

Cost of Production

Presented by

Tara Janda, Cassidy Thompson, Melissa Elstermeier

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Session Goals:

- Understand the value of calculating cost of production.
- Identify the types of record keeping and what they are telling you.
- Practice calculating cost of production and breakeven.
- Understand the value of cost of production in making operational decisions.

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The graphic is set against a green background and contains seven icons in light green rounded squares, each with a corresponding text description below it:

- Icon:** Two hands shaking.
- Text:** KNOWING WHEN TO SELL

- Icon:** A small plant growing.
- Text:** KNOWING WHEN AND IF TO ROTATE CROPS

- Icon:** A head with gears inside.
- Text:** KNOWING WHICH FIELDS ARE PROFITABLE

- Icon:** A stack of money.
- Text:** KNOWING WHAT LEVEL OF CROP INSURANCE IS NEEDED

- Icon:** A checkmark.
- Text:** KNOWING IF A PIECE OF EQUIPMENT IS A GOOD INVESTMENT

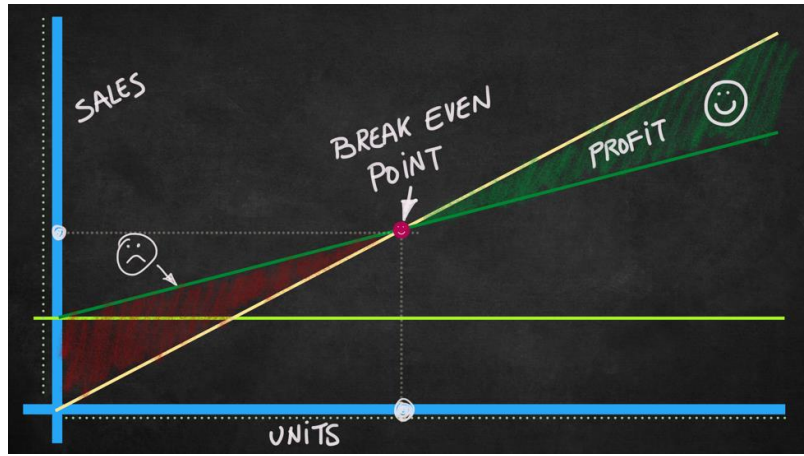
- Icon:** A stack of coins.
- Text:** KNOWING WHICH ENTERPRISES ARE MAKING MONEY

- Icon:** A cow.
- Text:** KNOWING WHICH LIVESTOCK GROUPS ARE MORE PROFITABLE

At the bottom, there are logos for "Sponsored by Farm Credit Services of America" and "FRONTIER FARM CREDIT".

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Knowing
your
profitability
tipping
point is
powerful.



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COST
— OF —
PRODUCTION

What is it?

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(predicted)
Total Expenses

of Units
(acre, sow, cow)



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Did this operation experience a loss or a profit this year?

		Last Year	This Year	Next Year	
Last Year's Crop	EXPENSES	\$(600,000) Land, machinery, crop protection, fuel	\$(50,000) Off-farm storage		
	INCOME	\$200,000 Sell 25% of crop	\$600,000 Sell remainder of crop		
This Year's Crop	EXPENSES	\$(200,000) Prepay seed and fertilizer	\$(625,000) Land, machinery, crop protection, fuel	\$(55,000) Off-farm storage	\$120,000 Accrual-based total
	INCOME		\$250,000 Sell 25% of crop	\$750,000 Sell remainder of crop	
Next Year's Crop	EXPENSES		\$(215,000) Prepay seed and fertilizer	\$(650,000) Land, machinery, crop protection, fuel	
	INCOME			\$300,000 Sell 25% of crop	
			\$(40,000) Cash-based total		

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It depends!

	Last Year	This Year	Next Year	
Last Year's Crop	EXPENSES	\$(600,000) Land, machinery, crop protection, fuel	\$(50,000) Off-farm storage	
	INCOME	\$200,000 Sell 25% of crop	\$600,000 Sell remainder of crop	
This Year's Crop	EXPENSES	\$(200,000) Prepay seed and fertilizer	\$(625,000) Land, machinery, crop protection, fuel	\$(55,000) Off-farm storage
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	INCOME			\$300,000 Sell 25% of crop
				\$120,000 Accrual-based total
				\$(40,000) Cash-based total

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Terms to understand:

Fixed Costs/Overhead: Costs that **do not** fluctuate based on the number of units produced.

Variable/Direct Costs: Costs that **do** fluctuate based on the number of units produced.

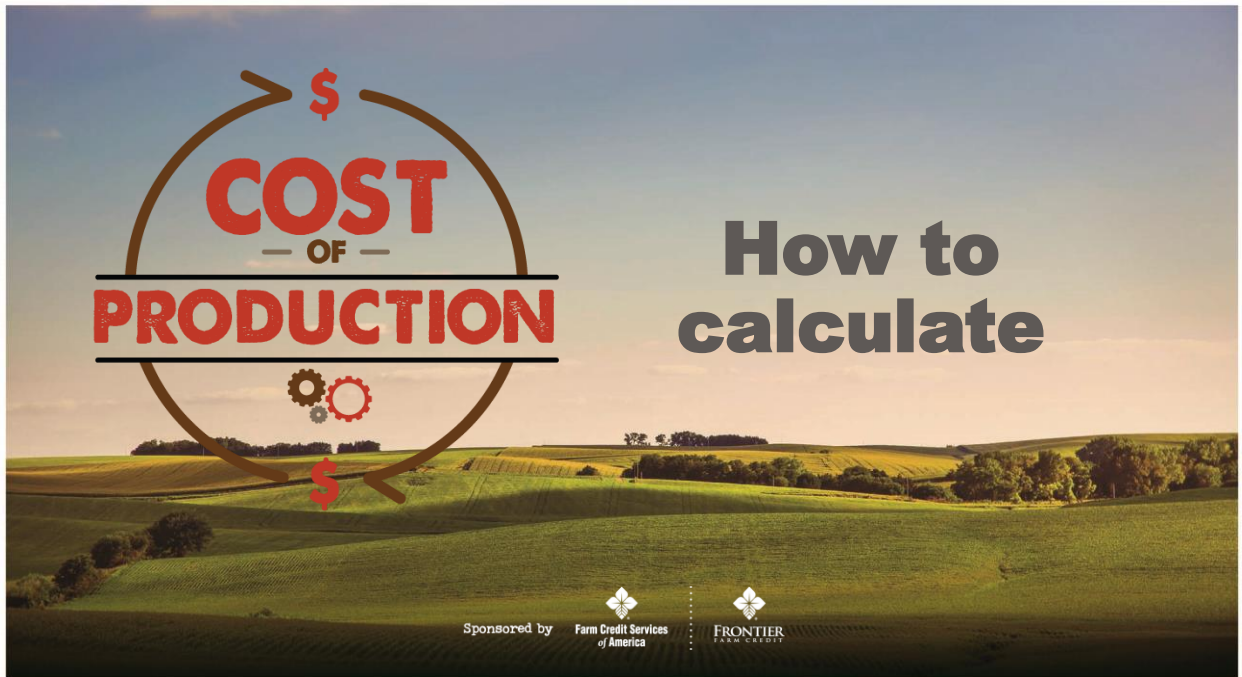
Family Living Expenses: Non-farm expenses for the family to live.
(above off-farm income)

Total Costs: Fixed, variable, and family living costs added together.

Cost of Production: Total expenses divided by number of units (acres, head).

Breakeven: Cost of Production divided by amount produced (bushels, lbs.).

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Gather Information



- **Historical income/expense sources:** Tax Returns, Income Statements, Bookkeeping Records and Family Living Expenses
- **Forward looking income:** All production and sales of farm commodities, other farm income and all non-farm income
- **Forward looking expenses:** Inputs, Overhead Expenses, Rent, Payments, and Family Living Expenses.

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Allocate Expenses



Variable Costs	Total (Crops 1-9)	Crop 1	Crop 2
Chemicals	\$ -	\$ 14,314.00	\$ 8,396.30
Crop Insurance	\$ -	\$ 5,290.00	\$ 6,710.00
Custom Hire	\$ -	\$ 534.00	\$ 6,216.70
Diesel	\$ -	\$ 4,645.83	\$ 1,854.60
Fertilizer / Lime	\$ -	\$ 30,006.81	\$ 1,269.00
Freight & Trucking	\$ -	\$ 7,516.78	\$ 267.00
Gas / Fuel / Oil	\$ -	\$ 3,932.91	\$ 3,333.70
Grain Drying	\$ -	\$ 726.24	\$ -
Labor Hired	\$ -	\$ 5,131.74	\$ 4,018.80
Land Rent	\$ -	\$ 33,375.00	\$ 21,250.00
Seed	\$ -	\$ 17,355.00	\$ 9,860.00
Storage / Warehousing	\$ -	\$ 2,168.04	\$ 841.50
Irrigation	\$ -	\$ -	\$ -

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Calculate - Grain



$$\begin{array}{rcl}
 \text{TOTAL EXPENSES} & \div & \# \text{ UNITS} & = & \text{COST OF PRODUCTION} \\
 \$75,000 & & 100 \text{ acres} & & \$750/\text{acre} \\
 \\
 \text{COST OF PRODUCTION} & \div & \text{AMOUNT OF PRODUCTION} & = & \text{Breakeven Point} \\
 \$750/\text{acre} & & 200 \text{ bu/acre} & & \$3.75/\text{bu}
 \end{array}$$

Cost of Production is the **most stable** unit.
It's the unit where production **decisions matter!**

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Calculate – Cattle



$$\begin{array}{rcl} \text{TOTAL EXPENSES} & \div & \# \text{ UNITS} & = & \text{COST OF PRODUCTION} \\ \$117,000 & & 150 \text{ head} & & \$780/\text{head} \end{array}$$

$$\begin{array}{rcl} \text{COST OF PRODUCTION} & \div & \text{AMOUNT OF PRODUCTION} & = & \text{Breakeven Point} \\ \$780/\text{head} & & 650 \text{ lbs} & & \$1.20/\text{lb} \end{array}$$

The most accurate and reliable number is in acres or head, not bushels or pounds.

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Run the numbers:



The Jansen Family Farm grows soybeans in Iowa. Help them calculate their cost of production and breakeven point.

Expenses: \$210,000

Units (acres): 450 @ 60 bu/acre

Cost of Production = \$ _____/acre

Breakeven = \$ _____/bushel

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Run the numbers:



The Lee family runs a cow/calf operation in South Dakota. Help them calculate their cost of production and breakeven point.

Expenses: \$175,000

Units (head): 250 @ 650 lbs./head

Cost of Production = \$ _____/head

Breakeven = \$ _____/lbs.

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Quick reminders



Check your math



Look for decimals in the wrong place



Watch for missing or inaccurate information

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Evolve the Process



How often do you update your cost of production?

Never 1-3x per year Living document

How detailed are your line items?

Not detailed High Level Very detailed

At what level do you calculate Cost of Production?

Not at all Operational Enterprise Field or herd

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How to use it

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Tips for Cost of Production Analysis



**Make a
Plan**



**Be specific
& detailed**



**Use tools &
technology**



**Gather as
you go**



**Increase
frequency**

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Check out additional Cost of Production learning resources at
www.fcsamerica.com/costofproduction or by scanning this QR code.

Video:

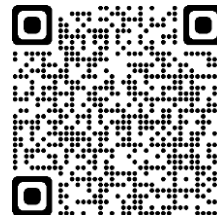
- Why calculate your cost of production?

Infographic:

- How is cost of production different from other records?

Interactive Online Course:

- Laying the Foundation: Financial Terms
- Cost of Production Basics: How to Calculate
- Cost of Production Basics: Checklist for my Operation
- Try it out: Do the Math
- Try it out: Make Decisions



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