac. N and 35 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			Desiccation
		1	2		1	2	3	
		✓	✓		✓	✓		

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

2022 Hard Red Spring Wheat

Economics

	My Farm	Brown	Dark Brown	Black
Revenue Per Acre				
Target Yield (bu./ac.) (A)		48.1	57.3	64.3
Estimated Farm Gate Price (\$/bu.) (B)		10.56	10.56	10.56
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		508.25	605.30	679.01
Expenses Per Acre				
Variable Expenses/Acre				
Seed		24.37	26.92	30.60
- Seed Treatments/Inoculants		0.67	0.74	0.84
Fertilizer - Nitrogen		105.19	126.50	141.15
- Phosphorus (P ₂ O ₅)		26.43	31.55	35.81
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		56.43	59.95	63.33
- Insecticides		21.89	21.89	21.89
- Fungicides		19.35	19.35	19.35
Machinery Operating - Fuel		12.25	15.31	19.14
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		22.30	22.05	23.05
Crop Insurance Premium		5.05	4.59	4.78
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		6.39	7.13	7.79
Total Variable Expenses (D)		324.64	362.43	396.15
Other Expenses/Acre				
Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87
Labour and Management* (F)				
Total Expenses (D+E+F)=(G)		417.57	469.96	513.02
Return Per Acre				
Return Over Variable Expenses (C-D)		183.61	242.87	282.86
Return Over Total Expenses (C-G)		90.68	135.34	165.99
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		30.74	34.32	37.51
To Cover Total Expenses		39.54	44.50	48.58
Break Even Price (\$/bu.)				
To Cover Variable Expenses		6.75	6.32	6.16
To Cover Total Expenses		8.68	8.20	7.98
Yield Sensitivity (same expenses, but average yield)				
Provincial Average Yield (bu./ac.)		37.85	47.77	55.12
Return Over Variable Expenses		75.06	142.02	185.92
Return Over Total Expenses		-17.87	34.49	69.05

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: 106 lb./ac. N and 42 lb./ac. P₂O₅ for the black soil zone, 95 lb./ac. N and 37 lb./ac. P₂O₅ for the dark brown soil zone and 79 lb./ac. N and 31 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			Desiccation
		1	2		1	2	3	
		✓	✓	✓	✓			

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

2022 Winter Wheat

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		51.8	52.9	63.9
Estimated Farm Gate Price (\$/bu.) (B)		8.57	8.57	8.57
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		444.01	453.44	547.88

Expenses Per Acre

Variable Expenses/Acre				
Seed		35.10	35.10	35.10
- Seed Treatments/Inoculants		8.69	8.69	8.69
Fertilizer - Nitrogen		78.56	79.89	97.20
- Phosphorus (P ₂ O ₅)		24.73	25.58	30.69
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		49.59	53.12	56.50
- Insecticides		21.89	21.89	21.89
- Fungicides		0.00	19.35	19.35
Machinery Operating - Fuel		12.25	15.31	19.14
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		22.30	22.05	23.05
Crop Insurance Premium		9.99	8.59	9.42
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		12.98	14.27	15.78
Total Variable Expenses (D)		300.40	330.31	365.25
Other Expenses/Acre				
Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87
Labour and Management* (F)				
Total Expenses (D+E+F)=(G)		393.33	437.84	482.12

Return Per Acre

Return Over Variable Expenses (C-D)		143.61	123.13	182.63
Return Over Total Expenses (C-G)		50.68	15.60	65.76
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		35.05	38.54	42.62
To Cover Total Expenses		45.90	51.09	56.26
Break Even Price (\$/bu.)				
To Cover Variable Expenses		5.80	6.24	5.71
To Cover Total Expenses		7.59	8.28	7.54

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		40.79	44.09	54.01
Return Over Variable Expenses		49.17	47.54	97.62
Return Over Total Expenses		-43.76	-59.99	-19.25

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: 81 lb./ac. N and 40 lb./ac. P₂O₅ for the black soil zone, 69 lb./ac. N and 34 lb./ac. P₂O₅ for the dark brown soil zone and 68 lb./ac. N and 33 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 the 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 zone. 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			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓	✓		

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

2022 Canola

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		42.33	47.18	51.15
Estimated Farm Gate Price (\$/bu.) (B)		17.01	17.01	17.01
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		720.03	802.53	870.06

Expenses Per Acre

Variable Expenses/Acre				
Seed		75.73	75.73	75.73
- Seed Treatments/Inoculants		9.00	9.00	9.00
Fertilizer - Nitrogen		118.51	133.16	143.81
- Phosphorus (P ₂ O ₅)		40.93	46.04	49.45
- Sulphur and Other		7.89	8.42	9.21
Plant Protection - Herbicides		58.24	58.24	66.28
- Insecticides		2.46	2.46	2.46
- Fungicides		0.00	14.18	14.18
Machinery Operating - Fuel		12.97	16.21	20.27
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		21.05	21.05	21.05
Crop Insurance Premium		13.09	10.51	10.96
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		7.71	8.46	9.05
Total Variable Expenses (D)		391.90	429.92	459.87

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		484.82	537.45	576.74
-----------------------------------	--	---------------	---------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		328.13	372.61	410.19
Return Over Total Expenses (C-G)		235.21	265.08	293.32

Break Even Yield (bu./ac.)

To Cover Variable Expenses		23.04	25.27	27.04
To Cover Total Expenses		28.50	31.60	33.91

Break Even Price (\$/bu.)

To Cover Variable Expenses		9.26	9.11	8.99
To Cover Total Expenses		11.45	11.39	11.28

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		34.83	40.12	44.53
Return Over Variable Expenses		200.56	252.52	297.59
Return Over Total Expenses		107.64	144.99	180.72

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: 108 lb./ac. N and 58 lb./ac. P₂O₅ and 18 lb./ac. S for the black soil zone, 100 lb./ac. N and 54 lb./ac. P₂O₅ and 16 lb./ac. S for the dark brown soil zone and 89 lb./ac. N and 48 lb./ac. P₂O₅ and 15 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			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓	✓		✓

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

2022 Flax

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		26.0	29.5	33.1
Estimated Farm Gate Price (\$/bu.) (B)		20.50	20.50	20.50
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		532.59	605.37	677.94

Expenses Per Acre

Variable Expenses/Acre

Seed		33.87	36.69	39.51
- Seed Treatments/Inoculants		0.00	0.00	0.00
Fertilizer - Nitrogen		81.23	91.88	102.53
- Phosphorus (P ₂ O ₅)		15.35	17.91	19.61
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		51.53	48.27	29.88
- Insecticides		2.46	2.46	2.46
- Fungicides		0.00	14.18	14.18
Machinery Operating - Fuel		12.25	15.31	19.14
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		20.80	21.05	21.05
Crop Insurance Premium		9.17	8.04	8.96
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		5.04	5.66	5.73
Total Variable Expenses (D)		256.01	287.91	291.48

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87
Labour and Management* (F)				
Total Expenses (D+E+F)=(G)		348.94	395.43	408.35

Return Per Acre

Return Over Variable Expenses (C-D)		276.58	317.46	386.46
Return Over Total Expenses (C-G)		183.65	209.94	269.59

Break Even Yield (bu./ac.)

To Cover Variable Expenses		12.49	14.04	14.22
To Cover Total Expenses		17.02	19.29	19.92

Break Even Price (\$/bu.)

To Cover Variable Expenses		9.85	9.75	8.81
To Cover Total Expenses		13.43	13.39	12.35

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		19.29	22.83	24.80
Return Over Variable Expenses		139.44	180.11	216.92
Return Over Total Expenses		46.51	72.59	100.05

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 42 lb./ac. in the black soil zone, 39 lb./ac. in the dark brown soil zone and 36 lb./ac. in the brown soil zone.

Fertilization: Fertility costs are based on nutrient removal rates given the targeted crop yield. These are: 77 lb./ac. N and 23 lb./ac. P₂O₅ for the black soil zone, 69 lb./ac. N and 21 lb./ac. P₂O₅ for the dark brown soil zone and 61 lb./ac. N and 18 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			Desiccation
		1	2		1	2	3	
		✓	✓	✓	✓	✓		

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

2022 Brown Mustard

Economics

My Farm Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	1,080.30
Estimated Farm Gate Price (\$/lb.) (B)	0.65
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	702.20

Expenses Per Acre

Variable Expenses/Acre

Seed	32.70
- Seed Treatments/Inoculants	0.54
Fertilizer - Nitrogen	54.59
- Phosphorus (P ₂ O ₅)	19.61
- Sulphur and Other	7.89
Plant Protection - Herbicides	46.95
- Insecticides	3.28
- Fungicides	0.00
Machinery Operating - Fuel	18.92
- Repair	8.85
Custom Work and Hired Labour	20.30
Crop Insurance Premium	7.06
Hail Insurance Premium	12.25
Utilities and Miscellaneous	3.23
Interest on Variable Expenses	4.74
Total Variable Expenses (D)	240.91

Other Expenses/Acre

Building Repair	0.52
Property Taxes	4.24
Business Overhead	2.09
Machinery Depreciation	36.41
Building Depreciation	1.10
Machinery Investment	14.04
Building Investment	0.36
Land Investment	34.16
Total Other Expenses (E)	92.92
Labour and Management* (F)	
Total Expenses (D+E+F)=(G)	333.83

Return Per Acre

Return Over Variable Expenses (C-D)	461.29
Return Over Total Expenses (C-G)	368.37
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	370.63
To Cover Total Expenses	513.59

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.22
To Cover Total Expenses	0.31

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	815.70
Return Over Variable Expenses	289.30
Return Over Total Expenses	196.38

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: 41 lb./ac. N, 23 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.

2022 Oriental Mustard

Economics

My Farm Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	1,190.50
Estimated Farm Gate Price (\$/lb.) (B)	0.60
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	714.30

Expenses Per Acre

Variable Expenses/Acre

Seed	26.70
- Seed Treatments/Inoculants	0.54
Fertilizer - Nitrogen	59.92
- Phosphorus (P ₂ O ₅)	20.46
- Sulphur and Other	7.89
Plant Protection - Herbicides	46.95
- Insecticides	3.28
- Fungicides	0.00
Machinery Operating - Fuel	18.92
- Repair	8.85
Custom Work and Hired Labour	20.30
Crop Insurance Premium	7.57
Hail Insurance Premium	12.25
Utilities and Miscellaneous	3.23
Interest on Variable Expenses	4.75
Total Variable Expenses (D)	241.61

Other Expenses/Acre

Building Repair	0.52
Property Taxes	4.24
Business Overhead	2.09
Machinery Depreciation	36.41
Building Depreciation	1.10
Machinery Investment	14.04
Building Investment	0.36
Land Investment	34.16
Total Other Expenses (E)	92.92
Labour and Management* (F)	
Total Expenses (D+E+F)=(G)	334.53

Return Per Acre

Return Over Variable Expenses (C-D)	472.69
Return Over Total Expenses (C-G)	379.77
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	402.68
To Cover Total Expenses	557.55
Break Even Price (\$/lb.)	
To Cover Variable Expenses	0.20
To Cover Total Expenses	0.28

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	925.90
Return Over Variable Expenses	313.93
Return Over Total Expenses	221.01

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: 45 lb./ac. N, 24 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.

2022 Yellow Mustard

Economics

My Farm Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	948.00
Estimated Farm Gate Price (\$/lb.) (B)	0.70
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	663.60

Expenses Per Acre

Variable Expenses/Acre

Seed	44.50
- Seed Treatments/Inoculants	0.90
Fertilizer - Nitrogen	47.94
- Phosphorus (P ₂ O ₅)	17.05
- Sulphur and Other	7.89
Plant Protection - Herbicides	46.86
- Insecticides	3.28
- Fungicides	0.00
Machinery Operating - Fuel	18.92
- Repair	8.85
Custom Work and Hired Labour	20.30
Crop Insurance Premium	11.36
Hail Insurance Premium	12.25
Utilities and Miscellaneous	3.23
Interest on Variable Expenses	4.88

Total Variable Expenses (D) 248.20

Other Expenses/Acre

Building Repair	0.52
Property Taxes	4.24
Business Overhead	2.09
Machinery Depreciation	36.41
Building Depreciation	1.10
Machinery Investment	14.04
Building Investment	0.36
Land Investment	34.16
Total Other Expenses (E) 92.92	

Labour and Management* (F)

Total Expenses (D+E+F)=(G) 341.13

Return Per Acre

Return Over Variable Expenses (C-D)	415.40
Return Over Total Expenses (C-G)	322.47
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	354.58
To Cover Total Expenses	487.32

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.26
To Cover Total Expenses	0.36

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	661.40
Return Over Variable Expenses	214.78
Return Over Total Expenses	121.85

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: 36 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 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.

2022 Sunflower Oilseed (EMSS)

Economics

My Farm	Dark Brown
---------	------------

Revenue Per Acre

Target Yield (lbs./ac.) (A)	2,050.30
Estimated Farm Gate Price (\$/lb.) (B)	0.42
Estimated Gross Revenue \$/ac.) (AxB)=(C)	861.13

Expenses Per Acre

Variable Expenses/Acre	
Seed	78.00
- Seed Treatments/Inoculants	0.00
Fertilizer - Nitrogen	99.87
- Phosphorus (P ₂ O ₅)	25.58
- Sulphur and Other	66.24
Plant Protection - Herbicides	57.24
- Insecticides	5.73
- Fungicides	0.00
Machinery Operating - Fuel	19.82
- Repair	9.98
Custom Work and Hired Labour	20.80
Crop Insurance Premium	6.17
Hail Insurance Premium	12.25
Utilities and Miscellaneous	4.23
Interest on Variable Expenses	8.15
Total Variable Expenses (D)	414.05

Other Expenses/Acre

Building Repair	0.69
Property Taxes	5.55
Business Overhead	3.19
Machinery Depreciation	41.06
Building Depreciation	1.45
Machinery Investment	15.83
Building Investment	0.48
Land Investment	39.28
Total Other Expenses (E)	107.53

Labour and Management* (F)

Total Expenses (D+E+F)=(G)	521.58
-----------------------------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)	447.08
Return Over Total Expenses (C-G)	339.55

Break Even Yield (lbs./ac.)

To Cover Variable Expenses	985.84
To Cover Total Expenses	1,241.86

Break Even Price (\$/lb.).

To Cover Variable Expenses	0.20
To Cover Total Expenses	0.25

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	1,807.80
Return Over Variable Expenses	345.23
Return Over Total Expenses	237.70

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. A 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.

2022 Soybean**

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		22.8	28.3	32.0
Estimated Farm Gate Price (\$/bu.) (B)		13.38	13.38	13.38
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		304.80	378.52	427.76

Expenses Per Acre

Variable Expenses/Acre

Seed		86.21	86.21	86.21
- Seed Treatments/Inoculants		14.00	14.00	14.00
Fertilizer - Nitrogen		4.79	6.26	6.79
- Phosphorus (P2O5)		14.49	18.76	20.46
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		65.33	65.33	65.02
- Insecticides		15.22	15.22	15.22
- Fungicides		0.00	0.00	0.00
Machinery Operating - Fuel		13.69	17.12	21.39
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		22.30	22.05	23.05
Crop Insurance Premium		6.12	5.05	4.82
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		5.35	5.55	5.73
Total Variable Expenses (D)		271.84	282.00	291.13

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		364.76	389.53	408.00
-----------------------------------	--	---------------	---------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		32.96	96.52	136.63
Return Over Total Expenses (C-G)		-59.96	-11.01	19.76
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		20.32	21.08	21.76
To Cover Total Expenses		27.26	29.11	30.49

Break Even Price (\$/bu.)

To Cover Variable Expenses		11.93	9.97	9.11
To Cover Total Expenses		16.01	13.77	12.76

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		18.37	22.05	26.46
Return Over Variable Expenses		-26.05	13.03	62.90
Return Over Total Expenses		-118.97	-94.50	-53.97

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 24 lb./ac. P2O5 for the black soil zone, five lb./ac. N and 22 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. 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. Adding 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 trifoliolate leaf to the third trifoliolate 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.

2022 Desi Chickpea

Economics

	My Farm	Brown
--	---------	-------

Revenue Per Acre

Target Yield (lbs./ac.) (A)		1,631.40
Estimated Farm Gate Price (\$/lb.) (B)		0.27
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		440.48

Expenses Per Acre

Variable Expenses/Acre

Seed		67.89
- Seed Treatments/Inoculants		6.43
Fertilizer - Nitrogen		6.66
- Phosphorus (P ₂ O ₅)		23.02
- Sulphur and Other		0.00
Plant Protection - Herbicides		82.87
- Insecticides		15.22
- Fungicides		31.92
Machinery Operating - Fuel		19.82
- Repair		8.85
Custom Work and Hired Labour		19.80
Crop Insurance Premium		11.40
Hail Insurance Premium		12.25
Utilities and Miscellaneous		3.23
Interest on Variable Expenses		6.21
Total Variable Expenses (D)		315.56

Other Expenses/Acre

Building Repair		0.52
Property Taxes		4.24
Business Overhead		2.09
Machinery Depreciation		36.41
Building Depreciation		1.10
Machinery Investment		14.04
Building Investment		0.36
Land Investment		34.16
Total Other Expenses (E)		92.92

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		408.48
-----------------------------------	--	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		124.92
Return Over Total Expenses (C-G)		32.00

Break Even Yield (lbs./ac.)

To Cover Variable Expenses		1,168.75
To Cover Total Expenses		1,512.91

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.19
To Cover Total Expenses		0.25

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1,278.10
Return Over Variable Expenses		29.53
Return Over Total Expenses		-63.39

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.

2022 Kabuli Chickpea, Large

Economics

My Farm Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)		2,006.20
Estimated Farm Gate Price (\$/lb.) (B)		0.45
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		902.79

Expenses Per Acre

Variable Expenses/Acre		
Seed		105.85
- Seed Treatments/Inoculants		13.81
Fertilizer - Nitrogen		9.32
- Phosphorus (P ₂ O ₅)		27.28
- Sulphur and Other		0.00
Plant Protection - Herbicides		82.87
- Insecticides		15.22
- Fungicides		31.92
Machinery Operating - Fuel		19.82
- Repair		8.85
Custom Work and Hired Labour		19.80
Crop Insurance Premium		17.92
Hail Insurance Premium		12.25
Utilities and Miscellaneous		3.23
Interest on Variable Expenses		7.39
Total Variable Expenses (D)		375.53

Other Expenses/Acre

Building Repair		0.52
Property Taxes		4.24
Business Overhead		2.09
Machinery Depreciation		36.41
Building Depreciation		1.10
Machinery Investment		14.04
Building Investment		0.36
Land Investment		34.16
Total Other Expenses (E)		92.92
Labour and Management* (F)		
Total Expenses (D+E+F)=(G)		468.45

Return Per Acre

Return Over Variable Expenses (C-D)		527.26
Return Over Total Expenses (C-G)		434.34

Break Even Yield (lbs./ac.)

To Cover Variable Expenses		834.50
To Cover Total Expenses		1,041.00

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.19
To Cover Total Expenses		0.23

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1,455.10
Return Over Variable Expenses		279.27
Return Over Total Expenses		186.35

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 seven lb./ac. N and 32 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.

2022 Kabuli Chickpea, Small

Economics

My Farm Brown

Revenue Per Acre

Target Yield (lbs./ac.) (A)	1,719.60
Estimated Farm Gate Price (\$/lb.) (B)	0.25
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	429.90

Expenses Per Acre

Variable Expenses/Acre	
Seed	79.57
- Seed Treatments/Inoculants	13.81
Fertilizer - Nitrogen	7.99
- Phosphorus (P ₂ O ₅)	22.17
- Sulphur and Other	0.00
Plant Protection - Herbicides	82.87
- Insecticides	15.22
- Fungicides	31.92
Machinery Operating - Fuel	19.82
- Repair	8.85
Custom Work and Hired Labour	19.80
Crop Insurance Premium	14.67
Hail Insurance Premium	12.25
Utilities and Miscellaneous	3.23
Interest on Variable Expenses	6.67
Total Variable Expenses (D)	338.83

Other Expenses/Acre

Building Repair	0.52
Property Taxes	4.24
Business Overhead	2.09
Machinery Depreciation	36.41
Building Depreciation	1.10
Machinery Investment	14.04
Building Investment	0.36
Land Investment	34.16
Total Other Expenses (E)	92.92
Labour and Management* (F)	
Total Expenses (D+E+F)=(G)	431.75

Return Per Acre

Return Over Variable Expenses (C-D)	91.07
Return Over Total Expenses (C-G)	-1.85

Break Even Yield (lbs./ac.)

To Cover Variable Expenses	1,355.32
To Cover Total Expenses	1,727.01

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.20
To Cover Total Expenses	0.25

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	1,256.60
Return Over Variable Expenses	-24.68
Return Over Total Expenses	-117.60

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 26 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.

2022 Large Green Lentils

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (lb./ac.) (A)		1,455.10	1,653.50	1,587.30
Estimated Farm Gate Price (\$/lb.) (B)		0.35	0.35	0.35
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		509.29	578.73	555.56

Expenses Per Acre

Variable Expenses/Acre				
Seed		66.43	66.43	66.43
- Seed Treatments/Inoculants		6.29	6.29	6.29
Fertilizer - Nitrogen		4.53	5.06	5.06
- Phosphorus (P ₂ O ₅)		13.64	15.35	15.35
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		56.67	56.67	74.14
- Insecticides		15.22	15.22	15.22
- Fungicides		20.00	20.00	20.00
Machinery Operating - Fuel		13.69	17.12	21.39
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		21.80	21.05	22.80
Crop Insurance Premium		12.14	14.34	12.42
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		5.11	5.30	5.77
Total Variable Expenses (D)		259.85	269.29	293.30

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87
Labour and Management* (F)				
Total Expenses (D+E+F)=(G)		352.77	376.81	410.17

Return Per Acre

Return Over Variable Expenses (C-D)		249.44	309.44	262.26
Return Over Total Expenses (C-G)		156.52	201.92	145.39

Break Even Yield (lbs./ac.)

To Cover Variable Expenses		742.42	769.39	838.00
To Cover Total Expenses		1007.92	1076.61	1171.92

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.18	0.16	0.18
To Cover Total Expenses		0.24	0.23	0.26

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1080.30	1278.70	1212.50
Return Over Variable Expenses		118.26	178.26	131.08
Return Over Total Expenses		25.34	70.74	14.21

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 18 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 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 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 favourable 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			Desiccation
		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.

2022 Red Lentils

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (lb./ac.) (A)		1,675.50	1,896.00	2,204.60
Estimated Farm Gate Price (\$/lb.) (B)		0.35	0.35	0.35
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		586.43	663.60	771.61

Expenses Per Acre

Variable Expenses/Acre				
Seed		36.00	36.00	36.00
- Seed Treatments/Inoculants		4.15	4.15	4.15
Fertilizer - Nitrogen		5.33	5.86	7.06
- Phosphorus (P ₂ O ₅)		16.20	17.91	21.32
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		56.67	56.67	76.99
- Insecticides		15.22	15.22	15.22
- Fungicides		20.00	20.00	20.00
Machinery Operating - Fuel		13.69	17.12	21.39
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		21.80	21.05	22.80
Crop Insurance Premium		11.15	11.36	11.19
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		4.51	4.65	5.31
Total Variable Expenses (D)		229.04	236.44	269.85
Other Expenses/Acre				
Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87
Labour and Management* (F)				
Total Expenses (D+E+F)=(G)		321.96	343.97	386.72

Return Per Acre

Return Over Variable Expenses (C-D)		357.39	427.16	501.76
Return Over Total Expenses (C-G)		264.47	319.63	384.89
Break Even Yield (lbs./ac.)				
To Cover Variable Expenses		654.40	675.54	771.01
To Cover Total Expenses		919.90	982.76	1,104.93
Break Even Price (\$/lb.)				
To Cover Variable Expenses		0.14	0.12	0.12
To Cover Total Expenses		0.19	0.18	0.18

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1,300.70	1,455.10	1,741.70
Return Over Variable Expenses		226.21	272.85	339.75
Return Over Total Expenses		133.29	165.32	222.88

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 25 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 19 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 favourable 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			Desiccation
		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.

2022 Edible Green Peas

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		39.3	48.1	55.1
Estimated Farm Gate Price (\$/bu.) (B)		14.00	14.00	14.00
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		550.48	673.82	771.68

Expenses Per Acre

Variable Expenses/Acre

Seed		53.43	60.84	68.64
- Seed Treatments/Inoculants		9.47	10.79	12.17
Fertilizer - Nitrogen		8.39	10.39	11.85
- Phosphorus (P2O5)		25.58	31.55	35.81
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		69.34	66.08	72.41
- Insecticides		15.22	15.22	15.22
- Fungicides		14.18	14.18	14.18
Machinery Operating - Fuel		13.69	17.12	21.39
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		20.30	20.30	20.30
Crop Insurance Premium		5.70	5.14	6.01
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		5.21	5.58	6.15
Total Variable Expenses (D)		264.84	283.64	312.56

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		357.76	391.16	429.43
-----------------------------------	--	---------------	---------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		285.64	390.18	459.12
Return Over Total Expenses (C-G)		192.72	282.66	342.25
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		18.92	20.26	22.33
To Cover Total Expenses		25.55	27.94	30.67
Break Even Price (\$/bu.)				
To Cover Variable Expenses		6.74	5.89	5.67
To Cover Total Expenses		9.10	8.13	7.79

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		30.13	38.95	44.83
Return Over Variable Expenses		156.98	261.66	315.06
Return Over Total Expenses		64.06	154.14	198.19

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: 10 lb./ac. N and 47 lb./ac. P2O5 for the black soil zone, nine lb./ac. N and 40 lb./ac. P2O5 for the dark brown soil zone and seven lb./ac. N and 33 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			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓			✓

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

2022 Edible Yellow Peas

Economics

Revenue Per Acre

	My Farm	Brown	Dark Brown	Black
Target Yield (bu./ac.) (A)		39.3	48.1	55.1
Estimated Farm Gate Price (\$/bu.) (B)		12.00	12.00	12.00
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		471.84	577.56	661.44

Expenses Per Acre

Variable Expenses/Acre

Seed		55.20	63.20	71.20
- Seed Treatments/Inoculants		9.54	10.93	12.31
Fertilizer - Nitrogen		8.39	10.39	11.85
- Phosphorus (P2O5)		25.58	31.55	35.81
- Sulphur and Other		0.00	0.00	0.00
Plant Protection - Herbicides		69.34	66.08	72.41
- Insecticides		15.22	15.22	15.22
- Fungicides		14.18	14.18	14.18
Machinery Operating - Fuel		13.69	17.12	21.39
- Repair		8.85	9.98	11.29
Custom Work and Hired Labour		20.30	20.30	20.30
Crop Insurance Premium		5.70	5.14	6.01
Hail Insurance Premium		12.25	12.25	12.25
Utilities and Miscellaneous		3.23	4.23	4.88
Interest on Variable Expenses		5.25	5.63	6.20
Total Variable Expenses (D)		266.72	286.19	315.31

Other Expenses/Acre

Building Repair		0.52	0.69	0.95
Property Taxes		4.24	5.55	8.42
Business Overhead		2.09	3.19	3.74
Machinery Depreciation		36.41	41.06	46.47
Building Depreciation		1.10	1.45	2.00
Machinery Investment		14.04	15.83	17.92
Building Investment		0.36	0.48	0.66
Land Investment		34.16	39.28	36.72
Total Other Expenses (E)		92.92	107.53	116.87

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		359.64	393.71	432.18
-----------------------------------	--	---------------	---------------	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		205.12	291.37	346.13
Return Over Total Expenses (C-G)		112.20	183.85	229.26
Break Even Yield (bu./ac.)				
To Cover Variable Expenses		22.23	23.85	26.28
To Cover Total Expenses		29.97	32.81	36.02

Break Even Price (\$/bu.)

To Cover Variable Expenses		6.78	5.95	5.72
To Cover Total Expenses		9.15	8.18	7.84

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (bu./ac.)		30.13	38.95	44.83
Return Over Variable Expenses		107.09	193.46	234.90
Return Over Total Expenses		14.17	85.94	118.03

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: nine lb./ac. N and 42 lb./ac. P2O5 for the black soil zone, eight lb./ac. N and 37 lb./ac. P2O5 for the dark brown soil zone and six lb./ac. N and 30 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			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓			✓

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

2022 Black Bean

Economics

	My Farm	Dark Brown
--	---------	------------

Revenue Per Acre

Target Yield (lb./ac.) (A)		1,200.00
Est. Farm Gate Price \$/lb. (B)		0.33
Estimated Gross Revenue/ac (AxB)=C		396.00

Expenses Per Acre

Variable Expenses/Acre

Seed		75.02
- Seed Treatments/Inoculants		3.80
Fertilizer - Nitrogen		26.63
- Phosphorus (P ₂ O ₅)		5.97
- Sulphur and Other		0.00
Plant Protection - Herbicides		60.02
- Insecticides		5.73
- Fungicides		6.67
Machinery Operating - Fuel		17.12
- Repair		9.98
Custom Work and Hired Labour		19.80
Crop Insurance Premium		15.38
Hail Insurance Premium		12.25
Utilities and Miscellaneous		4.23
Interest on Variable Expenses		5.27
Total Variable Expenses (D)		267.87

Other Expenses/Acre

Building Repair		0.69
Property Taxes		5.55
Business Overhead		3.19
Machinery Depreciation		41.06
Building Depreciation		1.45
Machinery Investment		15.83
Building Investment		0.48
Land Investment		39.28
Total Other Expenses (E)		107.53
Labour and Management* (F)		
Total Expenses (D+E+F)=(G)		375.40

Return Per Acre

Return Over Variable Expenses (C-D)		128.13
Return Over Total Expenses (C-G)		20.60
Break Even Yield (lbs./ac.)		
To Cover Variable Expenses		811.73
To Cover Total Expenses		1,137.56

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.22
To Cover Total Expenses		0.31

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		870.00
Return Over Variable Expenses		19.23
Return Over Total Expenses		-88.30

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. Black 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 black bean. This estimate includes a single fungicide application for white mould management.

Weed control: Black 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.

2022 Faba bean

Economics

My Farm Black

Revenue Per Acre

Target Yield (lb./ac.) (A)	3,527.40
Estimated Farm Gate Price (\$/lb.) (B)	0.23
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	811.30

Expenses Per Acre

Variable Expenses/Acre

Seed	72.40
- Seed Treatments/Inoculants	12.52
Fertilizer - Nitrogen	22.24
- Phosphorus (P ₂ O ₅)	67.36
- Sulphur and Other	0.00
Plant Protection - Herbicides	56.45
- Insecticides	5.73
- Fungicides	14.18
Machinery Operating - Fuel	19.82
- Repair	11.29
Custom Work and Hired Labour	19.80
Crop Insurance Premium	8.39
Hail Insurance Premium	12.25
Utilities and Miscellaneous	4.88
Interest on Variable Expenses	6.57
Total Variable Expenses (D)	333.88

Other Expenses/Acre

Building Repair	0.95
Property Taxes	8.42
Business Overhead	3.74
Machinery Depreciation	46.47
Building Depreciation	2.00
Machinery Investment	17.92
Building Investment	0.66
Land Investment	36.72
Total Other Expenses (E)	116.87

Labour and Management* (F)

Total Expenses (D+E+F)=(G) 450.75

Return Per Acre

Return Over Variable Expenses (C-D)	477.42
Return Over Total Expenses (C-G)	360.55

Break Even Yield (lbs./ac.)

To Cover Variable Expenses	1,451.64
To Cover Total Expenses	1,959.78

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.09
To Cover Total Expenses	0.13

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	2,667.60
Return Over Variable Expenses	279.67
Return Over Total Expenses	162.80

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: 17 lb./ac. N and 79 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.

2022 Camelina

Economics

	My Farm	Brown
--	---------	-------

Revenue Per Acre

Target Yield (lbs./ac.) (A)		1,388.90
Estimated Farm Gate Price (\$/lb.) (B)		0.30
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		416.67

Expenses Per Acre

Variable Expenses/Acre

Seed		33.00
- Seed Treatments/Inoculants		0.00
Fertilizer - Nitrogen		85.22
- Phosphorus (P ₂ O ₅)		17.05
- Sulphur and Other		7.89
Plant Protection - Herbicides		53.07
- Insecticides		0.00
- Fungicides		0.00
Machinery Operating - Fuel		18.92
- Repair		8.85
Custom Work and Hired Labour		20.30
Crop Insurance Premium		4.19
Hail Insurance Premium		12.25
Utilities and Miscellaneous		3.23
Interest on Variable Expenses		5.30
Total Variable Expenses (D)		269.27

Other Expenses/Acre

Building Repair		0.52
Property Taxes		4.24
Business Overhead		2.09
Machinery Depreciation		36.41
Building Depreciation		1.10
Machinery Investment		14.04
Building Investment		0.36
Land Investment		34.16
Total Other Expenses (E)		92.92
Labour and Management* (F)		
Total Expenses (D+E+F)=(G)		362.19

Return Per Acre

Return Over Variable Expenses (C-D)		147.40
Return Over Total Expenses (C-G)		54.48
Break Even Yield (lbs./ac.)		
To Cover Variable Expenses		898.00
To Cover Total Expenses		1207.30
Break Even Price (\$/lb.)		
To Cover Variable Expenses		0.19
To Cover Total Expenses		0.26

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1124.40
Return Over Variable Expenses		68.05
Return Over Total Expenses		-24.87

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 6 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: 85 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: Camelina has no registered herbicide options other than a pre-harvest application of glyphosate in the previous crop to manage perennial weeds as well as a glyphosate burn off prior to seeding.

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.

2022 Canary Seed

Economics

	My Farm	Dark Brown
--	---------	------------

Revenue Per Acre

Target Yield (lbs./ac.) (A)		1,719.60
Estimated Farm Gate Price (\$/lb.) (B)		0.35
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		601.86

Expenses Per Acre

Variable Expenses/Acre

Seed		28.00
- Seed Treatments/Inoculants		0.00
Fertilizer - Nitrogen		75.90
- Phosphorus (P ₂ O ₅)		40.93
- Sulphur and Other		38.38
Plant Protection - Herbicides		51.41
- Insecticides		9.49
- Fungicides		7.15
Machinery Operating - Fuel		18.02
- Repair		9.98
Custom Work and Hired Labour		22.05
Crop Insurance Premium		7.76
Hail Insurance Premium		12.25
Utilities and Miscellaneous		4.23
Interest on Variable Expenses		6.53
Total Variable Expenses (D)		332.07

Other Expenses/Acre

Building Repair		0.69
Property Taxes		5.55
Business Overhead		3.19
Machinery Depreciation		41.06
Building Depreciation		1.45
Machinery Investment		15.83
Building Investment		0.48
Land Investment		39.28
Total Other Expenses (E)		107.53

Labour and Management* (F)

Total Expenses (D+E+F)=(G)		439.60
-----------------------------------	--	---------------

Return Per Acre

Return Over Variable Expenses (C-D)		269.79
Return Over Total Expenses (C-G)		162.26

Break Even Yield (lbs./ac.)

To Cover Variable Expenses		948.77
To Cover Total Expenses		1255.99

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.19
To Cover Total Expenses		0.26

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		1300.70
Return Over Variable Expenses		123.18
Return Over Total Expenses		15.65

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: 63 lb./ac. N, 54 lb./ac. P₂O₅, 33 lb./ac. K₂O and 17 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: Canary seed is susceptible to aphids, so an insecticide application to manage for aphids is assumed.

Disease control: Septoria leaf mottle is a foliar disease of canary seed that can result in yield losses when environmental conditions favour 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: Canary seed 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			Desiccation
		1	2		1	2	3	
✓		✓	✓	✓	✓			

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

2022 Caraway (Second Season)*

Economics

My Farm Black

Revenue Per Acre

Target Yield (lbs./ac.) (A)	850.00
Estimated Farm Gate Price (\$/lb.) (B)	0.95
Estimated Gross Revenue (\$/ac.) (AxB)=(C)	807.50

Expenses Per Acre

Variable Expenses/Acre

Seed	10.20
- Seed Treatments/Inoculants	0.00
Fertilizer - Nitrogen	59.92
- Phosphorus (P ₂ O ₅)	29.84
- Sulphur and Other	22.07
Plant Protection - Herbicides	62.56
- Insecticides	0.00
- Fungicides	0.00
Machinery Operating - Fuel	36.03
- Repair	22.58
Custom Work and Hired Labour	19.80
Crop Insurance Premium	19.68
Hail Insurance Premium	12.25
Utilities and Miscellaneous	4.88
Interest on Variable Expenses	6.02
Total Variable Expenses (D)	305.85

Other Expenses/Acre (for two years since biennial)

Building Repair	1.89
Property Taxes	16.84
Business Overhead	7.48
Machinery Depreciation	92.94
Building Depreciation	4.00
Machinery Investment	19.54
Building Investment	1.32
Land Investment	73.43
Total Other Expenses (E)	217.45
Labour and Management*** (F)	
Total Expenses (D+E+F)=(G)	523.30

Return Per Acre (after two years)

Return Over Variable Expenses (C-D)	501.65
Return Over Total Expenses (C-G)	284.20
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	321.95
To Cover Total Expenses	550.84

Break Even Price (\$/lb.)

To Cover Variable Expenses	0.36
To Cover Total Expenses	0.62

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	551.20
Return Over Variable Expenses	217.79
Return Over Total Expenses	0.34

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: 64 lb./ac. N, 50 lb./ac. P₂O₅ and 29 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 are available for slugs in field crops.

Disease control: The cost of fungicide is not included in this estimate. Blossom blight can result in yield losses when conditions favor disease development.

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			Desiccation
		1	2		1	2	3	
					✓	✓		

* These expenses are for the second year of production only. The first year is identical to coriander.

**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.

2022 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	83.89
- Phosphorus (P ₂ O ₅)	30.69
- Sulphur and Other	0.00
Plant Protection - Herbicides	65.41
- Insecticides	0.00
- Fungicides	34.99
Machinery Operating - Fuel	18.02
- Repair	9.98
Custom Work and Hired Labour	19.80
Crop Insurance Premium	10.75
Hail Insurance Premium	12.25
Utilities and Miscellaneous	4.23
Interest on Variable Expenses	6.12
Total Variable Expenses (D)	311.13

Other Expenses/Acre

Building Repair	0.69
Property Taxes	5.55
Business Overhead	3.19
Machinery Depreciation	41.06
Building Depreciation	1.45
Machinery Investment	15.83
Building Investment	0.48
Land Investment	39.28
Total Other Expenses (E)	107.53
Labour and Management* (F)	
Total Expenses (D+E+F)=(G)	418.66

Return Per Acre

Return Over Variable Expenses (C-D)	416.37
Return Over Total Expenses (C-G)	308.84
Break Even Yield (lbs./ac.)	
To Cover Variable Expenses	518.55
To Cover Total Expenses	697.76
Break Even Price (\$/lb.)	
To Cover Variable Expenses	0.26
To Cover Total Expenses	0.35

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)	925.90
Return Over Variable Expenses	244.41
Return Over Total Expenses	136.88

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.

2022 Fenugreek

Economics

	My Farm	Brown
--	---------	-------

Revenue Per Acre

Target Yield (lbs./ac.) (A)		1,175.00
Estimated Farm Gate Price (\$/lb.) (B)		0.28
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		329.00

Expenses Per Acre

Variable Expenses/Acre

Seed		15.00
- Seed Treatments/Inoculants		0.00
Fertilizer - Nitrogen		3.99
- Phosphorus (P2O5)		11.94
- Sulphur and Other		0.00
Plant Protection - Herbicides		29.53
- Insecticides		0.00
- Fungicides		0.00
Machinery Operating - Fuel		15.31
- Repair		8.85
Custom Work and Hired Labour		19.80
Crop Insurance Premium		0.00
Hail Insurance Premium		12.25
Utilities and Miscellaneous		3.23
Interest on Variable Expenses		2.41
Total Variable Expenses (D)		122.31

Other Expenses/Acre

Building Repair		0.52
Property Taxes		4.24
Business Overhead		2.09
Machinery Depreciation		36.41
Building Depreciation		1.10
Machinery Investment		14.04
Building Investment		0.36
Land Investment		34.16
Total Other Expenses (E)		92.92
Labour and Management* (F)		
Total Expenses (D+E+F)=(G)		215.23

Return Per Acre

Return Over Variable Expenses (C-D)		206.69
Return Over Total Expenses (C-G)		113.77
Break Even Yield (lbs./ac.)		
To Cover Variable Expenses		436.83
To Cover Total Expenses		768.70

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.10
To Cover Total Expenses		0.18

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		740.30
Return Over Variable Expenses		84.97
Return Over Total Expenses		-7.95

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. A 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			Desiccation
		1	2		1	2	3	
✓		✓			✓			

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

2022 Quinoa

Economics

	My Farm	Black
--	---------	-------

Revenue Per Acre

Target Yield (lbs./ac.) (A)		1,000.00
Estimated Farm Gate Price (\$/lb.) (B)		0.80
Estimated Gross Revenue (\$/ac.) (AxB)=(C)		800.00

Expenses Per Acre

Variable Expenses/Acre

Seed		63.00
- Seed Treatments/Inoculants		0.00
Fertilizer - Nitrogen		55.93
- Phosphorus (P ₂ O ₅)		15.35
- Sulphur and Other		14.72
Plant Protection - Herbicides		11.40
- Insecticides		21.45
- Fungicides		0.00
Machinery Operating - Fuel		15.31
- Repair		11.29
Custom Work and Hired Labour		19.80
Crop Insurance Premium		0.00
Hail Insurance Premium		12.25
Utilities and Miscellaneous		4.88
Interest on Variable Expenses		4.92
Total Variable Expenses (D)		250.30

Other Expenses/Acre

Building Repair		0.95
Property Taxes		8.42
Business Overhead		3.74
Machinery Depreciation		46.47
Building Depreciation		2.00
Machinery Investment		17.92
Building Investment		0.66
Land Investment		36.72
Total Other Expenses (E)		116.87
Labour and Management* (F)		
Total Expenses (D+E+F)=(G)		367.18

Return Per Acre

Return Over Variable Expenses (C-D)		549.70
Return Over Total Expenses (C-G)		432.82
Break Even Yield (lbs./ac.)		
To Cover Variable Expenses		312.88
To Cover Total Expenses		458.97

Break Even Price (\$/lb.)

To Cover Variable Expenses		0.25
To Cover Total Expenses		0.37

Yield Sensitivity (same expenses, but average yield)

Provincial Average Yield (lb./ac.)		630.00
Return Over Variable Expenses		253.70
Return Over Total Expenses		136.82

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. A 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.

Looking For Personalized Help?

Reach out to one of our specialists in the Ministry of Agriculture's regional offices.



Kindersley
306-463-5513

Outlook
306-867-5575

Swift Current
306-778-8285

Humboldt
306-682-6701

Moose Jaw
1-866-457-2377

Prince Albert
306-953-2363

Tisdale
306-878-8843

Weyburn
306-848-2857

North Battleford
306-446-7962

Yorkton
306-786-1531

Agriculture Knowledge Centre (toll free): 1-866-457-2377