# Farm Enterprise Budgets and Input Costs Management 

Francisco J. Abello<br>Assistant Professor and Extension Economist<br>Texas A\&M AgriLife Extension Service

## Business Management Tools and Steps

$1^{\text {st }}$ : Measure and Analysis Past Performance
$2^{\text {nd: }}$ Build Budget and Breakeven Prices
$3^{\text {rd }}$ : Input Cost Management / Resource Optimization
$4^{\text {th }}$ : Long Term Business Plan

## Enterprise Budgets

EXTENSION

## Enterprise Budget

- Detailed representation of revenues, costs, and net return associated with the production of agricultural products.

REVENUES<br>- EXPENSES<br>NET RETURN

| Revenue | Quantity | Units | \$/Unit | Total | Enterprise Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Wheat | 40.00 | Bushel | \$8.25 | \$330.00 | \$211,200.00 |
| Wheat Pasture | 64.00 | Pound of Gain | \$0.75 | \$48.00 | \$30,720.00 |
| Total Revenue |  |  |  | \$378.00 | \$241,920.00 |
|  |  |  |  |  | Enterprise |
| VARIABLE COSTS | Quantity | Units | \$/Unit | Total | Total |
| Production Costs |  |  |  |  |  |
| Seed |  |  |  |  |  |
| Wheat Seed | 50 | Pound | \$0.23 | \$11.50 | \$7,360.00 |
| Fertilizer |  |  |  |  |  |
| Fertilizer ( N ) | 60 | Pound | \$0.79 | \$47.40 | \$30,336.00 |
| Fertilizer (P) | 25 | Pound | \$0.63 | \$15.75 | \$10,080.00 |
|  |  |  |  |  |  |
| Custom Harvest Wheat | , | Acre | \$35.00 | \$35.00 | \$22,400.00 |
| Overage - Wheat | 10 | Bushel | \$0.24 | \$2.40 | \$1,536.00 |
| Custom Haul Wheat | 30 | Bushel | \$0.24 | \$7.20 | \$4,608.00 |
| Fertilizer Application | 1 | Acre | \$5.00 | \$5.00 | \$3,200.00 |
| Miscellaneous |  |  |  |  |  |
| Insurance - Wheat | 1 | Acre | \$12.00 | \$12.00 | \$7,680.00 |
| Herbicide |  |  |  |  |  |
| Herbicide - Wheat | 6.4 | Ounce | \$0.17 | \$1.10 | \$704.00 |
| 2,4D | 4.2 | Pint | \$2.84 | \$11.93 | \$7,633.92 |
| Glyphosate | 6 | Pint | \$4.30 | \$25.80 | \$16,512.00 |
| Insecticide |  |  |  |  |  |
| Insecticide \& Application - Whea Fungicides | 2 | Ounce | \$4.50 | \$9.00 | \$5,760.00 |
| Fungicides |  |  |  |  |  |
| Fungicide Application | 1 | Acre | \$5.50 | \$5.50 | \$3,520.00 |
| Machinery Labor |  |  |  |  |  |
| Tractors/Self-Propelled | 0.17 | Hour | \$15.00 | \$2.55 | \$1,632.00 |
| Other Labor | 0.2 | Hour | \$15.00 | \$3.00 | \$1,920.00 |
| Diesel Fuel |  |  |  |  |  |
| Tractors/Self-Propelled | 2.03 | Gallon | \$3.49 | \$7.08 | \$4,534.21 |
| Gasoline |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$2.11 | \$2.11 | \$1,350.00 |
| Repairs \& Maintenance |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$0.70 | \$0.70 | \$450.00 |
| Tractors/Self-Propelled | 1 | Acre | \$4.85 | \$4.85 | \$3,105.84 |
| Implements | 1 | Acre | \$10.44 | \$10.44 | \$6,682.96 |
| Interest on Credit Line |  |  | 7.50\% | \$9.93 | \$6,353.45 |
| Total Variable Costs |  |  |  | \$230.25 | \$147,358.37 |
| Planned Returns Above Variable Costs: |  |  |  | \$147.75 | \$94,561.63 |
| Breakeven Price to Cover Variable Costs |  |  | \$4.56 |  |  |
|  |  |  |  |  | Enterprise |
| FIXED COSTS | Quantity | Units | \$/Unit | Total | Total |
| Machinery Depreciation |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$0.98 | \$0.98 | \$624.75 |
| Tractors/Self-Propelled | 1 | Acre | \$13.95 | \$13.95 | \$8,931.01 |
| Implements | 1 | Acre | \$9.40 | \$9.40 | \$6,014.66 |
| Equipment Investment |  |  |  |  |  |
| Pickup/General Use Equipment | \$6.84 | Dollars | 6.50\% | \$0.44 | \$284.46 |
| Tractors/Self-Propelled | \$104.56 | Dollars | 6.50\% | \$6.80 | \$4,349.61 |
| Implements | \$40.20 | Dollars | 6.50\% | \$2.61 | \$1,672.41 |
| Cash Rent - Wheat | 1 | Acre | \$30.00 | \$30.00 | \$19,200.00 |
| Total Fixed Costs |  |  |  | \$64.18 | \$41,076.90 |
| Total Specified Costs |  |  |  | \$294.43 | \$188,435.27 |
| Returns Above Specified Costs |  |  |  | \$83.57 | \$53,484.73 |

WHEAT BUDGET
EXAMPLE

## Cost Estimation

- Production cost is a function of:

Inputs/ activities
Prices paid

- COST = QUANTITY $\times$ PRICE

Repeat for all production inputs
Pre and Post analysis

## Production and Market Data

- It is essential to keep records
- Yields
- Production activities
- Input quantities
- Projections or historical records
- Output and input prices
- Consistent estimates require at least two production cycles


## Production Records To Use

- Grand Average:

All records


- Rolling Average: Most recent

- "Olympic" Average:

Eliminate highest and
lowest


## Example - Cotton Yield

| Year | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price <br> (lb/ac) | 589 | 632 | 646 | 644 | 610 | 748 | 809 | 783 | 589 | 696 | 666 |

- Grand Average: $673.82 \mathrm{lb} / \mathrm{ac}$

All records

$$
=\frac{589+\cdots+666}{11}
$$

- Rolling Average:

Most recent (3 years)

- "Olympic" Average:

Eliminate top and
bottom

## Example - Cotton Yield

| Year | 201 | 2812 | 2813 | 2814 | 2015 | 2013 | 2017 | 2018 | 2019 | 2020 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price <br> (lb/ac) | $589$ | $632$ | $264$ | $644$ | $2610$ | 7,48 | $809$ | $783$ | 589 | 696 | 666 |

- Grand Average: $673.82 \mathrm{lb} / \mathrm{ac}$

All records

- Rolling Average: $650.33 \mathrm{lb} / \mathrm{ac}$

Most recent (3 years)

$$
=\frac{589+696+666}{3}
$$

- "Olympic" Average:

Eliminate top and
bottom

## Example - Cotton Yield

| Year | 2010 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price <br> (lb/ac) | 589 |  |  |  |  |  |  |  |  |  |  |

- Grand Average: $673.82 \mathrm{lb} / \mathrm{ac}$

All records

- Rolling Average: $650.33 \mathrm{lb} / \mathrm{ac}$

Most recent (3 years)

- "Olympic" Average: $668.22 \mathrm{lb} / \mathrm{ac}=\frac{632+646+644+\cdots+666}{9}$ Eliminate highest and
lowest observations


## Production Costs

- Variable and Fixed Costs
- Variable Costs:

Varies with the level of production
Other names: Cash costs, direct costs, or out-of-pocket costs

Examples: seed and plants, fertilizers, pesticides, fuel, repair and maintenance, labor, interest on operating capital

## Production Costs

- Fixed Costs:

Constant regardless the level of production
Other names: non-cash costs, overhead cost

Examples: Property taxes, interest on investment, land, machinery depreciation

## Variable and Fixed Costs




Returns above VC

| REVENUE | Quantity | Units | s/Unit | Total | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Wheat | 40.0064.00 | Bushel | \$8.25 | \$330.00 | \$211,200.00 |
| Wheat Pasture |  | Pund of Gain | \$0.75 | \$48.00 | \$30,720.00 |
| Total Revenue |  |  |  | \$378.00 | \$241,920.00 |
|  |  |  |  |  | Enterprise |
| VARIABLE COSTS | Quantity | Units | \$/Unit | Total | Total |
| Production Costs Seed |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Wheat Seed | 50 | Pound | \$0.23 | \$11.50 | \$7,360.00 |
| Fertilizer |  |  |  |  |  |
| Fertilizer ( N ) | 60 | Pound | \$0.79 | \$47.40 | \$30,336.00 |
| Fertilizer (P) | 25 | Pound | \$0.63 | \$15.75 | \$10,080.00 |
| Custom |  |  |  |  |  |
| Custom Harvest Wheat | 1 | Acre | \$35.00 | \$35.00 | \$22,400.00 |
| Overage - Wheat | 10 | Bushel | \$0.24 | \$2.40 | \$1,536.00 |
| Custom Haul Wheat | 30 | Bushel | \$0.24 | \$7.20 | \$4,608.00 |
| Fertilizer Application | 1 | Acre | \$5.00 | \$5.00 | \$3,200.00 |
| Miscellaneous |  |  |  |  |  |
| Insurance - Wheat | 1 | Acre | \$12.00 | \$12.00 | \$7,680.00 |
| Herbicide |  |  |  |  |  |
| Herbicide - Wheat | 6.4 | Ounce | S0.17 | \$1.10 | \$704.00 |
| 2,4D | 4.2 | Pint | \$2.84 | \$11.93 | \$7,633.92 |
| Glyphosate | 6 | Pint | \$4.30 | \$25.80 | \$16,512.00 |
| Insecticide |  |  |  |  |  |
| Fungicides | 2 | Ounce | \$4.50 | \$9.00 | \$5,760.00 |
| Fungicide Application | 1 | Acre | \$5.50 | \$5.50 | \$3,520.00 |
| Machinery Labor |  |  |  |  |  |
| Tractors/Self-Propelled | 0.17 | Hour | \$15.00 | \$2.55 | \$1,632.00 |
| Other Labor | 0.2 | Hour | \$15.00 | \$3.00 | \$1,920.00 |
| Diesel Fuel |  |  |  |  |  |
| Tractors/Self-Propelled | 2.03 | Gallon | \$3.49 | \$7.08 | \$4,534.21 |
| Gasoline |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$2.11 | \$2.11 | \$1,350.00 |
| Repairs \& Maintenance |  |  |  |  |  |
| Repairs \& Maintenance Pickup/General Use Equipment | 1 | Acre | \$0.70 | \$0.70 | \$450.00 |
| Tractors/Self-Propelled | 1 | Acre | \$4.85 | \$4.85 | \$3,105.84 |
| Implements | 1 | Acre | \$10.44 | \$10.44 | \$6,682.96 |
| Interest on Credit Line |  |  | 7.50\% | \$9.93 | \$6,353.45 |
| Total Variable Costs Planned Returns Above Variable Costs: |  |  |  | \$230.25 | \$147,358.37 |
|  |  |  |  | \$147.75 | \$94,561.63 |
| Breakeven Price to Cover Variable Costs |  |  | \$4.56 |  |  |
|  | Quantity |  |  |  | Enterprise |
| FIXED COSTS |  | Units | S/Unit | Total | Total |
| Machinery Depreciation |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$0.98 | \$0.98 | \$624.75 |
| Tractors/Self-Propelled | 1 | Acre | \$13.95 | \$13.95 | \$8,931.01 |
| Implements | 1 | Acre | \$9.40 | \$9.40 | \$6,014.66 |
|  |  |  |  |  |  |
| Equipment Investment ${ }_{\text {Pickup/General Use Equipment }}$ | \$6.84 | Dollars | 6.50\% | \$0.44 | \$284.46 |
| Tractors/Self-Propelled | \$104.56 | Dollars | 6.50\% | \$6.80 | \$4,349.61 |
| Implements | \$40.20 | Dollars | 6.50\% | \$2.61 | \$1,672.41 |
| Cash Rent - Wheat | 1 | Acre | \$30.00 | \$30.00 | \$19,200.00 |
| Total Fixed Costs |  |  |  | \$64.18 | \$41,076.90 |
| Total Specified Costs |  |  |  | \$294.43 | \$188,435.27 |
| Returns Above Specified Costs |  |  |  | \$83.57 | \$53,484.73 |


|  | REVENUE | Quantity | Units | \$/Unit | Total | Enterprise <br> Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wheat | 40.00 | Bushel | \$8.25 | \$330.00 | \$211,200.00 |
|  | Wheat Pasture | 64.00 | und of Gain | \$0.75 | \$48.00 | \$30,720.00 |
|  | Total Revenue |  |  |  | \$378.00 | \$241,920.00 |
|  | VARIABLE COSTS | Quantity | Units | \$/Unit | Total | Enterprise Total |
|  | Production Costs |  |  |  |  |  |
|  | Seed |  |  |  |  |  |
|  | Wheat Seed | 50 | Pound | \$0.23 | \$11.50 | \$7,360.00 |
|  | Fertilizer ( N ) | 60 | Pound | \$0.79 | \$47.40 | \$30,336.00 |
|  | Fertilizer (P) | 25 | Pound | 50.63 | \$15.75 | \$10,080.00 |
|  | Custom |  |  |  |  |  |
|  | Custom Harvest Wheat | 1 | Acre | \$35.00 | \$35.00 | \$22,400.00 |
|  | Overage - Wheat | 10 | Bushel | \$0.24 | \$2.40 | \$1,536.00 |
|  | Custom Haul Wheat | 30 | Bushel | \$0.24 | \$7.20 | \$4,608.00 |
|  | Fertilizer Application | 1 | Acre | \$5.00 | \$5.00 | \$3,200.00 |
|  | Miscellaneous Insurance - Wheat | 1 | Acre | \$12.00 | \$12.00 | \$7,680.00 |
|  | Herbicide |  |  |  |  |  |
|  | Herbicide - Wheat | 6.4 | Ounce | \$0.17 | \$1.10 | \$704.00 |
|  | 2,4D | 4.2 | Pint | \$2.84 | \$11.93 | \$7,633.92 |
|  | Glyphosate | 6 | Pint | \$4.30 | \$25.80 | \$16,512.00 |
|  | Insecticide |  |  |  |  |  |
| Quantities | Insecticide \& Application - Whea | 2 | Ounce | \$4.50 | \$9.00 | \$5,760.00 |
| Used | Fungicide Application Machinery Labor | 1 | Acre | \$5.50 | \$5.50 | \$3,520.00 |
|  | Tractors/Self-Propelled | 0.17 | Hour | \$15.00 | \$2.55 | \$1,632.00 |
|  | Other Labor | 0.2 | Hour | \$15.00 | \$3.00 | \$1,920.00 |
|  | Diesel Fuel |  |  |  |  |  |
|  | Tractors/Self-Propelled | 2.03 | Gallon | 53.49 | \$7.08 | \$4,534.21 |
|  | Gasoline |  |  |  |  |  |
|  | Pickup/General Use Equipment Repairs \& Maintenance | 1 | Acre | \$2.11 | \$2.11 | \$1,350.00 |
|  | Pickup/General Use Equipment | 1 | Acre | \$0.70 | \$0.70 | \$450.00 |
|  | Tractors/Self-Propelled | 1 | Acre | \$4.85 | \$4.85 | \$3,105.84 |
|  | Implements | 1 | Acre | \$10.44 | \$10.44 | \$6,682.96 |
|  | Interest on Credit Line |  |  | 7.50\% | \$9.93 | \$6,353.45 |
|  | Total Variable Costs |  |  |  | \$230.25 | \$147,358.37 |
|  | Planned Returns Above Variable Costs: <br> Breakeven Price to Cover Variable Costs |  |  | \$4.56 | $\$ 147.75$ | \$94,561.63 |
|  |  |  |  |  |  | Enterprise |
|  | FIXED COSTS | Quantity | Units | \$/Unit | Total | Total |
|  | Machinery Depreciation |  |  |  |  |  |
|  | Pickup/General Use Equipment | 1 | Acre | \$0.98 | \$0.98 | \$624.75 |
|  | Tractors/Self-Propelled | 1 | Acre | \$13.95 | \$13.95 | \$8,931.01 |
|  | Implements Equipment Investment | 1 | Acre | 59.40 | \$9.40 | \$6,014.66 |
|  | Pickup/General Use Equipment | \$6.84 | Dollars | 6.50\% | \$0.44 | \$284.46 |
|  | Tractors/Self-Propelled | \$104.56 | Dollars | 6.50\% | \$6.80 | \$4,349.61 |
|  | Implements | \$40.20 | Dollars | 6.50\% | \$2.61 | \$1,672.41 |
|  | Cash Rent- Wheat | 1 | Acre | \$30.00 | \$30.00 | \$19,200.00 |
|  | Total Fixed Costs |  |  |  | \$64.18 | \$41,076.90 |
|  | Total Specified Costs |  |  |  | \$294.43 | \$188,435.27 |
|  | Returns Above Specified Costs |  |  |  | \$83.57 | \$53,484.73 |


| REVENUE | Quantity | Units | \$/Unit | Total | Enterprise <br> Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Wheat | 40.00 | Bushel | \$8.25 | \$330.00 | \$211,200.00 |
| Wheat Pasture | 64.00 | ound of Gain | \$0.75 | \$48.00 | \$30,720.00 |
| Total Revenue |  |  |  | \$378.00 | \$241,920.00 |
|  |  |  |  |  | Enterprise |
| VARIABLE COSTS | Quantity | Units | \$/Unit | Total | Total |
| Production Costs |  |  |  |  |  |
| Seed |  |  |  |  |  |
| Wheat Seed | 50 | Pound | 50.23 | \$11.50 | \$7,360.00 |
| Fertilizer |  |  |  |  |  |
| Fertilizer ( N ) | 60 | Pound | \$0.79 | \$47.40 | \$30,336.00 |
| Fertilizer (P) | 25 | Pound | \$0.63 | \$15.75 | \$10,080.00 |
| Custom |  |  |  |  |  |
| Custom Harvest Wheat | 1 | Acre | \$35.00 | \$35.00 | \$22,400.00 |
| Overage - Wheat | 10 | Bushel | \$0.24 | \$2.40 | \$1,536.00 |
| Custom Haul Wheat | 30 | Bushel | \$0.24 | \$7.20 | \$4,608.00 |
| Fertilizer Application | 1 | Acre | \$5.00 | \$5.00 | \$3,200.00 |
| Miscellaneous |  |  |  |  |  |
| Insurance - Wheat | 1 | Acre | \$12.00 | \$12.00 | \$7,680.00 |
| Herbicide |  |  |  |  |  |
| Herbicide - Wheat | 6.4 | Ounce | \$0.17 | \$1.10 | \$704.00 |
| 2,4D | 4.2 | Pint | \$2.84 | \$11.93 | \$7,633.92 |
| Glyphosate | 6 | Pint | \$4.30 | \$25.80 | \$16,512.00 |
| Insecticide |  |  |  |  |  |
| Insecticide \& Application - Whea | 2 | Ounce | \$4.50 | \$9.00 | \$5,760.00 |
| Fungicides |  |  |  |  |  |
| Fungicide Application | 1 | Acre | \$5.50 | \$5.50 | \$3,520.00 |
| Machinery Labor |  |  |  |  |  |
| Tractors/Self-Propelled | 0.17 | Hour | \$15.00 | \$2.55 | \$1,632.00 |
| Other Labor | 0.2 | Hour | \$15.00 | \$3.00 | \$1,920.00 |
| Diesel Fuel |  |  |  |  |  |
| Tractors/Self-Propelled | 2.03 | Gallon | \$3.49 | \$7.08 | \$4,534.21 |
| Gasoline |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$2.11 | \$2.11 | \$1,350.00 |
| Repairs \& Maintenance |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | 50.70 | \$0.70 | \$450.00 |
| Tractors/Self-Propelled | 1 | Acre | \$4.85 | \$4.85 | \$3,105.84 |
| Implements | 1 | Acre | \$10.44 | \$10.44 | \$6,682.96 |
| Interest on Credit Line |  |  | 7.50\% | \$9.93 | \$6,353.45 |
| Total Variable Costs |  |  |  | \$230.25 | \$147,358.37 |
| Planned Returns Above Variable Costs: Breakeven Price to Cover Variable Costs |  |  | \$4.56 | $\begin{gathered} \text { \$147.75 } \\ \text { ushel } \end{gathered}$ | \$94,561.63 |
|  |  |  |  |  | Enterprise |
| FIXED COSTS | Quantity | Units | \$/Unit | Total | Total |
| Machinery Depreciation |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$0.98 | \$0.98 | \$624.75 |
| Tractors/Self-Propelled | 1 | Acre | \$13.95 | \$13.95 | \$8,931.01 |
| Implements | 1 | Acre | 59.40 | \$9.40 | \$6,014.66 |
| Equipment Investment |  |  |  |  |  |
| Pickup/General Use Equipment | \$6.84 | Dollars | 6.50\% | \$0.44 | \$284.46 |
| Tractors/Self-Propelled | \$104.56 | Dollars | 6.50\% | \$6.80 | \$4,349.61 |
| Implements | \$40.20 | Dollars | 6.50\% | \$2.61 | \$1,672.41 |
| Cash Rent - Wheat | 1 | Acre | \$30.00 | \$30.00 | \$19,200.00 |
| Total Fixed Costs |  |  |  | \$64.18 | \$41,076.90 |
| Total Specified Costs |  |  |  | \$294.43 | \$188,435.27 |

GRILIFE


| REVENUE | Quantity | Units | \$/Unit | Total | Enterprise |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Wheat | 40.00 | Bushel | \$8.25 | \$330.00 | \$211,200.00 |
| Wheat Pasture | 64.00 Pound of Gain |  | \$0.75 | \$48.00 | \$30,720.00 |
| Total Revenue |  |  |  | \$378.00 | \$241,920.00 |
|  |  |  |  |  | Enterprise |
| VARIABLE COSTS | Quantity | Units | \$/Unit | Total | Total |
| Production Costs |  |  |  |  |  |
| Seed |  |  |  |  |  |
| Wheat Seed | 50 | Pound | 50.23 | \$11.50 | \$7,360.00 |
| Fertilizer |  |  |  |  |  |
| Fertilizer ( N ) | 60 | Pound | \$0.79 | \$47.40 | \$30,336.00 |
| Fertilizer (P) | 25 | Pound | \$0.63 | \$15.75 | \$10,080.00 |
| Custom |  |  |  |  |  |
| Custom Harvest Wheat | 1 | Acre | \$35.00 | \$35.00 | \$22,400.00 |
| Overage - Wheat | 10 | Bushel | 50.24 | \$2.40 | \$1,536.00 |
| Custom Haul Wheat | 30 | Bushel | \$0.24 | \$7.20 | \$4,608.00 |
| Fertilizer Application | 1 | Acre | \$5.00 | \$5.00 | \$3,200.00 |
| Miscellaneous |  |  |  |  |  |
| Insurance - Wheat | 1 | Acre | \$12.00 | \$12.00 | \$7,680.00 |
| Herbicide |  |  |  |  |  |
| Herbicide - Wheat | 6.4 | Ounce | \$0.17 | \$1.10 | \$704.00 |
| 2,4D | 4.2 | Pint | \$2.84 | \$11.93 | \$7,633.92 |
| Glyphosate | 6 | Pint | \$4.30 | \$25.80 | \$16,512.00 |
| Insecticide |  |  |  |  |  |
| Insecticide \& Application - Whea | 2 | Ounce | \$4.50 | \$9.00 | \$5,760.00 |
| Fungicides |  |  |  |  |  |
| Tractors/Self-Propelled | 0.17 | Hour | \$15.00 | \$2.55 | \$1,632.00 |
| Other Labor | 0.2 | Hour | \$15.00 | \$3.00 | \$1,920.00 |
| Diesel Fuel |  |  |  |  |  |
| Tractors/Self-Propelled | 2.03 | Gallon | \$3.49 | \$7.08 | \$4,534.21 |
| Gasoline |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$2.11 | \$2.11 | \$1,350.00 |
| Repairs \& Maintenance |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$0.70 | \$0.70 | \$450.00 |
| Tractors/Self-Propelled | 1 | Acre | \$4.85 | \$4.85 | \$3,105.84 |
| Implements | 1 | Acre | \$10.44 | \$10.44 | \$6,682.96 |
| Interest on Credit Line |  |  | 7.50\% | \$9.93 | \$6,353.45 |
| Total Variable Costs |  |  |  | \$230.25 | \$147,358.37 |
| Planned Returns Above Variable Costs: |  |  |  | \$147.75 | \$94,561.63 |
| Breakeven Price to Cover Variable Costs |  |  | \$4.56 | hel |  |
| FIXED COSTS | Quantity | Units | \$/Unit | Total | Enterprise |
| Machinery Depreciation |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$0.98 | \$0.98 | \$624.75 |
| Tractors/Self-Propelled | 1 | Acre | \$13.95 | \$13.95 | \$8,931.01 |
| Implements | 1 | Acre | \$9.40 | \$9.40 | \$6,014.66 |
| Equipment Investment |  |  |  |  |  |
| Pickup/General Use Equipment | \$6.84 | Dollars | 6.50\% | \$0.44 | \$284.46 |
| Tractors/Self-Propelled | \$104.56 | Dollars | 6.50\% | \$6.80 | \$4,349.61 |
| Implements | \$40.20 | Dollars | 6.50\% | \$2.61 | \$1,672.41 |
| Cash Rent-Wheat | 1 | Acre | \$30.00 | \$30.00 | \$19,200.00 |
| Total Fixed Costs |  |  |  | \$64.18 | \$41,076.90 |
| Total Specified Costs |  |  |  | \$294.43 | \$188,435.27 |
| Returns Above Specified Costs |  |  |  | \$83.57 | \$53,484.73 |

## Cost Allocation Considerations

- Single farm with different enterprises
- Same inputs are used by several enterprises
- Economics of scale (extrapolations)
E.g.: irrigation labor, land preparation
- Define the appropriate units:

Unit of area: per acre, plot, greenhouse
Unit of product: per Ton, per head, per bushel

## Uses of Enterprise Budgets

- Estimate the profits of the entire farm
- Identify the most profitable crops
- Analyze the financial impact of production decisions
- Price estimation
- Identify the major sources of production cost
- Benchmarking analysis
- Support farm loan applications



## Whole-Farm Budget

- Used to estimate the profits of the entire farm and identify the crops profitability, and alternatives.



## Partial Budget Analysis

- Tool used to analyze the impact that changes on production practices have on farm income.
- For example:
- Adoption of new technologies
- Changing input levels and type of inputs
- Buy or rent machinery
- Expanding or reducing the farm size
- Identify ONLY the revenues and expenses affected by the change in production practices.


## Partial Budget Analysis

|  | B. Negative Effects |
| :---: | :---: |
| A. Positive Effects | Reduced revenue <br> + Additional costs |
| Additional revenue |  |
| + Reduced costs | $=$ Negative change in income |
| = Positive change in income | C. Net Effect |
|  | $=$ Net change in income (A-B) |



| Cost to Program Cattle Participation |  |  |
| :---: | :---: | :---: |
| Calf Born to Weaning | \$/Head | Total |
| Verification Service Fees \& Investment Annual Costs | \$42.97 | \$4,297 |
| Added Management and Labor | \$3.00 | \$300 |
| Record Keeping - Paper Work | \$4.00 | \$400 |
| Other | \$0.00 |  |
| Other | \$0.00 |  |
| Other | \$0.00 |  |
| Subtotal Calf Born to Weaning Cost | \$49.97 | \$4,997 |
| Post Weaning To Sale | \$/Head | Total |
| Record Keeping - Paper Work | \$3.00 | \$300 |
| Added days of feeding \& Grazing 60 Days | \$72.00 | \$7,200 |
| Vet, Vaccination, Worm and medicine | \$14.00 | \$1,400 |
| RFID Tag | \$3.85 | \$385 |
| Other | \$0.00 |  |
| Subtotal of Post Weaning Participation Production Co | \$92.85 | \$9,285 |
| Total Participation Cost | \$142.82 | \$14,282 |


|  | Weaned Program Calves | Non Weaned Calves |
| :---: | :---: | :---: |
| Participating in Program |  |  |
| Initial Weaned Weight - Net If Sold | 500 | 550 |
| Death Loss (\%) | 1\% |  |
| Added Net Weight | 120 | 0 |
| Weight in Program (Lb/Head) | 620 | 550 |
| Projected Net Market Price (\$/CWT) | \$205.00 | \$205.00 |
| Projected Premium (\$/CWT) | \$11.00 |  |
| (\$/Head) | \$68.20 |  |
| Participating Price (\$/CWT) | \$216.00 | \$205.00 |
| Revenue per Head | \$1,339 | \$1,128 |
| Total Revenue | \$132,581 | \$112,750 |


| Change In Revenue | Total \$ | \$19,831 |
| :--- | :---: | :---: |
| Change In Costs to Participate (Added Costs) | Total \$ | $\mathbf{\$ 1 4 , 2 8 2}$ |
| Net Revenue Change* | Total \$ | $\mathbf{\$ 5 , 5 4 9}$ |
| Net Revenue Change* | \$/Head | $\$ 56.05$ |
| Minimum Price Required | \$/Head | $\$ 1,339.96$ |
| Minimum Price Required | \$/CWT | $\$ 205.12$ |

## Breakeven Analysis

- Breakeven price:

Minimum price per unit required to cover all projected costs
Breakeven price $=\frac{\text { Expected cost }}{\text { Expected yield }}$

- Breakeven yield:

Minimum yield required to cover all projected costs
Breakeven yield $=\frac{\text { Fixed cost }}{\text { Expected price }- \text { Average variable cost }}$

## Breakeven Analysis



## Breakeven Price - Example

- Wheat:

Yield $=45 \mathrm{bu} / \mathrm{ac}$
Total variable cost = \$230/ac
Total fixed cost = \$64/ac
Total cost = \$294/ac

- Breakeven price $=\frac{\text { Expected cost }}{\text { Expected yield }}$
- Breakeven price (variable cost) $=\frac{230}{40}=\$ 5.11 / \mathrm{bu}$
- Breakeven price (total cost) $=\frac{294}{40}=\$ 6.53 / \mathrm{bu}$

Custom Haul Wheat
Haul Wheat

Insurance - Wheat Ins
inde

30

\$0.24
$\$ 7.20$
$\$ 4,608.00$
Insurance - Wheat
Herbicide
Herbicide - Wheat
24 D

2,4D
Glyphosate
Insecticide
Insecticide \& Application - Whea
Fungicides
Fungicide Application
Machinery Labor
Tractors/Self-Propelled
Other Labor
Diesel Fuel
Tractors/Self-Propelled
Gasoline
Pickup/General Use Equipment
Repairs \& Maintenance
Pickup/General Use Equipment
Tractors/Self-Propelled
Implements
Interest on Credit Line Total Variable Costs
Planned Returns Above Variable Costs:
Breakeven Price to Cover Variable Costs


Breakeven
PriceVariable Costs

## Breakeven

 Price - TotalCost

## Sensitivity Analysis

- Analysis of price and yield uncertainty.

|  |  | Example Breakeven Prices |  |
| :---: | :---: | :---: | :---: |
| Example | Example | To Cover | To Cover |
| Yield | Yield | Variable | Total |
| Percent | Bushel | Costs | Costs |
| 75\% | 30.00 | \$6.07 | \$8.21 |
| 90\% | 36.00 | \$5.06 | \$6.85 |
| 100\% | 40.00 | \$4.56 | \$6.16 |
| 110\% | 44.00 | \$4.14 | \$5.60 |
| 125\% | 50.00 | \$3.64 | \$4.93 |
|  | nt yield lev <br> $\%$ = Expect <br> = Yield is <br> $\%=$ Yield |  |  |

## Sensitivity Analysis

- Analysis of price and yield uncertainty.


| REVENUE | Quantity | Units | \$/Unit | Total | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bermudagrass Round Bale | 6.00 | Round Bale | \$130.00 | \$780.00 | \$78,000.00 |
| Total Revenue |  |  |  | \$780.00 | \$78,000.00 |
|  |  |  |  |  | Enterprise |
| VARIABLE COSTS | Quantity | Units | \$/Unit | Total | Total |
| Production Costs |  |  |  |  |  |
| Custom |  |  |  |  |  |
| Fertilizer Application | 3 | Acre | \$5.00 | \$15.00 | \$1,500.00 |
| Herbicide Application | 2 | Acre | \$5.50 | \$11.00 | \$1,100.00 |
| Insecticide Application | 1 | Acre | \$5.50 | \$5.50 | \$550.00 |
| Cut and Bale | 6 | Roll | \$30.00 | \$180.00 | \$18,000.00 |
| Fertilizer |  |  |  |  |  |
| Fertilizer ( N ) | 135 | Pound | \$0.79 | \$106.65 | \$10,665.00 |
| Fertilizer (P) | 37.8 | Pound | \$0.63 | \$23.81 | \$2,381.40 |
| Potash (K) | 113.4 | Pound | \$0.70 | \$79.38 | \$7,938.00 |
| Herbicide |  |  |  |  |  |
| Hay Pre and Post Herbicide | 2 | Acre | \$12.00 | \$24.00 | \$2,400.00 |
| Insecticide |  |  |  |  |  |
| Insecticide - Alfalfa 1 | 1 | Pint | \$4.12 | \$4.12 | \$412.00 |
| Gasoline |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$4.50 | \$4.50 | \$450.00 |
| Repairs \& Maintenance |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$30.00 | \$30.00 | \$3,000.00 |
| Interest on Credit Line |  |  | 7.50\% | \$17.09 | \$1,708.86 |
| Total Variable Costs |  |  |  | \$501.05 | \$50,105.26 |
| Planned Returns Above Variable Costs: |  |  |  | \$278.95 | \$27,894.74 |
| Breakeven Price to Cover Variable Costs |  |  | \$83.51 | Round Bale |  |
| FIXED COSTS | Quantity | Units | \$/Unit | Total | Enterprise Total |
| Machinery Depreciation |  |  |  |  |  |
| Pickup/General Use Equipment | 1 | Acre | \$45.83 | \$45.83 | \$4,582.50 |
| Equipment Investment |  |  |  |  |  |
| Pickup/General Use Equipment | \$395.88 | Dollars | 6.50\% | \$25.73 | \$2,573.19 |
| Allocated Establishment Cost | 1 | Acre | \$55.00 | \$55.00 | \$5,500.00 |
| Total Fixed Costs |  |  |  | \$126.56 | \$12,655.69 |
| Total Specified Costs |  |  |  | \$627.61 | \$62,760.95 |
| Returns Above Specified Costs |  |  |  | \$152.39 | \$15,239.05 |

## Breakeven Prices - NT Wheat

|  |  |  | Example Breakeven Prices |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Example | Example | To Cover | To Cover |
|  | Yield | Yield | Variable | Total |
| 2022-23 | Percent | Bushel | Costs | Costs |
|  | 75\% | 30.00 | \$6.07 | \$8.21 |
|  | 90\% | 36.00 | \$5.06 | \$6.85 |
|  | 100\% | 40.00 | \$4.56 | \$6.16 |
|  | 110\% | 44.00 | \$4.14 | \$5.60 |
|  | 125\% | 50.00 | \$3.64 | \$4.93 |
| 2021-22 |  |  | Example Breakeven Prices |  |
|  | Example | Example | To Cover | To Cover |
|  | Yield | Yield | Variable | Total |
|  | Percent | Bushel | Costs | Costs |
|  | 75\% | 30.00 | \$6.89 | \$8.97 |
|  | 90\% | 36.00 | \$5.74 | \$7.48 |
|  | 100\% | 40.00 | \$5.16 | \$6.73 |
|  | 110\% | 44.00 | \$4.69 | \$6.12 |
|  | 125\% | 50.00 | \$4.13 | \$5.38 |

## Breakeven Prices - Coastal Production



## Breakeven Prices - NT Irrigated Cotton

|  |  |  | Example Breakeven Prices |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Example | Example | To Cover | To Cover |
|  | Yield | Yield | Variable | Total |
| 2022-23 | Percent | Pound | Costs | Costs |
|  | 75\% | 1,053 | \$0.75 | \$0.94 |
|  | 90\% | 1,264 | \$0.63 | \$0.78 |
|  | 100\% | 1,404 | \$0.56 | \$0.70 |
|  | 110\% | 1,544 | \$0.51 | \$0.64 |
|  | 125\% | 1,755 | \$0.45 | \$0.56 |
|  |  |  | Example Breakeven Prices |  |
|  | Example | Example | To Cover | To Cover |
|  | Yield | Yield | Variable | Total |
|  | Percent | Pound | Costs | Costs |
| 2021-22 | 75\% | 1053.00 | \$0.74 | \$0.91 |
|  | 90\% | 1263.60 | \$0.61 | \$0.76 |
|  | 100\% | 1404.00 | \$0.55 | \$0.68 |
|  | 110\% | 1544.40 | \$0.50 | \$0.62 |
|  | 125\% | 1755.00 | \$0.44 | \$0.55 |

## Breakeven Prices - NT Dryland Cotton

|  | Example Breakeven Prices |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Example | Example | To Cover | To Cover |
| 2022-23 | Yield | Yield | Variable | Total |
| 2022-23 | Percent | Pound | Costs | Costs |
|  | 75\% | 330.00 | \$1.08 | \$1.26 |
|  | 90\% | 396.00 | \$0.90 | \$1.05 |
|  | 100\% | 440.00 | \$0.81 | \$0.94 |
|  | 110\% | 484.00 | \$0.74 | \$0.86 |
|  | 125\% | 550.00 | \$0.65 | \$0.75 |
|  |  |  | Example Breakeven Prices |  |
|  | Example | Example | To Cover | To Cover |
|  | Yield | Yield | Variable | Total |
| 2021-22 | Percent | Pound | Costs | Costs |
|  | 75\% | 330.00 | \$1.05 | \$1.23 |
|  | 90\% | 396.00 | \$0.88 | \$1.02 |
|  | 100\% | 440.00 | \$0.79 | \$0.92 |
|  | 110\% | 484.00 | \$0.72 | \$0.84 |
|  | 125\% | 550.00 | \$0.63 | \$0.74 |

## Breakeven Prices - Dryland Sorghum

|  |  |  |  | akeven Prices |
| :---: | :---: | :---: | :---: | :---: |
|  | Example | Example | To Cover | To Cover |
| 2022-23 | Yield | Yield | Variable | Total |
| 2-23 | Percent | CWT | Costs | Costs |
|  | 75\% | 22.50 | \$8.38 | \$10.75 |
|  | 90\% | 27.00 | \$6.98 | \$8.95 |
|  | 100\% | 30.00 | \$6.28 | \$8.06 |
|  | 110\% | 33.00 | \$5.71 | \$7.33 |
|  | 125\% | 37.50 | \$5.03 | \$6.45 |
|  |  |  | E | akeven Prices |
|  | Example | Example | To Cover | To Cover |
|  | Yield | Yield | Variable | Total |
| 2021-22 | Percent | CWT | Costs | Costs |
| 2021-22 | 75\% | 22.50 | \$8.58 | \$10.90 |
|  | 90\% | 27.00 | \$7.15 | \$9.08 |
|  | 100\% | 30.00 | \$6.43 | \$8.18 |
|  | 110\% | 33.00 | \$5.85 | \$7.43 |
|  | 125\% | 37.50 | \$5.15 | \$6.54 |

## Budget and Breakeven Prices

| Breakeven Prices to Cover Total Costs |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 80\% Weaning Percent |  | 85\% Weaning Percent |  | 90\% Weaning Percent |  |
|  | Weight | Price (\$/CWT) | Weight | Price (\$/CWT) | Weight | Price (\$/CWT) |
| Cull Cow | 999 | 100 | 999 | 94 | 999 | 89 |
| Cull Bull | 1,575 | 118 | 1,575 | 111 | 1,575 | 105 |
| Steer Calves | 450 | 229 | 450 | 216 | 450 | 204 |
| Heifer Calves | 428 | 224 | 428 | 211 | 428 | 199 |


| Breakeven Prices to Cover Total Costs |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 80\% Weaning Percent |  | 85\% Weaning Percent |  | 90\% Weaning Percent |  |
|  | Weight | Price (\$/CWT) | Weight | Price (\$/CWT) | Weight | Price (\$/CWT) |
| Cull Cow | 1,110 | 90 | 1,110 | 85 | 1,110 | 80 |
| Cull Bull | 1,750 | 106 | 1,750 | 100 | 1,750 | 94 |
| Steer Calves | 500 | 206 | 500 | 195 | 500 | 184 |
| Heifer Calves | 475 | 201 | 475 | 190 | 475 | 179 |


| Breakeven Prices to Cover Total Costs |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  | $80 \%$ Weaning Percent |  | 85\% Weaning Percent |  | 90\% Weaning Percent |  |
|  | Weight | Price (\$/CWT) | Weight | Price (\$/CWT) | Weight | Price (\$/CWT) |
| Cull Cow | 1,221 | 82 | 1,221 | 77 | 1,221 | 73 |
| Cull Bull | 1,925 | 96 | 1,925 | 91 | 1,925 | 86 |
| Steer Calves | 550 | 188 | 550 | 177 | 550 | 167 |
| Heifer Calves | 523 | 183 | 523 | 172 | 523 | 163 |

## Wheat and Small Grain Decision Aids



# Input Cost Management / Resource Optimization 



Figure 1: Monthly Average Fertilizer Nutrient Prices, January 1995 to October 2021.
Source: Compiled from DTN spot market price data for the last trading day of each month. The markets include New Orleans, Corn Belt, Southern Plains, South Central, Southeast and Florida. The phosphorous price is specifically for diammonium phosphate (DAP).

## Fertilizer

```
Price Fertilizer Change
200\%
\(150 \%\)
```



```
-50\%

\section*{Chemical}


\section*{Maximize Profits!}
- I am an economist, NOT AN AGRONOMIST

Consult with your crop consultant and AgriLife agronomy faculty before making critical input decisions
- The rule of making any input adjustments is balancing Marginal Revenue (MR) and Marginal Cost (MC); rates of change
MR \(>\mathrm{MC} \rightarrow\) Profitable decision
\(\mathrm{MR}=\mathrm{MC} \rightarrow\) Point of profit maximization
\(\mathrm{MR}<\mathrm{MC} \rightarrow\) Losing profits
- These figures change at different levels of input; eventually reach a max return and even negative return

\section*{Managing Input Costs}
- Marginal Revenue = Change Rev. / Change Q.
- Marginal Cost \(=\) Change Cost/ Change Q.
- Simple fertilizer example

Price Wheat: \(10 \$ / b u\) Cost N: 0.79\$/LB


Price Wheat: \(7 \$ /\) bu Cost \(\mathrm{N}: 0.79 \$ / \mathrm{LB}\)



\section*{Resource Optimization / Maximize Profit}


Heads

\section*{Resource Optimization / Maximize Profit}


\section*{Resource Optimization / Maximize Profit}


Heads

\section*{Resource Optimization / Maximize Profit}


Unique for each ranch, each operation

Examples:
Cost Business Structure
Business Organization
Genetics Forage Production

\section*{Budgeting Decision Tools}

EXTENSION

\section*{Enterprise Budget Resources}
- Available tools:

Texas crop and livestock budgets
Spreadsheet budgets - build your own
Machinery Cost Estimator

Online search: "AgriLife crop budgets"

\section*{https://agecoext.tamu.edu/resources}

\section*{Available Resources}

1 About Us \(\downarrow\) Districts \(\downarrow\) Resources \(\downarrow\) Programs \(\downarrow\) Links Contact Us \(\downarrow\) Social Media

\section*{Resources}
- Agriculture Law Blog
\(\circ\) Basis Data
\(\circ\) Crop \& Livestock Budgets
Custom Rate Survey
Budget Resources
- Decision Aids
- Developing Business Plans for Agricultural Producers
- Farm Bill Decision Aid and Educational Materials
- Increment Report
- Library
- Market Outlook
- Podcasts \& Videos
- Water Management

\section*{Texas Crop and Livestock Budgets}

1 About Us \(\downarrow\) Districts \(\downarrow\)
Resources \(\downarrow\)
Programs \(\downarrow \quad\) Links
Contact Us \(\downarrow\) Social Media

\section*{Texas Crop and Livestock Budgets}

Texas A\&M AgriLife Extension Service enterprise budgets for major crops and livestock are a valuable tool used to help Texas agricultural producers generate their own budgets. These enterprise budgets are developed and updated each year by January 31 . Over 180 enterprise budgets for major crops and alternative production systems are available from the 12 Extension districts which represent a wide range of geographical regions throughout the State.
```

* CROP AND LIVESTOCK BUDGETS
Texas Crop and Livestock Budgets
- Build Your Own Budgets
- Budgets by Extension District
- Budgets by Commodity
- Budget Archives - 1972-1997

```

Use the menu to the right to navigate through the Extension enterprise budgets. Budgets can be viewed by Extension district or by commodity. For more information email budgets@tamu.edu.

To view a list of counties in each Texas A\&M AgriLife Extension district go to this page.

\section*{Extension Agricultural Economics}
1 About Us \(\downarrow\) Districts \(\downarrow\) Resources \(\downarrow\) Programs \(\downarrow\) Links Contact Us \(\downarrow\) Social Media

\section*{Budgets by Extension District}

exas Crop and Livestock Budgets
uild Your Own Budgets
udgets by Extension District
- District 1 - Panhandle
- District 2 - South Plains
- District 3 - Rolling Plains
- District 4 - North
- District 5 - East
- District 6 - Far West
- District 7 - West Central
- District 8 - Central

To view a list of counties in each Texas A\&M AgriLife Extension district go to this page.
- District 9 - Southeast
- District 10 - Southwest
- District 11 - Coastal Bend
- District 12 - South
- Budgets by Commodity
- Budget Archives - 1972-1997

Build your own Budget:
- Spreadsheet Budgets* (Spreadsheet Budget Help Video - best viewed in full screen)
- Using The Spreadsheet Budgets (help file)
- Machinery Cost Estimator (calculate your machinery cost)
*Caution: This file may not open in some browsers. If so, download the file to your computer when given the option by your browser, then open the file in Excel. If you still have trouble with the file try downloading this zip file and extracting the Excel file from it.

\section*{Forage Crops}
- Dryland Alfalfa Establishment
- Coastal Bermudagrass Establishment
- Dryland Alfalfa Hay
- Coastal Bermudagrass Hay Dryland
- Irrigated Alfalfa Establishment
- Irrigated Alfalfa Hay
- Small Grain Grazing

\section*{Field Crops}
- Dryland Cotton (Solid 40" Rows).
- Cotton - Red Till Irrigated
- Conventional Irrigated Cotton

Cotton - No Till Irrigated
- Cotton - No Till - Cover Crop Wheat Irrigated
- Cotton - No Till Dryland
- Irrigated Peanuts
- Dryland Sorghum
- Dryland Wheat
- Dryland Wheat - No Till
- Irrigated Wheat

Organic Wheat Year 3
- Organic Summer Hay Crop
- Organic Wheat Year 1

\section*{Thank you very much}

\section*{Francisco Abelló}
\[
\frac{\text { fjabello@tamu.edu }}{(940) 647-3908}
\]
https://vernon.tamu.edu/extension-projects/d3-agricultural-economics/
https://agecoext.tamu.edu/resources/decisionaids/beef/


High Plains - Ag Weekly Blog```

