

Optimizing Machinery Investment



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CropZilla Software





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Why Buy?



Accounting vs Finance



CAPITAL BUDGETING TOOLS



CAPITAL BUDGETING TOOLS



- Capital Budgeting is Essential
- Assets must Drive Returns
- Impossible Without \$\$ Forecast
- Analysis can Enhance Intuition
- \$100/acre on the Table





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The graphic shows a wooden frame with four panes. The top-left pane shows a computer monitor with question marks. The top-right pane shows a person's hands working at a desk. The bottom-left pane shows a close-up of hands typing on a keyboard. The bottom-right pane features the logo for 'FBS SYSTEMS INC.' which includes the letters 'FBS' in a stylized font.

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Equipment

Speed x width, fill time,
machine capacity, market
value



Labor & Inputs

Job qualifications, hours per
day, seed varieties, chemicals,
fertilizer



Fields

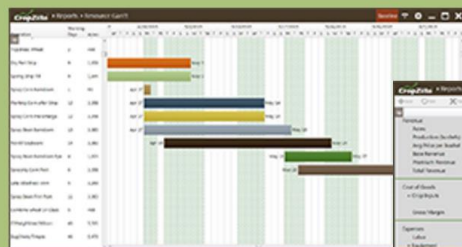
Location, size, field
efficiency, harvest
destination



Field Plans

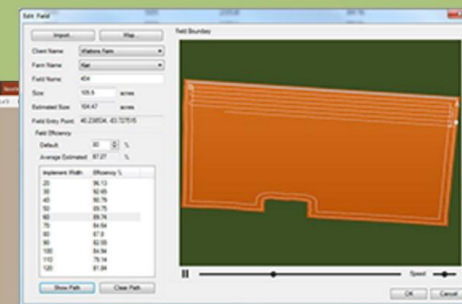
Field passes, harvest moisture, projected
yield, travel times, tender labor, crop mix, etc.

Knowledge = Profits



CropZilla - Financial Summary									
	Per Acre	Per Acre	Per Acre	Per Acre	Per Acre	Per Acre	Per Acre	Per Acre	Per Acre
Revenue	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00
Costs									
Seed	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
Fertilizer	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00
Pesticides	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
Harvest	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00
Total	\$7,000.00	\$7,000.00	\$7,000.00	\$7,000.00	\$7,000.00	\$7,000.00	\$7,000.00	\$7,000.00	\$7,000.00
Profit	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00






Mission Plan									
Field	Passes	Harvest	Moisture	Yield	Travel	Harvest	Moisture	Yield	Travel
Field 1	10	100%	15.0	1000	10	100%	15.0	1000	10
Field 2	15	100%	15.0	1000	15	100%	15.0	1000	15
Field 3	20	100%	15.0	1000	20	100%	15.0	1000	20



CropZilla Farm Model





 Add  Edit  Delete  Copy  Print Preview

Crop Year: 2016 Farm: WFS Field: 007 Crop: Soybeans

Crop Year: 2016 Client: (All Clients) Farms: WFS Fields: 007

	Covered Acres	Qty per Acre	Total Qty	Price	\$ per Unit	\$/Field Acre	Total \$
Cost of Goods							
+ Crop Inputs						\$104.23	\$6,535.18
Gross Margin						\$414.73	\$26,003.62
Expenses							
- Operations							
Spreading Fertilizer/cover crops	62.7					\$4.33	\$271.67
mcfarlane	62.7					\$7.92	\$496.40
Spray Bean Burndown Rye	62.7					\$2.70	\$169.33
No-till Soybeans	62.7					\$17.79	\$1,115.73
Spray Bean First Post	62.7					\$2.63	\$165.01
Spray Bean Second Post	62.7					\$2.65	\$166.01
Cutting beans	62.7					\$21.46	\$1,345.48
NoBugShield/Timpte	62.7					\$2.23	\$140.03
BugShield/HiSide	62.7					\$2.27	\$142.18
Soybean Cart	62.7					\$13.60	\$852.45
Total Equipment and Labor Cost	62.7					\$77.58	\$4,864.29
+ Drying and Storage Bins					\$0.16	\$7.86	\$492.65
Total Expenses						\$85.44	\$5,356.94





No-till Soybeans ✕

Machine	Depr	Capital	Repairs	Insurance	Fuel	Labor	Total/covered acre	Total/field acre	Total
Seed Tender	\$0.0804	\$0.0708	\$0.0076	\$0.0040	\$0.00...	\$0.00...	\$0.16	\$0.16	\$10.21
2000 Chevy K3500	\$0.0021	\$0.0017	\$0.0030	\$0.0001	\$0.00...	\$0.24...	\$0.26	\$0.26	\$16.12
JD 8360RT	\$2.3429	\$0.8051	\$0.1394	\$0.0352	\$0.92...	\$0.98...	\$5.23	\$5.23	\$327.99
Kinze Twin Row	\$6.0120	\$5.4036	\$0.4917	\$0.2364	\$0.00...	\$0.00...	\$12.14	\$12.14	\$761.41
Total	\$8.4374	\$6.2812	\$0.6417	\$0.2757	\$0.92...	\$1.23...	\$17.79	\$17.79	\$1,115.73

OK

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Scenario: purchase new planter

Update Planter

Equipment Nickname: Great Plains Twin Row

Manufacturer: Great Plains

Serial Number: N/A

Model: 48 Twin Row

Model Year: 2010

Ownership Status: Owned

Rental Rate per Acre: \$0.00

Minimum Rental Acres: 0

Year Purchased: 2010

Purchase Price: \$174,000.00

Estimated Useful Life: 0 years

Years of Use: 0 as of 12/31/past year

Tax Basis: \$0.00 as of 12/31/past year

Remaining Years Depreciation: 0

Warranty End Date:

Number of Rows: 48

Row Spacing: 15 inches

Draft: 300 pounds/foot

Operating Field Speed: 5.7 mph

Overlap With Auto Steer: 0.2 %

Overlap Without Auto Steer: 2 %

Effective Seed Hopper Capacity: 8,000 pounds

Seed Hopper Fill Time: 40 minutes

Effective Liquid Hopper Capacity: 0 gallons

Liquid Hopper Fill Time: 0 minutes

Effective Dry Hopper Capacity: 0 pounds

Dry Hopper Fill Time: 0 minutes

Rebuild Interval: 0 acres

Rebuild Cost per Planter Row: \$55.00

Estimated Current Value: \$80,000.00

Depreciation per Acre: \$3.00

☐ Can Plant Cover Crop

OK Cancel



Update Planter

Equipment Nickname: John Deere

Manufacturer: John Deere

Serial Number: N/A

Model: 48 Twin Row

Model Year: 2016

Ownership Status: Owned

Rental Rate per Acre: \$0.00

Minimum Rental Acres: 0

Year Purchased: 2016

Purchase Price: \$250,000.00

Estimated Useful Life: 0 years

Years of Use: 0 as of 12/31/past year

Tax Basis: \$0.00 as of 12/31/past year

Remaining Years Depreciation: 0

Warranty End Date:

Number of Rows: 48

Row Spacing: 15 inches

Draft: 300 pounds/foot

Operating Field Speed: 5.7 mph

Overlap With Auto Steer: 0.2 %

Overlap Without Auto Steer: 2 %

Effective Seed Hopper Capacity: 8,000 pounds

Seed Hopper Fill Time: 20 minutes

Effective Liquid Hopper Capacity: 0 gallons

Liquid Hopper Fill Time: 0 minutes

Effective Dry Hopper Capacity: 0 pounds

Dry Hopper Fill Time: 0 minutes

Rebuild Interval: 0 acres

Rebuild Cost per Planter Row: \$55.00

Estimated Current Value: \$250,000.00

Depreciation per Acre: \$5.00

☐ Can Plant Cover Crop

OK Cancel

CropZilla Reports Operations Summary by Crop

Client: Watkins Farm Crop Type: Soybeans Number of Fields: 45

Crop Type	Operation Type	Operation Name	Total Acr..	Total Hours	Equip Cost/..	Labor Cost/..	Fuel Cost/Acre	Total Cost/Acre
Soybeans	Combine	Cutting beans	1,691.55	178.94	\$30.56	\$2.93	\$3.37	\$38.86
Soybeans	Planting Soybeans	No-till Soybeans	3,383.1	138.72	\$11.38	\$1.41	\$1.30	\$14.09
Soybeans	Powered Application	Spray Bean Burndown	3,383.1	50.91	\$1.96	\$0.75	\$0.28	\$2.98
Soybeans	Powered Application	Spray Bean Second Post	3,383.1	50.91	\$1.96	\$0.42	\$0.28	\$2.66

CropZilla Reports Operations Summary by Crop

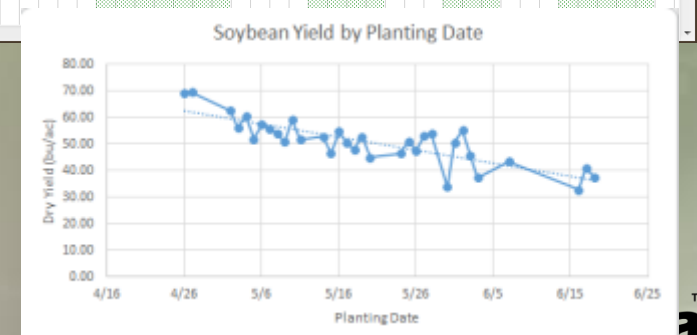
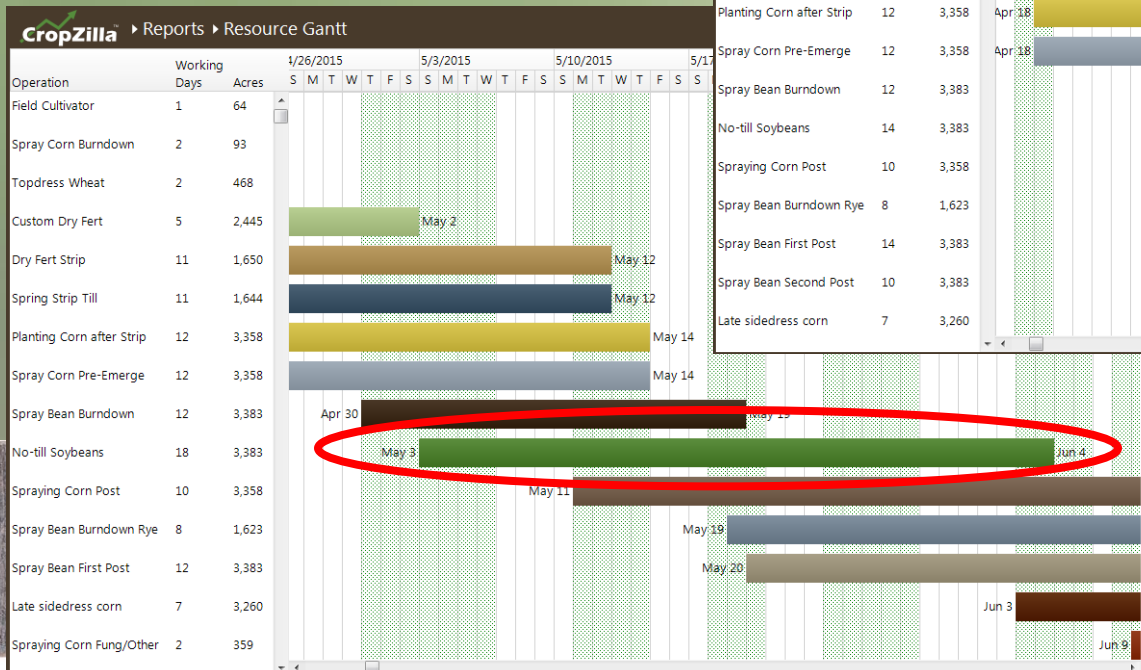
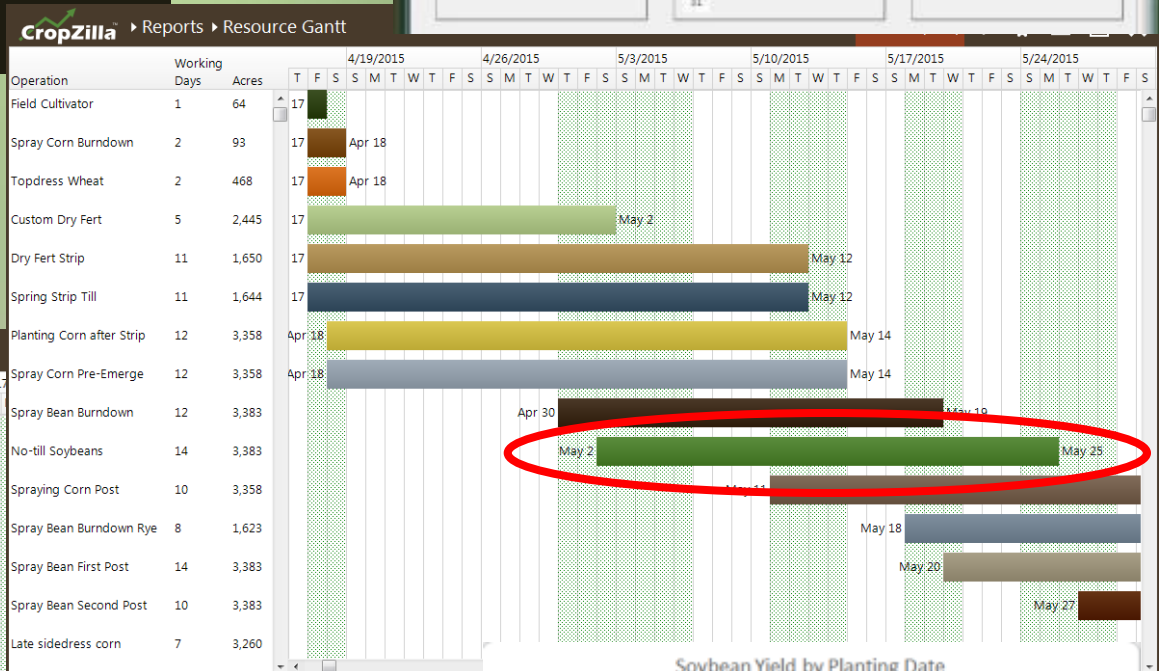
Baseline - New Baurer twin bean planter All Clients Crop Type: Soybeans Number of Fields: 45

Crop Type	Operation Type	Operation Name	Total Acres	Total Hours	Equip Cost/..	Labor Cost/..	Fuel Cost/Acre	Total Cost/Acre
Soybeans	Combine	Cutting beans	1,691.55	178.94	\$30.56	\$2.93	\$3.37	\$38.86
Soybeans	Planting Soybeans	No-till Soybeans	3,383.1	131.39	\$18.35	\$1.33	\$1.23	\$20.92
Soybeans	Powered Application	Spray Bean Burndown	3,383.1	50.91	\$1.96	\$0.75	\$0.28	\$2.98
Soybeans	Powered Application	Spray Bean Second Post	3,383.1	50.91	\$1.96	\$0.42	\$0.28	\$2.66
Soybeans	Grain Cart	Soybean Cart	3,383.1	178.94	\$9.63	\$1.45	\$0.88	\$11.96
Soybeans	Grain Hauling	Volvo/Wilson	3,138.8	165.16	\$0.48	\$1.44	\$0.17	\$2.09
Soybeans	Combine	Cutting soybeans 2	1,691.55	178.94	\$24.30	\$2.93	\$3.36	\$30.59
Soybeans	Grain Hauling	05Freightliner/Wilson	3,204.8	167.79	\$0.47	\$1.43	\$0.16	\$2.07
Soybeans	Grain Hauling	BugShield/Timpte	3,196.3	166.60	\$0.27	\$1.43	\$0.16	\$1.86
Soybeans	Powered Application	Spray Bean First Post	3,383.1	45.37	\$1.75	\$0.67	\$0.25	\$2.66
Soybeans	Powered Application	Spray Bean Burndown ..	1,623.3	18.85	\$1.48	\$0.64	\$0.20	\$2.33
Soybeans	Custom Application	Custom Dry Fert	2,305	0.00	\$0.00	\$0.00	\$0.00	\$5.00
Totals			33,766.8	1,333.8	\$6.30	\$1.19	\$0.69	\$8.18



Scenario: increase planting hours per day

- We input into CZ an analog weather year to project the effect of planting longer hours on planting date
- We look at historical yield by planting date chart
- Applying the planting date difference to this chart shows a 5 bu per acres overall yield increase by increasing planting hours
- On this farm, that is over \$170K increase y/y



Telematics



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Thank You!

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