

University of Idaho

College of Agricultural *and* Life Sciences



Photo: Dennis Pittmann

2016 Direct Seed Budgets for Northern Idaho:
Winter wheat, soft white spring wheat & dark northern spring (DNS) wheat
Spring barley, dry peas, lentils & garbanzos
Assuming a 2500-acre farm

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INSTRUCTIONS AND ASSUMPTIONS

General Instructions:

A color coding system is used to indicate the source of the data for each budget and to show which data can be adjusted. Orange cells can be changed without affecting the underlying equations in this cost calculator. Data in yellow cells are from the Summary sheet (click on yellow Summary tab). In the Summary sheet both crop price and yield are in orange cells. Adjusting any of those numbers will automatically update calculations throughout the spreadsheet, which is very useful for sensitivity analyses. You can quickly compare price and yield changes by crop and rotation on net returns and land costs. You can also see rotational impacts. For example, if you know that a crop will have a higher yield in a particular sequence, adjust the crop yield in the upper table and see the rotational impact in the second table. You can save the file with this data, then create another scenario and save it as a different file. The graphical tab will illustrate the results of these changes automatically.

Input Prices:

By entering input prices on the Input Prices sheet (click on the green Input Prices tab), all of the cost calculations will be automatically updated. Input cost changes can also be made on individual crop price sheets, over-riding the input cost formulae on that particular crop budget. Fertilizer and chemical prices are based on an annual survey of input suppliers. These prices are subject to change, however, and will affect the profitability of different crops. A list of the average prices from each year's survey can be found on our departmental website under Crop Input Cost Summary (http://www.cals.uidaho.edu/aers/r_crops.htm).

Crop Prices:

Crop prices can be adjusted on the Summary tab and the effects of this change will be reflected throughout all the budgets. (Yields can be adjusted similarly.) Grain prices are based on futures prices for July and August 2009, as of April 2009, FOB Lind, Washington. (Source: Union Elevator, <http://www.unionelevator.com>). Canola cash prices are from northerncanola.com for Apr 2009.

Machinery Costs:

The machinery complement and associated hourly machinery cost data are in the last two sheets. The hourly machinery cost data are used to create the individualized machinery cost data for each budget, located in a separate tab for each crop. In the crop budget sheets, entries in blue cells are calculated by the machinery cost program and come from the associated Machinery Cost sheet for that crop. Machinery fixed costs include capital recovery costs, property taxes, insurance, and housing. For the overall farm operation, these costs do not vary by crop, given the ownership of a specific machinery complement, and are incurred whether or not crops are grown. Your per acre fixed costs will change if the farm size differs significantly from the size used in these budgets.

Land Costs:

Land costs, included either as real or as opportunity costs, are based on a typical share rental arrangement. We calculate net land rental cost as a cost share as follows:

$$1/3 \text{ Crop Value} - (1/3 \text{ Fertilizer Cost} + 1/3 \text{ Chemical Cost} + 1/3 \text{ Crop Insurance} + \text{Land Taxes})$$

A typical lease agreement in the areas surveyed is a one-third land owner and two-third tenant crop share, with the land owner paying land taxes, one-third of the fertilizer cost, one-third of the chemical cost, and one-third of the crop insurance. The tenant covers all other production expenses. **This crop-share percentage can be adjusted in the crop worksheets.** If the percentage is adjusted on the Summary tab, it is changed for all crops. If you want different crop-share percentages for different crops, adjust the percentage on the budget sheet for that crop. This valuable tool reveals how factors such as crop and input price increases as well as cropping choices affect revenue for landlords and operators differently.

While the owner-operator will not actually experience a land rental cost, this cost represents the minimum return owner-operators must realize to justify growing the crop themselves. To determine the profitability of crop production relative to other activities, the owner-operator may want to consider these forgone rental returns along with the usual production expenses.

General Assumptions:

Since farming is inherently variable and constantly changing, we hope that this spreadsheet format will be helpful in adjusting these budgets to reflect your particular operation. Enterprise costs and returns vary from one location to the next and over time for any particular farming operation.

Variability stems from differences in the following:

- Capital, labor, and natural resources
- Type and size of machinery complement
- Cultural practices
- Size of farm enterprise
- Crop yields
- Input prices
- Commodity prices
- Management skill

Please examine closely the assumptions we have used and make adjustments to reflect your particular operation. Adjustments in the variable costs can easily be made without affecting the overall accuracy of the budget information. Machinery costs are more difficult to adjust, due to the underlying complexity of machinery cost calculations. A separate machinery cost calculator program is used to develop the costs used in these budgets, which are based on specific machinery widths, tractor horsepower, type of operation, etc. The machinery cost program and data sets specific to this budget are available upon request.

Acknowledgments:

I wish to thank everyone who helped gather all of the information needed to create these worksheets. First and foremost, I thank the farmers who were willing to take the time to share their enterprise information in order to create this worksheet. Without their assistance we would not be able to provide this critical information to others. However, I take responsibility for any errors in these budgets.

Budget spreadsheets are available at the following link:

http://www.cals.uidaho.edu/aers/r_crops.htm

2016 Direct Seed Budgets for Northern Idaho

Summary of Returns by Crop and Rotation (\$/acre/yr)

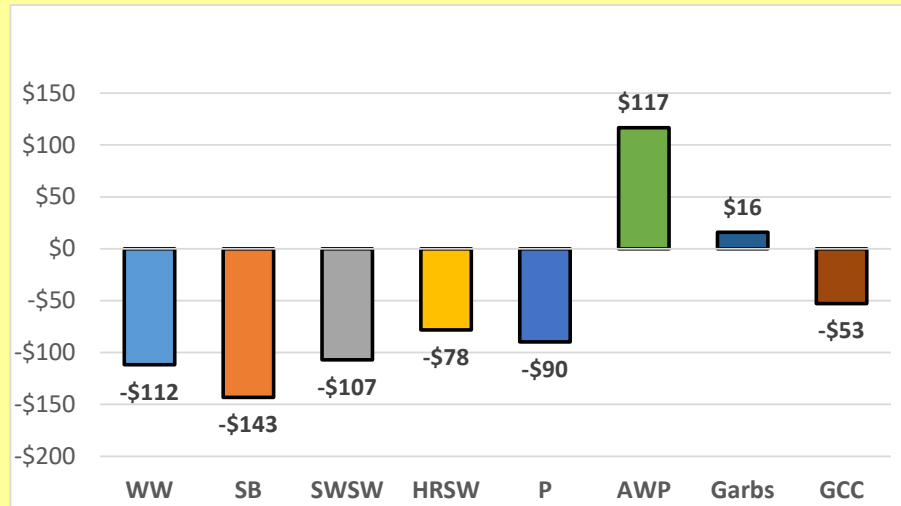
Note: You may adjust yield, price, and crop-share % information in orange type.
All land cost (crop-share) and other data will adjust automatically throughout.

By Crop:	Unit	Yield per acre	2016 Price per unit	Revenue per acre	Total Cost of Operation	Returns over TC (\$/acre)	Total Variable Costs	Returns over VC (\$/acre)	Crop & Cost Share*	
									Operator:	Owner:
Winter Wheat (WW)	bu	80	\$3.61	\$289	\$401	-\$112	\$274	\$15	\$43	67% Operator
Spring Barley (SB)	ton	1.5	\$92.00	\$138	\$281	-\$143	\$177	-\$39	\$35	33% Owner
Soft White Spring Wheat (SWSW)	bu	58	\$3.61	\$209	\$316	-\$107	\$224	-\$15	\$16	
Dark Northern Spring Wheat (DNSW)	bu	58	\$4.72	\$274	\$352	-\$78	\$241	\$33	\$30	
Peas (P)	lb	1800	\$0.12	\$216	\$306	-\$90	\$196	\$20	\$43	
Austrian Winter Peas (AWP)	lb	2000	\$0.25	\$500	\$383	\$117	\$152	\$348	\$113	
Garbanzos (G)	lb	1200	\$0.32	\$384	\$368	\$16	\$188	\$196	\$102	
Grazed Cover Crop	AUM	4	\$18.00	\$72	\$125	-\$53	\$56	\$16	\$102	

*In a crop- and cost-share arrangement, the landowner and the farm manager split the crop and the specified costs, typically fertilizer, chemicals and crop insurance.

By Rotation:	Revenue per acre (\$/acre)	Total Cost of Operation (\$/acre)	Returns over TC (\$/acre)	Total Variable Costs (\$/acre)	Returns over VC (\$/acre)	Crop & Cost Share** (\$/acre)
WW_SWSW_P	\$238	\$341	-\$103	\$231	\$7	\$34
WW_DNSW_P	\$260	\$353	-\$93	\$237	\$23	\$39
WW_SB_P	\$214	\$329	-\$115	\$216	-\$1	\$40
WW_SWSW_AWP	\$333	\$367	-\$34	\$217	\$116	\$57
WW_DNSW_AWP	\$354	\$379	-\$24	\$222	\$132	\$62
WW_SB_AWP	\$309	\$355	-\$46	\$201	\$108	\$64
WW_SWSW_G	\$294	\$362	-\$68	\$229	\$65	\$54
WW_DNSW_G	\$316	\$374	-\$58	\$234	\$81	\$58
WW_SB_G	\$270	\$350	-\$80	\$213	\$57	\$60
WW_SWSW_GCC	\$190	\$281	-\$90	\$185	\$5	\$54
WW_DNSW_GCC	\$212	\$292	-\$81	\$190	\$21	\$58
WW_SB_GCC	\$166	\$269	-\$103	\$169	-\$3	\$60

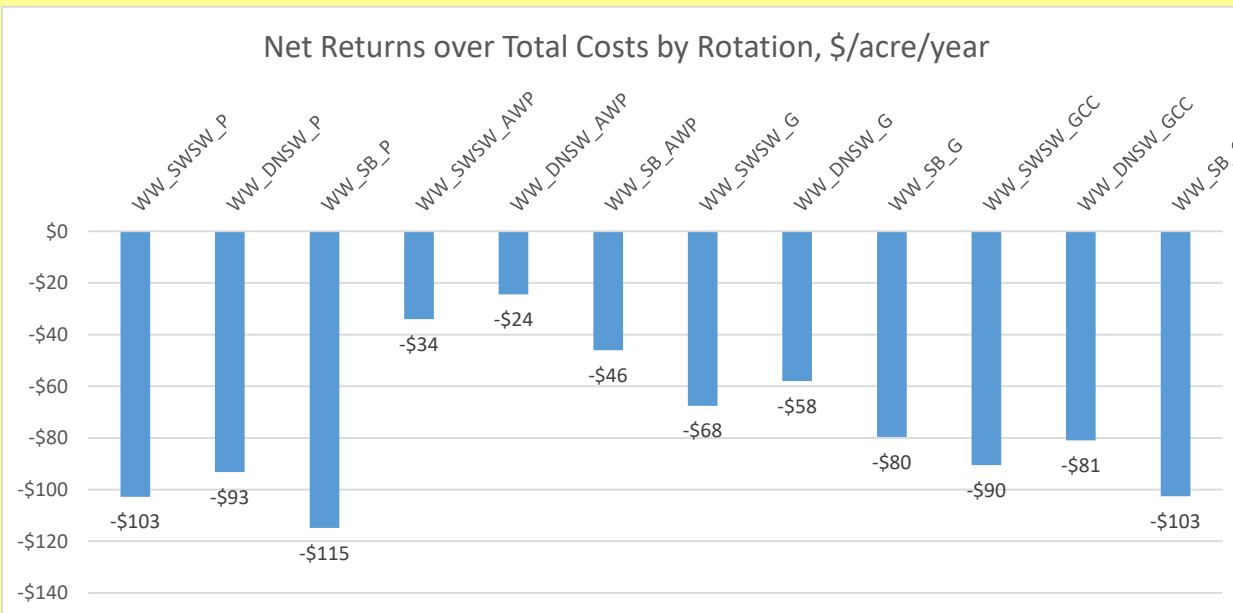
Summary of Returns by Crop and Rotation (\$/acre)



Crop Prices:

WW	\$3.61
SB	\$92.00
SWSW	\$3.61
HRSW	\$4.72
P	\$0.12
AWP	\$0.25
G	\$0.32
AUM	\$18.00

Net Returns over Total Costs by Rotation, \$/acre/year



Prices		
<i>Note: Changing prices here will change them throughout the spreadsheet.</i>		
	Unit	2016 Price/unit
Fuel:		
Diesel (gal)	gal	\$2.00
Gas (gal)	gal	\$2.35
Seed:		
Wheat Seed (lb)	lb	\$0.26
Barley Seed (lb)	lb	\$0.26
Dark Northern Spring Wheat	lb	\$0.30
Spring Pea Seed	lb	\$0.38
Lentil Seed	lb	\$0.41
Garbanzo Seed	lb	\$0.60
Fertilizer:		
Nitrogen	lb	\$0.59
Phosphorous	lb	\$0.71
Sulfur	lb	\$0.53
Potassium	lb	\$0.31
Adjuvants:		
Ammonium Sulfate (liquid)	oz	\$0.05
Ammonium Sulfate (20-0-0-24)	lb	\$0.22
Crop Oil Concentrate	pt	\$1.88
In-Place	oz	\$0.31
M90	oz	\$0.17
Surfactant	oz	\$0.24
Syltac Sticker	pt	\$6.25
Custom Rental:		
26' Rental Shredder	acre	\$10.00
36' Ripper Shooter	acre	\$2.50
90' Rental Sprayer	acre	\$2.00
Custom Aerial	acre	\$8.95
Fertilizer Applicator	acre	\$2.00

Prices		
Pesticides:		
2,4-DB	oz	\$0.29
Achieve SC	oz	\$1.17
Ally	oz	\$11.98
Assure II	oz	\$0.86
Axial	oz	\$1.39
Bronate	pt	\$6.88
Brox M	oz	\$0.27
Capture	oz	\$2.64
Dimethoate	pt	\$8.40
Discover	oz	\$1.47
FarGO	qt	\$16.66
Finesse	oz	\$17.34
Roundup	oz	\$0.18
Imidan 70	lb	\$15.41
Maverick	oz	\$20.77
Poast	pt	\$16.77
Osprey	oz	\$4.31
Prowl	oz	\$0.46
Pursuit	oz	\$3.53
Quadris	oz	\$1.06
Quilt	oz	\$1.78
R-11	oz	\$0.23
Starane	oz	\$0.55
Starane + Salvo	oz	\$0.67
Starane + Sword	oz	\$0.67
Crop Insurance¹:		
Soft white winter wheat	acre	\$20.00
Soft white spring wheat	acre	\$16.00
Dark Northern spring wheat	acre	\$17.00
Spring peas	acre	\$22.00
Spring lentils	acre	\$22.00
Garbanzos	acre	\$22.00
Labor:		
Hourly machine labor*	acre	\$18.50
Cash Rent:		
Cash Rent	acre	\$0.00
Land Tax:		
Land Tax	acre	\$5.50
Overhead:		
	percent	5.00%
Interest:		
Operating Loan	percent	5.00%
Machinery Loan/investment	percent	5.75%

*Includes all applicable state and federal taxes.

Legend: Follow directions below to preserve equations in this spreadsheet.

Purple: Data are from Summary page (purple tab).

Orange Type: You may adjust data in orange type. All other data will adjust automatically to

Green: Data are from Input Costs page (green tab).

Blue: Data are from the Machinery page (blue tab).

Production Costs for Direct Seeded Soft White Winter Wheat, Northern Idaho				
Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
Gross Returns				
Wheat	80	bu	\$3.61	\$288.80
Variable Costs				
Seed:				\$23.40
Wheat Seed	90.00	lb	\$0.26	\$23.40
Fertilizer:				\$76.40
Nitrogen (dry)	110.00	lb	\$0.59	\$64.90
Phosphorous (dry)	5.00	lb	\$0.71	\$3.55
Sulfur (dry)	15.00	lb	\$0.53	\$7.95
				\$0.00
Pesticides:				\$44.12
Roundup	36.00	oz	\$0.18	\$6.48
Ammonium Sulfate	3.40	lb	\$0.22	\$0.75
M90	3.00	oz	\$0.17	\$0.51
Osprey	4.75	oz	\$4.31	\$20.47
Starane+Salvo	22.00	oz	\$0.67	\$14.74
R-11	3.20	oz	\$0.23	\$0.74
Brox M	1.60	oz	\$0.27	\$0.43
				\$0.00
Fungicides:				\$28.05
Quilt	14	oz	\$1.78	\$24.92
Syltac Sticker	0.5	pt	\$6.25	\$3.13
Machinery:				\$37.12
Fuel	5.13	gal	\$2.00	\$10.25
Lubricants	1	acre	\$1.60	\$1.60
Machinery Repairs	1	acre	\$10.37	\$10.37
Machinery Labor	0.81	hour	\$18.50	\$14.91
				\$0.00
Custom & Consultants:				\$8.95
Custom Aerial	1	acre	\$8.95	\$8.95
				\$0.00
Other:				\$20.00
Crop insurance	1	acre	20.00	\$20.00
Storage Facility & Equip. Repairs.				\$0.00
				\$0.00
Operating Interest ¹				\$7.87
Total Variable Costs				\$273.96
Variable Costs per Unit				\$3.42

Production Costs for Direct Seeded Soft White Winter Wheat, Northern Idaho

Total Fixed Costs	\$126.55
Fixed Costs per Unit	\$1.58
Total Costs per Acre	\$400.51
Total Cost per Unit	\$5.01
Returns to Risk	-\$111.71

Notes:

¹Calculated at 6.75% interest on operating capital for 9 months.

²Covers legal, accounting, and utility fees. Calculated as 5% of operating expenses.

Details on variable and fixed machinery costs, including fuel, repairs, and machine labor, are located in the

³The management fee is calculated as a 5% of gross revenue.

[Winter Wheat Machinery Costs table.](#)

Breakeven Analysis:

	- 10%	Base	+ 10%
	Yield		
<u>Price</u>	72.00	80	88.00
Operating Cost Breakeven	\$3.80	\$3.42	\$3.11
Ownership Cost Breakeven	\$1.76	\$1.58	\$1.44
Total Cost Breakeven	\$5.56	\$5.01	\$4.55
	Price		
<u>Yield</u>	\$3.25	\$3.61	\$3.97
Operating Cost Breakeven	84.3	75.9	69.0
Ownership Cost Breakeven	39.0	35.1	31.9
Total Cost Breakeven	123.3	110.9	100.9

Schedule of Operations for Direct Seeded Winter Wheat, Northern Idaho

Month	Operation	Tooling	Materials/Service
September	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 1.5 oz M90 1.7 lbs AMS
September	Drill	450HP-WT, 36' Direct Seed Drill, Fertilizer Tanks & Pumps	90 lb seed, 110 lb N, 5 lb P, 15 lb S
April	Crop Insurance		
April	Spray Weeds	200HP-WT, 100' Sprayer	4.75 oz Osprey, 22 oz Starane+Salvo, 3.2 oz R-11, 1.6 oz Brox M
June	Aerial Spray	Airplane	Custom Aerial, 14 oz Quilt, .5 pt Syltac Sticker
August	Harvest	36' Combine	

Production Costs for Direct Seeded Soft White Spring Wheat, Northern Idaho

Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
Gross Returns				
Soft White Wheat	58	bu	\$3.61	\$209.38
Variable Costs				
Seed:				\$26.00
Soft White Wheat Seed	100	lb	\$0.26	\$26.00
Fertilizer:				\$73.15
Nitrogen (dry)	100	lb	\$0.59	\$59.00
Phosphorous (dry)	5	lb	\$0.71	\$3.55
Potassium (dry)	0	lb	\$0.31	\$0.00
Sulfur (dry)	20	lb	\$0.53	\$10.60
Pesticides:				\$28.49
Roundup	36	oz	\$0.18	\$6.48
M90	3	oz	\$0.17	\$0.51
Ammonium Sulfate	3.4	lb	\$0.22	\$0.75
Axial	8.2	oz	\$1.39	\$11.40
Brox M	12	oz	\$0.27	\$3.24
Starane	8	oz	\$0.55	\$4.40
InPlace	5	oz	\$0.31	\$1.55
Ammonium Sulfate	3.2	oz	\$0.05	\$0.16
Fungicides:				\$28.05
Quilt	14	oz	\$1.78	\$24.92
Syllac Sticker	0.5	pt	\$6.25	\$3.13
Machinery:				\$38.37
Fuel	5.30	gal	\$2.00	\$10.59
Lubricants	1	acre	\$1.65	\$1.65
Machinery Repairs	1	acre	\$10.83	\$10.83
Machinery Labor	0.83	hour	\$18.50	\$15.31
Other Labor				\$0.00
Custom & Consultants:				\$8.95
Rental Sprayer	0	acre	\$2.00	\$0.00
Custom Aerial	1	acre	\$8.95	\$8.95
Other:				\$16.00
Crop insurance	1	acre	\$16.00	\$16.00
Storage Facility & Equip. Repairs				\$0.00
Operating Interest ¹				\$5.48
Total Variable Costs				\$224.48
Variable Costs per Unit				\$3.87
Net Returns Above Variable Costs				-\$15.10

Production Costs for Direct Seeded Soft White Spring Wheat, Northern Idaho

Fixed Costs:

Machinery depreciation			\$19.56	\$19.56
Machinery interest			\$14.23	\$14.23
Machinery insurance, taxes, housing, licenses			\$7.13	\$7.13
Land Cost*	1	acre	\$15.52	\$15.52
*Based on Share Rent Percentage:				
Landlord	33.00%			
Tenant	67.00%			
Overhead ²				\$10.95
Management fee ³				\$19.00
Cash rent				\$0.00
Land taxes				\$5.50
Total Fixed Costs				\$91.89
Fixed Costs per Unit				\$1.58
Total Costs per Acre				\$316.37
Total Cost per Unit				\$5.45
Returns to Risk				-\$106.99

Notes:

¹Calculated at 6.75% interest on operating capital for 6 months.

²Covers legal, accounting, and utility fees. Calculated as 5% of operating expenses.

Details on variable and fixed machinery costs, including fuel, repairs, and machine labor, are located in the

³The management fee is calculated as a 5% of gross revenue.

[Soft White Spring Wheat Machinery Costs table.](#)

Breakeven Analysis:

	-	Base	+
	10%		10%
		Yield	
<u>Price</u>	52.20	58	63.80
Operating Cost Breakeven	\$4.30	\$3.87	\$3.52
Ownership Cost Breakeven	\$1.76	\$1.58	\$1.44
Total Cost Breakeven	\$6.06	\$5.45	\$4.96
		Price	
<u>Yield</u>	\$3.25	\$3.61	\$3.97
Operating Cost Breakeven	69.1	62.2	56.5
Ownership Cost Breakeven	28.3	25.5	23.1
Total Cost Breakeven	97.4	87.6	79.7

Schedule of Operations for Direct Seeded Soft White Spring Wheat, Northern Idaho

Month	Operation	Tooling	Materials/Service
March	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 1.5 oz M90 1.7 lbs Ammonium Sulfate
April	Drill	450HP-WT, 36' Direct Seed Drill, Fertilizer Tanks & Pumps	100 lb seed, 100 lb N, 5 lb P, 20 lb S
May	Crop Insurance		
May	Spray Weeds	200HP-WT, 100' Sprayer	8.2 oz Axial, 8 oz Starane, 12 oz Brox M, 5 oz InPlace, 3.2 oz Ammonium Sulfate
June	Aerial Spray	Airplane	Custom Aerial, 14 oz Quilt, .5 pt Syltac Sticker
August	Harvest	36' Combine	
September	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 1.5 oz M90 1.7 lbs Ammonium Sulfate

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Production Costs for Direct Seeded Dark Northern Spring Wheat, Northern Idaho				
Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
Gross Returns				
Dark Northern Spring Wheat	58	bu	\$4.72	\$273.76
Variable Costs				
Seed:				
Dark Northern Wheat Seed	100	lb	\$0.30	\$30.00
Fertilizer:				
Nitrogen (dry)	130	lb	\$0.59	\$76.70
Phosphorous (dry)	5	lb	\$0.71	\$3.55
Potassium (dry)	0	lb	\$0.31	\$0.00
Sulfur (dry)	25	lb	\$0.53	\$13.25
				\$0.00
Pesticides:				
Roundup	36	oz	\$0.18	\$6.48
M90	3	oz	\$0.17	\$0.51
Ammonium Sulfate	1.7	lb	\$0.22	\$0.37
Axial	8.2	oz	\$1.39	\$11.40
Brox M	12	oz	\$0.27	\$3.24
Starane	8	oz	\$0.55	\$4.40
InPlace	5	oz	\$0.31	\$1.55
Ammonium Sulfate	3.2	oz	\$0.05	\$0.16
Fungicides:				
Quilt	14	oz	\$1.78	\$24.92
Syltac Sticker	0.5	pt	\$6.25	\$3.13
Machinery:				
Fuel	5.30	gal	\$2.00	\$10.59
Lubricants	1	acre	\$1.65	\$1.65
Machinery Repairs	1	acre	\$10.83	\$10.83
Machinery Labor	0.83	hour	\$18.50	\$15.31
				\$0.00
Custom & Consultants:				
Rental Sprayer Applicator	0	acre	\$2.00	\$0.00
Custom Aerial	0	acre	\$8.95	\$0.00
				\$0.00
Other:				
Crop insurance	1	acre	\$17.00	\$17.00
Storage Facility & Equip. Repairs				\$0.00
				\$0.00
Operating Interest ¹				\$5.88
Total Variable Costs				\$240.90
Variable Costs per Unit				\$4.15
Net Returns Above Variable Costs				\$32.86

Production Costs for Direct Seeded Dark Northern Spring Wheat, Northern Idaho

Fixed Costs:

Machinery depreciation			\$19.56	\$19.56
Machinery interest			\$14.23	\$14.23
Machinery insurance, taxes, housing, licenses			\$7.13	\$7.13
Land Cost*	1	acre	\$29.84	\$29.84
*Based on Share Rent Percentage:				
Landlord	33.00%			
Tenant	67.00%			
Overhead ²				\$11.75
Management fee ³				\$23.00
Cash rent				\$0.00
Land taxes				\$5.50
Total Fixed Costs				\$111.01
Fixed Costs per Unit				\$1.91
Total Costs per Acre				\$351.92
Total Cost per Unit				\$6.07
Returns to Risk				-\$78.16

Notes:

¹Calculated at 6.75% interest on operating capital for 6 months.

²Covers legal, accounting, and utility fees. Calculated as 5% of operating expenses.

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³The management fee is calculated as a 5% of gross revenue.

[Hard Red Spring Wheat Machinery Costs table.](#)

Breakeven Analysis:

	- 10%	Base	+ 10%
		Yield	
<u>Price</u>	52.20	58	63.80
Operating Cost Breakeven	\$4.62	\$4.15	\$3.78
Ownership Cost Breakeven	\$2.13	\$1.91	\$1.74
Total Cost Breakeven	\$6.74	\$6.07	\$5.52
		Price	
<u>Yield</u>	\$4.25	\$4.72	\$5.19
Operating Cost Breakeven	56.7	51.0	46.4
Ownership Cost Breakeven	26.1	23.5	21.4
Total Cost Breakeven	82.8	74.6	67.8

Schedule of Operations for Direct Seeded Dark Northern Spring Wheat, Northern Idaho

Month	Operation	Tooling	Materials/Service
March	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 1.5 oz M90 1.7 lbs Ammonium Sulfate
April	Drill	450HP-WT, 36' Direct Seed Drill, Fertilizer Tanks & Pumps	100 lb seed, 130 lb N, 5 lb P, 25 lb S
May	Crop Insurance		
May	Spray Weeds	200HP-WT, 100' Sprayer	8.2 oz Axial, 8 oz Starane, 12 oz Brox M, 5 oz InPlace, 3.2 oz Ammonium Sulfate
June	Aerial Spray	Airplane	Custom Aerial, 14 oz Quilt, .5 pt Syltac Sticker
August	Harvest	36' Combine	
September	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 1.5 oz M90 1.7 lbs Ammonium Sulfate

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Production Costs for Direct Seeded Spring Barley, Northern Idaho

Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
Gross Returns				
Barley	1.50	ton	\$92.00	\$138.00
Variable Costs				
Seed:				\$20.80
Barley Seed	80	lb	\$0.26	\$20.80
Fertilizer:				\$58.70
Nitrogen (dry)	80	lb	\$0.59	\$47.20
Phosphorous (dry)	5	lb	\$0.71	\$3.55
Sulfur (dry)	15	lb	\$0.53	\$7.95
Pesticides:				\$33.06
Roundup	36	oz	\$0.18	\$6.48
Ammonium Sulfate	6.25	pt	\$0.05	\$0.31
M90	4.5	oz	\$0.17	\$0.77
Achieve SC	9.2	oz	\$1.17	\$10.76
Starane+Sword	22	oz	\$0.67	\$14.74
Machinery:				\$38.37
Fuel	5.30	gal	\$2.00	\$10.59
Lubricants	1	acre	\$1.65	\$1.65
Machinery Repairs	1	acre	\$10.83	\$10.83
Machinery Labor	0.83	hour	\$18.50	\$15.31
Custom & Consultants:				\$0.00
Rental Sprayer	0	acre	\$2.00	\$0.00
Other:				\$22.00
Crop insurance	1	acre	\$22.00	\$22.00
Storage Facility & Equip. Repairs				\$0.00
Operating Interest ¹				\$4.32
Total Variable Costs				\$177.26
Variable Costs per Unit				\$118.17
Net Returns Above Variable Costs				-\$39.26

Production Costs for Direct Seeded Spring Barley, Northern Idaho

Fixed Costs:

Machinery depreciation			\$19.56	\$19.56
Machinery interest			\$14.23	\$14.23
Machinery insurance, taxes, housing, licenses			\$7.13	\$7.13
Land Cost*	1	acre	\$34.84	\$34.84
*Based on Share Rent Percentage:				
Landlord			33.00%	
Tenant			67.00%	
Overhead ²				\$8.65
Management fee ³				\$14.00
Cash rent				\$0.00
Land taxes				\$5.50
Total Fixed Costs				\$103.90
Fixed Costs per Unit				\$69.27
Total Costs per Acre				\$281.16
Total Cost per Unit				\$187.44
Returns to Risk				-\$143.16

Notes:

¹Calculated at 6.75% interest on operating capital for 6 months.

²Covers legal, accounting, and utility fees. Calculated as 5% of operating expenses.

Details on variable and fixed machinery costs, including fuel, repairs, and machine labor, are located in the

³The management fee is calculated as a 5% of gross revenue.

[Spring Barley Machinery Costs table.](#)

Breakeven Analysis:

	- 10%	Base	+ 10%
	Yield		
<u>Price</u>	1.80	2	2.20
Operating Cost Breakeven	\$92.61	\$83.35	\$79.38
Ownership Cost Breakeven	\$79.01	\$71.11	\$67.72
Total Cost Breakeven	\$171.61	\$154.45	\$147.10
	Price		
<u>Yield</u>	\$202.50	\$225.00	\$247.50
Operating Cost Breakeven	0.8	0.7	0.7
Ownership Cost Breakeven	0.7	0.6	0.6
Total Cost Breakeven	1.5	1.4	1.2

Schedule of Operations for Direct Seeded Spring Barley, Northern Idaho

Month	Operation	Tooling	Materials/Service
April	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 1.5 oz M90 1.7 lbs Ammonium Sulfate
April	Drill	450HP-WT, 36' Direct Seed Drill, Fertilizer Tanks & Pumps	80 lb Seed, 60 lb N, 12 lb P, 15 lb S
May	Crop Insurance		
May	Spray Weeds	200HP-WT, 100' Sprayer	9.2 oz Achieve SC, 22 oz Starane+ Sword, 1.5 oz M90
August	Harvest	36' Combine	

Legend: Follow directions below to preserve equations in this spreadsheet.

Purple: Data are from Summary page (purple tab).

Orange Type: You may adjust data in orange type. All other data will adjust autom:

Green: Data are from Input Costs page (green tab).

Blue: Data are from the Machinery page (blue tab).

Production Costs for Direct Seeded Spring Peas, Northern Idaho				
Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
Gross Returns				
Peas	1800	lb	\$0.12	\$216.00
Variable Costs				
Seed:				\$76.00
Pea Seed	200	lb	\$0.38	\$76.00
Fertilizer:				\$0.00
				\$0.00
Pesticides:				\$47.11
Roundup	36	oz	\$0.18	\$6.48
Pursuit	3	oz	\$3.53	\$10.59
Prowl	24	oz	\$0.46	\$11.04
Ammonium Sulfate	6.25	pt	\$0.05	\$0.31
M90	3	oz	\$0.17	\$0.51
Imidan 70	1	lb	\$15.41	\$15.41
Dimethoate	0.33	pt	\$8.40	\$2.77
				\$0.00
Machinery:				\$37.12
Fuel	5.13	gal	\$2.00	\$10.25
Lubricants	1	acre	\$1.60	\$1.60
Machinery Repairs	1	acre	\$10.37	\$10.37
Machinery Labor	0.81	hour	\$18.50	\$14.91
				\$0.00
Custom & Consultants:				\$8.95
Rental Sprayer	0	acre	\$2.00	\$0.00
Custom Aerial	1	acre	\$8.95	\$8.95
				\$0.00
Other:				\$22.00
Crop insurance	1	acre	\$22.00	\$22.00
Storage Facility & Equip. Repairs				\$0.00
				\$0.00
Operating Interest ¹				\$4.78
Total Variable Costs				\$195.97
Variable Costs per Unit				\$0.11
Net Returns Above Variable Costs				\$20.03

Production Costs for Direct Seeded Spring Peas, Northern Idaho

Fixed Costs:

Machinery depreciation			\$18.95	\$18.95
Machinery interest			\$13.72	\$13.72
Machinery insurance, taxes, housing, licenses			\$7.05	\$7.05
Land Cost*	1	acre	\$42.97	\$42.97
*Based on Share Rent Percentage:				
Landlord	33.00%			
Tenant	67.00%			
Overhead ²				\$9.56
Management fee ³				\$12.00
Cash rent				\$0.00
Land taxes				\$5.50
Total Fixed Costs				\$109.75
Fixed Costs per Unit				\$0.06
Total Costs per Acre				\$305.72
Total Cost per Unit				\$0.17
Returns to Risk				-\$89.72

Notes:

¹Calculated at 6.75% interest on operating capital for 6 months.

²Covers legal, accounting, and utility fees. Calculated as 5% of operating expenses.

Details on variable and fixed machinery costs, including fuel, repairs, and machine labor, are located in the

³The management fee is calculated as a 5% of gross revenue.

[Spring Peas Machinery Costs table.](#)

Breakeven Analysis:

	- 10%	Base	+ 10%
		Yield	
<u>Price</u>	1620	1800	1980
Operating Cost Breakeven	\$0.12	\$0.11	\$0.10
Ownership Cost Breakeven	\$0.07	\$0.06	\$0.06
Total Cost Breakeven	\$0.19	\$0.17	\$0.15
		Price	
<u>Yield</u>	\$0.11	\$0.12	\$0.13
Operating Cost Breakeven	1814.5	1633.1	1484.6
Ownership Cost Breakeven	1016.2	914.6	831.4
Total Cost Breakeven	2830.7	2547.6	2316.0

Schedule of Operations for Direct Seeded Spring Peas, Northern Idaho

Month	Operation	Tooling	Materials/Service
March	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 3 oz Pursuit, 24 oz Prowl, 50 oz Ammonium Sulfate, 1.5 oz M90
April	Drill	450HP-WT, 36' Direct Seed Drill, Fertilizer Tanks & Pumps	200 lb Seed
May	Crop Insurance		
June	Aerial Spray	Custom	Custom Aerial, 1 lb Imidan 70, 0.33 pt Dimethoate
August	Harvest	36' Combine	
September	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 1.5 oz M90, 50 oz Ammonium Sulfate

Production Costs for Direct Seeded Austrian Winter Peas, District 1

Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
Gross Returns				
Austrian Winter Peas	2000	lb	\$0.25	\$500.00
Variable Costs				
Seed:				\$38.00
Austrian Winter Pea Seed	100	lb	\$0.38	\$38.00
Fertilizer:				\$0.00
				\$0.00
				\$0.00
Pesticides:				\$46.24
<i>Rates & chemicals will depend on the pests in your crop.</i>				
<i>Consult a certified pesticide applicator or the PNW Pest Control Management Guides.</i>				
<i>The following cost estimates are typical:</i>				
Basagran	24.00	oz	\$0.57	\$13.68
Crop Oil Concentrate	6.40	oz	\$0.12	\$0.75
Buffer Spectrum pH	1.00	oz	\$0.23	\$0.23
Assure II	14.00	oz	\$0.86	\$12.04
Roundup	12.00	oz	\$0.18	\$2.16
Montana 2F	2.80	oz	\$0.70	\$1.96
Imidan 70	1	lb	\$15.41	\$15.41
Machinery:				\$37.12
Fuel	5.13	gal	\$2.00	\$10.25
Lubricants	1	acre	\$1.60	\$1.60
Machinery Repairs	1	acre	\$10.37	\$10.37
Machinery Labor	0.81	hour	\$18.50	\$14.91
				\$0.00
Custom & Consultants:				\$25.40
Custom Aerial	2	acre	\$8.95	\$17.90
Custom Spray	1	acre	\$7.50	\$7.50
Other:				\$0.00
Crop insurance	1	acre	\$0.00	\$0.00
Storage Facility & Equip. Repairs				\$0.00
Other Labor				\$0.00
Operating Interest ¹				\$5.50
Total Variable Costs				\$152.26
Variable Costs per Unit				\$0.08
Net Returns Above Variable Costs				\$347.74

Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
Ownership Costs:				
Depreciation		acre	18.95	\$18.95
Interest		acre	13.72	\$13.72
Taxes, insurance, housing, licenses		acre	7.05	\$7.05
Capital recovery		acre	\$46.36	\$46.36
Land Cost*		acre	\$113.00	\$113.00
*Based on Share Rent Percentage:				
Landlord	25.00%			
Tenant	75.00%			
Overhead ²				\$7.00
Management fee ³				\$25.00
Total Fixed Costs				\$231.08
Fixed Costs per Unit				\$0.12
Total Costs per Acre				\$383.34
Total Cost per Unit				\$0.19
Returns to Risk				\$116.66

Notes:

¹Calculated as 5.75% interest on operating capital for 9 months.

²Covers legal, accounting, and utility fees. Calculated as 2.5% of operating expenses.

³The management fee is calculated as a 5% of gross revenue.

Breakeven Analysis:

	- 10%	Base Yield	+ 10%
<u>Price</u>	1800	2000	2200
Operating Cost Breakeven	\$0.08	\$0.08	\$0.07
Ownership Cost Breakeven	\$0.13	\$0.12	\$0.11
Total Cost Breakeven	\$0.21	\$0.19	\$0.17
	- 10%	Base Price	+ 10%
<u>Yield</u>	\$0.23	\$0.25	\$0.28
Operating Cost Breakeven	676.7	609.1	553.7
Ownership Cost Breakeven	1027.0	924.3	840.3
Total Cost Breakeven	1703.7	1533.4	1394.0

Schedule of Operations for Direct Seeded Austrian Winter Peas, District 1

Month	Operation	Tooling	Materials/Service
Sept	Spray Roundup	200HP-WT, 100' Sprayer	12 oz Roundup
Sept	Drill	450HP-WT, 36' Direct Seed Drill, Fertilizer Tanks & Pumps	100 lb Seed
June	Spray Weeds	Custom ground spray	24 oz Basagran 14 oz Assure II
May	Crop Insurance		
June	Aerial Spray	Pea leaf weevil spray	Custom Aerial, 1 lb Imidan 70
July	Aerial Spray	Aphid or pea weevil spray	Custom Aerial, 2.8 oz Montana 2F
August	Harvest	30' Combine	

Legend: Follow directions below to preserve equations in this spreadsheet.

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Orange Type: You may adjust data in orange type. All other data will adjust automa

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Blue: Data are from the Machinery page (blue tab).

Production Costs for Direct Seeded Garbanzos, Northern Idaho				
Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
Gross Returns				
Garbanzos	1200	lb	\$0.32	\$384.00
Variable Costs				
Seed:				
Garbanzo Seed	130	lb	\$0.60	\$78.00
Fertilizer:				
				\$0.00
				\$0.00
Pesticides:				
Roundup	36	oz	\$0.18	\$6.48
Pursuit	3	oz	\$3.53	\$10.59
Prowl	24	oz	\$0.46	\$11.04
Ammonium Sulfate	6.25	pt	\$0.05	\$0.31
M90	3	oz	\$0.17	\$0.51
				\$0.00
Fungicide:				
Quadris	8	oz	\$1.06	\$8.48
				\$0.00
Machinery:				
Fuel	5.13	gal	\$2.00	\$10.25
Lubricants	1	acre	\$1.60	\$1.60
Machinery Repairs	1	acre	\$10.37	\$10.37
Machinery Labor	0.81	hour	\$18.50	\$14.91
				\$0.00
Custom & Consultants:				
Rental Sprayer	0	acre	\$2.00	\$0.00
Custom Aerial Spray	1	acre	\$8.95	\$8.95
				\$0.00
Other:				
Crop insurance	1	acre	\$22.00	\$22.00
Storage Facility & Equip. Repairs				\$0.00
				\$0.00
Operating Interest ¹				\$4.59
Total Variable Costs				\$188.07
Variable Costs per Unit				\$0.16
Net Returns Above Variable Costs				\$195.93

Production Costs for Direct Seeded Garbanzos, Northern Idaho

Fixed Costs:

Machinery depreciation			\$18.95	\$18.95
Machinery interest			\$13.72	\$13.72
Machinery insurance, taxes, housing, licenses			\$7.05	\$7.05
Land Cost*	1	acre	\$101.61	\$101.61
*Based on Share Rent Percentage:				
Landlord	33.00%			
Tenant	67.00%			
Overhead ²				\$9.17
Management fee ³				\$24.00
Cash rent				\$0.00
Land taxes				\$5.50
Total Fixed Costs				\$180.01
Fixed Costs per Unit				\$0.15
Total Costs per Acre				\$368.08
Total Cost per Unit				\$0.31
Returns to Risk				\$15.92

Notes:

¹Calculated at 6.75% interest on operating capital for 6 months.

²Covers legal, accounting, and utility fees. Calculated as 5% of operating expenses.

Details on variable and fixed machinery costs, including fuel, repairs, and machine labor, are located in the

³The management fee is calculated as a 5% of gross revenue.

[Garbanzos Machinery Costs table.](#)

Breakeven Analysis:

	- 10%	Base	+ 10%
		Yield	
<u>Price</u>	1080	1200	1320
Operating Cost Breakeven	\$0.17	\$0.16	\$0.14
Ownership Cost Breakeven	\$0.17	\$0.15	\$0.14
Total Cost Breakeven	\$0.34	\$0.31	\$0.28
		Price	
<u>Yield</u>	\$0.29	\$0.32	\$0.35
Operating Cost Breakeven	653.0	587.7	534.3
Ownership Cost Breakeven	625.0	562.5	511.4
Total Cost Breakeven	1278.1	1150.2	1045.7

Schedule of Operations for Direct Seeded Garbanzos, Northern Idaho

Month	Operation	Tooling	Materials/Service
March	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 3 oz Pursuit, 24 oz Prowl, 50 oz Ammonium Sulfate, 1.5 oz M90
April	Drill	450HP-WT, 36' Direct Seed Drill, Fertilizer Tanks & Pumps	130 lb Seed
May	Crop Insurance		
June	Aerial Spray	Custom	Custom Aerial, 8 oz Quadris Fungicide
August	Harvest	36' Combine	
September	Spray Weeds	200HP-WT, 100' Sprayer	18 oz Roundup, 1.5 oz M90, 50 oz Ammonium Sulfate

Production Costs for Direct Seeded Cover Crops, 4-way, District 1

Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
Gross Returns				
Grazing revenue	8.00	AUM	\$18.00	\$144.00
Variable Costs				
Seed:				\$27.50
Forage Oat Seed, Stampede	20	lb	\$0.50	\$10.00
Forage Barley Seed, Stockford	20	lb	\$0.60	\$12.00
Spring Pea Seed	20	lb	\$0.20	\$4.00
Spring Canola Seed	2	lb	\$0.75	\$1.50
Fertilizer:				\$0.00
<i>Base your rate on your soil test results.</i>				
<i>A typical recommendation might include the following:</i>				
Nitrogen	0	lb	\$0.59	\$0.00
Phosphorous	0	lb	\$0.71	\$0.00
Sulfur	0	lb	\$0.53	\$0.00
Pesticides:				\$12.75
<i>Rates & chemicals will depend on the pests in your crop.</i>				
<i>Consult a certified pesticide applicator or the PNW Pest Control Management Guides.</i>				
<i>The following cost estimates are typical:</i>				
Roundup	24	oz	\$0.18	\$4.32
Surfactant	6.4	oz	\$0.23	\$1.47
2-4,D	24	oz	\$0.29	\$6.96
Machinery:				\$11.59
Fuel	1.88	gal	\$2.00	\$3.76
Lubricants	1	acre	\$0.56	\$0.56
Machinery Repairs	1	acre	\$4.62	\$4.62
Machinery Labor	0.14	hour	\$18.50	\$2.65
Custom & Consultants:				\$2.50
Rental Sprayer	0	acre	\$2.00	\$0.00
Rental Ripper Shooter	1	acre	\$2.50	\$2.50
Other:				\$0.00
Crop insurance	1	acre	\$0.00	\$0.00
Storage Facility & Equip. Repairs				\$0.00
Other Labor				
Operating Interest ¹				\$1.36
Total Variable Costs				\$55.70
Variable Costs per Unit				\$6.96
Net Returns Above Variable Costs				\$88.30
Ownership Costs:				
Machinery depreciation		acre	\$7.99	\$7.99
Machinery interest on investment		acre	\$6.25	\$6.25
Machinery taxes, insurance, housing, licenses		acre	\$1.86	\$1.86
Land Cost*		acre	\$43.00	\$43.00

Item	Quantity Per Acre	Unit	Price or Cost/Unit	Value or Cost/Acre
*Based on Share Rent Percentage:				
Landlord	33.00%			
Tenant	67.00%			
Overhead ²				\$3.00
Management fee ³				\$7.00
Total Fixed Costs				\$69.10
Fixed Costs per Unit				\$8.64
Total Costs per Acre				\$124.80
Total Cost per Unit				\$15.60
Returns to Risk				\$19.20

Notes:

¹Calculated as 5.75% interest on operating capital for 6 months.

²Covers legal, accounting, and utility fees. Calculated as 2.5% of operating expenses.

³The management fee is calculated as a 5% of gross revenue.

Breakeven Analysis:

	- 10%	Base Yield	+ 10%
<u>Price</u>	7.2	8	8.8
Operating Cost Breakeven	\$7.74	\$6.96	\$6.33
Ownership Cost Breakeven	\$9.60	\$8.64	\$7.85
Total Cost Breakeven	\$17.33	\$15.60	\$14.18
	- 10%	Base Price	+ 10%
<u>Yield</u>	\$16.20	\$18.00	\$19.80
Operating Cost Breakeven	3.4	3.1	2.8
Ownership Cost Breakeven	4.3	3.8	3.5
Total Cost Breakeven	7.7	6.9	6.3

Schedule of Operations for Cover Crop Blends, District 1

Month	Operation	Tooling	Materials/Service
March	Heavy harrow	200HP-WT, 100' Sprayer	
May	Spray Weeds	200HP-WT, 100' Sprayer	24 oz Glyphosate, surfactant
May	Drill*	450HP-WT, 36' Direct Seed Drill, Fertilizer Tanks & Pumps	20 lb each of forage oats, forage barley, peas and 2 lb of spring canola seed
Mid-June	Put cattle in to graze		2 AUMs per acre for 4 months
Mid-Oct.	Take cattle off pasture		
Fall	Spray Weeds	200HP-WT, 100' Sprayer	0.75 qt 2-4,D Amine, surfactant

Machinery Costs (\$/acre) from the University of Idaho Machinery Cost Calculator

Note: Per hour machinery costs can be changed in this master table and they will update throughout. Per acre costs are calculated in the Machine Cost program using the values listed in the Machinery Complement tab. You can also delete or insert lines in the individual crop machinery cost tables and the budget amounts will be recalculated.

	Fixed Costs (\$/acre):				Variable Costs (\$/acre):				Labor		Fuel Use	Total Cost (\$/acre)
	Depreciation	Interest	Housing, Insurance, License	Total Fixed Costs	Repairs	Fuel	Lubricants	Total	(\$/acre)	(hr/acre)	(gal/acre)	
200HP Trac+Bankout Wagon	\$1.45	\$1.24	\$0.23	\$2.93	\$0.67	\$1.40	\$0.21	\$2.28	\$1.76	0.09	0.70	\$6.97
200HP Trac+60'Harrow	\$0.48	\$0.41	\$0.07	\$0.96	\$0.23	\$0.40	\$0.06	\$0.69	\$0.51	0.03	0.20	\$2.16
200HP Trac+100'Sprayer	\$0.61	\$0.51	\$0.08	\$1.20	\$0.46	\$0.34	\$0.05	\$0.85	\$0.43	0.02	0.17	\$2.48
Fertilizer Tanks+Pumps	\$1.02	\$0.59	\$0.06	\$1.67	\$0.68	\$0.00	\$0.00	\$0.68	\$0.00	0.00	0.00	\$2.35
450HP Tractor+NT Drill, 36'	\$5.27	\$4.23	\$1.57	\$11.07	\$2.79	\$2.68	\$0.40	\$5.87	\$1.49	0.07	1.34	\$18.43
Combine + 36' Header	\$6.85	\$3.94	\$1.78	\$12.57	\$2.91	\$2.16	\$0.32	\$5.39	\$1.93	0.10	1.08	\$19.89
Pickup 3/4 ton 4WD	\$0.88	\$0.62	\$0.73	\$2.23	\$0.24	\$0.80	\$0.12	\$1.16	\$0.00	0.00	0.23	\$3.39
Tandem Axle Truck	\$0.64	\$0.64	\$1.13	\$2.41	\$0.80	\$1.00	\$0.15	\$1.95	\$3.60	0.18	0.50	\$7.96
Tandem Axle Truck	\$0.64	\$0.78	\$1.13	\$2.55	\$0.80	\$1.50	\$0.22	\$2.52	\$3.60	0.18	0.75	\$8.67
Trap Wagon	\$0.48	\$0.25	\$0.17	\$0.90	\$0.40	\$0.04	\$0.01	\$0.45	\$0.24	0.01	0.01	\$1.59
4WD-ATV	\$0.20	\$0.14	\$0.03	\$0.37	\$0.08	\$0.17	\$0.03	\$0.27	\$1.32	0.07	0.05	\$1.96
50HP Wheel Tractor	\$0.30	\$0.27	\$0.06	\$0.62	\$0.08	\$0.26	\$0.04	\$0.38	\$1.32	0.07	0.13	\$2.32
Total:	\$18.82	\$13.62	\$7.04	\$39.48	\$10.14	\$10.75	\$1.61	\$22.49	\$16.20	0.81	5.16	\$78.17

Note: Farm size is assumed to be 2500 acres for the purposes of machinery cost calculations.

Machinery Complement for Direct Seed Planting, Over 18" Precipitation, Northern Idaho

Type of Machine	Replacement Value \$	Age When Purchased	Years of Life	Annual Hours of Use	Salvage Value \$	Annual Repairs (Materials & Labor) \$	Gallons of Fuel/Hr.	Taxes, Housing, Insur., Licenses %	Labor Multiplier	Acres per Hour
<i>Tractors, ATVs:</i>										
4WD-ATV	8,500	0	10	150	3,500	200	1.2	1.2	1.1	
50HP-WT w/Bucket	16,000	5	20	150	3,500	300	3	1.2	1.1	
200HP FWA Tractor	95,000	5	15	300	35,000	1000	9	1.2	1.1	
450HP 4WD Tractor	180,000	10	10	250	80,000	4,000	20	1.2	1.25	
<i>Equipment:</i>										
Bankout Wagon	18,000	0	15	200	3,500	1000	9	0.6	1.1	-
100' Pull Sprayer	42,000	0	20	200	6,000	2000	9	0.6	1.2	51
60' Harrow	12,000	5	15	75	1,000	500	9	0.6	1.1	37
30' Shredder	30,000	0	10	115	5,500	2000	9	2.5	1.2	16
Fertilizer Tanks & Pump	30,000	0	20	-	-	1000	-	-	-	-
36' NT Drill	150,000	6	10	200	75,000	5,000	20	3	1.25	15
36' Combine	300,000	2	10	225	100,000	8,500	14	2.6	1.25	13
<i>Trucks:</i>										
				Miles/year:						MPG:
Tandem Axle Truck	40,000	10	15	7,500	16,000	2,000	6	10.1	1.2	
Tandem Axle Truck	40,000	10	15	7,500	16,000	2,000	6	10.1	1.2	
Trap Wagon	17,000	10	10	500	5,000	1000	12	3.8	1.2	
3/4T 4WD Pickup	38,000	0	10	15,000	16,000	600	12	6.8	1.2	

Note: Farm size is assumed to be 2500 acres for the purposes of machinery cost calculations.