

Risk Management

Income Statement — A Financial Management Tool

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An income statement measures the success of a business, in terms of net income or loss, for a period of time. Most farm business income statements are for a calendar year. Other names for this important accounting statement are profit and loss statement, operating statement, and income and expense statement.

The income statement shows both the income earned during and the expenses assignable to the accounting year. An income statement of a farm business includes items in seven major categories:

- Farm Business Receipts
- Change in Inventory Value of Crops, Livestock, and Accrued Income (Accounts Receivable)
- Farm Cash Operating Expenses
- Change in Inventory Value of Accrued Expense, Production Supply Expense, and Accrued Interest Expense
- Depreciation Expenses
- Gain or Loss on Sale of Farm Capital Assets
- Gain or Loss Due on Sale of Breeding Livestock

Farm Business Receipts

The principal source of farm income is the sale of livestock, grain and other farm products. Other income is from agricultural program payments, custom work and dividends.

Changes in Inventory Value of Crops, Livestock, and Accrued Income

Changes in crop, livestock, and accrued income inventory values must be considered to determine the value of farm production and the true profitability in an accounting period. Livestock and crop inventories represent products purchased (such as feeder livestock) or products produced (such as wheat grown but not yet sold). Accounts receivable is income not yet received for products sold during the accounting period, or deferred crop insurance and agricultural program payments.

If the value of crop, livestock, and accrued income inventory is greater at the end of the period than at the beginning, the increase in value is added to the specific farm business receipts. If the inventory value is less at the end of the period, the decrease in value is subtracted from the specific farm business receipts. If the total inventory value at the beginning of the period is equal to the value at the end of the period, then inventories have no effect on the net farm income.

Accrual adjustments are not required for federal tax returns computed on the “cash” basis. Consequently, Schedule 1040F is not a true income statement.

To determine the true profitability for a period, the gross receipts shown on Schedule 1040F must be adjusted by changes in inventories, accounts receivable, accounts payable and accrued expenses. In addition, the Schedule 1040F gross receipts may need to be adjusted because income tax regulations require the cost of livestock and other products purchased for resale to be accounted for in the year the livestock/products are sold. The Farm Business Receipts section of the income statement for John P. Recorder (Fig. 1) includes an example of the effect that crop, livestock, and accrued income inventory changes have on specific farm business receipts.

Farm Cash Operating Expenses

Expenditures with benefits that usually expire within a year are operating expenses. Hired labor, feed, chemicals and insurance are examples of farm cash operating expenses.

Changes in Inventory Value of Accrued Expense, Production Supply Expense, and Accrued Interest Expense

Changes in the inventory values of accrued expense, production supply expense, and accrued interest expense must be considered to determine total farm expense, and thus the true profitability in a period. Accrued expenses are expenses such as taxes and machine hire that are owed but not yet paid, and items such as supplies and chemicals received and used but not yet paid for. Production supply expense inventories include supplies, chemicals, seed and other inputs purchased but not yet used in the current year. The inventory change in accrued interest expense must be added or subtracted from cash interest paid to obtain the total accrued interest expense for the accounting period.

If the accrued expense inventory value is less at the beginning of the period, the value is added to farm cash expenses. If the accrued expense inventory value is greater at the beginning of the period, the value is subtracted from farm cash expenses. For changes in production supply expense inventory values, the reverse is true. If the production supply expense inventory value is greater at the beginning of the period, the value is added to the farm cash expenses. If the inventory value is less at the beginning of the period, the value is subtracted from the farm cash expenses. Table 1 outlines an example of accrued expense, production supply expense, and accrued interest expense inventory changes in a farm business.

Depreciation Expense

Investments that last more than a year are called capital assets. Depreciation is the method used to allocate the cost of capital assets to each annual accounting period over the life of the capital asset. Depreciation is an annual allocation of the cost of capital assets. It allocates capital costs to the periods in which the asset is used. Purchased breeding livestock are depreciated like any other capital asset.

Gain or Loss on Sale of Capital Assets

Revenue from the sale of farm capital assets such as real estate, buildings/improvements, and machinery/equipment is considered in determining net income. The gain or loss on the sale of capital assets is equal to the sale revenue minus the book value, or remaining basis value (undepreciated original cost), of the capital asset.

For the income statement, purchased breeding livestock are treated as a capital asset and the cost depreciated. The base value method can be used to value raised breeding livestock. That is, a base value is established for each category of raised animals in the breeding herd. The cash costs of raising the breeding livestock will have been included in the cash expenses in the cur-

Table 1. Example of accrued expense, production supply expense, and accrued interest expense inventory changes.

Accrued expense:

Ending inventory:

Rent payable.....	(1)	1,000
Property taxes payable.....	(2)	2,500
Other payable	(3)	500
Total ending inventory.....	(4)	<u>4,000</u>
(Add lines 1 through 3)		

Beginning inventory:

Rent payable.....	(5)	3,000
Property taxes payable.....	(6)	2,700
Other payable	(7)	2,300
Total beginning inventory.....	(8)	<u>8,000</u>
(Add lines 5 through 7)		
Accrued expense adjustment.....	(9)	<u>(4,000)</u>
(line 4 - line 8)		

Production supply expense:

Beginning inventory:

Chemicals.....	(10)	6,500
Supplies	(11)	4,000
Other items	(12)	600
Total beginning inventory.....	(13)	<u>11,100</u>
(Add lines 10 through 12)		

Ending inventory:

Chemicals.....	(14)	5,500
Supplies	(15)	1,700
Other items	(16)	425
Total ending inventory.....	(17)	<u>7,625</u>
(Add lines 14 through 16)		
Production supply expense inventory adjustment	(18)	<u>3,475</u>
(line 13 - line 17)		

Accrued interest expense:

Cash interest paid	(19)	13,100
Ending accrued interest expense	(20)	8,500
Total.....	(21)	<u>21,600</u>
(line 19 + line 20)		
Beginning accrued interest expense.....	(22)	5,000
Total.....	(23)	<u>5,000</u>
Accrued interest expense adjustment	(24)	<u>16,600</u>
(line 21 - line 23)		

rent, or previous, income statements. The gain or loss from the sale of breeding livestock, as well as the base values placed on raised breeding livestock, can be separated into four categories:

- Sale of purchased breeding livestock
- Sale of raised breeding livestock
- Quantity change of raised breeding livestock
- Value change in raised breeding livestock

1. Sale of purchased breeding livestock: Gain or loss on the sale of purchased breeding livestock is calculated as the sale price minus the undepreciated balance or remaining basis at the time of sale. This gain or loss is included in the gross revenue section of the income statement.

2. Sale of raised breeding livestock: Gain or loss on the sale of raised breeding livestock is calculated as the sale price minus the base value at the time of sale. The gain or loss is included in the gross revenue section of the income statement.

3. Quantity change of raised breeding livestock: Calves and young breeding livestock may be transferred into the breeding herd each year. At the same time, some breeding livestock may have been culled and sold, while other animals may have died. Thus, the total base value of raised breeding livestock may have increased or decreased from the beginning to the end of the period. This gain or loss in the total base value due only to a change in animal numbers must be computed, and included in the gross revenue section of the income statement. Table 2 is an example of the gain or loss from the sale of breeding livestock and the quantity change in raised breeding livestock (items 1, 2 and 3).

4. Value change in raised breeding livestock: If the base values for various raised breeding livestock are changed for the balance sheet on a given date, the gain or loss connected with that change would be included as an adjustment to the income statement. Table 3 shows an example of the gain and loss resulting from a change in base values for raised breeding livestock.

Figure 1. Sample income statement.

John P. Recorder
VFP Income Statement (Farm Business Only)
January 1, 20X1 to December 31, 20X2

Farm business receipts	
Crop cash sales.....	(1A) 35,870
+Ending crop inventory.....	(1B) 17,980
- Beginning crop inventory.....	(1C) 37,500
Gross revenues from crops.....	(1) 16,350
Market livestock cash sales.....	(2A) 343,100
+Ending market livestock inventory.....	(2B) 232,650
- Beginning market livestock inventory.....	(2C) 184,050
Gross revenues from market livestock.....	(2) 391,700
Gain/loss from breeding livestock sales and quantity change in raised breeding livestock.....	(3) 1,950
Agricultural program payments.....	(4) 3,100
Crop insurance proceeds.....	(5) 5,500
Other farm income.....	(6) 2,000
Accrued income inventory adjustment.....	(7) 500
GROSS REVENUES (add lines 1 through 7).....	(8) <u>421,500</u>
Less purchase of market livestock.....	(9) <u>124,000</u>
Less cost of purchased feed/grain.....	(10) <u>130,000</u>
VALUE OF FARM PRODUCTION (line 8 - line 9 - line 10).....	(11) 167,500
Farm business expenses	
Labor hired.....	(12) 18,200
Machinery/building repairs.....	(13) 9,400
Seed/other crop expense.....	(14) 3,100
Fertilizer/lime.....	(15) 7,000
Machine hire/lease.....	(16) 2,400
Farm org. fees, publications.....	(17) 1,500
Vet/medicine/drugs.....	(18) 3,900
Livestock marketing.....	(19) 4,600
Gasoline/fuel/oil.....	(20) 10,000
Real and personal property taxes.....	(21) 2,500
General farm insurance.....	(22) 2,200
Cash farm rent.....	(23) 7,800
Utilities.....	(24) 4,800
Herbicides/insecticides.....	(25) 4,000
Conservation.....	(26) 500
Total cash operating expenses (add lines 12 through 26).....	(27) <u>81,900</u>
Accrued expense inventory adjustment.....	(28) <u>(4,000)</u>
Production supply expense inventory adjustment.....	(29) 3,475
Total depreciation expense.....	(30) <u>22,425</u>
TOTAL OPERATING EXPENSES (add lines 27 through 30).....	(31) <u>103,800</u>
Total accrued interest expense.....	(32) <u>16,600</u>
TOTAL EXPENSES (line 31 + line 32).....	(33) <u>120,400</u>
NET FARM INCOME FROM OPERATIONS (line 11 - line 33).....	(34) 47,100
Gain/loss on sale of farm capital assets.....	(35) 0
Gain/loss from change in the base value - for raised breeding livestock.....	(36) 0
NET FARM INCOME, ACCRUAL ADJUSTED (add lines 34 through 36).....	(37) <u>47,100</u>

Table 2. Example of the gain or loss from the sale of breeding livestock and the quantity change in raised breeding livestock.*

+ Cash receipts from sale of breeding livestock (4 purchased, 32 raised)	(1)	<u>5,250</u>
- Remaining basis of purchased breeding livestock sold (4 head @ \$75)	(2)	<u>300</u>
- Base value of raised breeding livestock sold (32 head @ \$100)	(3)	<u>3,200</u>
+ Ending base value of raised breeding livestock (160 head @ \$100)	(4)	<u>16,000</u>
- Beginning base value of raised breeding livestock (158 head @ \$100)	(5)	<u>15,800</u>
GAIN OR LOSS FROM BREEDING LIVESTOCK SALES AND		
QUANTITY CHANGED IN RAISED BREEDING LIVESTOCK		
(line 1 – line 2 – line 3 + line 4 – line 5)	(6)	<u>1,950</u>

* Cash receipts from the sale of breeding livestock could be included with market livestock cash sales, and thus not included in the computation of gain or loss.

Table 3. Example of the gain or loss from changing the base value for raised breeding livestock.*

+ Ending inventory value of raised breeding livestock with new base value (160 head @ \$110)	(1)	<u>17,600</u>
- Ending inventory value of raised breeding livestock with old base value 9160 head @ \$100)	(2)	<u>16,000</u>
GAIN OF LOSS FROM CHANGE IN THE BASE VALUE		
FOR RAISED BREEDING LIVESTOCK		
(line 1 – line 2)	(3)	<u>1,600</u>

* Not used in example income statement

Analysis of the Income Statement

The income statement is a progress report of the business. The net income or loss shown on an income statement indicates the profitability of the business for a specific period of time. Comparing income statements over a number of periods shows the trend in profitability. Net income averages for farms of similar size and type are

sometimes available for comparison. Like balance sheets, income statements can be generated for businesses of like size, where the various revenue and expense categories are expressed as a percentage of total revenue. This can help in evaluating the business's performance and efficiency relative to similar businesses.

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