Ag Decision Maker
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Your Balance Sheet

File C3-20

Would you like to know more about the **current financial situation** of your farming operation? A listing of the property you own and the debts you owe can provide valuable insights. Such a listing is called a **balance sheet**, or sometimes a financial statement or net worth statement.

The balance sheet is based on the accounting equation relationship:

assets = liabilities + net worth, or
assets – liabilities = net worth

Most farm businesses are made up of a combination of land, livestock, crops, and machinery acquired with debt (liabilities) or contributed by the operator (net worth or owner's equity). The balance sheet is like a **photograph** of these assets and liabilities on a given date. A balance sheet is "a snapshot of the financial condition of the business."

Comparing balance sheets made at the end of each year over several years can help you measure the progress of your farm business. The balance sheet also helps you judge the ability of the farm operation to pay off current debts and take on additional ones.

Developing the Balance Sheet

A balance sheet may include only the farm business, or it may include household and personal assets and debts as well. For business analysis purposes, only information pertaining to the farming operation is needed. Information about non-farm assets and liabilities can be added in a separate section and used for analyzing debt repayment capacity. For a farm partnership, include only items owned or owed by the partnership, not by the partners individually.

Most families create a balance sheet as of December 31 or January 1 because this is the end of their accounting year. However, it is possible to develop a statement at any date and as often as needed. A blank form for completing a balance sheet is available at the end of this publication. If you want to create your own balance sheet, as well as an income statement, cash flow statement, and statement of owner equity, use Decision Tool C3-56: Comprehensive Farm Financial Statements, www.extension.iastate.edu/agdm/wholefarm/xls/c3-56comprfinstatements.xlsx, or the blank worksheets available in ISU Extension and Outreach publication FM 1824, AgDM C3-56: Farm Financial Statements, https://store.extension.iastate.edu/Product/1827.

Valuing Assets

Assets are generally listed on the left-hand side and liabilities on the right-hand side of the statement. Both assets and liabilities are divided into current and fixed items.

Current assets include cash, bank accounts, crops, livestock, and supplies that will normally be sold or used within a year.

List the current balances for all your savings and checking accounts used for farm receipts and expenses. If you obtain your current checking account balance from your bank, remember to subtract the value of any checks that are outstanding and add deposits in transit.

The key to correctly listing current assets is to accurately estimate both the number and value of items on hand. ISU Extension and Outreach publication FM 1490, AgDM C1-40: Suggested Closing Inventory Prices, https://store.extension.iastate.edu/Product/1784, is helpful for valuing current assets.

For market livestock, begin with an up-to-date inventory of the number of head and estimated weight for each class of livestock. Value them at current market prices, minus potential marketing and transportation costs. Check with local markets or use local prices available from newspapers, websites, or other sources of marketing information.

- Value young livestock at feeder animal prices.
- Value heavier livestock at their estimated weight times the current slaughter market price.
- Use an average of feeder and market livestock prices for animals at intermediate weights.

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For grain and feed, including hay, silage, straw, and supplements:

- Begin with accurate estimates of bushels, tons, bales, etc., on hand.
- Include grain under warehouse receipt at an elevator and stored on farm. Also include grain delivered under a deferred pricing (price later) contract if the price has not yet been established or payment received.
- Value crops at current market price, or their contracted price, minus marketing costs. Check with local markets or use local prices available through newspapers, websites, or other sources.
- Include grain placed under a USDA marketing loan. Value it at the current market price or the loan rate, whichever is higher, because you have the option of repaying the loan at a lower rate if the price is below the loan rate. Include the marketing loan as a current liability.
- Value crops that have been hedged with a futures contract at their current market price, not the futures price. Any gains or losses incurred in the futures market will be reflected in the balance of the hedging account.
- Value commercial feed at its purchase cost.

Other current assets include:

- Supplies on hand, such as seed corn, chemicals, medications, and fuel.
- Prepaid expenses, such as payment made for feed to be delivered in the coming year. Show this as an asset only if you have already paid for it or if you show the obligation to pay for it as a liability.
- Money invested in a future crop such as for fall-applied fertilizer. Growing crops generally should be given a value equal to the costs of production already incurred.
- Hedging accounts used for forward pricing grain, livestock, or production inputs. Obtain a current estimate of net market value of all futures and options accounts on the date of the balance sheet, including realized gains from closed contracts, plus margin money deposited.
- Accounts receivable, such as the payment a customer might owe you for custom combining, government payments to be received for past production, or crop insurance payments earned but not yet received.

Fixed assets are those used in farm production, but not intended to be sold or converted directly into marketable products during the year (except for breeding livestock to be culled).

For breeding and dairy livestock:

- Begin with an accurate count of each species and type of livestock.
- Cows or ewes should be valued according to a conservative dairy or breeding value. For sows that are replaced more rapidly, an estimated slaughter value is suggested.
- Avoid making large year-to-year changes in values placed on breeding stock, which can cause large paper increases or decreases in net worth. Establishing a base value for each class of breeding stock and using it each year is recommended.

Example 1. Valuing Grain.

A farm has 40,000 bushels of corn in storage. The current market price (net of transportation cost) is $4.10. A total of 10,000 bushels have been forward contracted to a local elevator for $4.25 per bushel, for future delivery. Another 10,000 bushels were hedged by selling futures contracts for $4.00 per bushel, but should be valued at current market price.

The corn inventory would be valued as follows:

20,000 bushels unpriced, at $4.10	$82,000
10,000 bushels forward contracted, at $4.25	42,500
10,000 bushels hedged, at $4.10 (cash price)	41,000
Total	$165,500

For machinery, equipment, and vehicles:

- Your tax depreciation schedule should provide a complete inventory.
- Use the depreciated or remaining value (cost minus total depreciation allowed, including depreciation for the past year), under the **cost value** column. However, if very rapid tax depreciation methods have been used, such as "expensing," you may want to start with a value that is closer to fair market value.
- Once a total remaining value has been determined, it can be adjusted in following years by this formula:

  Value of machinery (or equipment or vehicles) at the beginning of the year
  \+ net cost of machinery added (purchases or cash difference paid on a trade)
  – the value of machinery sold or junked
  – depreciation expense for the year (economic, not income tax values) (10% of undepreciated value is suggested)
  = machinery value at the end of the year (see Example 2).

- Use a conservative market value under the market value column, or adjust the previous year's value for purchases, sales, and depreciation. Use the same depreciation expense value that you show on your net income statement.

Do not include machinery, equipment, or breeding livestock that you are leasing, unless they are shown on your tax depreciation schedule.

Example 2. Machinery Depreciation Adjustment.

Value, beginning of year	$225,100
+ Net purchases and trades	+ 65,000
– Sales	– 6,500
= Undepreciated value	283,600
– Depreciation (estimated at 10%)	– 28,360
= Value, end of year	$255,240

For perennial or long-term crops such as alfalfa, orchard crops, or some vegetables, sum up all the costs incurred for establishing the crop and depreciate that amount over its remaining productive life.

Other fixed assets include land, buildings, and improvements. They often have the largest dollar value of any assets on the balance sheet. On some statements fixed assets are divided into intermediate and long-term assets.

List the cost basis of farm real estate under the cost value column:

- Your original basis is the price you paid for the farm.
- If you received the property through gift, you retain the giver's basis.
- If you inherited the property, the basis is the value that was used for valuing the estate.
- Adjust the original basis by adding the cost of improvements made and subtracting the depreciation taken on improvements.

List owned farm real estate at a conservative current value in the **market value** column.

- List the value of improvements separately from real estate. Use the remaining value for depreciable improvements.
- Reduce market value land prices to allow for broker's commission and other selling costs that might have to be paid if the farm were sold.

Shares in other farming entities such as a sow cooperative should also be shown under fixed assets, as well as shares in other farm corporations or LLCs.

Personal assets such as family bank accounts, retirement accounts, stocks and bonds, household goods, vehicles, housing, or other real estate can be listed separately at the bottom of the assets side of the statement.

Listing Liabilities

Liabilities are generally listed on the right-hand side of the balance sheet and include all debts and loan obligations to pay that the farm business or family has on the date of the statement. Liabilities are usually listed according to the length of time before they become due. You may want to list the creditor's name and the purpose of each liability, as well as the amount, on a separate page.

Current liabilities are those due within the next 12 months.

- Include debts such as operating notes, feeder livestock notes, or the outstanding balance on a credit line with a bank or other lender.
- Accounts payable, such as an unpaid open account with a feed mill or attorney, should also be shown, as well as unpaid wages, custom charges, and farm income and property taxes due.
- Contractual obligations, such as a cash rent leasing agreement or a machinery operating lease, are generally not shown unless they are past due. However, if they are included in liabilities, the value of the rights that you have as a result of the contract should also be shown as an asset. These are generally given the same value as the liability.
- List principal payments due on fixed liabilities within the next 12 months (see Example 3).
- Calculate the amount of unpaid interest accrued on all liabilities as of the date of the statement. Multiply the outstanding principal of each debt by its respective interest rate, then multiply by the fraction of a year that has passed since the last payment, or since the loan was received if no payments have been made yet (see Example 4).
- Some accountants show the potential income tax that would be due if all current assets were sold as a current liability, under deferred tax liabilities.

Fixed liabilities include debts payable more than one year in the future.

- Loans for breeding stock, machinery, land, or farm improvements usually fall into the fixed category.
- A mortgage or contract on real estate is usually a fixed liability, too.
- Show the unpaid balance minus the principal due in the coming year (it has already been shown as a current liability).
- Some accountants show the potential income and capital gain taxes that would be due if all fixed assets were sold as a fixed liability, under deferred tax liabilities.

Personal liabilities can be shown at the bottom of the liabilities column. These include consumer debts, credit card balances, home mortgages, and medical bills to pay.

Net Worth or Owner's Equity

The difference between total farm assets and total farm liabilities is the net worth, or equity, at the time the balance sheet is developed. It is the current value of your own investment in the farming operation. Adding net worth to total liabilities (which is the share of assets contributed by creditors) gives you a value equal to total assets and serves as a check on your calculations.

Example 3. Installment Loans.

A $200,000 loan for machinery is payable in four annual installments of $50,000 each, plus interest at 6% on the unpaid balance. Show the $50,000 due this year as a current liability and the remaining $150,000 as a fixed liability.

Example 4. Interest Accrued as of January 1.

a. Operating note, borrowed May 1:
$75,000 × 5% × 8/12 yr. = $2,500

b. Machinery loan, $240,000 owed since August 1:
$240,000 × 6% × 5/12 yr. = $6,000

c. Land contract, $526,000 outstanding, last payment made March 1:
$526,000 × 4.5% × 10/12 yr. = $19,725

Total interest accrued = $28,225

The cost value net worth shows the value of your own investment excluding changes in the market values of machinery or real estate, while market value net worth does include these changes.

Farm and personal net worth can be added together to find the total family net worth.

Analyzing the Balance Sheet

Once you have completed the balance sheet, take time to look it over and understand what it can tell you. To begin, look at each major liability listed and see if a corresponding item can be found under the asset side. The corresponding item will usually be listed under the same section (current or fixed). If a corresponding asset cannot be found, you may have forgotten to list something. Or the asset originally acquired with borrowed money may have already been sold or used up before paying the corresponding liability. This is a danger sign. It means that you must generate funds to pay this debt elsewhere in the farm business.

Another danger sign is a liability that appears closer to the top of the statement than its corresponding asset. An example is a machinery item bought on a one-year note. It is usually difficult to pay for an asset over a period of time considerably shorter than its useful life.

Sometimes the value of a particular liability is greater than the value of its corresponding asset. This may mean that the debt is not adequately secured, or it may occur simply because rapid depreciation methods have been used.

Financial Ratios

Several ratios can be computed from the balance sheet and used to help analyze the financial security of your business. More information on these ratios, including benchmark values, can be found in ISU Extension and Outreach publication FM 1845, AgDM C3-55: Financial Performance Measures for Iowa Farms, https://store.extension.iastate.edu/Product/1837.

Debt-to-asset ratio (or percent debt) is equal to total liabilities divided by the market value of total assets. It indicates the portion of total capital supplied by creditors. A successful farm business will have a decreasing ratio over time, except in years when major assets such as land are purchased with borrowed capital. A low debt-to-asset ratio usually leads to less year-to-year variability in net farm income, but may also cause net worth to grow more slowly.

A **personal** debt-to-asset ratio can also be calculated, using total farm and personal asset and liability values.

A **current ratio** can be calculated by dividing total current assets by total current liabilities. This is a measure of liquidity, or the ability to pay bills and debts as they come due over the next 12 months.

A farm business with good overall risk-bearing ability can still have liquidity problems. This may be caused by a low income year resulting in carry-over operating debt, or too rapid investment of cash into intermediate and long-term assets, such as machinery or land.

Many lenders consider a current ratio of 2.0 or greater to show good short-term risk-bearing ability, while a ratio close to 1.0 or lower indicates potential cash flow problems. However, this is affected by the type of farm, volume of production, and financial structure. For example, farms with regular livestock sales, such as dairy, often can withstand lower current ratios than crop farms that have production only late in the year. A 2.0 to 1 ratio means that for every $1 of current liabilities the farm has $2 worth of current assets to potentially meet those obligations.

Some lenders prefer to look at the difference between current assets and current liabilities rather than their ratio. This difference is called **working capital**. It indicates the potential cash available for meeting daily operating costs, consumption expenditures, and other items not listed under current liabilities.

In many cases, current liabilities will be paid from income generated from sales that have not yet been produced and do not appear as current assets. A more accurate analysis of repayment capacity can be made by developing a **cash flow budget**, as explained in ISU Extension and Outreach publication FM 1792, AgDM C3-15: Twelve Steps to Cash Flow Budgeting, https://store.extension.iastate.edu/Product/1815.

Year-to-Year Comparisons

The financial progress of the farm business can be measured by comparing a current balance sheet with earlier ones.

The **change in cost value net worth** from one year to the next shows the growth (or loss) due to net income earned from the farm business, and consumption. The following formula summarizes the relation among cost value net worth, income, and consumption expenditures:

	net farm income (accrual)
+	non-farm income, gifts, or inheritances invested in the farm business
–	farm income used for living expenses, income tax payments, and other consumption
=	change in cost value farm net worth

The **change in market value net worth** is found by subtracting the market net worth shown on last year's financial statement from that shown on this year's. It measures the change in the market value of your equity share of the farm business. It also depends on net income and consumption, but includes changes in the market value of land or machinery, as well. It can also be expressed as a percent of net worth at the beginning of the year.

A decrease in net worth from one year to the next may result from low net farm income or high consumption expenditures. It may also result from large changes in inventory prices of current and fixed assets. For this reason, it is useful to compare similar items on the balance sheet from one year to the next. Changes in their values may be due to changes in volume, changes in unit prices, or both.

Example 5. Balance Sheet Analysis.

1. Current ratio
Total current farm assets divided by total current farm liabilities

2. Working capital
Total current farm assets minus total current farm liabilities

3. Debt-to-asset ratio
Total farm liabilities divided by total farm assets (market value)

4. Change in cost value net worth – $
This year's cost net worth minus last year's cost net worth

5. Change in market value net worth – $
This year's market net worth minus last year's market net worth

6. Change in market value net worth – %
Change in market value net worth ($) divided by market value net worth from last year.

Many different forms and formats exist for developing a balance sheet. However, all of them contain the same basic information. Completing an annual balance sheet is one of the simplest means available for analyzing the risk-bearing ability and financial progress of your farm business.

Further resources on financial information can be found on the Ag Decision Maker website, www.extension.iastate.edu/agdm/wdfinancial.html.

- Decision Tool C3-19, Balance Sheet, Short Form, www.extension.iastate.edu/agdm/wholefarm/xls/c3-19networthshortform.xlsx
- Decision Tool C3-56, Comprehensive Financial Statements, www.extension.iastate.edu/agdm/wholefarm/xls/c3-56comprfinstatements.xlsx

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Balance Sheet Example

Name ***Cyclone Farm*** Date ***December 31, 2024***

Farm Assets	Cost Value	Market Value	Farm Liabilities	Market Value
Current Assets (cost and market values are the same)			**Current Liabilities**	
Checking, savings accounts balance	$16,665	$16,665	Farm accounts payable	$1,859
Hedging accounts, market value	47,909	47,909	Farm taxes due	4,750
Crops held for sale/feed	489,105	489,105	Current notes and credit lines	340,200
Investment in annual crops	8,680	8,680	Accrued interest – current	3,049
Commercial feed on hand	10,940	10,940	– fixed	19,435
Prepaid expenses			Principal due on notes and contracts	
Market livestock	329,403	329,403	Due in 12 months – fixed	28,670
Supplies on hand	2,000	2,000		
Accounts receivable				
Other current assets				
a. Total Current Assets	**$904,702**	**$904,702**	**d. Total Current Liabilities**	**$397,963**
Fixed Assets (cost and market values may differ)			**Fixed Liabilities**	
Unpaid co-op. distributions	$28,861	$28,861	Notes and contracts, principal due beyond 12 months	
Investment in perennial crops	157,500	157,500	– Machinery	$168,673
Breeding livestock	222,600	222,600	– Land	269,100
Machinery & equipment	255,240	275,000	– Other fixed assets	
Buildings/improvements	138,510	171,000		
Farmland	800,000	1,050,000		
Farm securities, certificates	13,000	13,000		
b. Total Fixed Assets	**$1,615,711**	**$1,917,961**	**e. Total Fixed Liabilities**	**$437,773**
c. Total Farm Assets (a + b)	**$2,520,413**	**$2,822,663**	**f. Total Farm Liabilities (d + e)**	**$835,736**
g. Farm Net Worth (c – f)	**$1,684,677**	**$1,986,927**		
h. Farm Net Worth Last Year	$1,665,962	$1,820,062	Working Capital (a – d)	$506,739
i. Change in Farm Net Worth (g – h)	$18,715	$166,865	Current Asset-to-Debt Ratio (a / d)	2.27
Percent Change in Net Worth (i / h)	1%	9%	Total Debt-to-Asset Ratio (f / c)	30%

Personal Assets (optional)		Personal Liabilities (optional)	
Bank accounts, cash, savings		Credit card, charge accounts, etc.	$4,562
Automobiles, boats, etc.	$40,000	Automobile loans	15,000
Household goods, clothing	25,000	Accounts payable, taxes due	
Stocks, bonds, etc.	8,500	Other loans	
Real estate		Real estate, other long-term loans	
Other personal assets		Other personal liabilities	
j. Total Personal Assets	**$73,500**	**k. Total Personal Liabilities**	**$19,562**
l. Total Personal Net Worth (j – k)	**$53,938**	**Personal Debt-to-Asset Ratio (k / j)**	**27%**

m. Total Assets, Farm & Personal (c + j)	**$2,896,163**	**n. Total Liabilities, Farm & Personal (f + k)**	**$855,298**
Total Net Worth, Market Value (g + l)	**$2,040,865**	**Overall Debt-to-Asset Ratio (n / m)**	**30%**

Balance Sheet

Name_____Date_____

Farm Assets	Cost Value	Market Value	Farm Liabilities	Market Value
Current Assets (cost and market values are the same)			**Current Liabilities**	
Checking, savings accounts balance			Farm accounts payable	
Hedging accounts, market value			Farm taxes due	
Crops held for sale/feed			Current notes and credit lines	
Investment in annual crops			Accrued interest – current	
Commercial feed on hand			– fixed	
Prepaid expenses			Principal due on notes and contracts	
Market livestock			Due in 12 months – fixed	
Supplies on hand				
Accounts receivable				
Other current assets				
a. Total Current Assets			**d. Total Current Liabilities**	
Fixed Assets (cost and market values may differ)			**Fixed Liabilities**	
Unpaid co-op. distributions			Notes and contracts, principal due beyond 12 months	
Investment in perennial crops			– Machinery	
Breeding livestock			– Land	
Machinery & equipment			– Other fixed assets	
Buildings/improvements				
Farmland				
Farm securities, certificates				
b. Total Fixed Assets			**e. Total Fixed Liabilities**	
c. Total Farm Assets (a + b)			**f. Total Farm Liabilities (d + e)**	
g. Farm Net Worth (c – f)				
h. Farm Net Worth Last Year			Working Capital (a – d)	
i. Change in Farm Net Worth (g – h)			Current Asset-to-Debt Ratio (a / d)	
Percent Change in Net Worth (i / h)			Total Debt-to-Asset Ratio (f / c)	

Personal Assets (optional)		Personal Liabilities (optional)	
Bank accounts, cash, savings		Credit card, charge accounts, etc.	
Automobiles, boats, etc.		Automobile loans	
Household goods, clothing		Accounts payable, taxes due	
Stocks, bonds, etc.		Other loans	
Real estate		Real estate, other long-term loans	
Other personal assets		Other personal liabilities	
j. Total Personal Assets		**k. Total Personal Liabilities**	
l. Total Personal Net Worth (j – k)		**Personal Debt-to-Asset Ratio (k / j)**	

m. Total Assets, Farm & Personal (c + j)		**n. Total Liabilities, Farm & Personal (f + k)**	
Total Net Worth, Market Value (g + l)		**Overall Debt-to-Asset Ratio (n / m)**	