



PRO-DAIRY FINANCIAL DATA COLLECTION WORKBOOK

by

Stuart F. Smith and Linda D. Putnam

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Workbook /1

INTRODUCTION

The PRO-DAIRY Financial Data Collection workbook is designed to guide the farm manager through the data collection process necessary for completion of a Cornell dairy farm business summary. It was developed for use specifically with the PRO-DAIRY workshop "Managing With Finance," but can be used outside the course as well.

Cornell Cooperative Extension's dairy farm business summary (DFBS) program is designed to help you, the farm manager, improve the financial management of your business through appropriate use of historical farm data and the application of business analysis techniques. In short, DFBS identifies the business and financial information farm managers need and demonstrates how it should be used in evaluating the strengths and weaknesses of the farm business.

The workbook is laid out in column format, with each column labeled at the top of the page by a column number. Instructions for completion of each worksheet are offered on the page proceeding the worksheet. The description page (odd numbered) makes reference to the column numbers in explaining how each worksheet (even numbered) should be filled in. In some cases, an example is provided on the description page. In addition to the primary worksheets, there is an Appendix of supplementary worksheets which may be useful for some aspects of the data collection. Column numbers in the appendix are preceded by the letter "A".

In order that this workbook remain useful into the future, specific years are not designated in the text or on the worksheets. Nearly all of the information needed is data from what is termed the "Summary Year." Summary Year refers to the calendar year prior to the year during which you are filling out this workbook. For example, if you are completing this workbook early in 1995, the Summary Year would typically be 1994. Unless otherwise noted, such terms as "Beginning of Year" and "End of Year" refer to January 1st and December 31st of the Summary Year. Note the Summary Year below:

Summary	Year:
----------------	-------

Obtaining the information necessary to complete a summary does take time. However, it will be time well spent. It would be easy to feel overwhelmed by the number of worksheets and columns of data required. It may help to keep two things in mind; first, you will not be filling in every blank line in the workbook many will not apply to your individual situation and, second, you will be using an organized process for collecting all the needed information.

Outlined on the page below is a three-stage process suggested for collection of the data required to complete a farm business summary. This process is designed to accompany the Managing for Success workshop outline. Stage 1 is to be completed prior to Session-I of Managing With Finance, Stage 2 prior to Session-II, and Stage 3 prior to Session-III. If you are having difficulties with completion of a particular worksheet, assistance will be available at the workshop sessions.

- Assignments for completion of Stage 1 are surrounded by stars (***) on both the instruction page and the worksheet itself.

THREE STAGE PROCESS FOR DATA COLLECTION

Assignment	Column num	her	Page
Stage 1: Completed by Session 1			
Physical inventories	*************	*****	
- machinery & equipment	* A1, A2	*	Appendix 2-8
- feed & supplies	* 14, 17, 20, 23, 26, 29	*	10, 12, 14
- livestock	* 32, 35, 40	*	16
Liability information	* 67-69, 77 - 79	*	32, 34
Accounts receivable & payable	* 88-92, 95-99	*	38, 42
	************	******	
Stage 2: Completed by Session 1	I		
Capital sales & purchases			
- machinery & equipment	1-11		4, 6
- land & buildings	42-46		18
Inventory values			
- machinery & equipment	12-13		8
- feed & supplies	15-16, 18-19, 21-22, 24-25, 27-28	, 30-31	10, 12 , 14
- livestock	33-34, 36-39, 41		16
- real estate	47		20
Depreciation information	12, 47		8, 20
Miscellaneous assets	65-66		30
Debt payment information	71-73, 80-81		32, 34
Financial leases	83-87		36
Cash income & expenses	93-94, 100-101		40, 44
Stage 3: Completed by Session 1	<u>III</u>		
Labor inventory	55-59		24
Business description	48-54		22
Land inventory	60-61		26
Tillable land use	62-64		28
Breakdown of crop expenses	102-107		46
New borrowings	70, 80		32, 34
Planned debt payments	74-76, 82		32, 34
Nonfarm cash income & expenses	93-94, 100-101		40, 44
Optional deferred tax information	108		47, 48



MACHINERY AND EQUIPMENT PURCHASED

This worksheet provides a place for you to list each piece of machinery and equipment purchased during the summary year.

A description of the item purchased should be entered in **Column 1**. In **Column 2** enter the amount you paid for the item (or the "boot" in the case of a trade). The market value of the piece of machinery or equipment traded-in is entered in **Column 3**. Use your inventory market value--not the dealers' trade allowance. If nothing was traded-in when the purchase was made, put a zero in this column. **Column 4** is the sum of **Columns 2** and **3** and represents the market value of the new item.

Columns 5 and 6 are used as controls on your inventory. Items traded-in are priced in Column 3 and should be removed from inventory. After removing them from your inventory records, mark an "X" in Column 5. The description and market value of items purchased need to be added to your inventory. A loss in market value is likely to have occurred from the date of purchase to year end. Therefore, you should adjust the amount appearing in Column 4 when recording in inventory to represent the year end market values of machinery and equipment purchased. Once this has been done mark an "X" in Column 6.

Example: (Enter your own data on the page provided below.)

(Col. 1)	(Col. 2)		(Col. 3)		(Col. 4)	(Col. 5)	(Col. 6)
						Inventory c	hecks (X)
Description	Amount or boot paid	+	Market value of trade-in	_=	Market value of new item	Remove Trade-in	Add new item
Mixer wagon	s <u>/6,500</u>	+	\$ <u>O</u>	=	\$ <u>/6,500</u>		×
Mixer wagon hay bine	\$ <u>8,500</u>	+	\$ <u>2,000</u>	=	\$ 10,500	X	X

MACHINERY AND EQUIPMENT PURCHASED

(Col. 1)	(Col. 2)		(Col. 3)		(Col. 4)	(Col. 5)	(Col. 6)
						Inventory cl	hecks (X)
Description	Amount or boot paid	+	Market value of trade-in	=	Market value of new item	Remove Trade-in	Add new item
							_
		+	\$	=	\$		
		+	\$	=	\$		
		+	\$	=	\$		
		+	\$	=	\$		
		+	\$	=	\$		
		+	\$	=	\$		
·		+	\$	=	\$		
		+	\$	=	\$		
		+	\$	=	\$		
		+	\$	=	\$		
Total machinery and equipment							
purchased	\$						



MACHINERY AND EQUIPMENT SOLD OR DESTROYED (not trade-ins)

This worksheet is used to enter any machinery or equipment which you sold or which was destroyed.

You should include a description of the item in Column 7 followed by the sale amount in Column 8 or the insurance payment received (for destroyed items) in Column 9. Column 10 is simply the total of Columns 8 and 9.

Items traded-in when another purchase is made should not be entered on this worksheet (these are included in the preceding worksheet). Column 11 should be marked with an "X" after the item is removed from inventory.

Example: (Enter your own data on the page provided below.)

(Col. 7)	(Col. 8)	(Col. 9)	(Col. 10)	(Col. 11)
Description	Price Received	Insurance Received		Remove from Inventory (X)
I.H. manure spreader	s <u>300</u>	\$	_	
Farmall - H	\$ <u>550</u>	\$		_ X

MACHINERY AND EQUIPMENT SOLD OR DESTROYED (not trade-ins)

(Col. 7)	(Col. 8)	(Col. 9)	(Col. 10)	(Col. 11)
Description	Price Received	Insurance Received		Remove from Inventory (X
	\$	\$		
·	\$	\$		
	\$	\$		
	 \$	\$		
	 \$	\$		
	 \$	\$		
	\$	\$		
<u> </u>	\$	\$		
Totals	\$	+ \$=		
otal machinery and equipment sold and des	stroyed (Column 8	+ Column 9) =		



MACHINERY AND EQUIPMENT INVENTORY AND DEPRECIATION

This worksheet summarizes the information about your machinery and equipment.

The **beginning and ending year inventory** amounts can be transferred from your farm inventory book or other inventory record. The inventory amount should be based on the **market value** of your machinery and equipment. If you do not have a good record of the machinery and equipment you own, pages 2-8 of the Appendix provide a place for you to take a complete machinery and equipment inventory.

Machinery and equipment purchased can be transferred from the total of Column 2.

Noncash machinery transfer to farm refers to any machinery and equipment acquired at no cost for use in the business. Gifts, inheritances and transfers from personal use are included.

Machinery and equipment sold or destroyed can be transferred directly from Column 10.

Summary year's tax depreciation is the amount you are claiming for depreciation during the summary year on your Federal income tax return for machinery and equipment. Do not include buildings and cattle depreciation in this figure.

Once these figures have been compiled, **machinery appreciation** can be computed by following the math outlined on the worksheet. In short, machinery appreciation is equal to ending inventory less adjusted beginning inventory. Adjusted beginning inventory is the beginning inventory plus purchases plus noncash transfers less sales less depreciation.

The information on this worksheet and all of the other inventory worksheets is essential to completion of your balance sheet and income statement.

MACHINERY AND EQUIPMENT INVENTORY AND DEPRECIATION

	(Col. 12)		(0	ol. 13)
Beginning of Year Inventory (Jan. 1)	\$	End of Year Inventory (Dec. 31)	\$ <u></u>	(A)
Machinery and Equipment Purchased	+			
Noncash Machinery Transfer to Farm	+			
Machinery and Equipment Sold or Destroyed	-			
Summary Year's Tax Depreciation				
Total Beginning Inventory After Changes			\$	(B)
Machinery Appreciation (ending less beginning	ng after changes or A minus B)		\$	



GROWN FEED INVENTORY

This worksheet is used to calculate beginning and end of year inventory of all grown feeds. These are crops that you raised for feed. Purchased feed is not included here. The general method is to determine physical quantities of feeds, set a value per unit (ton, bushel, etc.), and then multiply the quantity times the value per unit to compute the total value of the particular feed in inventory.

If you have an end of year inventory of grown feeds for the year **prior to** the summary year, this can be used to complete the beginning of year portion of the worksheet for January 1. If you are without the prior year's ending inventory figures, it may be easier to start by determining the summary year's ending inventory (December 31). In other words, start by completing the right side of the worksheet. Then make your best estimates of the quantities you had on hand at the beginning of the year (January 1). One method is to compare what you have at the summary year's end with what you think you had at the prior year's end.

- * Stage 1 Assignment: Enter quantities of feed on hand on January 1 in Column 14 and quantities on hand on December 31 in Column 17. To help you with
- * accurately estimating your physical inventories, an additional worksheet, silo charts and grain and hay volume conversion tables are included in the appendix
- * on pages 9-17.

Example: (Enter your own data on the page provided below.)

	(Col. 14)	(Col. 15)	(Col. 16)	(Col. 17)	(Col. 18)	_(Col. 19)
	Beg	inning of Year (Janu	uary 1)	En	d of Year (Decemb	<u>er 31)</u>
		Price Per	Total		Price Per	Total
Item	Quantity	Unit	Value	Quantity	Unit	Value
Com-HMSC	_75 T.	\$ <u>85</u>	s 6,375	105 T.	\$ <u>75</u>	\$ <u>7,875</u>
Com-HMEC		\$	\$		\$	\$
Corn-dry, Shell	3500 bu.	\$ 3.00	\$ 10,500	2000 bu.	\$ <u>2.65</u>	\$ <u>5,300</u>

GROWN FEED INVENTORY

	(Col. 14)		(Col. 15)	(Col. 16)	(C ₀]	l. 17)	(Col. 18)	_(Col. 19)
Beginning of Year (January 1)						<u>En</u>	d of Year (Decemb	<u>er 31)</u>
Item	Quantity		Price Per Unit	Total Value	Qua	ntity	Price Per Unit	Total Value
	******	***			*****	*****		
Corn-HMSC	*	_ *	\$	\$	*	*	\$	\$
Corn-HMEC	*	*	\$	\$	*	*	\$.
Corn-dry,	*	_ *	\$	\$	*	*	\$	\$
Oats	*	_ *	\$	\$	*	*	\$	\$
Wheat	*	*	\$	\$	*	*	\$	\$
Other	<u> </u>	_ *	\$	\$	*	*	\$	\$
Dry Hay	*	*	\$	\$	*	*	\$	\$
Hay crop silage	*	*	\$	\$	*	*	\$. \$
Corn silage	*	*	\$	\$	*	*	\$	\$
Other	*	_ *	\$	\$	*	*	\$	\$
	******	***			*****	*****		



Total dairy grain & conc.

PURCHASED FEED INVENTORY

This worksheet is used to calculate beginning and end of year inventory of purchased feeds. The method used is the same as that for grown feeds - determine physical quantities and then multiply the quantity times the price per unit to compute the total value of the purchased feed in inventory. You can use the price paid for your last load of feed in deciding on the price per unit figure.

Once again, the beginning of year inventory is simple if you have a year end inventory of purchased feeds the year prior to the summary year. (If you don't, you can look forward to having it next year!) The dates on feed bills may be useful in making estimates for the beginning of the year if you do not have inventories recorded. Prepaid expenses for feed to be delivered/used in the following year must be included in the year end inventory of the year the payment was made.

For clarification of invent	ory categories, see the exp	ense definitions or	page 43.			
*******	*******	******	******	******	*****	****
* Stage 1 Assignment: En	ter quantities of purchas	sed feed on hand o	n January 1 in Column	20 and quantities on h	and on December 3	1 in *
* Column 23.						*
*****	*****	*****	*****	*****	*****	*****
Example: (Enter your own d	ata on the page provided	i below.)				
	(Col. 20)	(Col. 21)	(Col. 22)	(Col. 23)	(Col. 24)	(Col. 25)
	Begi	nning of Year (Janu	ary 1)	En	d of Year (Decembe	r 31)
		Price Per	Total		Price Per	Total
Item	Quantity	Unit	Value	Quantity_	Unit	<u>Value</u>
Dairy grain & concentrate	20 T.	\$ 290	\$ 5,800	15 T.	\$ 250	s 3,750

PURCHASED FEED INVENTORY

	(Col. 20)	(Col. 21)	(Col. 22)	(Col. 23)	(Col. 24)	(Col. 25)
	Begin	ning of Year (Janu	iary 1)	E	nd of Year (Decemb	per 31)
Item	Quantity	Price Per Unit	Total Value	Quantity	Price Per Unit	Total Value
	********			*******		
Dairy grain & concentrate	**	\$	\$	**	\$	\$
	**			**		
	**			**		
	**			**		
Total dairy grain & conc.			S			\$
Dairy roughage	**			**		
ì	**			**		
	**			**		
Total dairy roughage						\$
Nondairy feed	**		\$ <u></u>	**		\$
	*********			*********		



SUPPLIES INVENTORY

This worksheet is used to calculate beginning and end of year inventory of supplies. Supplies include such things as machine parts, fuel, oil, grease, semen, veterinary supplies, seeds, fertilizer, and materials for land, building and fence repair. The method used is the same as that for grown and purchased feeds - determine physical quantities of the particular supply, set a price per unit, and then multiply the quantity times the price per unit to compute the total value of the supplies in inventory. Include prepaid supplies in the year-end inventory of the year payment was made.

Stage 1 Assignment: Enter quantities of supplies on hand for January 1 in Column 26 and quantities on hand for December 31 in Column 29.

- If known, the total value of a supply may be entered directly, without listing the quantity and unit price.

Example: (Enter your own data on the page provided below.)

<u></u>	(Col. 26)	(Col. 27)	(Col. 28)	(Col. 29)	(Col. 30)	(Col. 31)
	Begi	ginning of Year (January 1)		End of Year (December 31)		
Item	Quantity	Price Per Unit	Total Value	Quantity	Price Per Unit	Total Value
Machine: Parts		\$	\$ <u>2,500</u>		\$	\$ 1,850
Fuel, oil, grease		\$	\$		\$	
Livestock: Semen	50 Straws	\$ <u>20</u>	\$ 1,000	40 Straws	\$ <u>25</u>	\$ 1,000
Vet. supplies		\$	\$		\$	\$
Bedding supplies		\$	\$		\$.
Milking supplies		\$	\$		\$. \$
Other livestock supplies *		\$	s 1,500		\$	\$ 11800
Crops: Fertilizer		\$	\$	2 tons	\$ 200	\$ 400

^{*} Include bST.

SUPPLIES INVENTORY

Begir	Price Per Unit	Total Value	Quantity ********		Total Value
*****	Unit	Value		Unit	Value
*		\$	******		↑ ************************************
* * *		\$	*	* \$	6
* *	\$			-, Ψ	_ \$
*		\$	*	_ * \$	
	\$	\$	*	_* \$	
*	\$	\$	*	_* \$	\$
*	\$	\$	*	_* \$	\$
*	\$	S	*	_* \$	\$
*	\$	\$	*	_* \$	\$
*	\$	\$	*	_* \$	
*	\$	\$	*	_* \$	\$ <u></u>
*	\$	\$ <u></u>	*	_ * \$	\$
*	\$	\$	*	_* \$	\$
*	\$	\$	*_	_ * \$	\$
*****		Account to the following the second s	********	***	
	* * *	* \$* \$* * \$* \$* * \$* \$* * \$* \$* * \$* \$*	* \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	* S S S * S S S S S S S S S S S S S S S	* S * * * * * * * S * * * * * * * S * * * * * * * S * * * * * * * S * * * * * * * S * * * * * * * S * * * * * * * S * * * * * * S * * * * * * S * * * * *

^{*} Include bST.

LIVESTOCK INVENTORY

The livestock inventory worksheet is used to determine the value of livestock at beginning and end of year. An example of this worksheet for "Sample Farmer" is included in the Appendix on page 18.

- * Stage 1 Assignment: Begin by entering the number of each different type of animal for January 1 (Column 32) and December 31 (Column 35). Do
- * not include leased cows in beginning or end of year numbers. Enter the average number of animals on the farm during the year in Column 40.
- * This is most easily found on the D.H.I. report. This is the average number of cows in the herd for each month, totaled and divided by 12; it is not
- * the average of beginning and ending numbers. Your entry should include dry cows as well as cows in milk. Unlike the numbers in Columns 32 and 35, the*
- * averages in Column 40 should include leased cows.

To determine beginning of year inventory values, make your best estimate of the value per head for each category on January 1 and enter in Column 33. Next multiply the value in Column 33 by the number in Column 32 to find the total value (to be entered in Column 34).

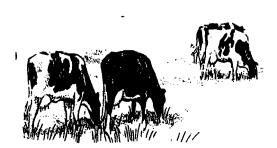
End of year inventory value is computed in two ways - using both beginning and end of year prices. First, consider what the animals you had standing in your barn on December 31 of the summary year would have been worth on January 1 of the summary year, given the market conditions prevailing at that time. Unless large numbers of animals of different quality have been purchased or the composition of the animals in the group has changed significantly, the value per head using beginning of year prices (Column 36) will be the same as the value per head in the beginning-of-year inventory (Column 33). Two situations which would increase animal values are (1) purchase of a large number of higher quality animals and (2), an increase in the average age/size of heifers in the ending inventory. The decision you must make then, is whether your animals are worth the same, more or less than you valued them in Column 33? Enter your estimate for the end of year inventory at beginning of year prices in Column 36. If you do enter an amount in Column 36 that is different than Column 33, please explain what changes you have made to affect the value of your livestock (Column 41).

The second way in which end of year inventory value is computed is more straight forward. What were the animals standing in your barn on December 31 worth on that same day? This end of year inventory at end of year prices is entered in **Column 38** on a per head basis with the total value being entered in **Column 39**.

Several additional items are needed in Column 41. Did you lease or rent any cows in during the summary year? What was your average milk plant butterfat test? What was your total pounds of milk sold? Be sure to base this on actual pounds shipped during the summary year. You may want to use the following method to determine this figure:

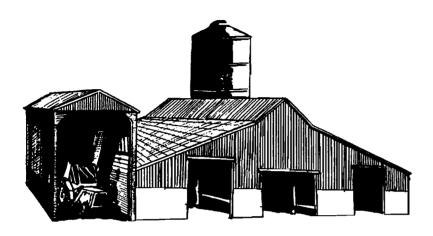
Year-to-date lbs. shipped (Summary year December milk check)

- Monthly lbs. shipped (Summary year January milk check)
- + Monthly lbs. shipped (Present year January milk check)
- Actual milk shipped during summary year



LIVESTOCK INVENTORY

	(Col. 32)	(Col. 33)	(Col. 34)	(Col. 35)	(Col. 36)	(Col. 37)	(Col. 38)	(Col. 39)	(Col 40)
		January 1 Inve	ntory		1	December 31 Invento	ry Using:		
					<u>Januar</u>	ry 1 Prices	Decemb	er 31 Prices	
Туре	No.	Price Per Head	Total Value	<u>Dec. 31</u> No.	Price Per Head	Total Value	Price Per Head	Total Value	Average Number . For Year
	*****			******					*****
Dairy Cows	**	\$	\$	**	\$	\$	\$	\$	**
Heifers:	**			**					* *
Bred	**			**					**
Open (6mobre	* * ed) **			* *					* *
Calves (<6 mo.)	* *			* *					* *
Bulls	**			**					**
Other livestock	* *			* *					* *
	******			*****					*****
D	Column 41	ange in livestock valu	ue per head from beginni	ng of year to end of	vear at heginning price	es (i e if there are differ	ences hetween Column	a 33 and Column 36)	
-	rease explain it any en	ange in itvestock vari	the per nead from beginning	ing of year to end of	year at beginning price	es (i.e. if there are differ		1 33 and Column 30).	_
N	Number of leased/rented dairy cows at end of year								
	•		ary 1 and December 31			ALL INVIE			
A	Average milk plant but	terfat test				%			



LAND AND BUILDING PURCHASES AND SALES

This worksheet is for recording of new purchases and capital improvements in land and buildings. If you neither bought nor sold land or buildings this year, nor suffered any capital losses, then you can skip this worksheet.

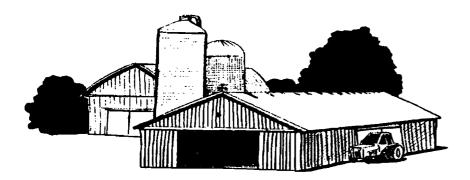
Land purchases and improvements in land and buildings should be described in **Column 42**, followed by the cost of the investment to be entered in **Column 43**. The category "Building and Land Improvements" refers to such things as permanent fencing, tile drainage, and farm ponds.

Lost capital is the difference between the cost of an investment and its market value. For example, often a building costs more to construct than it will be worth on the open market after it is built. Tile drainage will likely cost more to install than the increase in the market value of the land resulting from the tiling. This does not mean that the improvement was an unwise investment; the value of the improvement to you, on your farm, over a period of years may well justify incurring the lost capital.

The right side of the worksheet (Columns 45 and 46) is for recording capital sales and losses. Capital sales to be included here are sales of land and buildings. Capital losses refers to losses incurred, for example, as the result of natural disasters. The insurance proceeds from a claim for a barn damaged by severe winds would be entered here. The heading "amount received" on Column 46 refers to insurance payments received.

LAND AND BUILDING PURCHASES AND SALES

(Col. 42)	(Col. 43)	(Col. 44)	(Col. 45)	(Col. 46)
New Purchases and Capti	ital Improvements	Capital Sales and Losses		
Description	Cost	Lost Capital	Description	Sale Price/ Amount Received
Land			Capital Sales	
	\$			
	\$			\$
Total land purchases	\$			<u> </u>
Buildings and land improvement			Losses	
	\$	\$		
	\$	\$		
	\$	\$		
Total buildings/land improvements and lost capital	\$	\$	Total capital sales and losses	\$



REAL ESTATE INVENTORY

This worksheet is used to record market value of land and buildings at the beginning and end of year and to collect other information necessary to calculate real estate appreciation.

Noncash real estate transfer to farm refers to land and buildings gifted to or inherited by the business/operator.

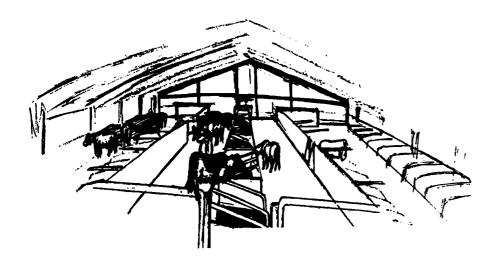
Use your tax depreciation schedule to determine the amount you will claim for depreciation on your summary year's Federal tax return.

Sale expenses are the costs incurred in selling the land or buildings. The sale price itself was collected on the previous worksheet (Column 46).

Note/mortgage held by seller refers to amounts still owed you from a real estate sale which you have agreed to finance for the buyer. These are the proceeds of the sale that you will not receive in the summary year, but in future years.

REAL ESTATE INVENTORY

	(Col. 47)
Market value of land and buildings:	
Beginning of year (January 1)	\$
End of year (December 31)	\$
Noncash real estate transfer to farm	\$
Summary year's tax depreciation	
(Include buildings in pre-ACRS, ACRS, MACRS, and ADS)	\$
Sale expenses for real estate sold	\$
Note/mortgage held by seller from real estate sold	\$



BUSINESS DESCRIPTION

The business description worksheet is for collection of essential information regarding your milking frequency and systems, housing, records, and business organization.

This information is used to separate farms into similar groups when analyzing summaries from many different businesses. It allows the individual farm manager to compare his or her success with that of similar farms.

Place an "X" on ONE of the lines in each column. (You should end up with seven "X's" on the worksheet).

For milking frequency, mark 2x if all cows were milked twice a day for the entire year. Mark 3x if all cows were milked three times a day for the entire year. If only a portion of the herd was milked 3x or more, or if the whole herd was milked 3x or greater, but only for part of the year, or if the total herd was milked more than 3x for the entire year mark "Other."

If bST was used during the summary year, check the appropriate "% of herd" category. Estimate the average usage for the year. For example, if a dairy farmer or started supplementing his cows on November 1, and supplemented 100% of the eligible cows in both November and December, he would select option 1, less than or equal to 25%. The calculation would be 100% multiplied by 2 months of usage divided by 12 possible months for supplementation = 17%. Eligible cows are defined as those cows that are 64 or more days in milk.

In addition, if you are a D.H.I. cooperator, enter your D.H.I. herd code number on the designated line. This number will allow cross referencing of your D.H.I. and farm business summary information. This does not provide D.H.I. or animal science staff access to Dairy Farm Business Summary Data.

BUSINESS DESCRIPTION

Place ONE "X" in Each Column

(Col. 48)	(Col. 49)	(Col. 50)	(Col. 51)	(Col. 52)	(Col. 53)	(Col. 54)
Production records	Milking system	Primary business type	Milking frequency	bST Usage	Dairy housing	Primary financial recordkeeping system
D.H.I	Bucket & carry	Single proprietor-ship	2x/day	% of Herd:	Stanchion tie stall	ELFAC
O.S.	Dumping station	Partnership	3x/day	25-75%	Freestall	Account book
<u>Market</u> Other	Pipeline	Corporation	Other .	>75%	Combination	Agrifax mail-in
None	Herringbone Parlor			Stopped using in summary year		On-farm Computer
D.H.I. #:21	Other parlor			Not used		Other

Computer entry: See page 16 for average number of animals, milk sold, and butterfat test.

LABOR INVENTORY

This worksheet is used to account for all of the labor utilized in your business. Begin by identifying the operators of the farm. Operators should include all individuals who are integrally involved in the operation and management of the farm business. They are not limited to those who are the owner of a sole proprietorship or are formally a member of a partnership or corporation. In instances where a husband and wife operate and manage the farm as a team both may be included as operators. The labor input of each operator should then be specified in months and entered in **Column 56**. In most instances, this is 12 months but in some instances where one or more operators of the farm business have other items occupying their time, such as an off-farm enterprise, commitment to farm organizations or family commitments; less than 12 months would be appropriate. In order to calculate more accurate labor efficiency factors, operator months greater than 12 are also possible. Convert average weekly operator hours to months using 4.3 weeks/month and 230 hours/month. For example, Operator #1 works, on average, 60 hours per week, which converts to 13.5 months per year:

60 hours/week x 4.3 weeks/month X 12 months worked = 13.5 full-time months

In addition, for each operator, indicate their age (Column 57), their years of education (Column 58), and the estimated value of their management and labor input (Column 59). This value should be based on what that person could earn in a similar capacity in similar employment (the opportunity cost). Any farm wage or benefit expense for these operators should be excluded from the labor expenses entered in Column 100, page 44. This exclusion will be most relevant for corporations but may also apply to other businesses.

Next list in Column 55 the names and months worked of the following:

- 1. family labor which was paid,
- 2. family labor which was not paid, and
- 3. hired labor.

The months of labor recorded should all be in numbers of full-time months worked. For part-time workers this requires a conversion be made. Hourly labor should be converted on the basis of 230 hours per month. There are 4.3 weeks in a month. Below is a formula for converting hours per week to full-time months and an example of this type of conversion:

Full-time months =
$$\frac{\text{No. Hours/week X 4.3 weeks/month}}{230 \text{ hours}}$$
 X No. Months worked

Example: Daughter-in-law milks evenings, six days a week, year round. Usually averages about 20 hours/week.

Full-time months =
$$\frac{20 \text{ Hours/week } \text{ X } 4.3 \text{ weeks/month}}{230 \text{ hours}} \text{ X } 12 \text{ Months worked}$$

Full-time months = 4.5 months

After computing the months worked for each employee, enter the totals for family paid, family unpaid, and hired employees in Column 56. Column 56 can then be totaled to determine the total months worked by all personnel on the farm.

The conversion to full-time, worker-month equivalents is necessary; conversion is not always easy but is very important to an accurate summary. These figures will be used to determine profitability, size of the labor force, and labor efficiency.

LABOR INVENTORY

(Col 55)		(Col 56)	(Col 57)	(Col 58)	(Col 59)	
Labor description		Full-time Months	Age	Years Education	Value of Mgmt & Labor	
Operator - 1:					\$	
-2:		<u> </u>		<u> 2:33773</u>	\$	
- 3:					\$	
- 4:					\$	
- 5:				<u> </u>	\$	
- 6:					\$	
Family members (paid employees): Names	Months					
Total Family Paid Family members (unpaid): Names	Months	months				
Total Family Unpaid		months				
Hired (regular and seasonal) Names	Months					
Total Hired		months				
Total All Labor		months				



This worksheet is for recording the acreage with which you are working.

Enter acres owned in Column 60 and acres rented in Column 61. Combined with cost information, these figures will allow for determination of many crop management factors on a per acre basis.

Example

	(Col. 60)	(Col. 61)
	Acres Owned	Acres Rented
Tillable Land	100	105
Pasture (nontillable)	_64_	25
Woods and other nontillable	80	
Total	244	130

LAND INVENTORY

	(Col. 60)	(Col. 61)
	Acres Owned	Acres Rented
Tillable Land		
Pasture (nontillable)		
Woods and other nontillable		
Total		



TILLABLE LAND USE

This worksheet is used to record how you utilized your tillable land during the summary year.

For each type of land use, enter number of acres in **Column 62**. Note that for hay crops you enter the acreage only once, that being for the number of first cut acres. If you double-cropped one or more fields, count the acreage once under the primary crop produced or allocate the acres between crops. <u>Do not double count</u>. The production of both crops is entered on the appropriate lines. Additional worksheets to assist you in determining tillable land use and crop yields are available in the appendix (pages 9-17) if needed.

Quantities of crop produced is recorded for all hay cuttings and other crops in Column 63.

Enter the dry matter coefficient for forages in Column 64 (e.g. 40% dry matter is entered as .4).

Corn for grain should be converted to dry shelled equivalent. A worksheet and tables to assist with this conversion are located in the appendix. Check to see that total acres (Column 62) is equal to tillable land owned and rented (Column 60 and 61).

These figures will be used to compute crop yields and costs per unit of production, thereby helping you to plan and control your cropping program.

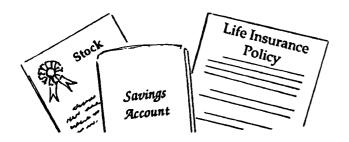
Example:

	(Col. 62)	(Col. 63)	(Col. 64)
Use	Acres (1st cut only)	Total Production (all cuttings)	Dry Matter Coefficient
Hay crop (1st cut acres only)	159		
Hay		90 tons	85
Hay crop silage		6 35 _ tons	40_
Corn silage	46	73	.30
Corn for grain		dry shell	ed bushels

TILLABLE LAND USE

	(Col. 62)	(Col. 63)		(Col. 64)
Use	Acres (1st cut only)	Total Production (all cuttings)	n	Dry Matter Coefficient
Hay crop (1st cut acres only)				
Hay			tons	
Hay crop silage			tons	
Corn silage			tons	<u></u>
Other forage harvested			tons	
Corn for grain			dry shelled bushels	
Oats			dry bushels	
Wheat			dry bushels	
Other:				
Tillable pasture				re on rotational grazing at least as changed at least every 3
Idle tillable acres				
Total tillable acres				

Computer entry: Enter "Dry matter Coefficient" as a decimal. Enter "Other" category of land use in work units (see Table 1 of Micro DFBS User's Guide).



MISCELLANEOUS FARM AND FAMILY ASSETS

The information from this worksheet is used along with the inventory information already collected to complete your farm and nonfarm balance sheet. This will allow you to examine, among other things, your net worth and how it changed from the beginning to the end of the year.

Prepaid expenses are the cost of items or services paid for in advance of their use. For example, rent for the current year which was paid during the summary year is a prepaid expense. Thus, the prepaid expense amount for January 1 (Column 65) would represent expenses paid for in years prior to the summary year for goods or services not used before January 1; December 31 prepaid expense (Column 66) represents expenses paid for but not used before the end of the summary year. The total change in prepaid expense (the difference between the January 1 and December 31 amounts), whether positive or negative, must be distributed among the proper expense category in Column 101 (page 44).

If you participated in the Dairy Farm Business Summary program last year, there is no need to enter the January 1 values (Column 65) unless a change needs to be made in the values entered last year. Enter end of year values in Column 66.

Example:

	(Col. 65)	(Col. 66)
Asset	January 1	December 31
Farm Assest Farm cash, checking, & savings	\$	s <u>4,800</u>
Farm Credit stock		
Other stock & certificates	25	25
Prepaid expenses	<u> </u>	
Nonfarm assets: Personal cash, checking, and savings	/2,500	2,800

Nonfarm assets for partnerships and corporations should include nonfarm assets of all families in the business or none at all.

MISCELLANEOUS FARM AND FAMILY ASSETS

	(Col. 65)	(Col. 66)							
Asset	January 1	December 31							
Farm Assest Farm cash, checking, & savings	\$	\$							
Accounts receivable	(Beginning and ending accounts receivable are entered in Columns 90 and 89 respectively.)								
Farm Credit stock									
Other stock & certificates									
Prepaid expenses									
Nonfarm assets: Personal cash, checking, and savings									
Cash value of life insurance									
Nonfarm real estate									
Personal share auto									
Stock & bonds									
Household furnishings									
Other (include mortgages & notes)									

Computer entry: See page 38 for accounts receivable (note that beginning/ending order is reversed - Col. 90 is beginning, Col. 89 is ending.)

LIABILITIES AND DEBT PAYMENTS

The liabilities and debt payments worksheet is a place for you to record money borrowed to purchase capital items. It is divided into three categories of debt: long term (ten years or more), intermediate term (more than one year but less than ten), and short term (one year or less). Note that the short term debt on this worksheet is not for "operating debt" but for short term money borrowed for capital purchases. Operating debt will be entered on the next worksheet.

* in Column 69 enter the end of year loan balances.

" In Column by enter the end of year loan datances.

New borrowings added to a particular loan during the summary year should be noted in **Column 70**. **Column 71** is the amount of money borrowed to refinance or pay down an existing debt. Enter the loan as a positive number and the amount paid down as a negative number. Do not enter money borrowed for refinancing in **Column 70** or in **Column 72** as principal paid. **Column 72** and **73** ask you to split your actual summary year loan payments into principal and interest portions; a call to the bank may be helpful in coming up with these numbers.

Current year plans are requested in Columns 74, 75 and 76. Enter the beginning of year interest rate, the amount of each payment (principal and interest) and number of payments per year (usually one per month or 12 per year). FmHA borrowers will want to contact your county supervisor to find out how much of your milk assignment will be applied to each loan.

Example:

(Col. 67)	(Col. 68)	(Col. 69)	(Col. 70)	(Col. 71)	(Col. 72)	(Col. 73)	(Col. 74)	(Col. 75)	(Col. 76)	
								Current Year Plans		
	Debt Amount		Amounts of Amoun	Amount of	Actual Summary f Year Payments		- ·	Amount	# Pay-	
Creditor	Jan. 1	Dec. 31	NewBorrowings	Debt Refinanced	Principal	Interest	Interest Rate	of Each Payment	ments/ Year	
Trust Company	\$ <u>60,599</u>	\$ <u>57,849</u>	\$	\$	\$ 2,750	\$ 3,550	%	\$ 525	12	
1st National	10,000			-8000	2000	600				
Russell Bank	0	7000		+ 8000	1000	200	7.5	400	12	

LIABILITIES AND DEBT PAYMENTS

(Col. 67)	(Col. 68)	(Col. 69)	(Col. 70)	(Col. 71)	(Col. 72)	(Col. 73)	(Col. 74)	(Col. 75)	(Col. 76)
					Actual Summary		Current Year Plans		
	Debt Amount		Amounts of	Amount of Debt	Year Payments		Intonost	Amount each	
Creditor	Jan. 1	Dec. 31	New Borrowings	Debt Refinanced	Principal	Interest	Interest Rate	Payment	# Payments/ year
******	******	******		_	-		-		
* Long term debt (≥ 10 years)		*	•					•	
*	\$ [24]	\$*	\$	\$	\$	\$	<u></u> %	\$	
*	<u> </u>	***************************************							
*		*				<u> </u>			
*		*							
*		*							
*									
*Intermediate term debt (>1 yr.< 10 yrs.)									
*		*							
*		*							
*		*							1947
*	<u> </u>	<u> </u>	<u> </u>		24223		S-82 20 20 20 20 20 20 20 20 20 20 20 20 20		44.7
*	<u>18-18-18-18-18</u>							4. SVAV66	4
*		*							
*		*			- State				
*	ig ja radsiddij							•	· Alaki
*		*	200		****				
*		*							
**************************************	<u> </u>				<u> </u>				
*Short term debt (1 yr or less) *	896684	*							
*		*	*					*:-	
*		*		_					
********	*****	******	7333334 17334 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						

OTHER LIABILITIES AND DEBT PAYMENTS

This worksheet is for entry of additional liability and debt information not covered by the previous worksheet.

Operating debt is the money borrowed to purchase items or services which are expenses during the same year (e.g. fertilizer). These expenses are entered on another worksheet; that is why there is no place for entry of principal paid during the summary year since such an entry here would "double count" the expense.

Column 82 asks for planned net reductions in operating debt and accounts payable. This is the amount you plan to reduce your operating loan(s) and accounts payable by the end of the current year. If you expect to experience an <u>increase</u> in either of these areas, enter the net change preceded by a negative sign. Detailed accounts payable information will be entered in Column 98; you will probably want to complete Column 98 before estimating your net reduction in accounts payable for the current year.

The nonfarm debt information is necessary to complete your nonfarm balance sheet. Your figures should include debt incurred for all nonfarm assets purchased. In this case, Column 82 should indicate the total nonfarm debt payments you are planning to make in the current year.

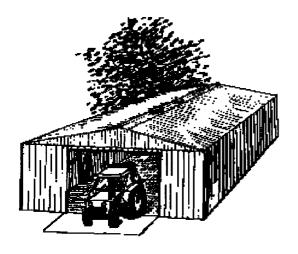
Example:

(Col. 77)	(Col. 78)	(Col. 79)	(Col. 80)	(Col. 80a)	(Col. 81)	(Col. 81a)	(Col. 82)
Debt Amount			Amount of	Amount of	Actual Summary Year Payments		Current Year Plans Net Reductions and
Creditor	Jan. 1	Dec. 31	New Borrowings	Debt Refinanced	Principal	Interest	Total Non-Farm Payments Planned
Operating debt Bank of Reedsv: 11e	s <u>32,450</u>	\$ 31,600		\$		\$ <u>3,</u> 204	\$_/0,000

OTHER LIABILITIES AND DEBT PAYMENTS

(Col. 77)	(Col. 78)	(Col. 79)	(Col. 80)	(Col. 80a)	(Col. 81)	Col. 81a	Col. 82	
	Debt A	Debt Amount		Amount of Debt		Summary ayments	Current Year Plans Net Reductions and Total Non-Farm	
Creditor	Jan. 1	Dec. 31	_ New Borrowings	Refinanced	Principal	Interest	Payments Planned	
***************************************	******	******	-					
* Operating debt		*						
*	\$	\$*		\$		\$	\$	
*								
i *		*				THE TENDENS NO		
* Accounts payable * *	(<u>Beginning</u> and <u>endi</u> entered in Columns respectively)	ing accts. pay. are * 97 and 96. *				\$	\$	
* Advanced government payments	Service of the servic	\$ 10 Mark 19						
* Nonfarm debt	\$	*	\$		\$	\$	\$	
********	*******	******						

Computer entry: See page 42 for accounts payable (note that beginning/ending order is reversed - Col. 97 is beginning and Col. 96 is ending.)



FINANCIAL LEASES

Fill in the following worksheet only if you are leasing cattle, equipment, or structures from an individual or company outside of your family or business.

Include only formal financial lease agreements where there is a scheduled payment commitment. This worksheet is not for recording of rent paid; rent information is recorded on the cash expenses worksheet in **Column 100**. The total amounts paid on financial leases in each category as recorded on the worksheet below in **Column 85** should be added to the rent paid in each category, if any, and entered in **Column 100**.

FINANCIAL LEASES

		(Col. 83)		(Col. 84)		(Col. 85)	(Col. 86)	(Col. 87)
	Leased item	Amount of each payment	x	Number of payments	=	Total Summary Year expense	Number of payments/ full year	Number of payments remaining
Cattle:		\$ <u></u>				\$		141
		\$14000 - 1200 -		Survey				
								14.
		Total cat	tle lea	ase		\$	=	
Equipment:		\$				\$		
	ì							
						•		2.98
•		Total equip	ment	lease		\$	=	
Structures:		\$						
							<u> </u>	
	<u></u>							
		Total struct	tures	lease		\$	=	

CHANGES IN OPERATING ACCOUNTS RECEIVABLE

This worksheet is for recording of changes in accounts receivable and allocating these changes to proper receipt category.

***	***************************************	***
*	Stage 1 Assignment: Identify changes in operating accounts receivable with a description (Column 88), end of year (December 31) balance (Column 89)	*
*	and beginning of year (January 1) balance (Column 90). Subtract the beginning from the end of year balance and enter the change in Column 91.	*
*	Caution: Note that Columns 89 and 90 are in reverse chronological order so that an increase will be recorded as a positive change in	*
*	Column 91. Make sure the beginning of year balance is in Column 90 and the year end balance is entered in Column 89.	*
*		*
*	Next, assign and allocate changes in accounts receivable to the appropriate farm receipts category on the right side of the worksheet (Column 92).	*
*	When completed and totaled, the "Change in Accounts Receivable" by account column (Column 91) must equal the "Change in Account Receivable"	*
*	by category column (Column 92).	*
***	**************************************	***

Example:

(Col. 88)	(Col. 89)	(Col. 90)	(Col. 91)	(Col. 92)
	Year End	Beginning		Allocation
Account Number or Description	Balance (Dec. 31)	Balance (Jan. 1)	Change in Acct. Rec.	Change in Receipt Category Acct. Rec
Milk Receipts	\$ 20,391	- \$ <u>18,371</u>	= \$ <u>2,020</u>	Milk \$ 2,020
•	,		•	Dairy Cattle
Livestock	s_2,600	- \$ 3,600	= \$ <u>-/,000</u>	Dairy Calves
	•	·		Other livestock
TOTAL:	<u> </u>	- <u>\$ 21,971</u>	= \$ <u>/,020</u> }	====Equals====> \$ /,020

CHANGES IN OPERATING ACCOUNTS RECEIVABLE

(Col. 88)	(Col. 89)*	(Col. 90)*		(Col. 91)		(Col. 92)
	Year End Beginning				Allocat	ion
Account Number or Description	Balance (Dec. 31)	Balance (Jan. 1)	=	Change in Acct. Rec.	Receipt Category	Change in Acct. Rec
*********	******	*******	****	*******	 	*****
Milk Receipts	\$	- \$	=	\$*	Milk	*\$
•				*	Dairy Cattle	
·:	\$	- \$	=	\$*	Dairy calves	*
i i				*	Other livestock	
;	\$	- \$	=	\$*	Crops	*
				*	Government receipts	
:	\$	- \$	=	*	Custom machine work	*
					Gas tax refunds	*
<u> </u>	\$	- \$	=	\$*	Other:	
Total:	\$	- S	=	\$}=	1 Equals>	*\$
******	*******	*******	****	*******		********

^{*} Make sure the beginning of year balance is entered in Column 90 and the year end balance in Column 89.

Computer entry: Data in Col. 92 will be used with data on page 40 to complete Screen 12.



CASH RECEIPTS

This worksheet is a place for you to list farm and nonfarm receipts. This information will be combined with changes in inventories and accounts receivable to compute your accrual receipts for the year.

Below are some guidelines for recording summary year receipts:

- 1. Include gross value for pounds of milk sold.
- 2. <u>Dairy cattle sales</u> include receipts from cull cows and breeding stock. Include bob calf receipts under <u>dairy calves</u> sold.
- Sales of standing and harvested field, crop insurance proceeds, fruit and vegetable crops go under <u>crop sales</u>.
 Maple products and wood sales should be reported as miscellaneous income. Include all receipts from <u>custom work</u>, <u>gas tax refunds</u>, and <u>government receipts</u> under the appropriate category.
- 4. Machinery and real estate sales have been accounted for in previous worksheets and must not be added in with other farm receipts.
- 5. Itemize and identify <u>miscellaneous</u> ("other") receipts of more than \$500. Include income from maple product sales and positions such as director of cooperative.
- 6. Nonfarm cash income from nonfarm work for self and spouse, tax refunds, principal and interest received from prior sale of farm assets, timber sales, gas and oil royalties, gravel sales, income from elected office, and other nonfarm income that is available for debt payments and family living. In some instances, receipts such as timber sales should be classified as farm income; i.e., if the farm operator has actively managed the enterprise and the corresponding expenses are included in Column 100, page 44. Nonfarm income is necessary for the Annual Cash Flow Statement to balance, but it is not included when calculating farm profitability.
- Cash used in the business from nonfarm capital is all the rest of the cash flowing into the farm business from
 outside. Include cash from personal savings accounts, stocks or bonds converted to cash, cash gifts and
 inheritances.
- 8. Nonfarm noncash capital used in the farm business includes gifts and inheritances of farm assets and the conversion of nonfarm assets to farm assets. Exclude machinery and real estate from Column 94; these were previously entered in Columns 12 and 47, respectively.

CASH RECEIPTS

(Col. 93) (Col. 94)

Receipts	-	Cash Receipts
Farm receipts:		
Milk		\$
Dairy cattle		\$
Dairy calves		\$
Other livestock		\$
Crops		\$
Government receipts		\$
Custom machine work		\$
Gas tax refund		\$
Other:	\$	
	\$	
	J	
Total Other	\$>	
Sale of other stock & certificates (exclude Farm Credit)		\$
Nonfarm receipts:		
Cash income:	\$	
	\$	
	\$	
Total nonfarm cash income		\$
Cash used in the business from nonfarm capital		\$
Noncash capital transferred to farm business		\$

Computer entry:

 $Combine \ information \ on \ this \ page \ with \ accounts \ receivable \ information \ on \ page \ 38 \ (Col.$

92) to complete Screen 12.



CHANGES IN OPERATING ACCOUNTS PAYABLE

This worksheet is for recording changes in accounts payable and allocating these changes to the proper expense category.

* Stage 1 Assignment: Complete all columns (95 to 99) on the worksheet. Follow the guidelines below.

Guidelines for recording summary year changes in accounts payable:

- 1. Identify changes in open operating accounts payable by first entering the end of year balance (December 31) in **Column 96**, the beginning of year (January 1) balance in **Column 97**, and then subtracting the beginning of year balance from the end of year balance and enter in **Column 98**. These are accounts established when farm inputs, such as feed, fertilizer, farm supplies, machinery, repairs, and veterinarian services were bought on credit.
- 2. If there is more than one account per dealer or farm supplier (e.g., feed is purchased from the same supplier as fertilizer), list them separately on the left-hand portion of the worksheet to facilitate easier allocation to farm expense categories.
- 3. Assign and allocate changes in open operating accounts payable to appropriate farm expenses listed in Column 99 on the right side of the worksheet.
- 4. When more than one type of farm input is included in a particular open account, allocate to the expense categories using the estimated proportion of farm input actually purchased from the account during the year.
- 5. The totals of the two "Change in Accounts Payable" columns (Columns 98 and 99) must be equal.
- 6. If scheduled debt payments were not made, there is likely an increase in accounts payable for "interest". However, if the loan was refinanced and the unpaid amount added to the principal, the interest is considered paid and is reported with the debt payments.

CHANGES IN OPERATING ACCOUNTS PAYABLE

(Col. 95)	(Col <u>. 96)*</u>	(Col. 97)*		(Col. 98)			(Col. 99)
Account Number	Ending Blance	Beginning		Change in		Allo	cation
or Description	(Dec. 31)	- Balance (Jan. 1)	=	Acct. Pay.	. !	Expense Category	Change in Acct. Payable
**********	******	********	****	*******	* *		**********
*;	\$	- \$	=	\$	*	Hired labor	* \$25000
*					*	<u>Feed</u>	*
*					*	Dairy grain & conc.	*
*:	\$	- \$	=	\$	*	Dairy roughage	*
*					*	Nondairy feed	*
*					*	<u>Machinery</u>	*
*:	\$	- \$	=	\$	*	Mach. hire & lease	
*					*1	Mach. repairs & veh. exp	*
*		_		_	*	Fuel, oil & grease	
*:	\$	- \$	=	\$	*1	<u>Livestock</u>	* *
*						Replacement livestock	
*	_	_			_*	Breeding	
*:	\$	- \$	=	\$	I	Veterinary & med.	
*					* i	Milk marketing	
*		•		•	*	Bedding supplies	
*:	\$	- \$	=	\$		Milking supplies	
*					 	Cattle lease	
*		_		•		Custom boarding	
*;	\$	- \$	=	\$. i	Other livestock exp.	
*					# ;	Crops	*
*	•	•			- [Fertilizer & lime	
*:	\$	- \$	=	\$	* I	Seeds & plants	*
*					+ 1	Spray, other crop exp.	*
*		•		•		Real Estate	* *
*:	\$	- \$	=	\$	* I	Land, bldg., fence rep.	
*					*	IUACO	
*		•			*	Rent & rease	A Section of the Assertation
*:	\$	- \$	=	\$	* I	Other	
*					<u>*</u> J	Insurance	
# _	•	•		Φ.		Utilities(farm share)	
* :	p	- \$	=	p	*	Interest	
						Miscellaneous	
				•	١	Expansion livestock	*
* TOTAL:	\$	- \$ <u></u>	=	\$	}	=====Equals====>	* \$*
******	******	********	****	******	*		*********
			_		_		

^{*} Make sure the beginning of year balance is entered in Column 97 and the year end balance in Column 96. Computer entry: Combine Col. 99 with data on page 44 to complete Screen 13.

CASH AND PREPAID EXPENSES

This worksheet is for entering all cash expenses incurred during the summary year. It is also used to record changes in prepaid expenses in categories where a change in inventory will not account for the changes in expense. Additional guidelines for recording summary year's expenses follow:

- Enter <u>hired labor</u> expenses separately including wages, social security paid on labor, worker's compensation insurance (net of refunds), unemployment insurance, and privileges purchased for hired labor. Wages paid must be consistent with months of hired labor. Check to see that <u>monthly wages</u> range between \$750 and \$2,500 per employee. Make sure wages do not include "draws" to partners or wages of corporate owner/operators for individuals entered as operators in Column 55.
- Dairy grain and concentrate bought should include the concentrate, minerals, protein, and grain purchased during
 the year for the dairy herd including cows, heifers, calves, and bulls. <u>Dairy roughage</u> includes hay, silage, and
 silage additives purchased for the entire dairy herd. All feed purchased for livestock such as hogs, horses, and beef
 cattle should be included in Nondairy feed.
- 3. <u>Milk marketing</u> includes government assessments, milk hauling, milk promotion, and coop dues. Do not include capital assessments. <u>Other livestock expenses</u> include DHIC dues, cattle registration, livestock board, milk house and parlor supplies, bedding, and bST.
- 4. Enter all the town, county, and school <u>taxes</u> paid on farm real estate. Exclude taxes paid on your personal residence, income and self-employment taxes. (Itemize corporate taxes under miscellaneous.) Sales taxes should be capitalized along with cost of improvement.
- 5. Enter all the fire and farm liability <u>insurance</u> paid on farm property. Exclude life insurance and personal health insurance. Enter employee health insurance under hired labor, truck/auto insurance as machinery expense, and crop insurance as other crop expense.
- 6. Enter the farm share of utility expenses. (e.g. electricity, telephone, heating fuel)
- 7. Include all <u>real estate rent</u> paid and any <u>lease</u> payments on structures. Identify taxes and insurance paid by the rentee as rent. Enter machinery lease payments under <u>machine hire</u>, rent or <u>lease</u>, cattle lease payments under <u>cattle</u> <u>lease/rent</u> expense. See Column 85 for lease payments.
- 8. Include all interest paid on farm liabilities including finance charges.
- 9. <u>Miscellaneous</u> expenses should not be large. Include only those items which cannot be identified within another category. Maple product expenses should be entered as miscellaneous.
- 10. Cattle purchased must be divided into those purchased as <u>replacements</u> and those that increase the size of the herd (<u>expansion</u>). Start by allocating the increase in herd size recorded on the Livestock Inventory (Columns 32 to 40).
- 11. Personal withdrawals and family expenditures includes all cash withdrawals plus all additional nonfarm expenses paid with farm cash or from farm accounts (e.g., income tax, self-employment tax, life insurance). Include withdrawals used for nonfarm loan payments, savings and investments as well as family living expenses. Include borrowed capital used for nonfarm purchases, providing it has been entered as a new nonfarm liability in Column 79. If any or all "Nonfarm Cash Income" has been excluded from the value entered in Column 94, you must also exclude any family expenses paid from that income.
- 12. Change in prepaid expenses is the <u>difference between</u> the amount of an item prepaid on December 31 and the amount prepaid on January 1 (end year minus beginning-of-year). The total change in prepaid expenses (the sum of Column 101) must equal the difference between prepaid expense totals in Columns 65 and 66 (end year minus beginning-of-year).

CASH AND PREPAID EXPENSES

(Col. 100)

(Col. 101)

	•	Change in
	Cash Amount Paid	Prepaid Expense
Hired labor	\$	\$
Feed: Dairy grain & concentrate	\$	
Dairy roughage	\$	
Nondairy feed	\$	
Machinery: Machine hire, rent & lease	S	\$
Machinery repairs & farm vehicle exp.	\$	
Fuel, oil & grease	<u>\$</u>	
Livestock: Replacement livestock	\$	\$
Breeding	\$	
Veterinary & medicine	\$	
Bedding supplies	\$	
Milking supplies	\$	
Milk marketing	\$	\$
Cattle lease/rent	\$	\$
Custom boarding	\$	\$
Other livestock expense	\$	
Crops: Fertilizer & lime	S	
Seeds & plants	\$	
Spray, other crop exp.	\$	
Real Estate: Land, bldg., fence rep.	S	
Taxes	\$ <u></u>	\$
Rent & lease	\$	\$
Other operating: Insurance	S	\$
Utilities (farm share)	\$	\$
Interest	\$	\$
Miscellaneous	S	
Other: Expansion livestock	\$	\$
Stock and certificates purchased (exclude Farm credit stock)	\$	
Personal withdrawals & family expenditures	\$	

ACCRUAL CROP EXPENSE BY CROP

This worksheet is used to separate your total crop expense bills into the amount spent on hay crops, corn crops, pasture, and all other crops.

If you have this information broken down in your records, you need not record all of the detail here. The only essential information is the total row in each of the three categories of crop expense (fertilizer and lime, seeds and plants, and spray and other crop expense).

Columns 102 and 103 are for you to indicate date and description of expense for your information. Enter the total amount of each bill paid or expense in Column 104. Then assign amounts to hay crops, corn, pasture and/or other crops in Columns 105, 106, 107 and 108. Columns 105, 106, 107 and 108 should add to the amount in Column 104.

In most cases, it is possible to identify which crop large purchases of inputs were used on. Use field records, dates, and descriptions as clues for allocating the expenses. Unless you have a better basis for allocation, allocate lime expenses proportionately across all crop acres since benefits extend to crops grown in future years. Charge fertilizer, chemical, and seed costs to the crop to which they were applied.

In order to gain the improved accuracy of accrual accounting, this worksheet also has a place for you to enter changes in inventory and accounts payable. You have previously entered this information in Columns 28, 31, and 99. However, it is now necessary to break down these changes as to whether they relate to hay crops, corn crops, pasture, or other crops. The change in inventory number should be determined by subtracting Column 31 (end of year inventory) from Column 28 (beginning of year inventory) for the three crop expense categories. If you had an increase in inventory, the resulting number will be negative and should be entered with a negative sign in front of it. The changes in account payable can be read directly from Column 99 for each category. Again, the number may be positive or negative.

After entering the amount of the changes in inventory and account payable in Column 104, distribute the changes among the hay, corn, pasture, or other crop categories.

As a result of your work on this sheet, your summary printout will provide you with a breakdown of crop expense by crop on a per tillable acre basis and per ton dry matter or per dry bushel basis. This information will be useful in evaluating potential changes in crop acreages and other cropping decisions.

Example:

(Col. 102)	(Col. 103)	(Col. 104)		(Col. 105)		(Col. 106)		(Col. 107)	(Col. 108)
Month/Day	Description of Expense	Total Bill Paid	=	Hay Crop Amount (silage & dry)	+	Corn Amount (silage & dry)	+	Pasture Amount	All Other Crops Amount
Fertilizer and	Lime Union Soil Serve Inventory change	e s <u>3300</u> - 1000		s 1400 -200		s 1900 - 800		s	sO_
	Change in accounts payable Total fertilizer and lime	0 <u>\$ 230</u> 0		s <u>1200</u>		s <u>1100</u>		\$	\$

ACCRUAL CROP EXPENSE BY CROP

(Col. 102)	(Col. 103)	(Col. 104)		(Col. 105)		(Col. 106)		(Col. 107)	(Col. 108)
Month/Day	Description of Expense	Total Bill Paid	=	Hay Crop Amount (silage & dry)	+	Corn Amount (silage & dry)	+	Pasture Amount	All Other Crops Amount
Fertilizer and	l Lime								_
		\$		\$		\$		\$	\$
									
		·							
									
	Inventory change								
	Change in accounts payable								
	Total fertilizer and lime	\$ <u></u>		\$		\$		\$	\$
Seeds and Pla	ants								
		\$		\$		\$		\$	\$
	Instantant about								
	Inventory change Change in accounts payable								
	Total seeds and plants	\$ 14.1 46.200		\$		\$ <u></u>		\$	\$
								·	
Spray and oth	her crop expense							•	
		\$		\$		\$		\$	\$
·				· · · · · · · · · · · · · · · · · · ·					
	Inventory change								
	Change in accounts payable								
	Total spray and other crop expense	\$		\$ <u></u>		\$		\$ <u></u>	\$ <u>::::::::::::::::::::::::::::::::::::</u>

(Col. 109)

Optional Input for Deferred Tax Calculations

A balance sheet including deferred taxes can be printed for those farms that are able to complete this section. It is assumed that (1) farm assets not listed in this section will not significantly influence deferred tax liability, and (2) all gain on machinery and purchased livestock is ordinary gain. Enter tax basis information for assets previously entered in inventory. Operator residences should be included in tax basis for "buildings & improvements" as well as for "operator residences" if it was included in the Real Estate Inventory in Column 47. Enter market values for operator residences; single purpose livestock structure, silos, and grain bins; and, purchased livestock. Enter proprietorship and partnership information. Spousal partners filing a joint tax return must combine their ownership in one column. The partner's percent share of farm adjusted gross income must include current cattle sales as well as Schedule F net farm profits. The partner's percent ownership of nonfarm assets must be based on only those included in Column 66.

Example:

Farmer A has \$10,000 worth of purchased dairy cattle with an undepreciated balance of \$5,000. His machinery and equipment have been depreciated down to \$60,000. The tax basis or unrecovered cost of his farm buildings, drain tiles and other depreciable real estate is \$85,000. \$75,000 of the \$85,000 is allocated to his freestall barn, parlor and silos which have an estimated market value of \$125,000. The farm land has a tax basis of \$100,000. The operator's house cost \$25,000 and \$30,000 of capital improvements have been added for a tax basis of \$55,000. Its current value is \$110,000. Nonfarm assets include savings and IRAs that have a basis of \$12,000. Farmer A is a Sole proprietor, married filing a joint tax return, and has paid no self employment tax on nonfarm income.

<u>Tax Basis (undepreciated balance) of</u>: (as of December 31) Purchased livestock (included in livestock inventory, Column 39) Machinery & equipment (included in mach. inventory, Column 13) Buildings & improvements (included in R. E. inventory, Column 47) Part that is single purpose livestock structure, silos, & grain bins (\$ or %) % or \$ Land (included in land and building inventory, Column 47) Operator residences¹ (included in land & bldg. inventory, Column 47) Nonfarm assets (included in Column 66) Market Value of: Operator residences (included in land and bldg. inventory, Column 47) % or \$_____ Single purpose livestock structure, silos and grain bins (\$ or % of R.E. inventory) Purchased livestock (\$ or % of livestock inventory) % or \$ Proprietorship: Tax filing status² \$ Nonfarm income of operator on which self-employment tax was paid

Residences included in farm real estate lived in by the operators of the business.

²1=single, 2=married filing jointly, 3=married filing separately, 4=head of household.

%

%

_%

\$

Optional Input for Deferred Tax Calculations

(Col. 109)

				(= = = = = =)		
Tax Basis (undepreciated balance)	of: (as of December	·31)				
Purchased livestock (included in livestock)	vestock inventory, C	Column 39)	\$_	**************************************		
Machinery & equipment (included	\$ <u>@</u>					
Buildings & improvements (includ	ed in R. E. inventor	y, Column 47)	\$			
Part that is single purpose l	(\$ or %)	% or \$				
Land (included in land and building	g inventory, Colum	n 47)	\$ <u>~</u>			
Operator residences ¹ (included in la	and & bldg. invento	ry, Column 47)	\$_			
Nonfarm assets (included in Colum	ın 66)		\$_			
			••••••••••••		***************************************	
Market Value of: Operator residences (included in la	nd and bldg. invento	ory, Column 47)	S			
Single purpose livestock structure,	silos and grain bins	(\$ or % of R.E. in	ventory)	% or \$		
Purchased livestock (\$ or % of live	stock inventory)		<u> </u>	% or \$		
Proprietorship: Tax filing status ²			<u>.</u>		<u> </u>	
Nonfarm income of operator on wh	ich self-employmer	nt tax was paid	\$ <u>~</u>			
Partnership Information	Partner 1	Partner 2	Partner 3	Partner 4	Partner 5	
Tax Filing Status ²			<u> </u>	4-3 TH 57-17 THE TOTAL STREET,		
Percent Share of Farm Adjusted Gross Income	%	<u></u> %	<u> </u>	√	<u>`</u> %	
Percent Ownership of:						

%

Current Assets

Livestock

Machinery

Real Estate

Nonfarm Assets Listed

Nonfarm Income of operator on which self-employment tax was

%

%

\$770 300

¹Residences included in farm real estate lived in by the operators of the business.

²1=single, 2=married filing jointly, 3=married filing separately, 4=head of household.

APPENDIX

The following worksheets do not have to be filled out to complete a farm business summary. They are provided as back-up worksheets to assist you in compiling some information which would then be transferred to one of the columns in the main section of the workbook.

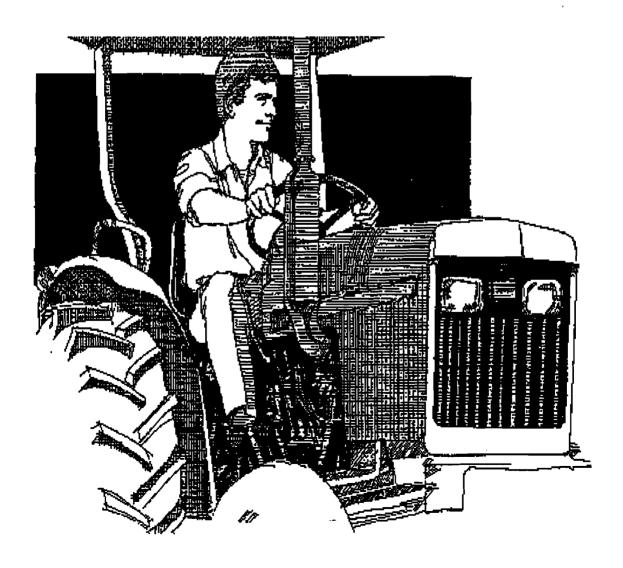
The machinery and equipment inventory worksheets (Columns A1 and A2) are provided as a place to make an inventory record if you do not already have one. Another alternative would be to use a Cornell "Farm Inventory and Depreciation Book" which is available at your county Extension office.

Several worksheets are included to help you accurately estimate your physical inventories and crop production. These worksheets cover silo capacities, corn grain conversion, estimating grain and hay volumes, and compiling total crop production.



MACHINERY AND EQUIPMENT INVENTORY WORKSHEETS

The worksheets on Appendix pages 2 through 8 are for completion of an inventory record of machinery and equipment. If you already have such an inventory, it is not necessary to complete these worksheets. The only numbers which are essential to completion of a dairy farm business summary are the beginning and end of year total inventory values. These values are entered in **Columns 12 and 13** on workbook page 8. If you use the machinery and equipment inventory worksheets below, transfer the totals from Appendix page 8 to the appropriate lines on workbook page 8.



MACHINERY AND EQUIPMENT INVENTORY

The value of used machinery and equipment should be based on current market or sale prices, reduced by the cost that would be incurred to sell the item.

	(0	col. A1) Mar	(Col. A2) arket Value		
Description of item	Ja	nuary 1	December 31		
Power	\$ _		\$		
Tractors:			¥		
Trucks:					
Auto (farm share)					
		<u>-</u> -			
Electric Motors					
Electric Motors	•				
Generator					
Other					
Plow and tillage equipment					
Plane					
Plows					
			2000000		
Totals (carry over to next page)	\$		\$		

	(Col. A1)	(Col. A2) Market Value
Description of item	January 1	December 31
Total (from previous page) Discs	\$	\$
Harrows		
Clodbuster	 	
Cultipacker	 	
Cultivator	 	_
Weeder		
Roller		_
Land leveler		
Other		
Wagons and the like	 	
Wagons, grain	 	
Wagons, hay		_
Wagons, self-unloading	 	<u> </u>
Totals (carry over to next page)	 \$	\$

	(Col.	A1) (Col Market Value	. A2)
Description of item	Janua	ary 1 Decem	ber 31
Total (from previous page) Mower	\$	\$	
Mower conveyor			
Rakes			
Windrower, power take-off			
Windrower, self-propelled			
Windrow turner			
Corn machinery			
Corn planters			
Corn picker			
Corn picker-sheller	_		
Picker, grinder, recut			
Field choppers			
Silo blowers and pipe			
Totals (carry over to next page)	 \$	 \$	

		(Col. A1)	(Col. A2) Market Value
Description of item		January 1	December 31
Total (from previous page)	 \$		 _ \$
Silo unloaders			
			-
Silo distributor			
mall grain machinery			_
Drills			
Seeder			
			_
Combines			
Other field and crop machinery		<u> </u>	_
Crop sprayers		_	
Power sprayer			-
Fertilizer spreader			_
Insecticide applicator			_
Irrigation equipment	· ·		
			_
Harvesters		- -	
Planters			_
Cotale (corre over to nevt page)			- <u> </u>

	(Col. A	1) (Col. A2) Market Value	
Description of item	January	1 December 31	l
Total (from previous page) Dairy equipment	\$	\$	
Bulk tanks			
Feed bunks			
Feed carts			
Furnace			
Heater			
Milking machine units			
Milk transfer system			
Milk house equipment, portable			
Parlor equipment, portable			
Vacuum pump			
Ventilation fans			
Waterer, automatic livestock		<u> </u>	
Totals (carry over to next nage)	<u> </u>	s	

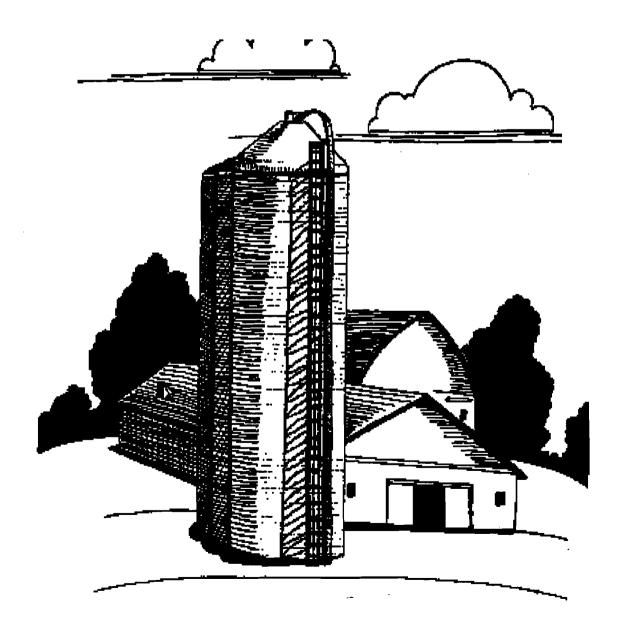
	(Col. A1)	(Col. A2) Market Value
Description of item	January 1	December 31
Total (from previous page) Dairy equipment	\$	
Bulk tanks		
Feed bunks		
Feed carts		
Furnace		
Heater		
Milking machine units		
Milk transfer system		
Milk house equipment, portable		
Parlor equipment, portable		
Vacuum pump		
Ventilation fans		
Waterer, automatic livestock		<u> </u>
Totals (carry over to next page)		

	_	(Col. A1)	(Col. A2) Market Value
Description of item	_	January 1	December 31
Total (from previous page)	\$		\$
Water pump			
Waste disposal equipment			_
Gutter cleaner			_
Loader			
Scraper			
Spreaders			_
Liquid manure equipment			
Feed equipment			
Carts or conveyors			_
			_
Grain dryer			_
Feed mill			.
Feed grinder-mixer			_
Mechanical feeders			
Totals (carry over to next page)	 \$		- \$

		(Col. A1)	(Col. A2) Market Value
Description of item	_	January 1	December 31
Total (from previous page)	\$		\$
Other livestock and poultry equipment			
			_
<u> </u>			
			_
			
Miscellaneous			
viiscenaneous			_
			_
			_
			_
			_
		<u>-</u>	-
			_
Totals (carry over to next page)	\$		\$

CROP WORKSHEETS

The following eight pages (10-17) are to assist you with completion of the crop production information. They should be helpful in working on **Columns 14, 17, 62-64, 102-108** of the workbook. It is not essential for you to fill in the worksheets below; they are here for your use only.



CORN GRAIN CONVERSION WORKSHEET

	Percent Moisture	Tons as Harvested ¹	Conversion Factor ²	Dry Shell Equivalent
Ear Corn:	%	T		bushels
Shell Com:	%	T		bushels
		Total (enter in Column 63)		bushels

¹Use Table 1 below. ²Use Table 2 below.

TABLE 1. TOWER SILO CAPACITIES FOR HIGH MOISTURE CORN

	Tons In	High Moist side Diame	ure Ear Corr ter in Feet	Tons High Moisture Shelled Corn ⁴ Sealed Storage 20 Feet Diameter	
Settled Depth	14	16	18	20	
15	47	62	78	97	113
20	65	84	107	132	154
25	83	108	137	169	192
30	102	133	168	207	235
35	121	158	200	247	274
40	142	185	234	289	320
45	163	213	269	332	360
50	185	241	305	377	407
55		271	342	423	448
60		302	381	471	498
65			421	520	
70			462	571	

³Based on 33 percent moisture content. ⁴Based on 28 percent moisture content. HMEC stored in horizontal silos will range from 40 to 42 pounds per cubic foot.

TABLE 2. CORN GRAIN CONVERSION TABLE

Percent Moisture in Kernel	Tons of Shelled Corn Needed to Equal One Bushel of Dry Shelled ⁵	Percent Moisture in Whole Ear	Tons of Ear Corn Needed to Equal One Bushel of Dry Shelled Corn
14.0	0.0275	14.2	0.0335
15.5	0.0280	16.0	0.0342
16.0	0.0282	16.6	0.0345
18.0	0.0289	19.7	0.0357
20.0	0.0296	22.6	0.0370
22.0	0.0300	25.2	0.0384
24.0	0.0312	27.9	0.0399
26.0	0.0320	-30.0	0.0414
28.0	0.0329	32.6	0.0428
30.0	0.0338	34.6	0.0443
32.0	0.0348	36.4	0.0457
35.0	0.0364	39.3	0.0479

⁵ One bushel of no. 2 corn at 15.5 percent moisture content.

APPROXIMATE DRY MATTER CAPACITY OF SILOS*

Depth of Settled	Insid	Inside Diameter of Silo:											
Silage (ft)	10	12	14	16	18	20	22	24	26	28	30		
2	0	1	1	1	2	2	2	2	3	3	4		
4	1	2	2 3	3	4	5	5	6	8	9	10		
6	2	2		4	5	7	8	10	11	13	15		
8	3	· 4	5	7	9	11	13	16	18	21	24		
10	4	5	7	9	11	14	17	20	24	28	32		
12	5 5	7	9	11	14	18	22	26	30	35	40		
14	5	8	11	14	17	22	26	31	36	42	48		
16	6	9	12	17	21	26	- 32	37	44	51	58		
18	7	11	14	19	24	29	35	42	49	57	65		
20	8	12	16	21	27	33	40	47	56	65	74		
22	9	14	19	24	30	38	48	54	64	74	85		
24	11 -	15	21	27	34	43	52	61	72	83	96		
26	12	17	23	30	38	48	58	68	81	94	107		
28	13	19	26	35	44	53	64	76	90	104	119		
30	15	21	29	38	47	59	71	84	99	115	132		
32	16	23	32	41	52	65	78	93	109	127	145		
34	18	25	34	45	57	70	85	101	119	137	158		
36	19	28	37	48	62	76	92	109	129	150	172		
38	21	30	41	53	67	82	100	118	139	161	185		
40	22	32	44	57	72	89	107	127	150	173	199		
42	24	34	47	61	7 7	95	115	137	161	186	214		
44	26	37	50	65	82	102	123	146	172	200	229		
46	27	39	53	69	88	108	131	155	183	212	244		
48	29	42	5 6	74	93	115	140	166	195	226	260		
50	31	44	60	78	99	122	148	175	206	239	274		
52	32	47	64	83	105	129	157	186	219	254	291		
54	34	49	67	88	111	137	165	197	231	267	306		
56	36	51	71	93	117	144	174	207	243	282	324		
58	38	54	74	98	123	151	183	218	261	297	339		
60	_40	56	78	102	129	159	192	228	273	309	357		
62			aining in a to rt of the silag		135	167	201	239	287	324	374		
64	_	-	tons of silag	-	142	174	210	259 250	301	339	391		
66			lled, 2 find ti		149	182	219	260	314	354	407		
68			height equal		155	190	219	200 271	31 4 328	369	407 424		
70			ved, 3 subtra		162	198	228 237	282	342	384	441		
70			ep 2 from the		102	170	431	202	3 4 4	304	-441		
72			ep 1. Ex: a 2					293	356	400	458		
74			depth of 60					305	371	415	476		
76			off. 1 20x6					316	385	431	493		
78			0x22 equals					328	400	446	511		
80	•		als 121 tons i					339	462	462	528		

^{*}This table was adapted by the Department of Agricultural Engineering and Agricultural Economics from a silo capacity table developed by the National Silo Association, 1201 Waukegan Road, Glenview, Illinois and added to by the Department of Agricultural Engineering and Agricultural Economics, the University of Wisconsin.

APPROXIMATE CAPACITY OF HORIZONTAL SILOS

The following tables give approximate capacity of horizontal silos in tons based on <u>70 percent moisture silage</u>, good packing practices, and level full condition after settling. Allowance should be made for sloping end(s), i.e., the capacity indicated is for full length of average depth, so for design purposes add depth of silo to this length.

Average					<u>-</u>		<u>-</u>	per:	of silage slice
width				Length in Fee	<u> </u>			4"	12"
in feet	60	80	100	120	140	160	200	thick	thick
	8' deep, 40	pounds per cu	bic foot:						
				tons					ns
20	192	256	320	384	448	512	640	1.1	3.2
30	288	384	480	576	672	768	960	1.6	4.8
40	384	512	640	768	896	1,024	1,280	2.1	6.4
50	480	640	80 0	960	1,120	1,280	1,600	2.7	8.0
60	576	768	960	1,152	1,344	1,536	1,920	3.2	9.6
80	768	1,024	1,280	1,536	1,792	2,048	2,560	4.3	12.8
	10' deep, 42	pounds per c	ubic foot:						
20	252	336	420	504	588	672	840	1.4	4.2
30	378	504	630	756	882	1,008	1,260	2.1	6.3
40	504	672	840	1,008	1,176	1,344	1,680	2.8	8.4
50	630	840	1,050	1,260	1,470	1,680	2,100	3.5	10.5
60	756	1,008	1,260	1,512	1,764	2,016	2,520	4.2	12.6
80	1,008	1,344	<u>1,680</u>	2,016	2,352	2,688	3,360	5.6	16.8
	12' deep. 44	pounds per c	ubic foot:						
20	317	422	528	634	739	845	1,056	1.8	5.3
30	475	634	792	950	1,109	1,267	1,584	2.6	7.9
40	634	845	1,056	1,267	1,478	1,690	2,112	3.5	10.6
50	792	1,056	1,320	1,584	1,848	2,112	2,640	4.4	13.2
60	950	1,267	1,584	1,901	2,218	2,534	3,168	5.3	15.8
80	1,267	1,690	2,138	2,521	2,957	3,379	4,224	7.0	21.4
	14' deep, 46	pounds per c	ubic foot:						
20	386	515	644	773	902	1,030	1,288	2.1	6.4
30	580	773	966	1,159	1,352	1,546	1,932	3.1	9.7
40	773	1,030	1,288	1,546	1,803	2,061	2,576	4.3	12.9
50	966	1,288	1,610	1,932	2,254	2,576	3,220	5.4	16.1
60	1,159	1,546	1,932	2,318	2,705	3,091	3,864	6.4	19.3
80	1,546	2,061	2,576	3,091	3,606	4,122	5,152	8.6	25.8

SOURCE: GJC: 302:73:246

Standard Weights of Farm

ESTIMATING GRAIN AND HAY VOLUME

Grain: A bushel of grain contains 1.25 cubic feet. Multiply the length of the bin by the width, by the depth (all in feet) to get cubic feet. Then divide cubic feet by 1.25. A quicker way is to multiply the cubic feet by 0.8. If the storage unit is round, use the formula $\pi r^2 x$ height = cubic feet.

Example: Bin 10 x 4 x 3 equals 120 cubic feet; 120 times 0.8 equals 96 bushels.

Storage Space Requirements for Feed Bedding 1

Material		Weight/Cubic Ft. Pounds	Cubic Ft. Per Ton
Hay -	Long loose, in shallow mows	3.6 - 4.2	475 - 550
	Long loose, in deep mows	4.0 - 5.0	400 - 500
	Baled, loosely	5.5 - 6.6	300 - 360
	Baled, tightly	6.6 - 8.3	240 - 300
	Chopped, 3" machine cut	5.3 - 6.1	330 - 380
	Chopped, 1 1/2 - 2" machine cut	5.6 - 6.7	300 - 360
Straw -	Loose	3.5 - 4.5	450 - 570
	Baled	6.0 - 10.0	200 - 330
	Chopped	5.7 - 8.0	250 - 350
Shavings, baled	••	20	100
Mixed ground feed		30 - 40	50 - 67

Special Bulletin 4, Planning Stall Barns, October Experiment Station, University of Wisconsin, Madison, Wisconsin 53706

ESTIMATING EAR CORN VOLUME

General Directions: Multiply the length times the width times the height (all in feet) to get cubic feet. If the storage unit is round, use the formula πr^2 x height equals cubic feet. To get bushels, multiply cubic feet times 0.4 or divide cubic feet by 2.5.

Two Moisture Content Corrections I

%Moisture

If dry - bushels = volume in cubic feet x 4/9
 If new - bushels = volume in cubic feet x 4/10

4/9 = 0.4444

4/10 = 0.4000

If damp - bushels = volume in cubic feet x = 4/11

4/11 = 0.3636

Following are correction factors for converting gross bushels of ear corn to net bushels.

%Moisture

		TOMIODALLE		70MOESTURE		Sympana A ciking of Lin	
Content	Factor	Content	Factor	Content	Factor	Products Per Bu	uhel
15 or less	1.030	22	0.925	29	0.820		pounds
16	1.015	23	0.910	30	0.805	Alfalfa	60
17	1.000	24	0.895	31	0.790	Apples	48
18	0.985	25	0.880	32	0.775	Barley (common)	48
19	0.970	26	0.865	33	0.760	Bariey (huli-less)	60
20	0.955	27	0.850	34	0.745	Beans	60
21	0.940	28	0.835	25	0.730	Bluegrass (Kentucky)	14
						Bromegrass	14
						Buckwheat	50
1) Example:	10,000 cubic feet	of storage				Clover	60
	Dry - 10,000 cubi	c feet x 4/9 = 4,444	bushels			Com (broom)	50
	New - 10,000 cub	oic feet x 4/10 = 4,00	00 bushels			Cora (dry ear)	35
	Damp - 10,000 ca	abic feet x 4/11 = 3,0	636			Corn (shelled)	56
2) Example:	10,000 cubic feet	of storage				Corn (sweet)	50
						Cowpeas	60
						Flax	56
						Millett	48
		Gross Bu.					
		Gross Bu. Standard		Moisture		Onts	32
<u>Moisture</u>	Cu. Pt.		Bushels	Moisture Factor	Net Bu.	Onions	52
		Standard Factor		Factor			52 14
Moisture	10.000 x	Standard Factor	=4.000	Factor	= 4,120	Onions	52 14 60
15%	10.000 x 10.000 x	Standard Factor 0.4 0.4	= 4.000 = 4.000	Factor x 1.030 x 1.000	= 4,120 = 4,000	Onions Orchard grass	52 14 60 60
15% 17	10.000 x	Standard Factor 0.4 0.4 0.4	= 4.000 = 4.000 = 4.000	x 1.030 x 1.000 x 0.970	= 4,120 = 4,000 = 3,880	Onions Orchard grass Peas	52 14 60 60 50
	10.000 x 10.000 x	Standard Factor 0.4 0.4	= 4.000 = 4.000	Factor x 1.030 x 1.000	= 4,120 = 4,000	Onions Orchard grass Peas Potatoes	52 14 60 60
15% 17 19 21	10.000 x 10.000 x 10.000 x	Standard Factor 0.4 0.4 0.4	= 4.000 = 4.000 = 4.000	x 1.030 x 1.000 x 0.970	= 4,120 = 4,000 = 3,880	Onions Orchard grass Peas Potatoes Rape	52 14 60 60 50 14
15% 17 19 21 23 25	10.000 x 10.000 x 10.000 x 10.000 x 10.000 x	Standard Factor 0.4 0.4 0.4 0.4 0.4	=4.000 =4.000 =4.000 =4.000 =4.000 =4.000	x 1.030 x 1.000 x 0.970 x 0.940 x 0.910 x 0.880	= 4,120 = 4,000 = 3,880 = 3,760	Onions Orchard grass Peas Potatoes Rape Redtop	52 14 60 60 50 14 56
15% 17 19	10.000 x 10.000 x 10.000 x 10.000 x 10.000 x	Standard Factor 0.4 0.4 0.4 0.4 0.4 0.4 0.4	= 4.000 = 4.000 = 4.000 = 4.000 = 4.000	x 1.030 x 1.000 x 0.970 x 0.940 x 0.910	= 4,120 = 4,000 = 3,880 = 3,760 = 3,640	Onions Orchard grass Peas Potatoes Rape Redtop Rye	52 14 60 60 50 14 56 56
15% 17 19 21 23 25 27	10.000 x 10.000 x 10.000 x 10.000 x 10.000 x	Standard Factor 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4	=4.000 =4.000 =4.000 =4.000 =4.000 =4.000 =4.000 =4.000	x 1.030 x 1.000 x 0.970 x 0.940 x 0.910 x 0.880	= 4,120 = 4,000 = 3,880 = 3,760 = 3,640 = 3,520	Onions Orchard grass Peas Potatoes Rape Redtop Rye Sorghum Soybeans Timothy	52 14 60 60 50 14 56 56 60 45
15% 17 19 21 23 25 27	10.000 x 10.000 x 10.000 x 10.000 x 10.000 x 10.000 x	Standard Factor 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.	=4.000 =4.000 =4.000 =4.000 =4.000 =4.000 =4.000	x 1.030 x 1.000 x 0.970 x 0.940 x 0.910 x 0.880 x 0.850	= 4,120 = 4,000 = 3,880 = 3,760 = 3,640 = 3,520 = 3,400	Onions Orchard grass Peas Potatoes Rape Redtop Rye Sorghum Soybeans Timothy Wheat	52 14 60 60 50 14 56 60 45
15% 17 19 21 23 25	10.000 x 10.000 x 10.000 x 10.000 x 10.000 x 10.000 x 10.000 x	Standard Factor 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.	=4.000 =4.000 =4.000 =4.000 =4.000 =4.000 =4.000 =4.000	x 1.030 x 1.000 x 0.970 x 0.940 x 0.910 x 0.880 x 0.850 x 0.820	= 4,120 = 4,000 = 3,880 = 3,760 = 3,640 = 3,520 = 3,400 = 3,280	Onions Orchard grass Peas Potatoes Rape Redtop Rye Sorghum Soybeans Timothy	52 14 60 60 50 14 56 56

TILLABLE LAND USE BY FIELD

Hay Crop (Hay and Hay Crop Silage)		Corn Silage				
<u>Field</u>	Acres	<u>Field</u>	Acres			
						
						
Total Hay Crop	*	Total Corn Silage	*			

^{*} Transfer total acres for each crop to Column 62, page 28. Cross-check total tillable acres at bottom of Column 62 against Tillable Land, Acres Owned (Column 60) plus Acres Rented (Column 61), in Land Inventory on page 26.

TILLABLE LAND USE BY FIELD (continued)

Other Forage Harvested		Corn Grain	
<u>Field</u>	Acres	<u>Field</u>	Acres
Total Other Forage	*	Total Corn Grain	*
<u>Oats</u>		Wheat	
Total Oats	*	Total Wheat	***************************************
<u>Other</u>		Tillable Pasture	
			
Total Other	*	Total Tillable Pasture	

^{*} Transfer total acres for each crop to Column 62, page 28. Cross-check total tillable acres at bottom of Column 62 against Tillable Land, Acres Owned (Column 60) plus Acres Rented (Column 61), in Land Inventory on page 26.

TOTAL CROP PRODUCTION

<u>Hay</u> *	Dimensions (in feet)							Total Prod.				
Storage structure	Length	X	Width	X	Height	=	Cu. Ft.	÷	Cu. Ft. Per Ton	=	(tons) (all cuttings)	Dry Matter Coefficient**
												
												(avg)

Total****

- Use this worksheet if you don't have a count of number of bales produced. An alternative would be to multiply number of bales times average bale weight.
- Enter as decimal, e.g., 40% is entered as .4.

Hay Crop Silage, Corn Silage, or High Moisture Corn in Tower Silos****

1	1	Dimensions	Total Tons							
Storage Structure	Depth	Diameter	Dry Matter (from silo chart)	÷	Dry Matter Coefficient			Total Production (tons) (all cuttings)		
										
Corn Silage in Tren	ch Silo									
Storage structure	Length	X Width***	X Depth	=	Cu. Ft.	x	Tons Per Cu. Ft.	=	Total Production (tons) (fresh weight)	Dry Matter Coefficient
				-						
				-						(avg.)

^{***} For width, average width at top and bottom of trench.

**** Transfer total production for each crop to Column 63, page 28.

GROWN FEED INVENTORY

This worksheet is used to calculate beginning and end of year inventory of all grown feeds. These are crops that you raised for feed. Purchased feed is not included here.

If you have an end of year inventory of grown feeds for the year prior to the summary year, this can be used to complete the beginning of year portion of the worksheet for January 1. If you are without the prior year's ending inventory figures, it may be easier to start by determining the summary year's ending inventory (December 31). In other words, start by completing the right side of the worksheet. Then make your best estimates of the quantities you had on hand at the beginning of the year (January 1). One method is to compare what you have at the summary year' end with what you think you had at the prior year's end.

(Col. 14)

(Col. 17)

			\ · · · /			(/		
Item	Ве	eginning of Year (January	1)	End of Year (December 31)				
	Size of Storage	Amount Still Full	Quantity	Size of Storage	Amount Still Full	Quantity		
orn - HMSC								
orn-HMEC								
orn-dry,								
· ·								
ats		_						
/heat								
ther	- ———							
ry hay								
ay crop silage								
orn silage								
ther								

SAMPLE FARMER LIVESTOCK INVENTORY EXAMPLE

Sample Farmer had 50 head of young stock valued at \$30,500 at the beginning of the year. At the end of the year he still had 50 head of young stock and his total inventory value had increased to \$36,000.

How much of an increase can be attributed to growth and herd improvement and how much to change in market prices?

A completed livestock inventory worksheet can provide the answers. At the beginning of the year, Sam had 10 bred heifers, 20 open yearlings, and 20 calves. At the end of the year he had 20 bred heifers that are younger and smaller than the 10 he had at the beginning of the year, but bred heifer prices have increased \$100 during the year. The open yearlings did not change in quality or price during the year. The 10 calves in the year end inventory are older than last year's group. The increase in young stock value due to a change in the physical make up of the herd was \$3500 while higher prices at the end of the year resulted in an increase due to appreciation of \$2000.

ì	(Col. 32)	(Col. 33)	(Col. 34)	(Col., 35)	(Col. 36)	(Col. 37)	(Col. 38)	(Col. 39)	(Col. 40)
	Jai	nuary 1 Inven	tory		Decem	Ber 31 Inventor	y Using:		
·					January	1 Prices	Decembe	r 31 Prices	
Туре	No.	Price Per Head	Total Value	<u>Dec. 31</u> No.	Price Per Head	Total Value	Price Per Head	Total Value	Average Number for Year
Heifers:	10	# 850	#8,500	20	# 800	#ju 000	\$ 906	418,000	17
Open (6 mobred)	20	650	13,000	20	650	13,000	650	13,000	21
Calves (< 6 mo.)	20	450	9,000	10	500	5,000	500	5,000	13
Total			\$ <u>30,500</u>			\$ <u>34,000</u>		\$ <u>36,000</u>	

OTHER A.R.M.E. EXTENSION BULLETINS (Formerly A.E. Extension Publications)

No. 94-18	Your Dairy in Transition Your Farm and the Industry	Faculty & Staff Cornell University
No. 94-19	Your Dairy in Transition A Planning Process for Considering Dairy Farm Expansion	Faculty & Staff Cornell University
No. 94-20	Your Dairy in Transition Winding Down Your Farm Operation	John R. Brake
No. 94-21	Dairy Farm Business Summary Eastern New York Renter Summary 1993	Stuart F. Smith Linda D. Putnam
No. 94-22	Income Tax Consequences of Farm Debt Cancellation and Bankruptcy	George Casler
No. 94-23	Farm Income Tax Management and Reporting Reference Manual	George L.Casler Stuart F. Smith
No. 94-24	Dairy Farm Business Summary New York Large Herd Farms, 300 Cows or Larger 1993	Jason Karszes Stuart F. Smith Linda D. Putnam
No. 94-25	New York Economic Handbook 1995 Agricultural Situation and Outlook	A.R.M.E. Staff
No. 94-26	Census of Agriculture Highlights New York State, 1992	W. Knoblauch L. Putnam B. Stanton N. Merrill
No. 94-27	Fruit Farm Business Summary Lake Ontario Region New York 1993	Gerald B. White Alison DeMarree Linda D. Putnam