

# AgBiz Logic™: an Economic, Financial and Environmental Decision Tool for Farmers, Ranchers and Land Managers

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## What is AgBiz Logic™?

AgBiz Logic™ is a user-friendly interface for AgTools™ that integrates crop and livestock budgets, and whole farm assets and liabilities to AgProfit™, AgLease™ and AgFinance™.

## What can I do with AgBiz Logic™?

- Analyze management decisions such as investing in new equipment or changing management practices, crop rotations, or establishing equitable crop leases using detailed cost and returns information from farm or ranch operation.
- Current cost of production and returns information can be entered by:
  - Importing data from existing accounting systems,
  - Inserting Schedule F information from Form 1040 federal income taxes; allocating revenues and expenses across enterprises, and/or
  - Modifying university cost and return budgets to reflect own net returns for enterprises; inserting financial information of assets and liabilities, and current loans and capital leases.

## Sample Decision:

How does net income change over ten years if I change crop rotation?

- Current crop rotation: winter wheat and fallow (direct seed); to conserve soil moisture, minimize soil erosion and fuel usage.
- Is a new rotation, annual cropping winter wheat without fallow (direct seed), more profitable?
- New rotation adds higher equipment expenses, labor and input costs.
- A whole farm analysis accounts for purchasing an additional combine and tractor, and hiring a full time employee.

Table 1. Cash Flow by Annual Cropping System and by Year

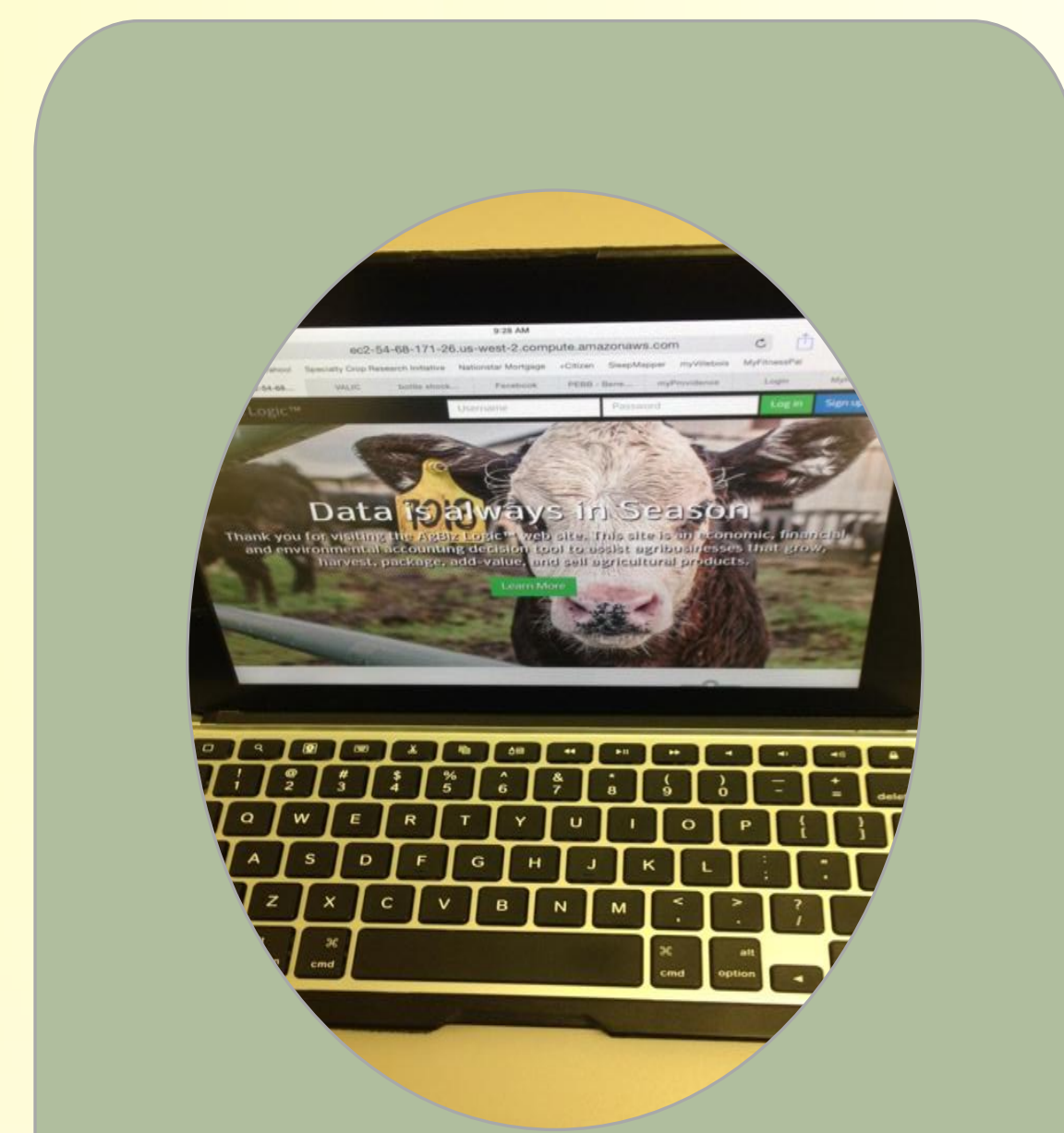
Year	Winter Wheat & Fallow	Winter Wheat & Dry Peas	Winter Wheat & Canola	Winter Wheat & Camelina
1	\$478,186	\$676,350	\$817,799	\$551,412
2	\$448,816	\$735,359	\$880,871	\$606,300
3	\$453,747	\$645,711	\$788,480	\$516,843
4	\$423,698	\$805,886	\$952,579	\$672,506
5	\$427,820	\$598,327	\$742,496	\$465,290
6	\$397,051	\$723,800	\$871,747	\$585,836
7	\$400,314	\$578,615	\$724,269	\$441,155
8	\$368,782	\$718,011	\$867,289	\$575,185
9	\$371,132	\$583,707	\$730,937	\$441,554
10	\$338,790	\$684,112	\$834,801	\$536,127

Table 2. Net Farm Income by Cropping System and by Year

Year	Winter Wheat & Fallow	Winter Wheat & Dry Peas	Winter Wheat & Canola	Winter Wheat & Camelina
1	\$368,644	\$522,832	\$652,282	\$412,650
2	\$340,547	\$561,775	\$694,928	\$447,915
3	\$347,026	\$475,814	\$605,852	\$362,600
4	\$315,538	\$636,995	\$770,576	\$519,740
5	\$320,743	\$433,013	\$563,676	\$316,584
6	\$289,061	\$560,404	\$694,441	\$439,547
7	\$285,667	\$411,458	\$542,785	\$291,617
8	\$254,723	\$549,945	\$684,465	\$425,266
9	\$257,887	\$414,753	\$546,783	\$291,293
10	\$226,273	\$514,298	\$649,331	\$385,566
Total	\$3,006,109	\$5,081,287	\$6,405,119	\$3,892,778

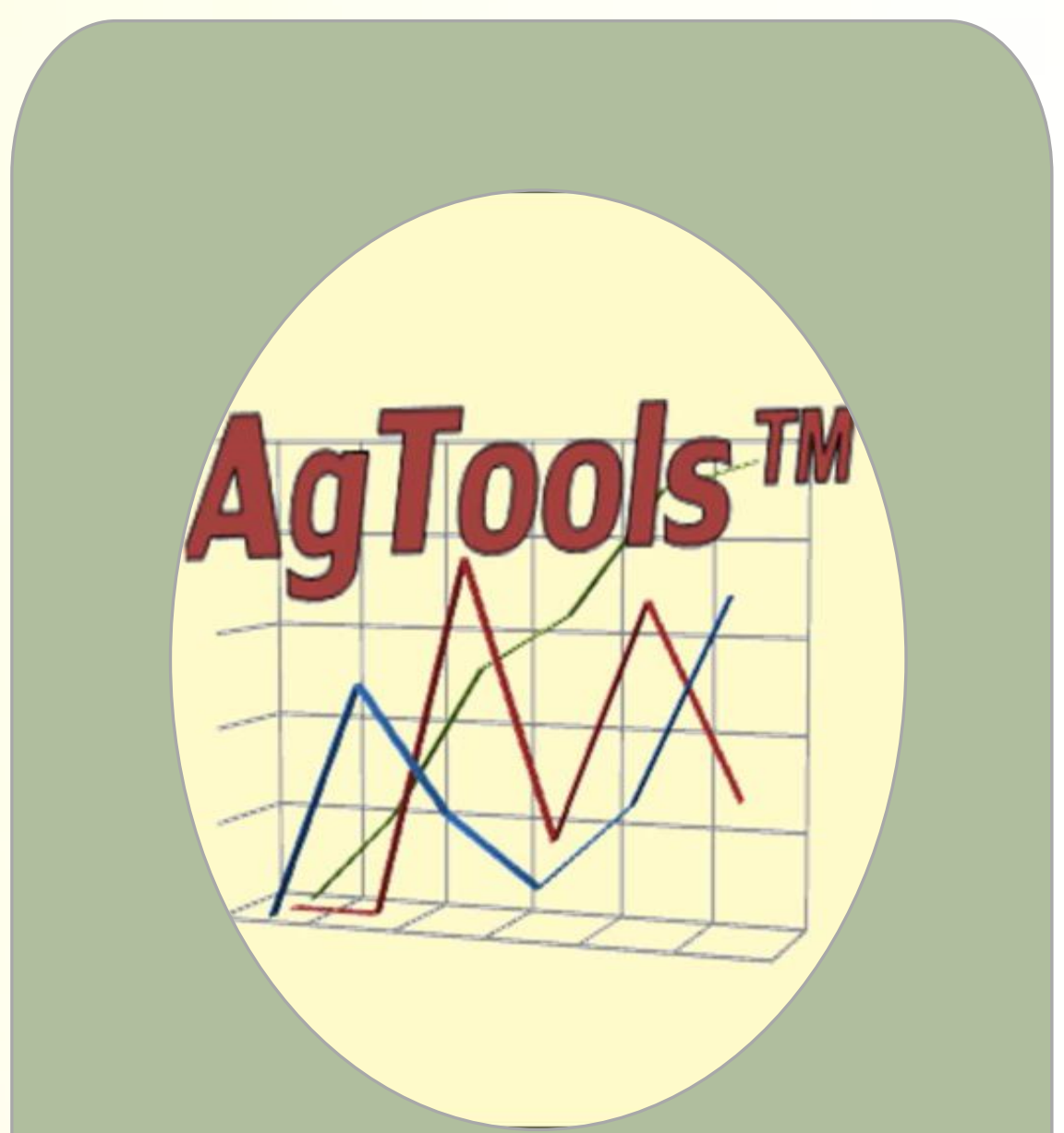
<sup>1</sup>Cash flow includes gross incomes minus cash costs plus operating interest

<sup>2</sup>Accumulative Net Farm Incomes includes annual cash flows, +/- inventory changes in current assets and liabilities from the balance sheet, + interest from annual operating, intermediate and long-term loans, + capital lease payments and any down payments associated with acquiring a lease, + depreciation..



AgBiz Logic™ is an online user friendly interface that helps users gather and store business and enterprise information:

- Import accounting information.
- Create crop & livestock budgets (or choose from university generated enterprise budgets).
- Enter assets and liabilities.

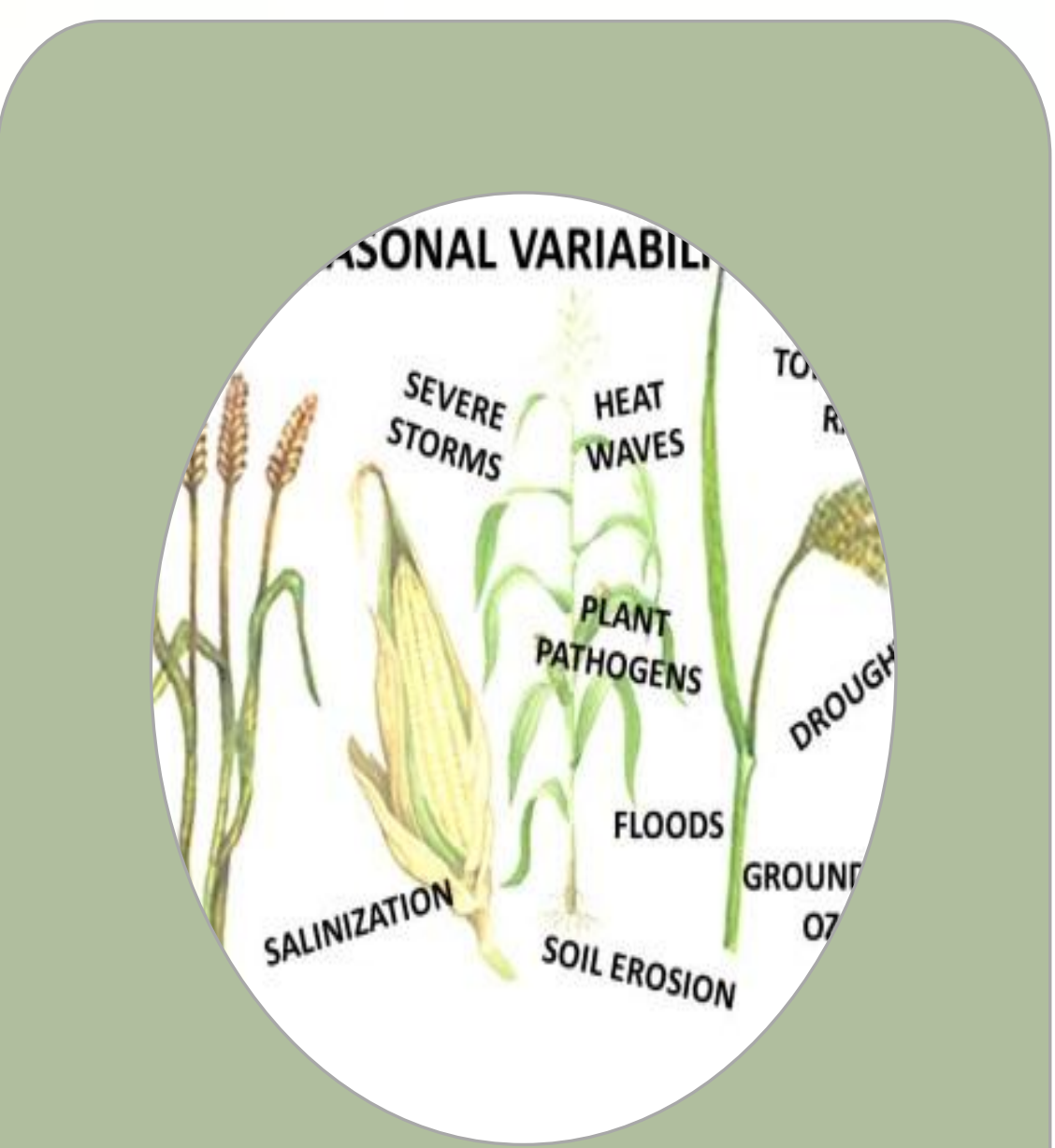


AgTools™ is a suite of the suite of software programs:

AgProfit™ Measures profitability of an investment based on net present value, internal rate of return, and cash flow analysis.

AgLease™ Establishes long-term equitable crop-share and annual cash rent payment leases based on contributions of each party.

AgFinance™ A whole-farm or ranch analysis of liquidity, solvency, profitability, repayment capacity and efficiencies based on 19 financial ratios and performance measures.



AgEnvironment™

(in development) analyzes environmental and economic trade-offs, and impact on profitability and long run sustainability.

It tracks onsite and offsite environmental indicators and incorporates regional yield models that vary according to expected precipitation and temperature patterns.

Environmental indicators: energy use, pesticide and fertilizer use, tillage practices (soil erosion), and land management practices (carbon sequestration).

Example Output from AgTools™

Cost and Returns Information

Net Returns & Net Present Value

Accumulated Net Returns

### Budgets used in the scenario:

Year	Current Rotation (number of years in plan: 10)
0	
1	W. Wheat after Fallow, Direct Seed
2	Fallow, Direct Seed
3	W. Wheat after Fallow, Direct Seed
4	Fallow, Direct Seed
5	W. Wheat after Fallow, Direct Seed
6	Fallow, Direct Seed
7	W. Wheat after Fallow, Direct Seed
8	Fallow, Direct Seed
9	W. Wheat after Fallow, Direct Seed
10	Fallow, Direct Seed

### Net Returns and Present Value by Year

Year	Current Rotation (discount rate = 8.00%)	
	Net Returns	Present Value
0	\$0.00	\$0.00
1	\$291.28	\$269.71
2	-\$87.61	-\$75.11
3	\$280.72	\$222.84
4	-\$92.94	-\$68.32
5	\$269.51	\$183.42
6	-\$98.60	-\$62.14
7	\$257.62	\$150.32
8	-\$104.61	-\$56.52
9	\$245.01	\$122.56
10	-\$110.98	-\$51.40
Total:	\$849.41	\$636.38

### Accumulated Net Returns

Year	Current Rotation			
	Annual Returns	Annual Cost	Annual Net Returns	Accumulated Net Returns
0	\$0.00	\$0.00	\$0.00	\$0.00
1	\$467.50	\$176.22	\$291.28	\$291.28
2	\$0.00	\$87.61	-\$87.61	\$203.68
3	\$467.50	\$186.78	\$280.72	\$484.40
4	\$0.00	\$92.94	-\$92.94	\$391.45
5	\$467.50	\$197.99	\$269.51	\$660.97
6	\$0.00	\$98.60	-\$98.60	\$562.36
7	\$467.50	\$209.88	\$257.62	\$819.98
8	\$0.00	\$104.61	-\$104.61	\$715.38
9	\$467.50	\$222.49	\$245.01	\$960.39
10	\$0.00	\$110.98	-\$110.98	\$849.41

### Budgets used in the scenario:

Year	W. Wheat, W. Canola (number of years in plan: 10)
0	
1	W. Wheat after Non-Cereal Crop, Direct Seed
2	W. Canola after W. Wheat
3	W. Wheat after Non-Cereal Crop, Direct Seed
4	W. Canola after W. Wheat
5	W. Wheat after Non-Cereal Crop, Direct Seed
6	W. Canola after W. Wheat
7	W. Wheat after Non-Cereal Crop, Direct Seed
8	W. Canola after W. Wheat
9	W. Wheat after Non-Cereal Crop, Direct Seed
10	W. Canola after W. Wheat

### Net Returns and Present Value by Year

Year	W. Wheat, W. Canola (discount rate = 8.00%)	
	Net Returns	Present Value
0	\$0.00	\$0.00
1	\$250.28	\$231.74
2	\$218.14	\$187.02
3	\$235.55	\$186.99
4	\$211.74	\$155.64
5	\$213.40	\$145.23
6	\$204.96	\$129.16
7	\$211.59	\$123.46
8	\$197.77	\$106.85
9	\$223.15	\$111.63
10	\$190.14	\$88.07
Total:	\$2,156.72	\$1,465.79

### Accumulated Net Returns

Year	W. Wheat, W. Canola			
	Annual Returns	Annual Cost	Annual Net Returns	Accumulated Net Returns
0	\$0.00	\$0.00	\$0.00	\$0.00
1	\$497.00	\$246.72	\$250.28	\$250.28
2	\$500.00	\$281.86	\$218.14	\$468.41
3	\$490.00	\$254.45	\$235.55	\$703.96
4	\$500.00	\$288.26	\$211.74	\$915.71
5	\$476.00	\$262.60	\$213.40	\$1,129.10
6	\$500.00	\$295.04	\$204.96	\$1,334.07
7	\$483.00	\$271.41	\$211.59	\$1,545.66
8	\$500.00	\$302.23	\$197.77	\$1,743.43
9	\$504.00	\$280.85	\$223.15	\$1,966.58
10	\$500.00	\$309.86	\$190.14	\$2,156.72