

# **Budgets and 2021 Estimated Break Evens**

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- Why are budgets, calculating break even prices, and data collection important?
  - Basis of all the material in this workshop
  - Leads to the most accurate decision making on-farm
- “Can’t mind what you don’t measure”

# Why?

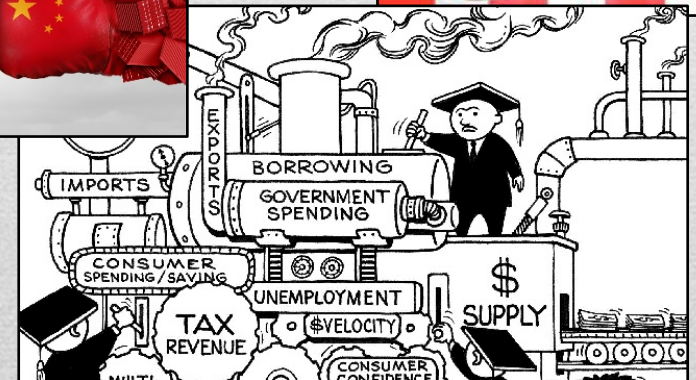
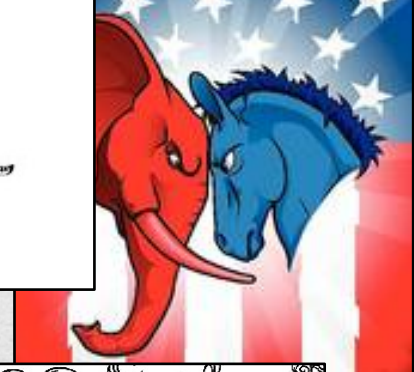


- Political Situation
- Fundamental Situation
  - Supply
  - Demand
- Marketing Psychology
- Seasonality/Cycles
- Technical Situation



### Tracking the Wuhan Coronavirus

Everything you need to read about the deadly pandemic: what it is, how it's spreading, and how to stop it.



# Market Outlook

- **Quasi Variable Cost (VC)** – All out-of-pocket expenses associated with or assigned to the crop. This includes seed, fertilizer, paid labor, family living withdrawals, land payments, equipment payments, government payments, etc.
- **Per Acre**:  $VC \text{ Breakeven Price} = VC / \text{Yield}$
- **Total Cost (TC)**: Includes VC plus all non-cash expenses such as depreciation.

## Getting to Breakeven

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- **Per Acre:**  $TC \text{ Breakeven Price} = TC/Yield$
- **Profit:** Total Cost plus a profit objective usually determined by the goals that have been set or an independent financial measure such as return on assets.
- **Per Acre Profit:**  $\text{Breakeven Price} = TC + \text{Desired Profit}/Yield$

## Getting to Breakeven

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**Fundamentals:****Notes:**

Short Crop Price =  
 Average Crop Price =  
 Large Crop Price =

**Basis:****Notes:**

Strong Basis:  
 Average Basis:  
 Weak Basis:

**Cash Market Alternatives:****Notes:**

- 1.
- 2.
- 3.

**What I need to learn:****How and when am I going to do it?**

- 1.
- 2.
- 3.

**Goals Short-Term****Goals Long-Term**

- 1.
- 2.
- 3.

- 1.
- 2.
- 3.

**Breakevens**

	Low Yield	Average Yield	High Yield
Variable Cost (VC)			
VC + Fixed Cost (FC)			
VC + FC + Profit			

# 2021 Marketing Plan Summary



- <https://agecoext.tamu.edu/resources/crop-livestock-budgets/>
- Google AgriLife Crop & Livestock Budgets
- amarillo.tamu.edu → 2021 Crop Profitability Analyzer

## Resources

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# 2021 Crop Profitability Analyzer



## Budgets by Commodity

- [Alfalfa](#)
- [Canola](#)
- [Coastal Bermuda](#)
- [Corn](#)
- [Cotton](#)
- [Cow-Calf](#)
- [Forages](#)
- [Fruits and Vegetables](#)
- [Nuts and Other Food Products](#)
- [Oilseeds](#)
- [Other Grains](#)
- [Rice](#)
- [Sheep and Goats](#)
- [Sorghum](#)
- [Soybeans](#)
- [Stocker](#)
- [Wheat](#)

# Budget Options

2021 Estimated Costs and Returns per Acre  
Bt Corn for Grain, Strip Till  
Panhandle Extension District - 1

Crop Acres		122					Enterprise
REVENUE	Quantity	Units	\$/Unit	Total			Total
Corn	225.00	Bushel	\$4.22	\$949.95			\$115,893.96
Total Revenue				\$949.95			\$115,893.96
Variable Costs		Quantity	Units	\$/Unit	Total		Enterprise
Production Costs							Total
Custom							
Fertilizer Application - ANH3	1	Acre	\$16.05	\$16.05			\$1,958.27
Crop Consultant	1	Acre	\$8.25	\$8.25			\$1,006.97
Harvest and Haul - Corn	225	Bushel	\$0.43	\$96.40			\$11,781.15
Strip Till	1	Acre	\$21.40	\$21.40			\$2,611.03
Fertilizer							
Fertilizer (P) - Liquid	90	Pound	\$0.49	\$44.10			\$5,380.20
Fertilizer (N) - ANH3	140	Pound	\$0.30	\$42.00			\$5,124.00
Fertilizer (N) - Liquid	85	Pound	\$0.50	\$42.50			\$5,185.00
Herbicide							
Herbicide - Corn Preplant	1	Acre	\$19.28	\$19.28			\$2,352.20
Herbicide - Corn Postplant	1	Acre	\$17.41	\$17.41			\$2,123.66
Bumdown Herbicide	1	Acre	\$21.06	\$21.06			\$2,589.19
Insecticide							
Miticide	1	Acre	\$22.87	\$22.87			\$2,790.46
Miscellaneous							
Crop Insurance Corn Irrigated	1	Acre	\$40.15	\$40.15			\$4,898.30
Seed - Bt Corn for Grain	0.38	Bag	\$248.67	\$94.50			\$11,528.53
Irrigation							
Energy Cost	20.00	Acre/Inch	\$3.35	\$67.00			\$8,174.00
Irrigation Labor	1.28	Hour	\$13.65	\$17.47			\$2,131.58
Machinery Labor							
Tractors/Self-Propelled	0.15	Hour	\$13.43	\$2.01			\$245.77
Other Labor	0.15	Hour	\$13.43	\$2.01			\$245.77
Diesel Fuel							
Tractors/Self-Propelled	0.65	Gallon	\$2.19	\$1.42			\$173.68
Gasoline							
Pickup/General Use Equipment	1	Acre	\$7.80	\$7.80			\$951.75
Repairs & Maintenance							
Pickup/General Use Equipment	1	Acre	\$3.76	\$3.76			\$459.00
Irrigation Equipment	1	Acre	\$75.00	\$75.00			\$9,150.00
Tractors/Self-Propelled	1	Acre	\$1.03	\$1.03			\$126.00
Implements	1	Acre	\$8.94	\$8.94			\$1,090.82
Interest on Credit Line			6.25%	\$13.91			\$1,697.61
Total Variable Costs				\$686.35			\$83,734.90
Planned Returns Above Variable Costs				\$263.60			\$32,159.06
Breakeven Price to Cover Variable Costs			\$3.05	Bushel			Enterprise
Fixed Costs		Quantity	Units	\$/Unit	Total		Total
Machinery Depreciation							
Pickup/General Use Equipment	1	Acre	\$3.95	\$3.95			\$481.95
Irrigation Equipment	1	Acre	\$47.34	\$47.34			\$5,775.00
Tractors/Self-Propelled	1	Acre	\$0.85	\$0.85			\$104.16
Implements	1	Acre	\$11.50	\$11.50			\$1,422.48
Equipment Investment							
Pickup/General Use Equipment	\$27.28	Dollars	6.25%	\$1.70			\$207.98
Irrigation Equipment	\$571.72	Dollars	6.25%	\$35.73			\$4,359.38
Tractors/Self-Propelled	\$6.65	Dollars	6.25%	\$0.42			\$50.72
Implements	\$49.18	Dollars	6.25%	\$3.07			\$374.97
Cash Rent - Corn	1	Acre	\$100.00	\$100.00			\$12,200.00
Total Fixed Costs				\$204.58			\$24,955.54
Total Specified Costs				\$890.91			\$108,690.44
Returns Above Specified Costs				\$59.04			\$7,202.36
Breakeven Price to Cover Total Costs			\$3.96	Bushel			

Developed by Justin Benavidez, Assistant Professor, Texas A&M AgriLife Extension, 806-677-5600.

Information presented is prepared solely as a general guide and not intended to recognize or predict the costs and returns from any one operation. Brand names are mentioned only as examples and imply no endorsement.



## Budgets

[Irrigated Alfalfa](#)  
[Irrigated Canola](#)  
[Irrigated Corn](#)  
[Irrigated Corn Silage](#)  
[Irrigated Cotton](#)  
[Irrigated Peanuts](#)  
[Irrigated Sorghum](#)  
[Irrigated Sorghum Seed](#)  
[Irrigated Sorghum Silage](#)  
[Irrigated Sorghum Sudangrass](#)  
[Irrigated Soybeans](#)  
[Irrigated Sunflowers-Confectionary](#)  
[Irrigated Sunflowers-Oilseed](#)  
[Irrigated Triticale Silage](#)  
[Irrigated Wheat](#)  
[Irrigated Other Crop](#)

[Dryland Canola](#)  
[Dryland Cotton](#)  
[Dryland Sorghum](#)  
[Dryland Sorghum Sudangrass](#)  
[Dryland Sunflowers-Oilseed](#)  
[Dryland Wheat](#)  
[Dryland Other Crop](#)



## Analysis Selection

Turn On All Irrigated Crops

- ☐ Irrigated Alfalfa
- ☐ Irrigated Canola
- ☒ Irrigated Corn
- ☒ Irrigated Corn Silage
- ☒ Irrigated Cotton
- ☐ Irrigated Peanuts
- ☒ Irrigated Sorghum
- ☐ Irrigated Sorghum Seed
- ☒ Irrigated Sorghum Silage
- ☐ Irrigated Sorghum Sudangrass
- ☒ Irrigated Soybeans
- ☐ Irrigated Sunflowers-Confectionary
- ☐ Irrigated Sunflowers-Oilseed
- ☐ Irrigated Triticale Silage
- ☒ Irrigated Wheat
- ☐ Irrigated Other Crop

Turn On All Dryland Crops

- ☐ Dryland Canola
- ☒ Dryland Cotton
- ☒ Dryland Sorghum
- ☐ Dryland Sorghum Sudangrass
- ☐ Dryland Sunflowers-Oilseed
- ☒ Dryland Wheat
- ☐ Dryland Other Crop

Turn Off All Scenarios

- ☐ Tenant
- ☐ Landlord

## Menu





## Basic Universal Input Prices

Commodity	Price	Unit
Alfalfa	\$ 230.00	ton
Canola	\$ 16.47	cwt
Com	\$ 4.22	bu
Com Silage	\$ 39.00	ton
Cotton	\$ 0.7000	lb
Cottonseed	\$ 225.00	ton
Peanuts	\$ 424.55	ton
Sorghum	\$ 8.04	cwt
Sorghum Seed	\$ 20.73	cwt
Sorghum Silage	\$ 35.10	ton
Soybeans	\$ 9.32	bu
Sunflower - Conf. (large)	\$ 22.89	cwt
Sunflower - Oil	\$ 17.89	cwt
Triticale Silage	\$ 35.10	ton
Wheat	\$ 5.28	bu
Irrigated Other Crop	\$ -	unit
Dryland Other Crop	\$ -	unit
Grazing	\$ 0.50	lb of gain

## Input Item

## Price

## Unit

## Fertilizer Worksheet

### Fertilizer


fert (N) - dry	\$0.400	/lb of N
fert (N) - liquid	\$0.500	/lb of N
fert (N) - NH3	\$0.300	/lb of N
fert (P) - dry	\$0.450	/lb of P
fert (P) - liquid	\$0.490	/lb of P
Labor	\$ 13.43	/hour
Diesel Fuel - Tractors	\$ 2.19	/gallon
Gasoline - Pickup	\$ 2.16	/gallon
Irrigation Fuel	\$ 3.35	/acre inch
Interest-operating capital	6.25%	APR
Cotton		
Stripping & module	\$ 12.540	/cwt cotton lint
Ginning	\$ 3.14	/cwt seed cotton
Seed Turnout	750	lbs/500 lb bale

		Cost per ton
% N in Primary Nitrogen Fertilizer - dry	46.0%	\$ 368.00
% N in Primary Nitrogen Fertilizer - liquid	32.0%	\$ 320.00
% N in Primary Nitrogen Fertilizer - NH3	82.0%	\$ 492.00
% P in Primary Phosphate Fertilizer - dry	52.0%	\$ 468.00
% P in Primary Phosphate Fertilizer - liquid	34.0%	\$ 333.00




# Input Prices

# Corn

Menu Prices Break-Even Comparative Irrigation 					
Estimated Costs and Returns per Acre					
Irrigated Corn					
Projected for 2021					
Item	Quantity	Unit	Price	Landlord Share	Total
Income					
corn grain	225.0	bu	\$4.22	33%	\$949.71
other income	0.00	\$/ac.	\$1.00	33%	\$0.00
Total Income					\$949.71
Variable Costs					
Seed					
corn seed	0.38	bags	\$248.67	0%	\$94.50
Fertilizer					
fert (N) - NH3	140	lb	\$0.300	33%	\$42.00
fert (P) - liquid	90	lb	\$0.490	33%	\$44.10
fert (N) - liquid	85	lb	\$0.500	33%	\$42.50
Field Operations					
herbicide preplant	1.0	acre	\$19.28	33%	\$19.28
fertilizer application	1.0	acre	\$16.05	33%	\$16.05
insecticide & application	1.0	acre	\$22.87	33%	\$22.87
custom harvest & haul	225.0	bu	\$0.43	0%	\$96.43
crop consultant	1.0	acre	\$8.25	0%	\$8.25
scouting	1.0	acre	\$0.00	0%	\$0.00
herbicide postplant	1.0	acre	\$17.41	0%	\$17.41
other	1.0	acre	\$0.00	0%	\$0.00
other	1.0	acre	\$0.00	0%	\$0.00
Crop Insurance	1.0	acre	\$40.15	33%	\$40.15
Operator Labor & Hand Labor	0.99	hour	\$13.43	0%	\$13.30
Irrigation Labor	1.36	hours	\$13.43	0%	\$18.32
Diesel Fuel - Tractors	2.66	gallons	\$2.19	0%	\$5.83
Gasoline - Pickup	3.61	gallons	\$2.16	0%	\$7.80
Irrigation Fuel	22.00	acin	\$3.35	33%	\$73.70
Repair & Maintenance					
Implements	1.00	acre	\$12.75	0%	\$12.75
Tractors	1.00	acre	\$4.97	0%	\$4.97
Irrigation-Above Ground	22.00	acin	\$3.75	0%	\$82.50
Self Propelled Equipment	1.00	acre	\$0.00	100%	\$0.00
Pickup	1.00	acre	\$3.76	0%	\$3.76
Interest-operating capital	6.25%				\$14.25
Total Variable Costs					\$680.71
Returns Above Variable Costs					\$269.00
Fixed Costs					
Implements	1.00	acre	\$20.46	0%	\$20.46



Menu			Prices		Break-Even		Irrigation			
Comparative Returns Projected										
	Total Revenue		Total Variable Costs		Return Over Variable Costs		Total Costs		Return Over Total Costs	
	Total	Tenant	Landlord	Total	Total	Total	Total	Total	Price	unit
<a href="#">Irrigated Corn</a>	\$949.71	\$636.30	\$313.40	\$680.71	<b>\$269.00</b>	\$897.21	<b>\$52.50</b>	\$4.22	bu	
<a href="#">Irrigated Corn Silage</a>	\$1,053.00	\$705.51	\$347.49	\$885.98	<b>\$167.02</b>	\$1,108.36	<b>(\$55.36)</b>	\$39.00	ton	
<a href="#">Irrigated Cotton</a>	\$1,303.13	\$873.09	\$430.03	\$837.21	<b>\$465.92</b>	\$999.57	<b>\$303.56</b>	\$0.70	lb	
<a href="#">Irrigated Sorghum</a>	\$482.40	\$323.21	\$159.19	\$362.05	<b>\$120.35</b>	\$554.49	<b>(\$72.09)</b>	\$8.04	cwt	
<a href="#">Irrigated Sorghum Silage</a>	\$737.10	\$493.86	\$243.24	\$549.84	<b>\$187.26</b>	\$729.45	<b>\$7.65</b>	\$35.10	ton	
<a href="#">Irrigated Soybeans</a>	\$559.48	\$374.85	\$184.63	\$374.97	<b>\$184.51</b>	\$558.51	<b>\$0.97</b>	\$9.32	bu	
<a href="#">Irrigated Wheat</a>	\$332.00	\$222.44	\$109.56	\$273.37	<b>\$58.63</b>	\$438.88	<b>(\$106.88)</b>	\$5.28	bu	
<a href="#">Dryland Cotton</a>	\$347.50	\$232.83	\$114.68	\$342.28	<b>\$5.22</b>	\$409.53	<b>(\$62.03)</b>	\$0.70	lb	
<a href="#">Dryland Sorghum</a>	\$201.00	\$134.67	\$66.33	\$175.45	<b>\$25.55</b>	\$234.38	<b>(\$33.38)</b>	\$8.04	cwt	
<a href="#">Dryland Wheat</a>	\$142.10	\$95.21	\$46.89	\$125.20	<b>\$16.90</b>	\$179.84	<b>(\$37.74)</b>	\$5.28	bu	
			Break-Even Yield to Cover Variable Costs		Break-Even Yield to Cover Total Costs					
			Total	Total	Total	Total				
			161.3	212.6	22.7	28.4				
			963.7	1,150.6	45.0	69.0				
			15.7	20.8	40.2	59.9				
			38.9	70.2	394.0	471.4				
			21.8	29.2	16.8	27.1				

# Breakeven and Comparative Returns

# Menu Prices Break-Even Comparative

## Irrigation Analysis

Farm Name **ABC Farm**

Total Well GPM to Pivot **500**

Acres Available for Irrigation **120**

Minimum Planting Circle Size **None**

Allowed Inches per Gross Acre **15.00**

Gross Acres **160**

TEXAS A&M  
AGRI LIFE  
EXTENSION

Graph  
ROV/ac.in.

Graph  
Total ROV

Total ROVC at Various Irrigated and  
Dryland Combinations

Commodity	Crop GPM per acre	Normal GPM/Acre by Crop	Limited Max Irr Acreage	Maximum Irr Acreage	Remaining Acres	ROVC/ Acre	ROVC/ Ac-In	ROVC (Irr. Land)	Dryland Cotton	Dryland Sorghum	Dryland Wheat	With Dryland Cotton	With Dryland Sorghum	With Dryland Wheat
<a href="#">Irrigated Corn</a>	6.0	4.5 to 7	83	83	37	\$269.00	\$12.23	\$22,416	\$191	\$937	\$620	\$22,607	\$23,353	\$23,036
<a href="#">Irrigated Corn Silage</a>	6.0	4.5 to 7	83	83	37	\$167.02	\$8.35	\$13,919	\$191	\$937	\$620	\$14,110	\$14,856	\$14,539
<a href="#">Irrigated Cotton</a>	3.0	2 to 3.5	120	120	0	\$465.92	\$38.83	\$55,910	\$0	\$0	\$0	-	-	-
<a href="#">Irrigated Sorghum</a>	2.5	3.5 to 4.5	120	120	0	\$120.35	\$12.03	\$14,442	\$0	\$0	\$0	-	-	-
<a href="#">Irrigated Sorghum Silage</a>	3.8	3.5 to 4.5	120	120	0	\$187.26	\$13.38	\$22,472	\$0	\$0	\$0	-	-	-
<a href="#">Irrigated Soybeans</a>	3.9	4.5 to 6	120	120	0	\$184.51	\$13.18	\$22,141	\$0	\$0	\$0	-	-	-
<a href="#">Irrigated Wheat</a>	2.7	3.5 to 4.5	120	120	0	\$58.63	\$5.86	\$7,036	\$0	\$0	\$0	-	-	-
<a href="#">Dryland Cotton</a>	-			-	-	\$5.22	-							
<a href="#">Dryland Sorghum</a>	-			-	-	\$25.55	-							
<a href="#">Dryland Wheat</a>	-			-	-	\$16.90	-							

Enter estimated well GPM, available acres under pivot, and your desired planting circle size. These numbers, along with crop GPM per acre (calculated from the acre-inches applied in the budgets) and data from your individual crop budgets (listed at the left and linked back if you need to make changes) are used to determine return over variable costs on irrigated land only, and then irrigated land with various dryland combinations. The optimal combination among all crops evaluated is highlighted in yellow. Links to graphs that summarize the data are also provided.

# Irrigation Analysis



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**Thanks!**