MANAGE
Farm Business•Family Life/Finances
University of Tennessee Extension

# 7 $ecrets of Effective Farmers Webinar Series: Budgeting


Les Humpal
Extension Farm Management Specialist
University of Tennessee


June 4, 2020

UTIA INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE
Real. Life. Solutions.

CENTER FOR PROFITABLE AGRICULTURE
UTEXTENSION
INSTITUTE OF AGRICULTURE
A UNIVERSITY OF TENNESSEE – FARM BUREAU PARTNERSHIP

Farm Bureau


Budgeting

# What Will be Covered!

1. Explain enterprise budgets: their purpose and use
2. Illustrate enterprise budgets: their different parts
3. Learn how to construct and use enterprise budgets
4. Partial budgets, utilizing partial budgets

# Purpose of Enterprise Budgets

- Enterprise:
  - A specific product produced by the operation (e.g. wheat, peas, calves). Most farms consist of several enterprises.
- Enterprise Budget Analysis:
  - Comparison of enterprises, in which some or all of the farm's projected revenues and costs are *allocated* to each enterprise.
- Aids in developing a projected Cash Flow

# Enterprise Budgets

- Are an estimate of the costs and returns associated with the production of a product or products – referred to as an enterprise.
- Is a distinct part of the farm or ranch business that can be analyzed separately.
- Are usually based on some production input unit – an acre of land for most crop enterprise budgets, or an individual animal unit for livestock enterprise budgets.
- Estimate costs and returns based on a specific complement of machinery, land, labor and technology.

# Enterprise Budgets are Used to….

- Determine break-even prices and yield.
- Itemize the receipts (income) received for an enterprise
- List the inputs and production practices required by an enterprise
- Evaluate the efficiency of farm enterprises
- Estimate benefits and costs for major changes in production practices
- Provide the basis for a total farm plan
- Support applications for credit

# Enterprise Budgeting

- Based on accurate production and financial records.
- Each operation is different
  - Genetics, inputs, resources
  - Financial and production goals may not be the same
- *Tennessee Beef Budgets – A Systems Approach to Beef Production*

# Factor in all the Resources you have available!

- Land
- Equipment
- Labor
- Capital

Danny Morris, University of Tennessee Extension Area Specialist

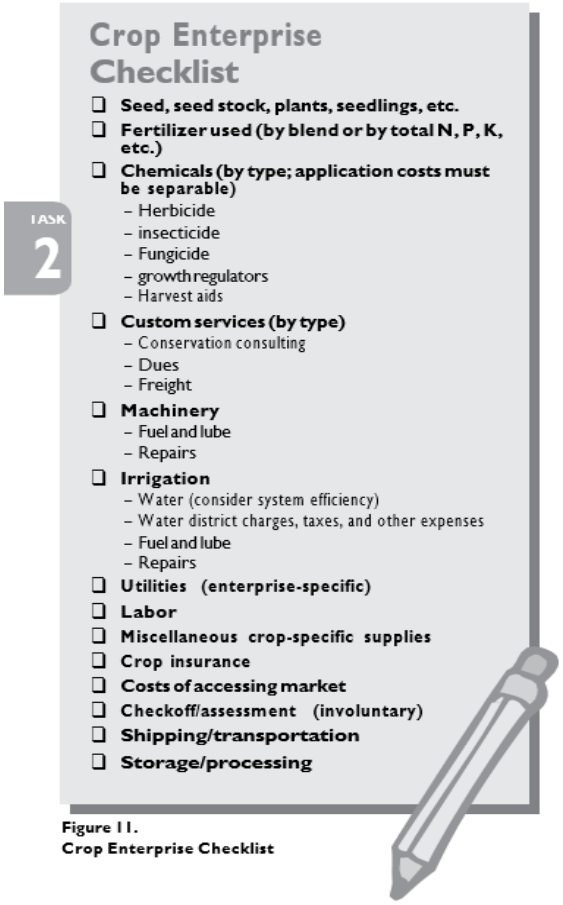
# Crop Production Systems

- After identifying the resources available to you, you need to identify:
  - Crop rotations
  - Timing of operations
  - Machinery and inputs used
  - Quantity of production
  - Storage of products raised
  - Processing and deliver to market

Danny Morris, University of Tennessee Extension Area Specialist

# Crop Production Systems

- Budgeting is crucial for a crop production system.
- A checklist for crop inputs is helpful in completing a budget.
  - Helps to account for all costs of production and identify things you may not have considered.



Crop Enterprise Checklist

TASK 2

- ❑ **Seed, seed stock, plants, seedlings, etc.**
- ❑ **Fertilizer used (by blend or by total N, P, K, etc.)**
- ❑ **Chemicals (by type; application costs must be separable)**
  - Herbicide
  - insecticide
  - Fungicide
  - growth regulators
  - Harvest aids
- ❑ **Custom services (by type)**
  - Conservation consulting
  - Dues
  - Freight
- ❑ **Machinery**
  - Fuel and lube
  - Repairs
- ❑ **Irrigation**
  - Water (consider system efficiency)
  - Water district charges, taxes, and other expenses
  - Fuel and lube
  - Repairs
- ❑ **Utilities (enterprise-specific)**
- ❑ **Labor**
- ❑ **Miscellaneous crop-specific supplies**
- ❑ **Crop insurance**
- ❑ **Costs of accessing market**
- ❑ **Checkoff/assessment (involuntary)**
- ❑ **Shipping/transportation**
- ❑ **Storage/processing**

**Figure 11.**
**Crop Enterprise Checklist**

Danny Morris, University of Tennessee Extension Area Specialist

# Livestock Production Systems

- Livestock production requires as much, if not more, planning that crop production.
- For example in a cattle operation, you have to consider the following:
  - Feed
  - Forages
  - Herd health
  - Financial needs
  - Equipment needs
  - Labor needs

Danny Morris, University of Tennessee Extension Area Specialist

# Purpose of Enterprise Budgets

- To estimate projected costs, revenue, and net returns for a single enterprise to assess feasibility or profitability of current or potential enterprises
  - How much will I make on corn and soybeans?
- Planning tool to test out new ideas and compare enterprises to identify best ones
  - How profitable would wheat be?
  - How does GMO corn compare to conventional corn?

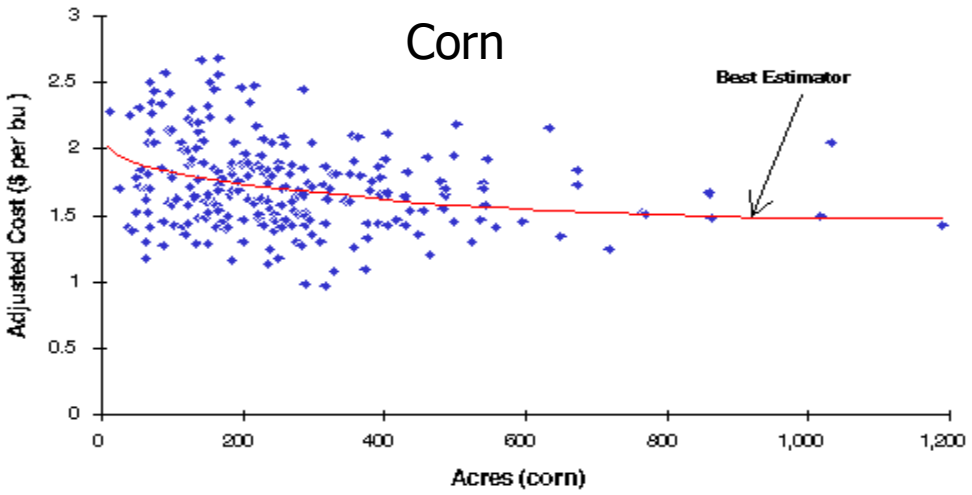
# Enterprise Budgets

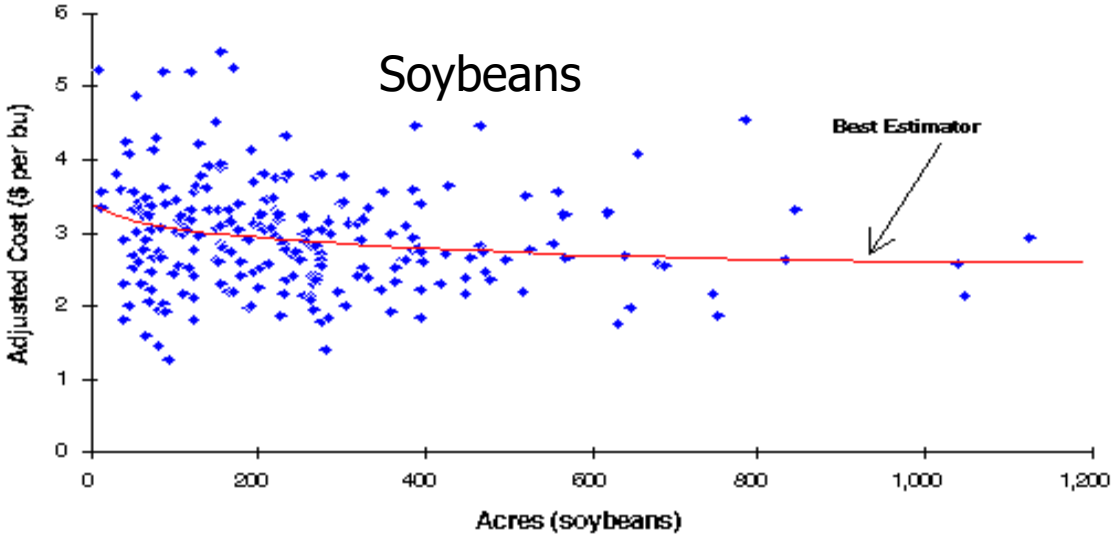
- Use a constant base unit
  - Crops = 1 acre  Livestock = 1 head
- Allows comparison across enterprises
  - Compare wheat to corn and soybeans
  - Compare cow/calf to stocker operations
- Each enterprise budget a building block of the farm.
- Put the blocks together to make your farm

# Enterprise Budgets

- Costs and returns to the same enterprise vary greatly among producers
- Lots of example enterprise budgets and returns projections available
- **Do not accept someone else's enterprise budget** for the cost and returns for growing corn, soybeans, dairy, beef, etc. as your costs
- You need to know your own costs, not someone else's estimate or the typical costs

# Minnesota Data for 1996



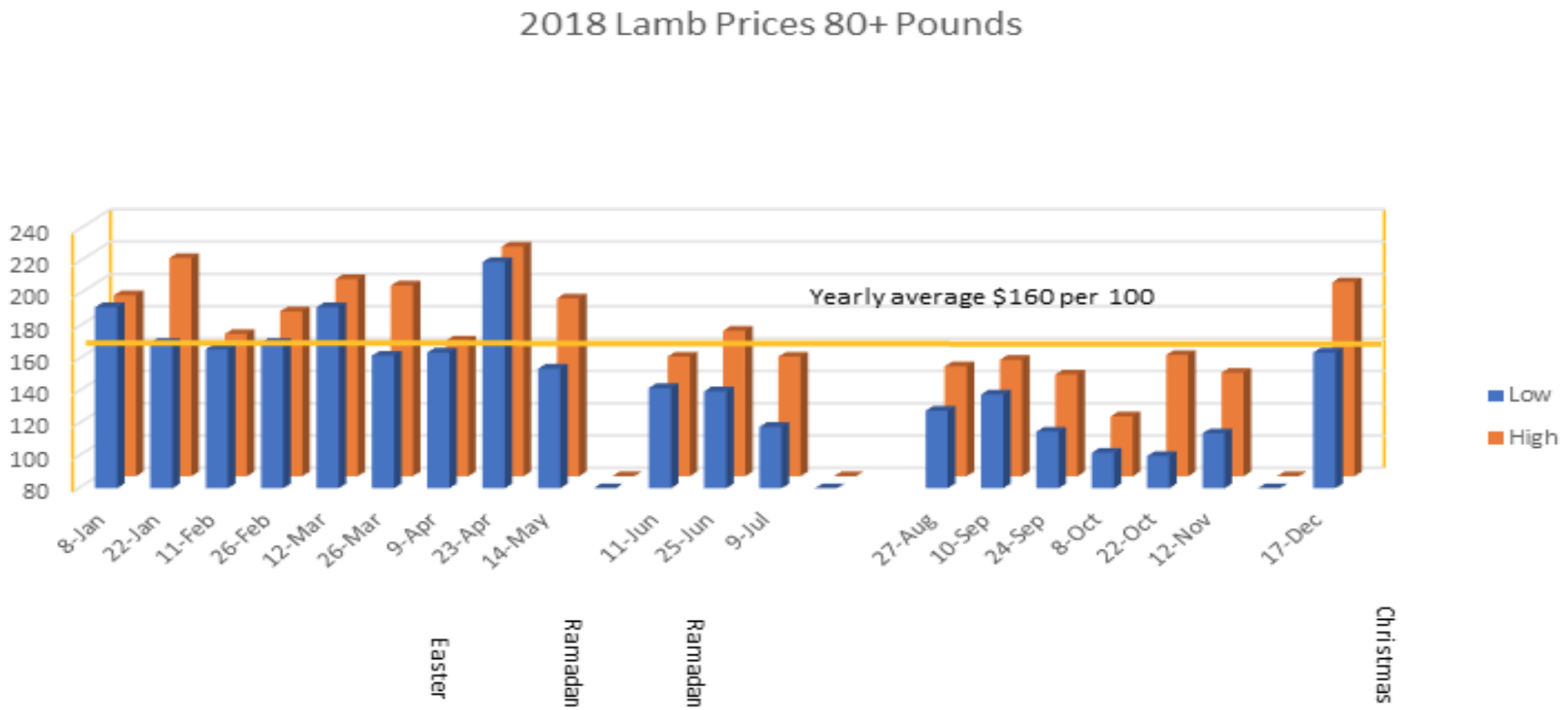




Source: Kent D. Olson and Heman D. Lohano. 1997 "Will the Real Cost of Production Please Stand Up?" Minnesota Agricultural Economists No. 687

http://www.extension.umn.edu/newsletters/ageconomist/components/ag237previous.html

# 2018 Lamb Auction Prices in Columbia, TN

**Reference: Webb Matt D. UT Extension Marshall County Director 2019**



# Using/modifying available budgets

- Existing budgets give a good starting point
- You and your accountant, lender, extension agent, and others can all adapt these budgets to your specific situation
  - Costs can vary widely from one farm to another
  - Learn about assumptions behind sample budgets

# Examples

- Diversity in enterprise budgets-All for Blueberries
- Oregon State: “Blueberry Establishment and Production”

  http://arec.oregonstate.edu/oaeb/files/pdf/AEB0022.pdf
- Georgia: “Southern Highbush and Blueberry Marketing”

  https://extension.uga.edu/publications/detail.html?number=B1413&title=Southern%20Highbush%20Blueberry%20Marketing%20and%20Economics
- Mississippi: “Blueberry 2010 – Ag Economics”

  https://www.agecon.msstate.edu/whatwedo/budgets/docs/Blueberry10.pdf
- Many ways to do enterprise budgets!

# Parts of Enterprise Budget

- **Input Costs:**
- **Revenues – Costs = Returns**

- Cost categories used
  - Variable/Operating Costs
  - Fixed/Ownership/Overhead Costs
- Machinery costs
  - Split into fixed and variable costs?
  - Lump together into own category?
- Opportunity Costs
  - Which ones included, which ones ignored
    - Owner labor, owner capital

# Budget Items & Key Concepts

Revenue

- Yield
- Price

Direct Costs

- Seed
- Herbicide
- Insecticide
- Fertilizer
- Crop insurance
- Fuel, lubrication, repairs
- Miscellaneous
- Operating Interest

Indirect Costs

- Overhead
- Machine Depreciation
  - & Investment
- Land charge

# Budgets are a Profit Projection

- Estimate revenues and costs on the basis of what is *most likely*, not a target or goal
  - Especially with yields
  - Some revenue and cost items are known with relative certainty, some are forecasts based on historical data

# Enterprise Budgets

## Revenue Sources:

## Revenues – Costs = Returns

- Revenue easy to estimate: Price x Yield
  - If you already grow it, you should know
  - For common crops and livestock, prices and typical yields available from many places
- Variable input costs easy too
  - If you already grow it, you should know
  - Price x quantity use per acre
  - Internet or call around for prices, typical use rates

# Livestock Enterprise Budgets

- Many exist, many different ways used
- Unit: one cow, one hog, one ewe, etc., or one sow-litter, cow-calf, ewe-lambs, etc.
- Time period: hogs, flocks: more than one per year, others longer than one year, so adjust all costs to the same time period
- Machinery, facilities, and equipment: fixed and variable costs just as for crops

# Livestock Enterprise Budgets

- Raised crop used for livestock feed
  - Cost for livestock use should be its opportunity cost—the cost if you had to buy the grain
  - Credits crop with the full value of its production
- Manure used as crop fertilizer
  - Cost to crop at its opportunity cost—the cost if you had to buy the equivalent fertilizer
  - Credits livestock with full value of its production
- Delivery/Hauling costs for grain and manure
  - Charge all to one enterprise or split between?

## Cow-Calf Budget Assumptions

Herd Data:
- 50 cow herd with 2 breeding herd bulls
- 90% calf crop with 2% death loss for calves (22 steers & 13 heifers sold)
- 16% cull cow rate with 2% death loss for cows (8 cows sold)
- 100% of replacement heifers are retained from the herd

Supplemental Feed:
- Replacement heifers: 3 lbs/day commercial feed for 150 days (450 pounds)
- Herd bulls: 5 lbs/day commercial feed for 60 days (300 pounds)
- Calves: 2 lbs/day commercial feed for 30 days (60 pounds)

Pasture/Hay:
- Pasture
  - Nitrogen: 60 lbs/ac at $0.45/lb
  - $P_2O_5$: 30 lbs/ac at $0.37/lb
  - $K_2O$: 30 lbs/ac at $0.32/lb
  - One application of broadleaf herbicide
  - Stocking rate: 2 ac/cow-calf pair
- Hay
  - Nitrogen: 100 lbs/ac at $0.45/lb
  - $P_2O_5$: 30 lbs/ac at $0.37/lb
  - $K_2O$: 30 lbs/ac at $0.32/lb
  - One application of broadleaf herbicide
  - Hay yield: 2.5 tons/ac
  - Feeding: 30 lbs/day of hay for 150 days (2.25 tons/yr)

Veterinary/Medicine:
- Cows: respiratory vaccine (1), clostridial bacterin (1), deworm (1), fly tags (2)
- Replacement heifers: respiratory vaccine (2), clostridial bacterin (2), deworm (1), fly tags (1)
- Herd bulls: respiratory vaccine (1), clostridial bacterin (1), deworm (1), fly tags (2), breeding soundness exam
- Calves: respiratory vaccine (2), clostridial bacterin (2), deworm (1), fly tags (1), implant (1)

Marketing:
- Commission: 2.5% on total sale
- Insurance: 0.25% on total sale
- Hauling: $3/loaded mile for 30 miles

Buildings/Equipment:
- Buildings: 1,500-$ft^2$ hay barn, 800-$ft^2$ equipment shed, corral, chute, head gate, fencing
- Equipment: 60-hp tractor, disc mower, hay rake, hay baler, hay wagon, rotary mower, tractor-mounted sprayer, truck

UTIA INSTITUTE OF AGRICULTURE THE UNIVERSITY OF TENNESSEE

## Estimated Returns and Expenses for Beef Cow-Calf Operation in Tennessee

| Item | Unit | Quantity | Price | $/Cow | $/Herd | Your Farm |
|---|---|---|---|---|---|---|
| ***Revenue***[1] | | | | | | |
| Cull Cows | lb | 1200 | $ 0.50 | $ 96.00 | $ 4,800.00 | |
| Heifer Calves | lb | 520 | $ 1.30 | $ 175.76 | $ 8,788.00 | |
| Steer Calves | lb | 550 | $ 1.45 | $ 350.90 | $ 17,545.00 | |
| | | | **Total Revenue** | **$ 622.66** | **$ 31,133.00** | |
| **Variable Expenses** | | | | | | |
| Pasture Production | acre | 2.00 | $ 120.48 | $ 240.96 | $ 12,048.20 | |
| Hay Production | acre | 0.90 | $ 186.32 | $ 167.69 | $ 8,384.49 | |
| Purchased Hay per Cow | ton | 0.00 | $ 80.00 | $ - | $ - | |
| Bull (Pasture & Hay)[2] | $ | 1.7 | $ 408.65 | $ 27.79 | $ 1,389.42 | |
| Supplemental Feed | head | 1 | $ 16.45 | $ 16.45 | $ 822.38 | |
| Salt & Mineral | lb | 91 | $ 0.35 | $ 31.94 | $ 1,596.88 | |
| Vet & Med | head | 1 | $ 31.90 | $ 31.90 | $ 1,595.00 | |
| Reproduction (Artificial Insemination)[3] | head | 0 | $ 56.20 | $ - | $ - | |
| Other Expenses | head | 1 | $ 1.00 | $ 1.00 | $ 50.00 | |
| Labor | hours | 8 | $ 10.00 | $ 80.00 | $ 4,000.00 | |
| | | | **Production Expenses** | **$ 597.73** | **$ 29,886.36** | |
| Interest | $ | $ 597.73 | $ 0.06 | $ 17.93 | $ 896.59 | |
| Marketing | head | 0.86 | $ 26.91 | $ 23.14 | $ 1,157.16 | |
| Land Rent | acre | 0.00 | $ - | $ - | $ - | |
| | | | **Total Variable Expenses** | **$ 638.80** | **$ 31,940.11** | |
| | | | **Returns to Variable Expenses** | **$ (16.14)** | **$ (807.11)** | |
| **Fixed Expenses** | | | | | | |
| Livestock Facilities & Equipment | head | 1 | $ 71.09 | $ 71.09 | $ 3,554.66 | |
| Pasture & Hay Machinery/Equipment | head | 1 | $ 223.16 | $ 223.16 | $ 11,158.13 | |
| Purchased Breeding Stock | head | 1 | $ 23.87 | $ 23.87 | $ 1,193.50 | |
| Purchased Heifers, (not bred) | head | 0.00 | $ 1,000.00 | $ - | $ - | |
| Miscellaneous Overhead[4] | head | 1 | $ 235.29 | $ 23.53 | $ 1,176.45 | |
| | | | **Total Fixed Expenses** | **$ 341.65** | **$ 17,082.73** | |
| | | | **Total Expenses** | **$ 980.46** | **$ 49,022.84** | |
| | | | **Net Return to Land and Management** | **$ (357.80)** | **$ (17,889.84)** | |

# PUMPKIN, FRESH MARKET, TRICKLE IRRIGATED

**Kentucky Estimated Costs and Returns for 2017**

**Approximately 0.12 acres (700 row feet)**

**NOT TO BE CONSIDERED CROPPING RECOMMENDATIONS OR PROFITABILITY PROJECTIONS. FOR COMPARISON AND PLANNING PURPOSES ONLY.**

CENTER FOR CROP DIVERSIFICATION

Click here for print

| | Quantity | Unit | $/Unit | Total | |
|---|---|---|---|---|---|
| **GROSS RETURNS** | | | | | |
| Pumpkins (15-22 lbs) | 200 | pumpkins | $ 5.00 | $ 1,000.00 | a,b |
| Pumpkins (8-15 lbs) | 50 | pumpkins | $ 2.50 | $ 125.00 | a,b |
| **Total Returns** | | | | **$ 1,125.00** | |
| | | | | | |
| **VARIABLE COSTS** | | | | | |
| Production | | | | | |
| Pumpkin Seed | 250 | seeds | $ 0.10 | $ 25.00 | |
| N Fertilizer: Urea | 12 | lbs | $ 0.40 | $ 4.80 | |
| K Fertilizer: Potash (0-0-60) | 2 | lbs | $ 0.30 | $ 0.60 | |
| N Fertilizer: Fertigation (Calcium Nit | 21 | lbs | $ 0.45 | $ 9.45 | g |
| Plastic Mulch | 700 | feet | $ 0.03 | $ 21.00 | c |
| Drip Lines & Irrigation Fittings | 700 | feet | $ 0.05 | $ 37.10 | c |
| Pollination | 0.33 | hive | $ 75.00 | $ 24.75 | |
| Weed Control | 1 | plot | $ 54.29 | $ 54.29 | d |
| Insect Control | 1 | plot | $ 18.58 | $ 18.58 | d |
| Disease Control | 1 | plot | $ 46.69 | $ 46.69 | d |
| Irrigation | 0.12 | acre | $ 50.00 | $ 6.00 | c |
| Hired Labor (Planting, Hand Weedir | 4 | hrs. | $ 12.50 | $ 50.00 | |
| Machinery Variable Costs | 1 | plot | $ 8.72 | $ 8.72 | e |
| **Total Preharvest Variable Costs** | | | | **$ 306.98** | |
| | | | | | |
| **HARVESTING AND MARKETING** | | | | | |
| Plastic Disposal | 2 | hours | $ 12.50 | $ 25.00 | |
| Hired Labor | | | | | |
| Harvest & Field Grading | 11 | hrs | $ 12.50 | $ 137.50 | f |
| Containers | 5 | bins | $ 11.75 | $ 58.75 | |
| Marketing Costs (10% of Gross) | 10.0% | gross | | $ 112.50 | |
| Hauling Variable Costs | 200 | miles | $ 0.55 | $ 110.00 | e |
| **Total Harvesting and Marketing Cost** | | | | **$ 443.75** | |
| | | | | | |
| Interest on Variable Costs | | | | $ 15.87 | |
| | | | | | |
| **TOTAL VARIABLE COST** | | | | **$ 766.60** | |
| | | | | | |
| **RETURN ABOVE VARIABLE COSTS** | | | | **$ 358.40** | |

# Enterprise Budgets

- Cost estimation difficult for machinery, buildings, facilities, equipment, etc.
- What does it cost to plow a field?
- What is the annual cost of a dairy barn?
- What portion of tractor repair should be allocated to soybean production?
- Machinery Costs as an Example

| Category | Beef | Jam | Overhead | Strawberries | OVERALL TOTAL |
|---|---|---|---|---|---|
| INFLOWS | | | | | |
| Beef Sales | | | | | |
| Beef Sales:Custom Meat | 4,500.00 | 0 | 0 | 0 | 4,500.00 |
| Beef Sales:Stockbarn Calves | 26,193.60 | 0 | 0 | 0 | 26,193.60 |
| TOTAL Beef Sales | 30,693.60 | 0 | 0 | 0 | 30,693.60 |
| Cull Animals | | | | | |
| Cull Animals:Bull | 1,718.93 | 0 | 0 | 0 | 1,718.93 |
| Cull Animals:Cow | 3,060.00 | 0 | 0 | 0 | 3,060.00 |
| TOTAL Cull Animals | 4,778.93 | 0 | 0 | 0 | 4,778.93 |
| Jam | 0 | 145,000.00 | 0 | 0 | 145,000.00 |
| Strawberry Sales | | | | | |
| Strawberry Sales:Fresh | 0 | 0 | 0 | 75,000.00 | 75,000.00 |
| TOTAL Strawberry Sales | 0 | 0 | 0 | 75,000.00 | 75,000.00 |
| TOTAL INFLOWS | 35,472.53 | 145,000.00 | 0 | 75,000.00 | 255,472.53 |
| | | | | | |
| OUTFLOWS | | | | | |
| Animal Health | | | | | |
| Animal Health:Medicine | 1,586.00 | 0 | 0 | 0 | 1,586.00 |
| TOTAL Animal Health | 1,586.00 | 0 | 0 | 0 | 1,586.00 |
| Chemicals | 1,576.00 | 0 | 0 | 0 | 1,576.00 |
| Chemicals:Fungicides | 0 | 0 | 0 | 806 | 806 |
| Chemicals:Herbicides | 0 | 0 | 0 | 895 | 895 |
| Chemicals:Insecticides | 0 | 0 | 0 | 432 | 432 |
| TOTAL Chemicals | 1,576.00 | 0 | 0 | 2,133.00 | 3,709.00 |
| Farm Insurance | 0 | 1,500.00 | 856 | 0 | 2,356.00 |
| Feed | | | | | |
| Feed:Grain | 1,975.25 | 0 | 0 | 0 | 1,975.25 |
| Feed:Hay | 7,200.00 | 0 | 0 | 0 | 7,200.00 |
| Feed:Minerals | 1,596.88 | 0 | 0 | 0 | 1,596.88 |
| TOTAL Feed | 10,772.13 | 0 | 0 | 0 | 10,772.13 |
| Fertilizer | 6,481.00 | 0 | 0 | 2,356.00 | 8,837.00 |
| Fuel | 0 | 0 | 1,800.00 | 0 | 1,800.00 |

# Machinery Cost Concepts

- Substantial component of costs (25%-40%)
- Difficult to measure/estimate: user specific
- Variable Cost, Use-Related Cost, Operating Cost
  - Costs due to using the machinery
  - Fuel, lube, maintenance, use-related repairs and labor
- Fixed Cost, Time-Related Cost, Overhead Cost
  - Costs paid whether you use the machinery or not
  - Interest, insurance, taxes, housing
- Depreciation

# Adjusting Custom Rates to Estimate your Cost

- Adjusting custom rates is an easy way to estimate typical machinery costs
- K. Dhuyvetter and T. Kastens at Kansas State University developed a formula using KFMA cost data and custom rates

  www.agmanager.info/farmmgt/machinery/MF2583.pdf
- UWEX bulletin and Spreadsheet “Fast and Simple Method to Estimate Machinery Costs"

  www.aae.wisc.edu/mitchell/Fast and Simple Method.pdf

# Caution

- Custom rates have wide ranges—call around, use Custom Rate Guides from University Extension Publications from your region of the country
- Formula to adjust custom rates not perfect
- Use these machinery costs as a
  - Guide to estimate typical costs
  - Benchmark for comparison
  - Method is **not your actual costs for machinery**
- Need good records to estimate actual costs

# Pro-rated and Other Costs

- Crops such as hay and pasture
  - Create separate budgets for establishment and non-establishment years, then include pro-rated cost of establishment on the non-establishment year budget
  - Establishment is $120/ac, non-establishment is $25/ac for 3 more years, so add $120/4 = $30/ac
- Storage, transportation, marketing, etc.: some crops large cost (vegetables, fruits) for these expenses

# Allocating Overhead Costs

- Farms overhead costs must be allocated across all enterprises
  - Workshop costs, membership dues, insurance, legal fees, accounting costs, taxes, utilities, office costs, etc.
- These costs should be declared on Schedule F, with depreciation tracked in farm records
- Enterprise budgets often miss these or similar costs

**SCHEDULE F (Form 1040)**

Department of the Treasury
Internal Revenue Service (99)

# Profit or Loss From Farming

► Attach to Form 1040, Form 1040NR, Form 1041, Form 1065, or Form 1065-B.
► Information about Schedule F and its separate instructions is at *www.irs.gov/form1040*.

OMB No. 1545-0074
**2012**
Attachment Sequence No. 14

| Name of proprietor | Social security number (SSN) |
|---|---|
| John Doe Happy Dairy | 555-55-555 |

| A Principal crop or activity | B Enter code from Part IV | C Accounting method: | D Employer ID number (EIN), (see instr) |
|---|---|---|---|
| Dairy | ► | ☑ Cash ☐ Accrual | 5 5 5 5 5 5 5 5 5 |

E Did you "materially participate" in the operation of this business during 2012? If "No," see instructions for limit on passive losses — ☑ Yes ☐ No
F Did you make any payments in 2012 that would require you to file Form(s) 1099 (see instructions) — ☐ Yes ☑ No
G If "Yes," did you or will you file required Forms 1099? — ☐ Yes ☐ No

**Part I Farm Income—Cash Method.** Complete Parts I and II (Accrual method. Complete Parts II and III, and Part I, line 9.)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1a | Sales of livestock and other resale items (see instructions) | 1a | | | | | |
| b | Cost or other basis of livestock or other items reported on line 1a | 1b | | | | | |
| c | Subtract line 1b from line 1a | | | | | 1c | |
| 2 | Sales of livestock, produce, grains, and other products you raised | | | | | 2 | 560,203 |
| 3a | Cooperative distributions (Form(s) 1099-PATR) | 3a | | 3b | Taxable amount | 3b | |
| 4a | Agricultural program payments (see instructions) | 4a | | 4b | Taxable amount | 4b | 4,800 |
| 5a | Commodity Credit Corporation (CCC) loans reported under election | | | | | 5a | |
| b | CCC loans forfeited | 5b | | 5c | Taxable amount | 5c | |
| 6 | Crop insurance proceeds and federal crop disaster payments (see instructions) | | | | | | |
| a | Amount received in 2012 | 6a | | 6b | Taxable amount | 6b | |
| c | If election to defer to 2013 is attached, check here ► ☐ | | | 6d | Amount deferred from 2011 | 6d | |
| 7 | Custom hire (machine work) income | | | | | 7 | |
| 8 | Other income (see instructions) | | | | | 8 | |
| 9 | **Gross income.** Add amounts in the right column (lines 1c, 2, 3b, 4b, 5a, 5c, 6b, 6d, 7, and 8). If you use the accrual method, enter the amount from Part III, line 50 (see instructions) ► | | | | | 9 | 565,003 |

**Part II Farm Expenses—Cash and Accrual Method.** Do not include personal or living expenses (see instructions).

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 10 | Car and truck expenses (see instructions). Also attach Form 4562 | 10 | | 23 | Pension and profit-sharing plans | 23 | |
| 11 | Chemicals | 11 | 6800 | 24 | Rent or lease (see instructions): | | |
| 12 | Conservation expenses (see instructions) | 12 | | a | Vehicles, machinery, equipment | 24a | |
| 13 | Custom hire (machine work) | 13 | | b | Other (land, animals, etc.) | 24b | |
| 14 | Depreciation and section 179 expense (see instructions) | 14 | 21,085 | 25 | Repairs and maintenance | 25 | 18,849 |
| 15 | Employee benefit programs other than on line 23 | 15 | | 26 | Seeds and plants | 26 | 12,700 |
| 16 | Feed | 16 | 175,000 | 27 | Storage and warehousing | 27 | |
| 17 | Fertilizers and lime | 17 | 34,869 | 28 | Supplies | 28 | 8700 |
| 18 | Freight and trucking | 18 | | 29 | Taxes | 29 | 2,150 |
| 19 | Gasoline, fuel, and oil | 19 | 25,512 | 30 | Utilities | 30 | 14,235 |
| 20 | Insurance (other than health) | 20 | 5,816 | 31 | Veterinary, breeding, and medicine | 31 | 11,600 |
| 21 | Interest: | | | 32 | Other expenses (specify): | | |
| a | Mortgage (paid to banks, etc.) | 21a | 3,295 | a | | 32a | |
| b | Other | 21b | 1000 | b | Due/Fees | 32b | 500 |
| 22 | Labor hired (less employment credits) | 22 | 49,500 | c | Bedding | 32c | 1,875 |
| | | | | d | Milk Marketing | 32d | 28,261 |
| | | | | e | DHIA | 32e | 2,750 |
| | | | | f | Miscellaneous | 32f | 5,000 |
| 33 | **Total expenses.** Add lines 10 through 32f. If line 32f is negative, see instructions ► | | | | | 33 | 412,832 |
| 34 | **Net farm profit or (loss).** Subtract line 33 from line 9 | | | | | 34 | 152,171 |

If a profit, stop here and see instructions for where to report. If a loss, complete lines 35 and 36.

35 Did you receive an applicable subsidy in 2012? (see instructions) — ☐ Yes ☐ No

36 Check the box that describes your investment in this activity and see instructions for where to report your loss.

a ☐ All investment is at risk. b ☐ Some investment is not at risk.

**For Paperwork Reduction Act Notice, see your tax return instructions.** Cat. No. 11346H **Schedule F (Form 1040) 2012**

# Whole Farm Budget

- Budgeting system based on Schedule F to allocates ALL costs
- 3 year average of costs for each Schedule F category to “avoid” accrual adjustments
- Income Statement: better base to allocate costs from, but not all farms have
- Main idea: Allocate % of Schedule F cost to each enterprise, all costs allocated

# Break-Even Yield and Price

What yield or price do you need to break even on the enterprise?

Break-Even Yield: At a given price, the yield needed to cover all costs

Break-Even Yield = Total Cost/Output Price

Corn Yield 150 bu./acre = $600/acre /$4.00/bu.

# Break-Even Yield and Price

What yield or price do you need to break even on the enterprise?

Break-Even Price: For a given average yield, the price needed to cover all costs

Break-Even Price = Total Cost/Average Yield

$4.00/bu. = $600/acre / 150 bu./acre

# Partial Budgeting

- Assist in estimating a potential change in net income
- Examples
  - Stockpiling fescue grass in the Fall
  - Purchasing a superior sire
  - Purchasing hay vs. growing own hay
  - Expanding the cow herd

# Partial Budgeting Outline

| | | |
|---|---|---|
| Added Revenue | | _____ |
| Reduced Expenses | + | _____ |
| Total Credits | | _____ |
| Added Expenses | | _____ |
| Reduced Revenue | + | _____ |
| Total Debits | | _____ |
| Difference (change in net income) | | _____ |

Source: Castle, et al.

# Stockpile Tall Fescue
# 50 Cow herd - - 25 acres

| Description | Quantity | Unit | Price | Total |
|---|---|---|---|---|
| Added Revenue | | | | $ 0.00 |
| Reduced Expenses | 17.12 | tons | $75.00 | $1284.00 |
| **30 days hay for 50 head (22.83 lbs./head/day)** | | | | |
| Total Credits | | | | $1284.00 |
| Added Expenses | 25.00 | acres | $30.00 | $ 750.00 |
| **Nitrogen (60 lbs/acre @ $0.50/lb.)** | | | | |
| Reduced Revenue | | | | $ 0.00 |
| Total Debits | | | | $ 750.00 |
| Change in Net Income | | | | **+ $534.00** |

# Summary

- Budgeting: Enterprise Budgets are the building blocks of the whole farm plan.
- Budgets: Allow producers to evaluate the efficiency of different farm enterprises.
- Allocate input costs and revenues consistently across all enterprises.
- Use you own input costs and revenue estimates, not some else's! It is your farm.
- Allocating Overhead: Schedule F and Whole Farm Budget

# References

Mitchell, P. D. 'Enterprise Budgeting Partial Budgeting' [Power Point Presentation]. University of Wisconsin. Available at: https://aae.wisc.edu/aae320/Budgets/Enterprise%20Budgeting.ppt (Accessed: 5 May 2019).

Texas AgriLife Extension Service. (2013) 'Making Decisions with Enterprise Budgets' [Power Point Presentation]. Texas A&M System. Available at: https://agecoext.tamu.edu/wp-content/uploads/2013/10/rm3-10oh.ppt (Accessed: 11 May 2019).

Other Resources:

- William Edwards (IA Extension-Econ): "Estimating Farm Machinery Costs"
  - Bulletin with worksheets
  - www.extension.iastate.edu/Publications/PM710.pdf
- Lazarus and Selley (MN) "Farm Machinery Economic Cost Estimates for 200Y"
  - Bulletin with fixed and variable costs for different machinery operations
  - Lots more on machinery management
  - http://www.apec.umn.edu/faculty/wlazarus/documents/mf2008.pdf

# 7 $ecrets of Effective Farmers Webinar Series: Budgeting

MANAGE
Farm Business•Family Life/Finances
University of Tennessee Extension

Les Humpal
(931)375-5301
lhumpal@utk.edu

UTIA INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE
Real. Life. Solutions.

CENTER FOR PROFITABLE AGRICULTURE
UTEXTENSION
INSTITUTE OF AGRICULTURE
A UNIVERSITY OF TENNESSEE - FARM BUREAU PARTNERSHIP

Farm Bureau