



2012 Annual Report Utah Technology College's Farm/Ranch Management

**Snow College Richfield
Bridgerland Applied Technology College
Uintah Basin Applied Technology College**



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This report was developed using FINPACK and RANKEM software developed by the Center for Farm Financial Management at the University of Minnesota.

Additional farm financial reports can be queried from the Center for Farm Financial Management FINBIN website.

www.finbin.umn.edu



2012 Annual Utah Farm Business Management Program Report Table of Contents

Table of Contents	0
Introduction	1
Program Service in State (Figure 1)	2
Prices/Values used in report	3
Summary of Whole Farm Trends (2002- 2012)	4
Money Spent By the Average Utah Farm	5
Whole Farm Report Explanation	6
Overview of Farm Financial Statements	7-8
Farm Income Statement (Income)	9
Farm Income Statement (Expenses)	10
Inventory Changes	11
Depreciation	12
Profitability Measures	13
Liquidity & Repayment Capacity Measures	14
Balance Sheet (Cost Values)	15
Balance Sheet (Market Values)	16
Statement of Cash Flows	17
Crop Production and Marketing Summary	18
Explanation of Financial Standards Measures	19-21
Financial Standards Measures	22
Operator and Labor Information	23
Household and Personal Expenses	24
Non-Farm Summary	25
Financial Summary	26
<u>Enterprise Reports</u>	
Explanation of Individual Crop Enterprise Analysis	27
Barley – Owned & Cash Rented	28-29
Corn (grain) – Owned & Cash Rented.....	30-31
Corn Silage – Owned & Cash Rented.....	32-33
Alfalfa Hay – Owned and Cash Rented	34-35
Mixed Hay (grass, oat hay) – Owned and Cash Rented	36-37
Pasture (established) – Owned and Rented.....	38-39
Explanation of Individual Livestock Enterprise Analysis	40
Beef Cow-Calf, Average per Cow	41
Beef Replacement Heifer, Ave. per Head	42
Beef, Background Beef, Av. per Head	43
Dairy – Average per Cwt. of Milk	44
Dairy – Average per Cow	45
Dairy Replacement Heifers – Ave. per Head	46
Sheep Market Lamb – Aver per Ewe.....	47

INTRODUCTION

Farm Business Management Education has been a part of Utah’s Adult Agriculture education since 1984 offered through Applied Technology Centers, now Applied Technology Colleges. The purpose of farm management education is to help farm families achieve their farm business and family goals. This is done through improved management, organization and efficiency of their farm operations. To accomplish this purpose farm families enroll in specific year-long farm business management courses. Each course has specific goals and objectives, courses are offered in sequence. Instruction occurs monthly at the farm with the farm family using the farm’s financial and production information to teach farm management.

This report summarizes individual records for farms and ranches that are enrolled at one of three Applied Technology Colleges offering Farm Business Management programs. Farm Business Management programs exist at: Uintah Basin ATC, Roosevelt; Bridgerland ATC, Logan; and Snow College (counties or areas served by the instructors from these colleges are shown on figure 1). Data for individual farms and ranches were obtained from a subset of farms and ranches within these three service areas. It is not known how representative these farms and ranches are of all the producers in these areas. As a result, the data included in this report should be used with care and should not be used to make inferences about all farms and ranches in Utah.

Table 1. Number of farms and ranches associated with Farm Business Management programs and number of firms included in this summary report by area, 2012.

<u>Area College</u>	<u>Number of cooperating farms & ranches</u>	<u>Number included in this report</u>
Snow College	57	27
Bridgerland	72	11
Uintah Basin	36	11
Total	165	49

Data for farms not included in this report were incomplete at the time data was summarized.

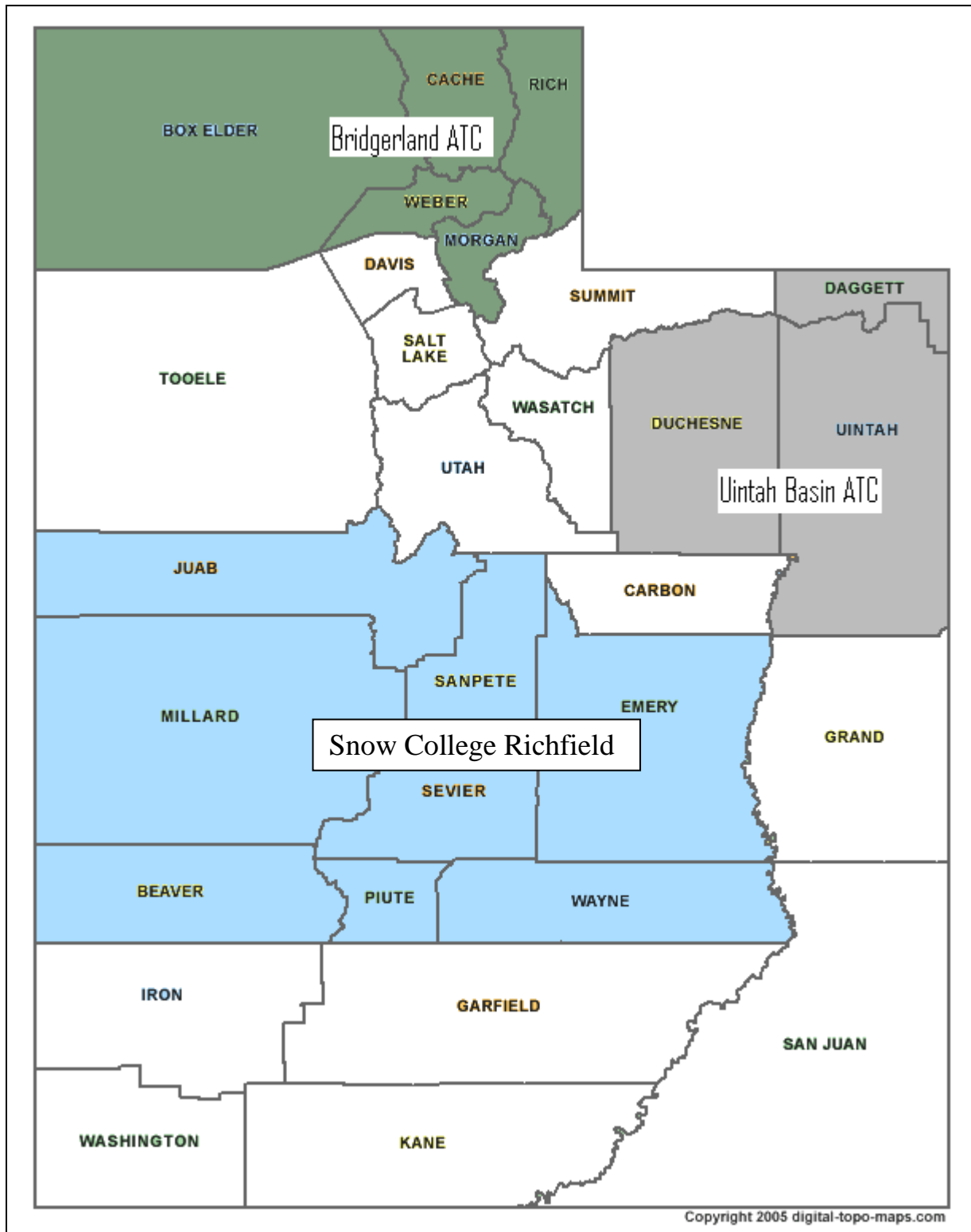
The data for this report is separated into three major areas. The first section involves whole farm or firm reports. The second section involves crop enterprises and the third section provides reports for livestock enterprises.

Data for this report were provided by individual farms and ranches. These data were entered into Quicken® or QuickBooks® by the farmer or rancher under the instruction of a Farm Business Management Instructor. Following completion of the firm’s fiscal year the instructors entered the data into FINPACK, the data was then summarized using RANKEM Central—software packages developed at the Center for Farm Financial Management at the University of Minnesota. Average values are derived for most economic parameters. Summaries are also presented for firms in three profitability groups (high, mid-third, and low). Summaries were excluded if less than **three** firms were represented in an effort to preserve confidentiality for any single firm.

Persons interested in participating in the Farm Business Management program should contact one of the following:

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Kathryn Rawson	Bridgerland ATC, 1301 N. 600 W. Logan, UT 84321 (435) 757-8120
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Figure 1.



Prices/Values Used in the Analysis Report

Item	Harvest	Raised Feed Fed	Ending Inventory
Wheat/bu.	9.00		8.15
Barley/bu.	5.60 (11.67/cwt)		6.60 (13.75/cwt)
Corn/bu.	6.00		7.13
Alfalfa Hay Prem.	200.00		230.00
Alfalfa Hay Dry Cow	140.00		200.00
Grass/Mixed Hay/t	130.00		160.00
Corn Silage/wet ton	45.00		50.00

Haylage (convert to dry ton and use prices indicated above)

	Cost	Market
Beef Cow	1100.00	1200.00
Beef Replacement Heifer (preg)	1100.00	1250.00
Beef Bulls	2000.00	2000.00
Dairy Cow	1150.00	1200.00
Dairy Springer Heifer	1000.00	1200.00
Dairy pre bred Heifer (ave wt 500)	750.00	1000.00
Dairy Bulls	800.00	1100.00
	<u>Oct. 15</u>	
Beef Market Steer/cwt (500 wt) (5 cent slide)	150.50	147.00
Beef Market Heifer/cwt (500 wt) (5cent slide)	137.30	132.50
Dairy Steers/cwt (20 Cent under beef steers)		

Pasture/\$AUM	22.00
Aftermath pasture/\$AUM	14.00
Value of milked used in home	18.20/cwt
Value of milk fed calves	18.20/cwt

Depreciation: Buildings	4%
Machinery	10%
Power Equipment	12%
Beef Cattle	Are not depreciated
Dairy Cows	Are not depreciated

The economic (management) depreciation is calculated by multiplying the asset group by (1 minus the appropriate percentage rate).

Farm and Ranch values for calculating Return on Assets (Cost value Balance Sheet)

Farm Ground with water	At Purchase Value
Farm Ground w/o water	At Purchase Value
Water Shares	At Purchase Value
Ranch	At Purchase Value
Building and dwelling	At Purchase Value

Value of operator's labor is calculated by: \$20,000 per operator plus 5% of the value of farm production, with a minimum of \$35,000 for a full-time farm operator.

Hired Labor Hours = Total Hired Labor cost ÷ \$9.00/hour

**AVERAGE MONEY SPENT LOCALLY
BY UTAH FARM OPERATIONS ENROLLED
IN F.B.M. IN ANALYZED IN THIS REPORT**

	AVERAGE	MEDIAN	STD/DEV
WITH OTHER FARMERS Custom work & hire	\$10,531	\$4,990	\$12,225
FOR RENTS PAID cash land rent	\$24,697	\$10,450	\$46,118
FOR EXTRA HIRED LABOR	\$113,444	\$26,919	\$202,346
FOR UTILITIES	\$20,446	\$7,491	\$40,621
WITH AGRIBUSINESS COMMUNITY	\$990,389	\$276,769	\$2,773,022
WITH COMMUNITY TAXES Personal Property	\$5,194 \$1,856	\$2,926 \$1,053	\$6,529 \$2,128
WITH LENDERS (Interest)	\$44,270	\$18,361	\$71,980
WITH PROF & LEGAL	\$3,012	\$1,123	\$5,016
WITH INSURANCE	\$11,755	\$10,623	\$10,917
CAPTIAL PURCHASES	\$81,692		
FAMILY LIVING	\$36,614	\$32,305	\$35,520

**Ave. Total Dollars Spent
Locally per Farm**

\$1,343,900

Whole Farm Reports

The whole farm report section summarizes the financial performance of the cooperating farms. Most tables report the average for all the farms as well as the high, low, and mid third when ranked by profitability. Several measures of financial performance are included in the following tables. Many of the measures are summarized in the “financial summary” table.

Income Statement

An income statement shows the net returns that were earned by a firm. Most farmers are familiar with 1040 F income statement that is provided to the Internal Revenue Service each year. Most farmers file the 1040 F based on a cash accounting system of accounting. They may also use methods of depreciation (e.g. MARCS) that do not realistically reflect actual depreciation. In addition, a cash based 1040 F does not account for changes in inventory. The income statements in this report depart from a 1040 F from both of these perspectives. As a result, the net farm income reported in the following tables represents an accrual adjusted income statement which can not be directly compared to a 1040 F income statement. The data concerning income shows a significant difference between the high and low profit firms (profits of \$476,332 versus losses of \$-46,793). Most of this difference is associated with enterprise income and expenses. This suggests that there is a significant difference in the cost of production (cash expenses as well as inventory changes) incurred by the low versus high profit farms. The high profit farms also had relatively large increases in inventory which suggests possible growth of the firm.

Profitability

Several measures are used to reflect the profitability of a farm or ranch. The two most common measures are return on assets (ROA) and return on equity (ROE). Both are similar to and can be compared to an interest rate (percent return). ROA reflects the return to all assets including interest paid to lenders while ROE reflects the return to the owner/operator for funds he/she has invested in the firm. If the ROE is less than the cost of debt (interest rate on borrowed funds) lenders are earning more on their money invested in the business than is the owner/operator. As noted in the tables ROE for the high profit firms is significantly higher than for the low profit firms. These returns are also closely related to the operating profit margin and the asset turnover ratio – higher ratios generally lead to higher profits. Profitability based on market values in 2012 showed ROE averaged 6.1% and ROA averaged 5.6%.

Solvency and Liquidity

There is no other measure that reflects the financial success of a firm as does the change in owner's equity. This change shows how much more of the farm business is owned by the farm operator at the end of the year as compared to the beginning of the year. The key to increases in equity is profitability.

OVERVIEW OF FARM FINANCIAL STATEMENTS

Farm Income Statement

This is a summary of income, expenses and the resulting profit or loss from operations. The Farm Income Statement is divided into two parts – Income and Expenses. The Income portion provides a detailed picture of cash farm income flowing into the business. The Expense portion of the statement is further divided into three sections, cash expenses, depreciation and capital adjustments. Inventory changes, depreciation and other capital adjustments are accrual adjustments to Net Cash Income, which result in Net Farm Income – a more accurate reflection of actual farm business profitability. Net Farm Income represents the return to the operator's and family's unpaid labor, management, and equity capital investment.

Profitability and Liquidity Measures

These reports provide a number of measures of performance. Profitability measures the value the farm has produced for the resources contributed. Measures reported (net farm income, labor and management earnings, rate of return on assets, rate of return on equity, operating profit margin, and the asset turnover rate) are calculated with assets valued at both cost and market basis.

Liquidity measures the ability of a business to meet its financial obligations in the short run; including family living, taxes and debt payments. Measures reported (the amount available to service intermediate debt and the years required to turnover intermediate debt) are provided on both a cash and accrual basis. Both measures are determined after providing for family living and taxes and for servicing real estate debt.

Balance Sheets

Two separate Balance Sheet reports are provided, one at cost basis and the other at market basis for assets. These balance sheets provide a categorical listing of all assets, liabilities and equity.

Solvency measures are also provided on the Balance Sheets. The percentages shown represent the percent in debt for current assets, current and intermediated assets, long term assets, and the total assets of the business.

Statement of Cash Flows

This table reports all the sources from which cash was generated, where cash was used, and what remains at year-end. It starts with the Beginning Cash Balance and concludes with the Ending Cash Balance. Cash from Operating Activities represents inflow and outflows from ordinary farming and non-farm activities. The result is a net Cash from Operations. Cash from Investing Activities reports the cash inflows and outflows from the purchase and sale of farm and non-farm assets and investments. The result is a net Cash from Investing Activities. Cash from Financing Activities represents cash inflows from money borrowed and gifts received, and outflows for principal paid and gifts and dividends given. The result is a Net Cash from Financing Activities. The Net Change in Cash balances is the sum total of the cash position from each of the three activities.

Crop Production and Marketing Summary

This table contains three sections. The Acreage Summary reports the owned and rented acres in the farm business. The Average Price Received section reports the average prices received for crops sold – actual sales only. The Average Yield per Acre section reports the average yields of the various crops produced. Results are shown only where there was a total of three or more in a group.

Financial Standards Measures

The Financial Standards Measures are the sixteen financial measures selected by the Farm Financial Standards Task Force of the American Bankers Association. These ratios are explained on page 24.

Operator and Labor Information

The Operator and Labor Analysis summarizes the results per operator and the labor utilized in the operation of the farm business, both paid and unpaid. It also provides a calculated value of farm production per hour of labor, and net farm income per unpaid hour. These measures could be considered measures of labor efficiency.

Household and Personal Expenses and Non-Farm Summary

The Household and Personal Expenses is a detailed summary of expenditures by farm households that maintained a record of their household spending. The Non-Farm Summary is a report of non-farm income, expenses and liabilities.

Financial Standards Measures

This table contains the Farm Financial Standards Council's 16 financial measures (ratios) for evaluating a farm's financial position and performance.

LIQUIDITY

Current Ratio is calculated by dividing the total current farm assets by the total current farm liabilities. The higher the ratio, the greater the liquidity

Working Capital is calculated by subtracting current farm liabilities from current farm assets. It measures the amount of funds available to purchase operating inputs and inventory, after the sale of current farm assets and the payment of all current farm liabilities. Adequacy must be related to business size.

SOLVENCY

Farm Debt to Asset Ratio is calculated by dividing the total farm liabilities by the total farm assets. The higher the ratio, the greater the risk exposure of the business

Farm Equity to Asset Ratio is calculated by dividing farm equity or net worth by the total farm assets. It measures the proportion of the farm assets financed by the owner's equity as opposed to debt. This is opposite of the debt to asset ratio. These two measures always add up to 100% because they describe how total farm assets are financed. The higher the ratio, the more total capital supplied by the owner and less by creditors.

Farm Debt to Equity Ratio measures farm debt relative to farm equity. It is calculated by dividing the total farm liabilities by the total farm net worth. The debt to equity ratio measures the amount of borrowed capital being employed for every dollar of equity capital. The higher the ratio, the more capital supplied by creditors and less by the owner.

PROFITABILITY

Rate of Return on Farm Assets can be thought of as the average interest rate being earned on all investments in the farm or ranch business. If assets are valued at market value, the rate of return on assets can be looked at as the "opportunity cost" of farming versus alternative investments. If assets are valued at cost value, the rate of return on assets more closely represents the actual return on the average dollar invested in the farm. The rate of return on farm assets is calculated as follows: $\text{Rate of Return on Assets} = \frac{\text{Net Farm Income} + \text{Farm Interest} - \text{Value of Operator's Labor \& Management}}{\text{Average Farm Investment}}$, and $\text{Average Farm Investment} = \frac{(\text{Beginning Total Farm Assets} + \text{Ending Total Farm Assets})}{2}$. The higher the value, the more profitable the farming operation

Rate of Return on Farm Equity represents the interest rate being earned on farm net worth. If assets are valued at market value, this return can be compared to returns available if the assets were liquidated and invested in alternate investments. If assets are valued at cost value, this more closely represents the actual return on the funds that have been invested or retained in the business. The rate of return on farm equity is calculated as follows: $\text{Rate of Return on Equity} = \frac{\text{Return on Farm Equity}}{\text{Average Farm Net Worth}}$, where: $\text{Return on Farm Equity} = \text{Net Farm Income} - \text{Value of Operator's Labor and Management}$, and $\text{Average Farm Net Worth} = \frac{(\text{Beginning Farm Net Worth} + \text{Ending Farm Net Worth})}{2}$. The higher the ratio, the more profitable the farming operation

Operating Profit Margin is a measure of the operating efficiency of the business. It is calculated as follows: $\text{Operating Profit Margin} = \text{Return to Farm Assets} \div \text{Value of Farm Production}$. If expenses are held in line relative to the value of output produced, the farm will have a healthy operating profit margin. A low profit margin may be caused by low prices, high operating expenses, or inefficient production. The higher the ratio, the more efficient the business

Net Farm Income represents the returns to unpaid labor, management, and equity capital invested in the business. $\text{Net Farm Income} = \text{farm revenues} - \text{farm expense} + \text{plus the gain or loss on the sale of farm capital assets}$

REPAYMENT CAPACITY

Term Debt Coverage Ratio measures whether the business generated enough cash to cover term debt payments. It is calculated by dividing the funds generated by the business for debt repayment ($\text{Net Cash Farm Income} + \text{Non farm Income} + \text{Interest Expense} - \text{Family Living Expense} - \text{Income Taxes}$) by the total term debt payments (annual scheduled principal and interest payments on intermediate and long term debt). A ratio less than 100 percent indicates that the business did not generate sufficient cash to meet the scheduled payments in the past year. A ratio greater than 100 percent indicates the business generated enough cash to pay all term debt payments.

Capital Replacement Margin is the amount of money remaining after all operating expenses, taxes, family living costs, and scheduled debt payments have been made. It is the cash generated by the farm business that is available for financing capital replacement such as machinery and equipment. RankEm Central calculates the capital replacement margin by first adding interest due on intermediate and long term loans to the amount available for principal payments. It then subtracts scheduled principal and interest payments from this total.

EFFICIENCY

Asset Turnover Rate is a measure of efficiency in using capital. It is calculated as follows; $\text{Asset Turnover Rate} = \text{Value of Farm Production} \div \text{Total Farm Assets}$. The higher the ratio the greater the efficiency

The last four ratios reflect the distribution of gross income to cover operating expenses and generate farm income. The sum of the operating expense ratio, the depreciation expense ratio, and the interest expense ratio equals the percent of gross income used to pay business expenses. The amount remaining is net farm income. The gross farm income used to calculate these ratios is the accrual gross farm income.

Operating Expense Ratio is calculated as $(\text{Total Farm Operating Expense} - \text{Farm Interest Expense}) \div \text{Gross Farm Income}$. This ratio indicates the percent of the gross farm income that was used to pay operating expenses. Total farm operating expense is the accrual total operating expense. The lower the ratio, the more efficient the business.

Depreciation Expense Ratio is calculated as $\text{Depreciation} \div \text{Gross Farm Income}$. This ratio indicates the percent of the gross farm income that was used to cover depreciation and other capital adjustments. The lower the ratio, the more efficient the business

Interest Expense Ratio is calculated as $\text{Farm Interest Expense} \div \text{Gross Farm Income}$. This ratio indicates the percent of the gross farm income used for farm interest expenses. This is the same ratio as the accrual interest as a percent of income from the Liquidity table. The lower the ratio, the more efficient the business

Net Farm Income Ratio is calculated as $\text{Net Farm Income} \div \text{Gross Farm Income}$. This ratio indicates the percent of the gross farm income that remained after all expenses. The higher the ratio, the more efficient the business

Crop Reports

The crop enterprise analysis tables show the average returns and expenses per acre for crops grown by participating producers. There are potentially three reports for each crop, owned, cash rented and share crop rented acres. There may not be enough observations (a minimum of three is required) for each of these types of farmed acres. There are eight general sections to each report which are outlined as follows.

1. Number of farms and fields included for each crop.
2. The gross returns section indicates the gross receipts from producing each crop. The value per unit represents what the crop could have been sold for in the local market. In many cases these crops were fed to livestock owned by the farm. The gross returns reflect the value of production if sold not their value as feed fed.
3. Direct expenses represent the costs that were incurred to grow the crop. Most direct expenses are directly assigned to production of the crop and simply divided by acres. Some, such as Fuel and Oil and Repairs, which are difficult to assign directly to specific crops are determined by allocating the total annual expenses across all enterprises using allocation factors entered for each crop.
4. Overhead expenses represent the portion of the general overhead expenses that were allocated to this crop. No perfect system exists for allocating these costs, but these allocations are believed to be representative of the costs for this crop.
5. The net returns section represent the returns to the owner for his labor, management and equity capital. A return is also allocated for the operators labor and management which subtracted from net returns to the operator for his equity.
6. The sixth section provides a summary of the costs per unit of production which can be used to compare the prices that could be potentially received.
7. Machinery cost per acre is the sum of fuel and oil, repairs, custom hire, machinery lease payments and depreciation, and interest on intermediate debt divided by acres.
8. Estimated labor hours per acre is calculated by allocating the farmer's estimate of total operator and hired labor hours for the year across all enterprises.

There are enough observations for some crops (e.g. alfalfa) to show the amount of variation that exists in the costs and returns. In these cases, it clearly shows that costs are the primary variable that affects net returns – production and prices are generally similar for the high, mid and low profit farms.

Livestock Reports

The livestock reports show the average physical production, gross returns and costs of producing the animals or animal products involved. These are generally shown on per unit (pound or cwt) a per head and basis. Again, all livestock enterprises require a minimum of three observations to be included in the report.

The table format varies slightly for the different livestock enterprises. Each begins with a calculation of Gross Return with income generated (product sales, market animal sales, cull breeding livestock sales, value of butchered animals and products used in the home, and/or transfers out to other enterprises) minus costs incurred (purchases, transfers in) and adjusted for inventory changes. The Direct and Overhead Expenses are then applied to arrive at the Net Return for the enterprise, typically on a per head, or per cwt. Basis.

Costs that are easily charged to a specific livestock enterprise are termed Direct Expenses. Direct expenses include costs such as feed, veterinary costs, livestock supplies, custom hire, and marketing.

Other costs are less easily charged directly and are allocated; these costs are termed Overhead Expenses. Overhead expenses include costs such as: machinery and building repair (not livestock equipment or livestock buildings and facilities), hired labor, taxes, insurance, utilities, interest, and depreciation. The allocation of overhead expenses is not an exact science, but the allocations indicated are believed to represent the portion of the general overhead expenses that are attributable to each enterprise.

Cost of production is arrived at by dividing the total expenses for each category by the Total Production. (For grow/finish enterprises, the Purchases and Transfers In are included in direct expenses.) Cull sales, other offspring sales, and any other miscellaneous income are subtracted and replacement purchases and transfers in are added to arrive at the cost With other revenue adjustments. With Labor and Management is the cost with other revenue adjustments plus the producer's charge for operator's labor and management. This is the breakeven price for the primary product to provide a return for operator labor and management.

Each livestock enterprise analysis includes Other Information that provides both production and economic efficiency data that indicate the strengths and/or weaknesses of the enterprise. The calving and weaning percentages are calculated as the number of calves which are calved and weaned, respectively, divided by the number of cows which are supposed to bear young.

Considerable variation exists between the high and low profit firms. Expenses (direct as well as overhead) vary widely but so do returns. This suggests that management of the livestock enterprise(s) is key to higher profitability.