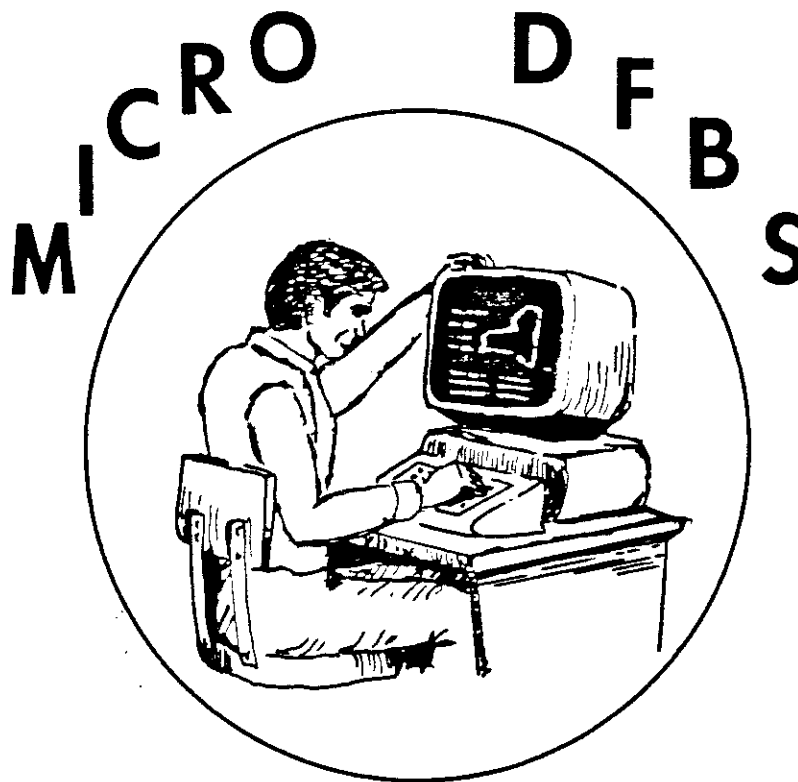


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**A Guide to Processing
Dairy Farm Business Summaries
in County and Regional Extension Offices
for**

Micro DFBS V 2.3

IBM PC, XT AND IBM-Compatible Microcomputers

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INTRODUCTION

This publication is a guide to using the Microcomputer Dairy Farm Business Summary (Micro DFBS) computer program for analyzing individual dairy farm businesses. County Extension agents and regional specialists are the intended audience, however, college faculty in other states may also find this publication of value. Farm business summary and analysis projects have long been a basic part of the agricultural Extension program in New York State. Records submitted by New York State dairy farmers provide the basis for many Extension educational programs and the data for applied research studies and classroom teaching.

Extension offices with appropriate microcomputers have the capability to strengthen their dairy farm business analysis activities by calculating and printing the individual farm summaries for immediate use by the agent and farmer, at any time. After entry in the county, individual farm data is sent to the Department of Agricultural Economics at Cornell University for additional review prior to calculation of county, regional, and State summaries.

HARDWARE REQUIREMENTS

Version 2.3 of the Micro DFBS program will run on IBM PC and XT and IBM-compatible computers such as Compaq with a minimum of 256K of random-access memory (RAM). The DOS 2.0 (or higher) operating system is needed. Either two floppy disk drives or one floppy and one hard disk are needed.

Printers vary from one Extension office to another, and an effort is made to make the program work with as many printers as possible. Most printers capable of printing in pica type (10 characters per inch, 66 lines per page) should work.

Each farm summary printout is 11 pages long and you typically need three copies -- one for the farmer, one for your county or regional Extension office file, and one to send to Cornell for the regional and State summaries. Triple-copy paper will allow you to print all three copies at once if a dot-matrix printer is used.

GETTING STARTED

This tutorial section will serve as a learning guide and "hands-on" exercise in using Micro DFBS. The user becomes familiar with the operation of Micro DFBS by:

- a) making backup copies of diskettes
- b) starting the program
- c) typing information from a sample input form
- d) calculating and printing a summary
- e) preparing a diskette for shipment to Cornell

This tutorial assumes that a suitable microcomputer and printer are available and the user knows how to operate them. Microcomputer hardware requirements were explained above. If you are not familiar with the operation of your microcomputer and operating system, refer to its DOS manual.

I. Make backup copy of diskette.

You should have received a program diskette that also has sample data on it. Make a copy of this diskette, put the original diskette in a safe place, and use the copy. Use the DOS "copy" command. For example, on a computer with two floppy disk drives, after booting the computer, place the diskette to be copied in Drive A and a blank formatted diskette in Drive B and type:

```
copy a:*. * b: ↵ (return key)
```

The names of the files being copied will appear on the screen as they are copied. The sample farm has three data files on the diskette:

```
<farm no.>.88 is the current year's data file,
<farm no.>.870 is the 1987 output file, and
<farm no.>.860 is the 1986 output file.
```

The 1987 and 1986 output data files are required for use by the current year data file (<farm no.>.88) in order to print a "Progress of the Farm Business" table on page 1 of the output. The 1988 data file contains data from the 1987 data file, such as beginning of year inventory values and beginning of year assets and liabilities.

II. Start the program.

Important - be sure to always enter the correct date when you start the computer to run Micro DFBS. Micro DFBS prints this date on the summary printout. It also assumes that the summary is for the previous year. For example, if you enter 1-1-89, the printout will show:

1988 Dairy Farm Business Summary

If you don't enter the date and instead leave it as the default of 1-01-1980, the printout will show:

1979 Dairy Farm Business Summary

which is probably not what you wanted.

Follow A or B depending on the hardware system you are using.¹

A. Two floppy disk drives (IBM PC, Compaq):

Insert your DOS diskette in drive A (the left-hand drive) and turn on the computer and printer. Wait until DOS is loaded. Type the date and time, if asked. You should see a prompt A>. This means that drive A is the default drive. If you were not prompted for the date as the computer was booting, at the A> prompt type:

```
date 1-1-89 ↵
```

¹If you have not already done so, be sure to make a backup copy of your program diskette.

Take out the DOS diskette. Insert the Micro DFBS diskette in drive A and a blank formatted data diskette in drive B (right-hand drive).

Copy the sample data files from the program diskette in drive A to the blank formatted disk in drive B:

```
copy a:38006.* b: ↵
```

Skip to C on page 5.

B. One floppy and one hard drive (IBM XT):

If you have previously loaded DOS onto the hard disk², turn on the computer and printer with the floppy drive empty. Wait until DOS is loaded from the hard disk. Type the date and time, if asked. If you were not prompted for the date as the computer was booting and the computer does not have an internal calendar, at the C> prompt type:

```
date 1-1-89 ↵
```

If you will be storing data on the hard disk and/or operating the program from the hard disk, it is advisable to set up a separate directory on the hard disk for this purpose.³ We'll call the directory DFBS. First, let's check if the directory DFBS already exists. To check, type:

```
CD \DFBS ↵
```

If it does exist, you will see the prompt C> reappear. If it does not exist, you will see 'invalid directory', so set it up. To set up a directory named DFBS, from the prompt C>, type:

```
MD \DFBS ↵
```

Each time Micro DFBS is rerun on a one-floppy/one-hard disk system, the Micro DFBS directory must be accessed using the command:

```
CD \DFBS ↵
```

²If you have not previously loaded DOS onto the hard disk, follow the procedure in A, and when you see the prompt A>, type:

```
C:↵
```

(The symbol ↵ stands for a carriage return.)

Upper- or lower-case letters will do. This makes drive C the default drive.

³If you are unfamiliar with the concept of a directory, refer to your DOS manual. In the IBM DOS 2.1 manual, see pages 5-1 to 5-12. Typing the command "prompt \$p\$g" or inserting this command in your autoexec.bat file will change your C> prompt to show which directory you are in, such as C:\DFBS>.

The program diskette contains sample data files which must be copied to your new Micro DFBS directory if you select to store data on the hard disk. Insert the program disk into drive A and copy the sample data files by typing:

```
COPY A:38006.* ↵
```

The C> prompt should reappear.

The Micro DFBS program may be run from the hard disk drive or from the floppy disk drive.

1. Operating the Micro DFBS program from the hard disk drive:

The Micro DFBS program diskette contains all the files necessary to run the Micro DFBS program. These files must be copied to your 'DFBS' directory to be able to run the program from the hard disk. If you are not already in the 'DFBS' directory, type 'CD \DFBS'. Insert the Micro DFBS program diskette into drive A and copy all the files to the hard disk by typing:

```
COPY A:*. * ↵
```

The names of the files being copied will appear on the screen as they are copied to the hard disk. The C> prompt should reappear after all the files are copied.

2. Operating the Micro DFBS program from the floppy disk drive:

Insert the Micro DFBS program diskette in drive A. Type:

```
A:↵
```

This makes the A drive the default drive. With the Micro DFBS program operating from the A drive, you will need to store the data files on the C drive as there is insufficient space on the program diskette. The "Install" program described in Section III will enable you to specify the C drive for data storage.

Note: The MD \DFBS and COPY commands need to be used only once -- the directory and files will remain after the session is ended and can be used in future sessions.

C. You are now ready to run Micro DFBS. Type:

DFBS ↵

You should see the main menu.

MAIN MENU

CORNELL COOPERATIVE EXTENSION

DATE: 1/1/1989

Prepared by
DEPARTMENT OF
AGRICULTURAL ECONOMICS
CORNELL UNIVERSITY

NEW YORK

Dairy Farm Business Summary Version 2.3

☐ Create/Update/Display Record	☐ Calculate and Print Farm Summary
☐ Verify Record	☐ Run Install Program
☐ Delete Record	☐ Help
☐ Quit	

The main menu shows the options available in DFBS. A set of brackets ☐ appears to the left of each named option. An underline character is used as the cursor and marks the first option 'Create/Update/Display Record'. Practice moving the cursor keys. What happens when you use the right and left arrow keys?

III. Final startup instructions - the INSTALL program

An installation program must be run before using the Micro DFBS Program in order to specify which disk drive data is to be stored on. Use the cursor keys (↑ or ↓) to select "Run Install Program".

You should get the message:

DAIRY FARM BUSINESS SUMMARY INSTALLATION PROGRAM
PRESENT DRIVE IS A: ENTER NEW DRIVE OR PRESS RETURN TO OK EXISTING DRIVE.

Enter a drive letter, either A, B, C or press return if the correct drive is already specified. For the two floppy disk drive system, type B ↵. Once you set the drive, it will remain at that setting until you change it by selecting "install" again.

You should then see the following menu:

CURRENT DIRECTORY IS \

CHOOSE OPTION:

- 1: MAKE A DIRECTORY
- 2: REMOVE A DIRECTORY
- 3: SET NEW PATH TO DIRECTORY
- 0: QUIT

OPTION:

This menu allows the user to create and select the path for the storage of data in the program. The current path will display at the top of the menu. If the path displayed is correct then choose 0 (zero) to quit this menu and save the current path.

If the path displayed needs to be changed or a new subdirectory needs to be created, then select those items from the menu. For example, to create a subdirectory on the hard disk called DFBSDATA (within the directory c:\dfbs) you select 1 from the menu. The program will then prompt you for the name of the new directory. To specify the name you would type the complete path name to the new directory, e.g., C:\DFBS\DFBSDATA and press the return key. The program will now create the desired subdirectory. After the new directory is created the menu will again appear, the new path should be displayed at the top of the screen. If the path is not correct you can use option number 3 to set the proper path.

If you will be storing the data on a floppy diskette, it is not necessary to create a directory on the diskette. Choose option 3 from the menu and when prompted for the directory name simply type ↵ (return/enter).

When you are satisfied with your selection, type 0 to quit this menu.

FOR DOS 1.XX USERS:

The path command is not implemented in this version of DOS and you will get an error message if you try to specify a path or create a subdirectory. To properly install the program for this version enter the desired disk drive and then select option 3 from the menu and, when prompted for a path, press return. There should be either a \ or nothing displayed at the top of the screen where the path is normally displayed. Once this is done type 0 to quit this menu.

FAILURE TO PROPERLY SET THE PATH WILL RESULT IN THE DATA BEING DIRECTED TO THE WRONG SUBDIRECTORY OR IN THE PROGRAM ABORTING WITH AN "I/O ERROR 01" ERROR MESSAGE DISPLAYED.

The following message will appear on the screen:

PRINT PRELIMINARY SUMMARIES? /[Y/N]

Typing "Y" for yes will print the word "Preliminary" on page 1 of the Dairy Farm Business Summary printout. Typing "N" for no does not print "Preliminary" and the printout is then considered in final form. This setting will remain until this part of the install program is accessed again. County Extension offices are encouraged to leave the

setting at "Preliminary". The final versions of the summary are printed at Cornell.

IV. Enter the input data.⁴

The Create/Update/Display Record option on the main menu is used to enter input data for a new farm or to change or display a previously entered farm record. Use the cursor keys (↑ or ↓) to select this option. Type:

↵

to select the 'Create/Update/Display Record' option.

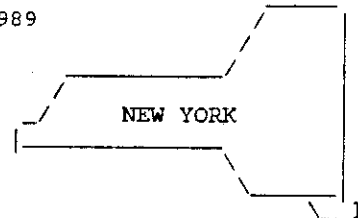
You will see a prompt to enter a farm number. The farm number assigned will be made up of your 2-digit county number, followed by a 3-digit number identifying the individual farm.

MAIN MENU WITH FARM NUMBER PROMPT

CORNELL COOPERATIVE EXTENSION

DATE: 1/1/1989

Prepared by
DEPARTMENT OF
AGRICULTURAL ECONOMICS
CORNELL UNIVERSITY



Dairy Farm Business Summary Version 2.3

☐ Create/Update/Display Record	☐ Calculate and Print Farm Summary
☐ Verify Record	☐ Run Install Program
☐ Delete Record	☐ Help
☐ Quit	

ENTER FARM NO OR PRESS ENTER TO RETURN TO MENU

Important - select farm numbers carefully following the recommended procedure. You must assign the same number to the same farm each year and assign a new number to a new farm. This is essential for the first page of the summary, "Progress of The Farm Business", and page 7, "Repayment Analysis", to work properly.

If you make an error entering data and you notice it before typing the ↵ (return/enter) key, you can correct the error by using the backspace key, delete key or the + key to erase the error, and type the correct entry. If you type ↵ (return/enter) before noticing the error, you can move back to the incorrect entry by using the ↑ key, and then retype the number.

⁴See Appendix A for guidelines to completing the Dairy Farm Business Summary check-in form.

The top of the first page of our sample farm check-in form is shown below. We will call our sample farm number 38006 and we have written the number in the space labelled "Processing number".

CORNELL COOPERATIVE EXTENSION DAIRY FARM BUSINESS
SUMMARY AND DATA CHECK-IN FORM

Name <u>Sample Farmer</u>		County <u>Rockland</u>	SCREEN 1.
Farm Name			
Address <u>RD 1 Box 19</u>			
<u>Dairy town, NY 19876</u>		Proc. number <u>38006</u>	Year 1988
Phone no. <u>607-255-8429</u>	☒ complete, ☐ entered, ☐ ready Update Screens:		

Type the farm number:

38006 ↵

The program will find the file 38006.88. This file already contains data from the previous year, such as beginning of year inventory values and beginning of year assets and liabilities. The program continues on to Screen 1.

If the data you are entering is for a new cooperator you will see the following message after you enter the newly assigned farm number:

Data files missing, create new ones (Y/N)

Enter y ↵

The program will continue on to Screen 1. Screen 1 contains the farm name, address, and phone number from the boxed-in area at the top of page 1 of the check-in form. Screen numbers 2 through 14 correspond to the other 13 boxed-in areas of the check-in form.

Screen 1 should look like Screen 1 below. The farm number, state, and county will already be inserted for you and the cursor will be at the operator's name.

Enter the farmer's name. There is no farm name, so enter ↵ (return/enter) to move to the address line and type the rest of the farm information, (use the sample farm information from above).

FARM INFORMATION

Farm No. 38006		Verified [N]
Operator's Name .		
Farm Name		
Address		
City		
State NY		
Zip -		
County ROCKLAND		
Phone () -		
Regular []		Irregular []

At the bottom of the screen, find the classifications "Regular" and "Irregular". The regular and irregular classifications indicate the accuracy and completeness of the information for determination of whether or not this farm will be included in the county, regional, and state summaries. Regular is included; irregular is not. Select the appropriate classification by entering an "x" in the space between the brackets.

The "Verified [N]" notation in the upper right corner of Screen 1 indicates that the data has not yet been verified. The "N" will change to a "Y" after the verification has been completed.

The entering of farm information in Screen 1 has now been completed. It is possible to change data in the screen at this point. For example, use the ↑ and ↓ keys to move the cursor to "Farm Name" and type:

Sam Hill ← (return/enter)

There are three ways to get out of Screen 1 and move to the next screen:

- 1) ← (return/enter). Keep pressing return until the cursor goes off the screen and you get the message below.
- 2) ↓ key. Keep pressing the down arrow key until you get the message below.
- 3) [Esc] key. The escape key only needs to be pressed once to get the message below. Note: Use this key with caution. On screens with totals or computed values use ← or ↓ to move through the entire screen so values are calculated.

[PgDn] or [RETURN] - next, [PgUp] - previous screen, [Esc] to exit, or # of Screen.

The above message or command line allows you four courses of action:

- 1) [PgDn] or [RETURN] will take you to the next screen.
- 2) [PgUp] will take you to the previous screen.

- 3) [Esc] will exit the screen and take you back to the main menu.
- 4) # of Screen, i.e., enter the number of any screen to move to that screen. It is not necessary to ↵ (Return/Enter) after entering the Screen #.

Screen #1

FARM INFORMATION

Farm No.	38006	Verified [N]
Operator's Name .	Sample Farmer	
Farm Name	Sam Hill	
Address	RD1 Box 19	
City	Dairytown	
State	NY	
Zip	19876-	
County	ROCKLAND	
Phone	(607)255-8429	
	Regular []	Irregular [x]

[PgDn]or[RETURN]-next, [PgUp]-previous screen, [Esc] to exit, Or # of Screen.

Move to Screen 2 by typing:

↵ as many times as necessary.

You should see Screen 2.

Farm No.38006

Screen #2

MACHINERY AND EQUIPMENT INVENTORY AND DEPRECIATION

Machinery & Equipment Inventory Beginning	\$ 90000	End \$	0
Machinery & Equipment Purchased	+ \$ 0		
Nonfarm Noncash Transfer	+ \$ 0		
Machinery & Equipment Sold	- \$ 0		
1988 Tax Depreciation	- \$ 0		
Total Beginning Inventory After Changes		\$	90000
Machinery Appreciation (end less beginning after changes)		\$	-90000

Part of page 1 of Sample Farmer's check-in sheet, the machinery inventory and depreciation information, is shown below. The arrows show where each item is typed into Screen 2 of Micro DFBS. The computer doesn't know what to do with commas (or spaces within or to the left of numbers), so

don't type the commas. If there were previous year's data, the beginning of year inventory value will be displayed. If this value does not need to be revised, press $\leftarrow$ (return/enter) to move to the next item. If it needs to be changed, simply type the revised value over the existing one. Enter the data called for. Use $\leftarrow$ to move from one item to the next one below. The bottom two items, marked with *, are calculated by Micro DFBS. When you have entered all the data for Screen 2, advance to Screen 3 by typing:

[PgDn]

SCREEN 2.

MACHINERY & EQUIPMENT INVENTORY & DEPRECIATION (do not include leased items)

Beginning of Year Inventory	\$ 90,000	End of Year Inventory	\$ 94,000
Machinery & Equipment Purchased	+ 10,800		
Nonfarm Noncash Transfer (e.g., gifts/inheritances)	+ 5,000		
Machinery & Equipment Sold	- 1,250		
1988 Tax Depreciation ²	- 14,280		
Total Beginning Inventory After Changes			\$ 90,270
Machinery Appreciation (end less beginning after changes)			\$ 3,730

²Exclude buildings and cattle from ACRS depreciation.

Farm No.38006

Screen #2

MACHINERY AND EQUIPMENT INVENTORY AND DEPRECIATION

Machinery & Equipment Inventory Beginning	\$ 90000	End	\$ 94000
Machinery & Equipment Purchased	+ \$ 10800		
Nonfarm Noncash Transfer	+ \$ 5000		
Machinery & Equipment Sold	- \$ 1250		
1988 Tax Depreciation	- \$ 14280		
Total Beginning Inventory After Changes			\$ 90270
Machinery Appreciation (end less beginning after changes)			\$ 3730

Screens 3 through 14 are handled in a similar way and, as with Screen 2, are designed to resemble the check-in form as closely as possible.

Now finish typing the farm information for Sam Hill into Screens 3 through 14 using the data on the following pages. After Screen 14, you should be back to the main menu.

Screen 3, Feed and Supply Inventory, has three columns, two of which are for data entry. The beginning and end year columns are entered and the beginning and end year totals and inventory change column are computed. The check-in form has additional columns in Screen 3 for quantities and \$ per unit; however, these are work spaces.⁵ If there were previous year's data, the beginning of year inventory values will be displayed. The order of data entry is across the rows.

The inventory change for grown feeds is calculated by subtracting the beginning year inventory value from the end year inventory value. This inventory change is then transferred automatically to Screen 12, the accrual receipts screen.

The inventory changes for purchased feeds and supplies are calculated by subtracting the end year inventory value from beginning year value for each item. These inventory change values are then transferred to Screen 13, the accrual expenses screen.

Use the cursor (↓) key or ↵ (return/enter) to skip zero entries.

FEED & SUPPLY INVENTORY	Total		Total	SCREEN 3. Inventory Change ¹
	↓	↓	↓	
Total Grown Feeds	\$3,500		\$43,985	\$12,485
PURCHASED FEEDS:				
Dairy grain & conc 20 T. x \$170/T = \$3,400		18 T. x \$175/T = \$3,150		250
Dairy roughage				
Nondairy feed				
SUPPLIES:				
Machine: Parts	x = \$200	x = \$225		\$-25
Fuel, oil, grease 100 gal. @ \$1.15/gal. 115		75 gal. @ \$1.15/gal. 87		28
Livestock: Semen				
Vet. supplies	50	70		-20
Other supplies	100	125		-25
Crops: Fertilizer	5,000	3,000		2,000
Seeds	500			500
Pesticides/Other		250		-250
Land/Bldg./Fence:	300	400		-100
Other:				
Total Feed & Supplies	\$41,165	\$51,292		

¹Inventory changes are calculated: total grown feeds = end year - beginning year and is carried over to Screen 12; purchased feeds and supplies = beginning year - end year, and are carried over to Screen 13.

Farm No. 38006

FEED & SUPPLY INVENTORY

Screen #3

Feed & Supply Inventory	Beg-Year	End-Year	Inventory Change
Total Grown Feeds	\$ 31500	\$ 43985	\$ 12485
Purchased Feeds:			
Dairy Grain & Conc.	\$ 3400	\$ 3150	\$ 250
Dairy Roughage	\$ 0	\$ 0	\$ 0
Nondairy Feed	\$ 0	\$ 0	\$ 0
Supplies:			
Machine: Parts	\$ 200	\$ 225	\$ -25
Fuel, Oil, Grease	\$ 115	\$ 87	\$ 28
Livestock: Semen	\$ 0	\$ 0	\$ 0
Vet. Supplies	\$ 50	\$ 70	\$ -20
Other Supplies	\$ 100	\$ 125	\$ -25
Crops: Fertilizer	\$ 5000	\$ 3000	\$ 2000
Seeds	\$ 500	\$ 0	\$ 500
Pesticides and Other	\$ 0	\$ 250	\$ -250
Land/Bldg./Fence:	\$ 300	\$ 400	\$ -100
Other:	\$ 0	\$ 0	\$ 0
Total Feed & Supplies	\$ 41165	\$ 51292	

⁵There are four kinds of spaces on the check-in form: for work space, _____ for data entry items, for calculated values, and x _____ x for optional input.

Data entry in Screen 4, Livestock Inventory, starts with "leased dairy cows" then continues across the remaining rows. All totals are calculated. The "\$ per Head" columns are calculated after the "number of head" and "total value" entries are made for each row. If you prefer to enter "\$ per Head" values, type ↵ (return/enter) for "Total Value" and the cursor will move back to the "\$ per Head" column. Enter the value per head and press ↵ (return/enter) and the "Total Value" will be calculated. Once the "Total Value" has been calculated, the cursor will not return to the "\$ per Head" space.

If there were previous year's data, the beginning of year inventory values will be displayed.

LIVESTOCK			SCREEN 4.					
Number of leased/rented dairy cows at end of year <u>0</u>			December 31, 1988 Inventory Using:					
Jan. 1, 1988 Inventory			1/1/88 Prices			12/31/88 Prices		
\$ per			\$ per			\$ per		
No.	Head	Total Value	No.	Head	Total Value	No.	Head	Total Value
Dairy Cows:.....	70	\$ 900	\$63,000	80	\$ 900	\$72,000	\$ 950	\$76,000
.....								
Total Dairy Cows	70		\$63,000	80		\$72,000		\$76,000
Heifers:								
Bred Heifers	10	\$850	\$8,500	20	\$850	\$17,000	\$ 900	\$18,000
Open (6 mo. - bred)	20	650	13,000	20	650	13,000	650	13,000
Calves (< 6 mo.)	20	450	9,000	10	450	4,500	450	4,500
Total Heifers	50		\$30,500	50		\$34,500		\$35,500
Bulls & Other Lvstk.:								
Dairy Steers...	0	\$	\$ 0	4	\$ 400	\$1,600	\$ 400	\$1,600
.....								
Total Bulls & Other Livestock	0		\$ 0	4		\$1,600		\$1,600
Total Livestock	120		\$93,500	134		\$108,100		\$113,100

Farm No.38006

LIVESTOCK INVENTORY

Screen #4

Leased Dairy Cows End Yr.: 0				End of Year Inventory Using:				
Beginning of Year				Beg. Prices			End Prices	
\$ per				\$ per			\$ per	
No.	Head	Total Value		No.	Head	Total Value	Head	Total Value
Dairy Cows:	70	\$ 900	\$ 63000	80	\$ 900	\$ 72000	\$ 950	\$ 76000
	0	0	0	0	0	0	0	0
Total Dairy Cows	70		63000	80		72000		76000
Heifers: Bred	10	850	8500	20	850	17000	900	18000
Open	20	650	13000	20	650	13000	650	13000
Calves	20	450	9000	10	450	4500	450	4500
Total Heifers	50		30500	50		34500		35500
Bulls/Other Lvstk	0	0	0	4	400	1600	400	1600
	0	0	0	0	0	0	0	0
Total Bulls & Other Livestock	0		0	4		1600		1600
TOTAL LIVESTOCK	120		93500	134		108100		113100

The data for Screen 5, Real Estate Inventory, is entered in the following order: beginning year market value, end year market value, new land, new buildings, lost capital, nonfarm noncash transfer, depreciation, and real estate sold (beginning year value, total sale price, sale expenses, and note/mortgage held by seller). All remaining items are calculated.

If there were previous year's data, the beginning of year inventory value will be displayed. It may be revised, if necessary, by typing the new value over the existing one.

REAL ESTATE INVENTORY BALANCE		SCREEN 5.
Land & Building Market Value:	Beginning \$ <u>190,000</u>	End \$ <u>240,000</u>
New Real Estate:		
Purchased: ¹ \$ <u>0</u> + \$ <u>10,300</u> - \$ <u>3,300</u> = + \$ <u>7,000</u>	land	buildings
Nonfarm Noncash Transfer (e.g., gifts/inheritances)		lost capital
Depreciation: from 1988 income tax (Include bldgs. in pre-ACRS, ACRS, MACRS & ADS)		value added
Real Estate Sold: Beginning of year inventory value		+ <u>60,000</u>
Total sale price	\$ <u>20,000</u>	- <u>6,615</u>
Sale expenses	- <u>1,500</u>	
Note/mortgage held by seller	- <u>15,000</u>	
Net cash amt. rec'd. in 1988	- <u>2,500</u> ²	
Total Beginning Value After Changes		\$ <u>233,385</u>
Real Estate Appreciation:		
Assets owned at end of year (end - beginning after changes)		\$ <u>6,615</u>
Assets sold during the year (sale price - beginning of year value)		\$ <u>3,000</u>

¹Use Worksheet 4, page 2. ²Calculated value is a cash inflow to the farm. If part or all of this was converted to nonfarm, include that amount in "personal withdrawals & family expenditures" (Screen 13, page 11).

Farm No.38006

REAL ESTATE INVENTORY

Screen #5

Land and Building Market Value	Beginning \$ 190000	End \$ 240000
New Real Estate:		
Purchased: 0 + 10300 - 3300 =+ \$ 7000	(land) + (buildings) - (lost capital) = (value added)	
Nonfarm Noncash Transfer		+ \$ 60000
Depreciation: From 1988 Income Tax		- \$ 6615
Real estate sold: Beginning of Year Inv Value		- \$ 17000
Total sale price	\$ 20000	
Sale expenses	- \$ 1500	
Note/mort. held by seller	- \$ 15000	
Net cash amt. rec'd	= \$ 3500	
Total Beginning Value After Changes		\$ 233385
Real Estate Appreciation:		
Assets owned at end of year (end - beginning after changes)		\$ 6615
Assets sold during the year (sale price - beg of year value)		\$ 3000

The order of data entry in Screen 6 is as follows: numbers of livestock, milk sold, butterfat test, production record, DHI#, milking system, business type, milking frequency, dairy housing, and financial recordkeeping system.

The value entered for other livestock is the number of total work units for the total number of other livestock. Table 1 on the next page shows estimated work units for various livestock and crops.

When entering the Average Milk Plant Test, the decimal must be typed.

Business description items in Screen 6 are entered by typing the number that appears in parentheses on the data check-in form and pressing $\leftarrow$ (return/enter). The appropriate business description item will be displayed on the screen. Initially, all the items are set to 1, so there will be data on the screen when you call it up. The DHI number requires a 6-digit entry. The first 2 digits refer to the county, the last 4 digits are unique to the farm.

If there were previous year's data, the production record, milking system, business type, dairy housing, and financial recordkeeping system will have last year's data displayed. These items may be revised by typing the correct number.

LIVESTOCK & BUSINESS DESCRIPTION				SCREEN 6.
Livestock	Avg. No. For Year	Production Record	Milking System	Primary Business Type
Dairy cows (owned, rented & leased)	77	☒ (1) D.H.I.	☐ (1) Bucket & carry	☐ (1) Single prop.
Heifers (dairy)	50	☐ (2) O.S.	☐ (2) Dumping station	☒ (2) Partnership
Bulls		DHI# 21381234	☒ (3) Pipeline	☐ (3) Corporation
Other: (type) Dairy Steers	8	☐ (3) Other	☐ (4) Herringbone par.	
(# head) ... 4 ...	w.u. ¹	☐ (4) None	☐ (5) Other parlor	Primary Financial Recordkeeping System
Lbs. milk sold	1116500	Milking Frequency	Dairy Housing	☐ (1) ELFAC
		☒ (1) 2x/day ²	☒ (1) Stanchion/ Tie-Stall	☒ (2) Account Book
		☐ (2) 3x/day ³	☐ (2) Freestall	☐ (3) Agrifax Mail-in
Avg. milk plant test	3.4 % B.F.	☐ (3) Other ⁴	☐ (3) Combination	☐ (4) On-Farm Computer
				☐ (5) Other

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LIVESTOCK and BUSINESS DESCRIPTION

Screen #6

Livestock	Average No. For Year	Production Record	Milking System	Primary Business Type
Dairy Cows	77	1 D.H.I	3 PIPELINE	2 PARTNERSHIP
Heifers(dairy)	50			
Bulls	0	D.H.I # 21381234		
Other:	8 w.u.			
Milk Production		Milking Frequency	Dairy Housing	Financial Recordkeeping System
milk sold (lb)	1116500	1 2X/DAY	1 STANCHION	2 ACCT. BOOK
Average Milk Plant Test				
3.40% B.F.				

Table 1. Work Units For Livestock and Crops

	Work units per head or per acre
<u>Livestock</u>	
Beef cows	2
Horses	2
Hens (production only)	0.04
Egg processing (per dozen)	0.002
Pullets raised	0.004
Broilers raised	0.003
Brood sows	3
Hogs raised	0.15
Ewes	0.5
<u>Crops</u>	
Barley	0.6
Dry beans	1.5
Potatoes	6
Cabbage	9
Snap beans for processing	1
Sweet corn	1
Onions	12
Apples - growing	4
Apples - harvest - per bushel	0.02
Work off farm, days	1
----- Primary Enterprises* -----	
<u>Livestock</u>	
Dairy cows	7
Heifers	2
Bulls	2
<u>Crops</u>	
Hay	0.6
Hay crop silage	0.8
Corn silage	0.8
Other forage harvested	0.6
Corn for grain	0.6
Oats	0.6
Wheat	0.6
Tillable pasture	0

*Work units for the primary enterprises are built into Micro DFBS and are not entered by the user. They are provided here for information only.

In Screen 7, the order of data entry for the labor and land inventory is across the rows. The total months of labor, worker equivalent, and land inventory totals are calculated. If there were previous year's data, the entire land inventory section will be displayed. If revisions need to be made in this data, simply type over the existing values. The "all acres" column and the "total" row will be recalculated.

SCREEN 7.				
LABOR INVENTORY	Full-Time Months	Age	Years Educ.	Value of Management & Labor
Operator - 1	12	51	14	\$20000
- 2	12	28	16	\$20000
- 3				\$
- 4				\$
- 5				\$
- 6				\$
Family (paid employees)	6			
Family (unpaid)	3			
Hired (regular & seasonal)				
Total	33	+ 12 = 2.75 Worker Equivalent		
LAND INVENTORY	Acres Owned	Acres Rented	All Acres	
Tillable land	200	60	260	
Pasture (nontillable)	30	10	40	
Woods & other nontillable	160	5	165	
Total	390	75	465	

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Screen #7

LABOR and LAND INVENTORY

LABOR INVENTORY	Full-Time Months	Age	Years Educ.	Value of Mgmt & labor
Operator - 1	12	51	14	\$20000
- 2	12	28	16	\$20000
- 3	0	0	0	\$ 0
- 4	0	0	0	\$ 0
- 5	0	0	0	\$ 0
- 6	0	0	0	\$ 0
Family (paid emp.)	6			
Family (unpaid emp.)	3			
Hired (reg & seasonal)	0			
Total	33	+ 12 = 2.75 Worker Equivalent		
LAND INVENTORY	Acres Owned	Acres Rented	All Acres	
Tillable land	200	60	260	
Pasture (nontillable)	30	10	40	
Woods & other nontillable	160	5	165	
Total	390	75	465	

Screen 8 is Tillable Land Use. When entering the data in the dry matter coefficient column, the decimal must be typed. The entry for total production of "Other Crops" is in number of work units (see Table 1 on page 16). The order of data entry is across the rows. Total Tillable Acres and the Total Tons Dry Matter column are the calculated values.

SCREEN 8.				
TILLABLE LAND USE	Acres (1st cut only)	Total Production (all cuttings)	Dry Matter Coeffi- cient ⁶	Total Tons Dry matter
Hay Crop (1st cut acres only)	120	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX
Hay		150 tons	.85	128
Hay crop silage		480 tons	.4	192
Corn silage	70	980 tons	.35	343
Other forage harvested	10	40 tons	.4	16
Corn for grain ⁵	35	3300 dry sh. bu.	Tot. tn DM	679
Oats	10	560 dry bu.		
Wheat		dry bu.		
Other:.....		1 lw.u. ¹		
Tillable pasture	15			
Idle tillable acres				
Total tillable acres	260			

¹Work units. ²All cows were milked 2x for entire year. ³All cows were milked 3x for entire year. ⁴A portion of herd was milked 3x or total herd was milked 3x for part of year. ⁵Convert to dry shelled equivalent (see tables, opposite page). ⁶Enter as decimal, e.g., 40% is entered as .4.

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TILLABLE LAND USE

Screen #8

	Acres (1st cut)	Total Production (all cuttings)	Dry Matter Coefficient	Total Tons Dry Matter
Hay Crop	120			
Hay		150 tons	0.85	128
Hay Crop Silage		480 tons	0.40	192
Corn Silage	70	980 tons	0.35	343
Other Forage	10	40 tons	0.40	16
Corn for Grain	35	3300 bu.	Total Tons D.M.:	679
Oats	10	560 bu.		
Wheat	0	0 bu.		
Other	0	0 w.u.		
Tillable Pasture	15			
Idle Till. Acres	0			
Total Till. Acres	260			

Screen 9 is the Asset portion of the Farm Family Financial Situation. The first items, beginning and end year total farm inventories, are calculated from data entered in earlier screens and displayed here. The order of data entry is across the rows. The calculated values are Total Farm Assets, Total Nonfarm Assets, and Total Assets. If there were previous year's data, the entire beginning year column will be displayed.

SCREEN 9.		
ASSETS		
	January 1, 1988 ¹	December 31, 1988
Total Farm Inventory ²	\$ 414,665	\$ 498,392
Other Farm Assets:		
Farm cash, checking, & savings	13,000	11,200
Accounts receivable ³	12,500	13,025
FLB & PCA stock	6,950	7,250
Other stock & certificates	3,000	3,200
Prepaid expenses ⁴	x 200 x	x 800 x
Total Farm Assets	\$ 450,315	\$ 533,867
Nonfarm Assets: ⁵		
Personal cash, checking & savings	1,500	1,600
Cash value life insurance	3,000	3,200
Nonfarm real estate	0	0
Personal share auto	2,000	1,500
Stock & bonds	0	0
Household furnishings	5,000	5,000
Other (include mortgages & notes)	0	14,940
Total Nonfarm Assets	\$ 11,500	\$ 26,240
TOTAL ASSETS (not including leases)	\$ 461,815	\$ 560,107

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FARM FAMILY FINANCIAL SITUATION--ASSETS

Screen #9

	January 1, 1988	December 31, 1988
Total Farm Inventory	\$ 414665	\$ 498392
Other Assets:		
Farm Cash, Check/Saving	13000	11200
Accounts Receivable	12500	13025
FLB & PCA Stock	6950	7250
Other Stock and Cert.	3000	3200
Prepaid Expenses	200	800
Total Farm Assets:	\$ 450315	\$ 533867
Nonfarm Assets:		
Personal Cash, Check/Saving	\$ 1500	\$ 1600
Cash Value Life Insurance	3000	3200
Nonfarm Real Estate	0	0
Personal Share Auto	2000	1500
Stocks & Bonds	0	0
Household Furnishings	5000	5000
Other	0	14940
Total Nonfarm Assets	\$ 11500	\$ 26240
TOTAL ASSETS	\$ 461815	\$ 560107

Screen 10, Liabilities and Planned Debt Payment Schedule, is divided into two screens (Screen 10 and Screen 10a). Screen 10 contains the Long Term and Intermediate Liabilities and Debt Payments. Screen 10a contains the Short Term, Operating Debt, Accounts Payable, Advanced Government Receipts, and Nonfarm Liabilities and Debt Payments. To move from Screen 10 to Screen 10a, press the [PgDn] key or the [Esc] key. To get back to Screen 10 from Screen 10a, press the [PgUp] key.

The first column, the creditor description, is limited to 12 characters of input. You may abbreviate and use upper or lower case letters, however you wish; the description will be printed on the output just as it is entered here. If a decimal is contained in the interest rate, it must be typed.

The values entered in the "Amount of Payments" and "Payments Per Year" columns will be multiplied together to arrive at a total annual planned payment. The "Payments Per Year" column defaults to "12" since it is most likely the "Amount of Payments" column will contain the monthly payment amount. However, if it is more convenient to enter the total annual payment amount in the "Amount of Payments" column, simply type a "1" in the "Payments Per Year" column. If the payments are not monthly or annual, enter the appropriate number of payments.

LIABILITIES ¹			DEBT PAYMENTS				SCREEN 10.		
Creditor (the first 12 characters will be used as input.)	Amount		Amount of New Bor- rowings	Actual 1988 Pymts		Planned 1989 Pymts.			
	Jan. 1, 1988	Dec. 31, 1988		Princi- pal	Interest	Beg. '89 Int. Rate	Amt. of Pymts.	Per Year	
	(\$)	(\$)	(\$)	(\$)	(\$)		(\$)		
Long Term Debt (≥10yrs.)									
1st Bank Mtg	36,000	35,000	x	x	1,000	3,000	9.5%	326 12	
FLB	60,000	58,000	x	x	2,000	4,000	11%	589 12	
			x	x			%		
			x	x			%		
Intermediate Term Debt (>1yr., <10yrs.)									
First Bank	18,000	18,000	x	x	0	0	12%	378 12	
PCA	30,000	32,000	x	5,000	2,000	4,500	14%	675 12	
			x	x			%		
			x	x			%		
			x	x			%		
			x	x			%		
			x	x			%		
			x	x			%		
=====									
FLB & PCA Stock	\$6,950	\$72,500							
Short Term Debt (1 year or less) ²			x	x			%		
			x	x			%		
Operating Debt ³									
PCA	16,000	15,000				3,000		net reduction planned in: oper. debt: 4,000	
Accounts Payable ⁴	5,500	18,600				2,500		accounts pay.: 1,000	
Advanced Gov't Rec. ⁵	0	2,000							
Total Farm Liab/Pymts	\$172,450	\$186,850	\$5,000	\$5,000	\$17,000				
Nonfarm Liab/Pymts ⁶	\$0	\$10,000	\$12,000	\$2,000	\$400			Total Nonfarm Pymts. \$6,200	
TOTAL LIAB/PYMTS (not including leases)	\$172,450	\$196,850	\$17,000	\$7,000	\$17,400				

The "FLB & PCA Stock" values at the top of Screen 10a are displayed. These values were entered as assets in Screen 9. The order of data entry is across the rows. The calculated values are the rows for Total Farm Liabilities/Payments and Total Liabilities/Payments. If there were previous year's data, the creditor description and beginning year liability columns will be displayed.

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LIABILITIES & PLANNED DEBT PAYMENT SCHEDULE

Screen #10

Liabilities:				Amount of New Borrow- ings	Debt Payments:					
Amount					Actual		Planned			
Jan. 1, '1988		Dec. 31, 1988			Principal	Int.	1989 Int.	Amt. of Pymts	Pymts. / Yr	
*Long Term:.....										
1st Bank Mtg	\$ 36000	\$ 35000	\$ 0	\$ 1000	\$ 3000	9.50%	\$ 326	12		
FLB	\$ 60000	\$ 58000	\$ 0	\$ 2000	\$ 4000	11.00%	\$ 589	12		
	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.00%	\$ 0	0		
	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.00%	\$ 0	0		
*Intermediate:.....										
First Bank	\$ 18000	\$ 18000	\$ 0	\$ 0	\$ 0	12.00%	\$ 378	12		
PCA	\$ 30000	\$ 33000	\$ 5000	\$ 2000	\$ 4500	14.00%	\$ 675	12		
	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.00%	\$ 0	0		
	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.00%	\$ 0	0		
	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.00%	\$ 0	0		
	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.00%	\$ 0	0		
	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.00%	\$ 0	0		

PRESS [PgDn] OR [ESC] TO GO TO SCREEN 10A

<<<<<(SCREEN 10 CONTINUED)>>>>>

PRESS [PGUP] TO RETURN TO SCREEN 10

Liabilities:			Amount of New Borrow- ings	Debt Payments:				
Amount				Actual		Planned		
Jan. 1, 1988	Dec. 31, 1988			Principal	Int.	1989 Int.	Amt. Of Pymts.	Pymts. / Yr.
FLB/PCA Stock	\$ 6950	\$ 7250						
*Short Term:.....								
	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.00%	\$ 0	0
	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	0.00%	\$ 0	0
								Net Reduction
*Operating Debt:.....								Planned:.....
PCA	\$ 16000	\$ 15000			\$ 3000		Oper. Debt	\$ 4000
	\$ 0	\$ 0			\$ 0			\$ 0
*Accts. Pay.:	\$ 5500	\$ 18600			\$ 2500		Accts Pay	\$ 1000
*Adv Gov Rec.	\$ 0	\$ 2000						
*Total Farm:	\$ 172450	\$ 186850		\$ 5000	\$ 17000			
*Nonfarm Liab	\$ 0	\$ 10000	\$ 12000	\$ 2000	\$ 400		...Total Nonfarm ...	
								\$ 6200
TOTAL:	\$ 172450	\$ 196850		\$ 7000	\$ 17400			

Financial leases are entered in Screen 11. The columns titled "amount of each payment", "no. of payments in 1988", "no. of payments/full year", and "no. of payments remaining" from the data check-in form are entered on Screen 11. The total 1988 expense column is calculated. The order of data entry is across rows.

Leased item	Amount of each payment	No. of payments in 1988	Total 1988 expense	SCREEN 11.	
				No. of payments/ full year	No. of payments remaining
Cattle:.....	\$		\$		
.....					
.....					
		Total	\$ ¹		
Equipment: <u>Tractor</u>	\$ <u>170</u>	<u>12</u>	\$ <u>2040</u>	<u>12</u>	<u>24</u>
.....					
.....					
		Total	\$ <u>2040</u> ²		
Structures:.....	\$		\$		
.....					
.....					
		Total	\$ ³		

¹Enter under "Cattle leases" on Screen 13, page 11.

²Enter under "Machine hire, rent, & lease" on Screen 13, page 11.

³Enter under "Real Estate rent/lease" on Screen 13, page 11.

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FINANCIAL LEASES

Screen #11

Leased Item	Amount of Each Pymt	No. of Payments in 1988	Total 1988 Expense	No. of Payments/ Full Year	No. of Payments Remaining
Cattle	\$ 0	0	\$ 0	0	0
	\$ 0	0	\$ 0	0	0
	\$ 0	0	\$ 0	0	0
		Total	\$ 0		
Equipment	\$ 170	12	\$ 2040	12	24
	\$ 0	0	\$ 0	0	0
	\$ 0	0	\$ 0	0	0
		Total	\$ 2040		
Structures	\$ 0	0	\$ 0	0	0
	\$ 0	0	\$ 0	0	0
	\$ 0	0	\$ 0	0	0
		Total	\$ 0		

Screen 13, Summary of Year's Expenses and Changes in Inventory or Prepaid Expenses and Accounts Payable, is divided in two screens (Screen 13 and Screen 13a). Screen 13 contains the hired labor, feed, machinery, and livestock expense categories. Screen 13a contains the crops, real estate, other, and nonfarm expense categories. To move from Screen 13 to Screen 13a, press the [Esc] key. To get back to Screen 13 from Screen 13a, press the [Esc] key, then type "13".

The change in inventory values in the "change in inventory or prepaid expenses" column are displayed when Screen 13 is first brought up. These values are calculated from the purchased feed and supply inventories entered in Screen 3. The order of data entry is across the rows. The calculated values are the changes in inventory, accrual expenses column, and the total accrual expenses row.

See page 12 for instructions.				SCREEN 13.
Farm Expenses	Cash Amount paid	Change in Inventory or Prepaid Expenses ¹	Change in Acct. Pay. ²	Accrual Expenses
<u>Hired Labor</u>	\$ 3,000	\$x _____ x	\$ _____	\$ 3,000
<u>Feed</u>				
Dairy grain & concentrate	20,000	250	6,000	16,250
Dairy roughage				
Nondairy feed				
<u>Machinery</u>				
Machine hire, rent & lease	2,040	x 200 x		2,240
Machinery repairs & parts	5,800	25	1,500	7,325
Auto expense (farm share)	500	x _____ x		500
Fuel, oil & grease	4,000	25		4,025
<u>Livestock</u>				
Replacement livestock	1,800	x _____ x		1,800
Breeding	2,300			2,300
Veterinary & medicine	2,500	20	-500	1,980
Milk marketing	8,500	x _____ x		8,500
Cattle lease/rent	0	x _____ x		0
Other livestock expense	5190	25	400	5,565
=====				
<u>Crops</u>				
Fertilizer & lime	5,700	2000	2200	9,900
Seeds & plants	2,000	500	800	3,300
Spray, other crop expense	2,640	250	600	2,990
<u>Real Estate</u>				
Land, building, fence repair	3,000	100		2,900
Taxes	3,600	x 800 x		2,800
Rent & lease	1,200	x _____ x		1,200
<u>Other</u>				
Insurance	2,730	x _____ x		2,730
Telephone (farm share)	700	x _____ x		700
Electricity (farm share)	4,200	x _____ x		4,200
Interest	17,000	x _____ x	2,100	19,100
Miscellaneous	1,330			1,330
TOTAL OPERATING	\$109,730	\$1,758	\$13,100	\$124,588
Expansion livestock	\$ 9,000	x 0 x	0	\$ 9,000
Purchase of other stock & certificates (exclude FLB & PCA stock)				\$ 1,200
<u>Nonfarm Cash Expenses</u>				
Personal withdrawals & family expenditures ³				\$55,270

¹Changes in prepaid expenses can be entered in the x _____ x spaces. The total change in prepaid expenses must equal the difference between prepaid expense totals in Screen 9, page 6 (beginning year - end year).

²Use Worksheet 7 on page 10 to calculate.

³Include 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 Screen 10, page 7. If any or all "Nonfarm Cash Income" has been excluded from the value entered in Screen 12, pg. 9, you must also exclude any family expenses paid from that income.

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Screen #13

SUMMARY OF YEARS EXPENSES & CHANGES IN INVENTORY & ACCOUNTS PAYABLE

Expenses	Cash Amount Paid	Change in Inv. + or Prepd exp	Change In + Accts Payable	Accrual = Expenses
Hired Labor	\$ 3000	\$ 0	\$ 0	\$ 3000
FEED				
Dairy Grain/Conc	\$ 30000	\$ 250	\$ 6000	\$ 36250
Dairy Roughage	\$ 0	\$ 0	\$ 0	\$ 0
Nondairy Feed	\$ 0	\$ 0	\$ 0	\$ 0
MACHINERY				
Mach Hire/Rent/Ls	\$ 2040	\$ 200	\$ 0	\$ 2240
Mach repair/parts	\$ 5800	\$ -25	\$ 1500	\$ 7275
Auto Expense	\$ 500	\$ 0	\$ 0	\$ 500
Fuel Oil & Grease	\$ 4000	\$ 28	\$ 0	\$ 4028
LIVESTOCK				
Replacement Lvstk	\$ 1800	\$ 0	\$ 0	\$ 1800
Breeding	\$ 2300	\$ 0	\$ 0	\$ 2300
Vet & Medicine	\$ 2500	\$ -20	\$ -500	\$ 1980
Milk Marketing	\$ 8500	\$ 0	\$ 0	\$ 8500
Cattle Lease	\$ 0	\$ 0	\$ 0	\$ 0
Other Lvstk Exp	\$ 5190	\$ -25	\$ 400	\$ 5565

PRESS [ESC] TO GO TO SCREEN 13A

<<<<(SCREEN 13 CONTINUED)>>>> (PRESS [ESC] TO GO TO SCREEN 13)

Expenses	Cash Amount Paid	Change in Inv. + or Prepd exp	Change In + Accts Pay.	Accrual = Expenses
CROPS				
Fertilizer/Lime	\$ 5700	\$ 2000	\$ 2200	\$ 9900
Seeds & Plants	\$ 2000	\$ 500	\$ 800	\$ 3300
Spray/Other Exp	\$ 2640	\$ -250	\$ 600	\$ 2990
REAL ESTATE				
Land/Bldg Repair	\$ 3000	\$ -100	\$ 0	\$ 2900
Taxes	\$ 3600	\$ -800	\$ 0	\$ 2800
Rent/Lease	\$ 1200	\$ 0	\$ 0	\$ 1200
OTHER				
Insurance	\$ 2730	\$ 0	\$ 0	\$ 2730
Telephone	\$ 700	\$ 0	\$ 0	\$ 700
Electricity	\$ 4200	\$ 0	\$ 0	\$ 4200
Interest Paid	\$ 17000	\$ 0	\$ 2100	\$ 19100
Miscellaneous	\$ 1330	\$ 0	\$ 0	\$ 1330
TOTAL	\$ 109730	\$ 1758	\$ 13100	\$ 124588
Expansion Lvstk.	\$ 9000	\$ 0	\$ 0	\$ 9000
Purchase of Other Stock & Certificates(exclude FLB & PCA)				\$ 1200
NONFARM CASH EXPENSES				
Personal Withdrawals & Family Expenditures				\$ 55270

The final screen, Screen 14, contains the breakdown of crop expenses by crop. The total crop expense row at the bottom of the screen is displayed. These values were calculated from the crop expense data entered in Screen 13. The rows for hay crop and corn require data entered in them. The all other crops row is calculated as the residual so the column totals equal the crop expenses in Screen 13.

SCREEN 14.			
Crop	Fertilizer & Lime	Seeds & Plants	Spray, Other Crop Expenses
Enter dollar amounts, totals below should equal <u>accrual</u> expenses in Screen 13.			
Hay crop (silage & dry)	\$ 3137	\$ 917	\$ 628
Corn (silage & grain)	6172	2134	2292
All other crops	591	249	70
Total	\$ 9900	\$ 3300	\$ 2990

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Screen #14

BREAKDOWN OF 1988 CROP EXPENSES BY CROP

Crop	Fertilizer & Lime	Seeds & Plants	Spray, Other Crop Expenses
Enter dollar amounts, totals below should equal amounts in right column of screen 13A.			
Hay Crop (silage & dry)	\$ 3137	\$ 917	\$ 628
Corn (silage & grain)	\$ 6172	\$ 2134	\$ 2292
All Other Crops	\$ 591	\$ 249	\$ 70
TOTAL	\$ 9900	\$ 3300	\$ 2990

At the command line, type $\leftarrow$ (return/enter) or [Esc] to go back to the main menu.

V. Verify the data.

We all make typing mistakes occasionally. The "Verify Record" option is an important step that will reduce the embarrassment of having a farmer tell you that you typed one of his figures incorrectly and printed out a "nonsense" summary for him. It is tempting to skip this step. The best advice is don't skip this step.

Use the ↓ cursor key to move down to "Verify Record" in the main menu and type ↵. You will be asked for the farm number. Type:

38006 ↵ (return/enter)

The program will go on to Screen 1. As you see, the information that was entered under the "Create/Update/Display Record" option is displayed. Re-enter the data for Screen 1.

If you were to incorrectly enter the Operator's name as "Simple Farmer", the following message would appear on the screen:

ENTRY DOES NOT MATCH PREVIOUS ENTRY

The program will give you this kind of message for up to three tries. On the fourth try, if it still does not match a previous entry, the following message will be displayed:

LAST ENTRY DIDN'T MATCH - ACCEPTED WITHOUT QUESTION

At this point you are on your own to see that the entry is correct. Use the cursor key (↑) to move back to the incorrect entry and retype it.

In Screens 2 through 14, where the entries are numeric not character data, the value you are verifying will appear as a zero.

Re-enter the data for all the screens. The cursor movement and movement between screens are done the same as in the "Create/Update/Display Record" option.

When you have completed the verification process on Screen 14, the program will return to the main menu.

VI. Calculate and print farm summary.⁶

You are now ready to calculate and print a dairy farm business summary. Use the ↓ cursor key to move down to "Calculate and Print Farm Summary". You will be prompted for the farm number. Type:

38006 ↵ (return/enter)

The following will be displayed on the screen⁷:

BEGINNING CALCULATIONS

DFBS CALCULATION PROGRAM

ENTER DESIRED OUTPUT DEVICE; (S)creen, (P)rinter, (F)ile or (Q)uit

Select the appropriate output device:⁸

1. Type "S" to have the output be displayed on the screen. The output will scroll, so use [Control] - [num-lock]⁹ keys or the [Pause] key to stop the output from scrolling. Hit any key to continue scrolling.
2. Type "P" to have the output printed on your printer. You will be prompted for the number of copies to print. Before entering the number be sure to have your printer on and the paper set at the perforation. The program will advance the paper a couple of lines before starting to print.
3. Type "F" to have the calculated output stored on your disk. The file name will be made up of the farm number with a file extension of .prn (<farm no.>.prn). This file will be stored on the disk that you specified when you ran the "install" program.
4. Type "Q" to go back to the main menu.

After you select one of the above, you will see the following message:
Enter "A" to print All pages, "D" to print Diagnostics or Number of Page:

Typing A ↵ (return/enter) will display, print or file the 11 pages of output plus the diagnostic page; D ↵ gives the diagnostic page only; and entering a number from 1 to 11 gives you that page number.

⁶See Appendix A for the procedure used to calculate costs of producing milk that are printed on page 9 of the following output.

⁷If there were no previous year's data, the following messages will also be displayed:

1986 FILE DOES NOT EXIST - SETTING VALUES TO 0
1985 FILE DOES NOT EXIST - SETTING VALUES TO 0

⁸If there is an I/O error F3 during calculation, follow the instructions in Appendix B.

⁹Hold down the [ctrl] key and press the [num-lock] key.

CORNELL COOPERATIVE EXTENSION
Prepared by
DEPARTMENT OF AGRICULTURAL ECONOMICS
CORNELL UNIVERSITY

Name Sample Farmer

Address RD 1 Box 19

Dairytown, NY 19876

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PRELIMINARY
1988 DAIRY FARM BUSINESS SUMMARY

FARM NO. 38006

JANUARY 4, 1989

PROGRESS OF THE FARM BUSINESS

<u>SELECTED FACTORS</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Size of Business			
Avg # of cows	65	67	77
Avg # of heifers	50	50	50
Milk sold, lbs.	910000	964800	1116500
Worker equiv.	2.75	2.75	2.75
Total tillable acres	260	260	260
Rates of Production			
Milk sold per cow, lbs.	14000	14400	14500
Hay DM per acre, tons	2.8	2.4	2.7
Corn silage per acre, tons	14	14	14
Labor Efficiency			
Cows per worker	24	24	28
Milk sold per worker, lbs.	330909	350836	406000
Cost Control			
Grain & conc. purch. as % milk sales	26%	29%	25%
Dairy feed & crop exp. per cwt. milk	\$ 4.19	\$ 4.17	\$ 4.70
Labor and mach. costs per cow	\$ 768	\$ 908	\$ 805
Capital Efficiency (average for year)			
Farm capital per cow	\$ 6273	\$ 6112	\$ 6447
Machinery and equipment per cow	\$ 1467	\$ 1362	\$ 1251
Capital turnover, years	2.7	2.7	2.4
Profitability			
Net farm income w/o apprec.	\$ 9060	\$ 2574	\$ 34842
Net farm income w/ appreciation	\$ 26675	\$ 19719	\$ 53187
Labor & management income per op/mgr	\$ -1206	\$ -4754	\$ 8560
Rate return on equity capital w/apprec	2.6%	-1.0%	3.5%
Rate return on all capital w/apprec.	5.4%	3.6%	6.1%
Financial Summary			
Farm net worth, end year	\$ 224575	\$ 229865	\$ 347017
Debt to asset ratio	0.44	0.44	0.35
Farm debt per cow	\$ 2729	\$ 2707	\$ 2380
Cash flow coverage ratio	1.44	1.80	1.39

PARTNERSHIP, ACCT. BOOK, OWNER, FULL-TIME, DAIRY.*

FARM NO. 38006

NOVEMBER 4, 1989

Sam Farmer

INCOME STATEMENT

EXPENSES	Cash Amount paid +	Change in Inventory or Prepaid + Expense*	Change in Accounts Payable**	Accrual = Expenses
Hired Labor	\$ 3000	\$ 0	\$ 0	\$ 3000
Feed				
Dairy grain & conc.	30000	250	6000	36250
Dairy roughage	0	0	0	0
Nondairy	0	0	0	0
Machinery				
Mach hire, rent/lease	2040	200	0	2240
Machinery repairs/parts	5800	-25	1500	7275
Auto expense (f.s.)	500	0	0	500
Fuel, oil & grease	4000	28	0	4028
Livestock				
Replacement livestock	1800	0	0	1800
Breeding	2300	0	0	2300
Veterinary & medicine	2500	-20	-500	1980
Milk marketing	8500	0	0	8500
Cattle lease/rent	0	0	0	0
Other livestock expense	5190	-25	400	5565
Crops				
Fertilizer & lime	5700	2000	2200	9900
Seeds & plants	2000	500	800	3300
Spray, other crop exp.	2640	-250	600	2990
Real Estate				
Land/bldg/fence repair	3000	-100	0	2900
Taxes	3600	-800	0	2800
Rent & lease	1200	0	0	1200
Other				
Insurance	2730	0	0	2730
Telephone (farm share)	700	0	0	700
Electricity (farm share)	4200	0	0	4200
Interest paid	17000	0	2100	19100
Miscellaneous	1330	0	0	1330
TOTAL OPERATING	\$ 109730	\$ 1758	\$ 13100	\$ 124588
Expansion livestock	\$ 9000	\$ 0	\$ 0	\$ 9000
Machinery depreciation				\$ 14280
Building depreciation				\$ 6615
TOTAL ACCRUAL EXPENSES				\$ 154483

*Changes in inventory include net amounts of items used out of purchased inventory this year (positive change is amt. inventory declined, negative change is amt. inventory increased). Changes in prepaid expenses apply to non-inventory categories (positive change is amt. pre-pymnt. declined).

**Unpaid items or services used or added to inventory during the year.

FARM NO. 38006

NOVEMBER 7, 1989

INCOME STATEMENT (continued)

RECEIPTS	Cash Receipts	Change in Inventory*	Change in Accounts Receivable	Accrual Receipts
Milk sales	\$ 145145		\$ 1825	\$ 146970
Dairy cattle	15300	\$ 13000	-1000	27300
Dairy calves	1630		-300	1330
Other livestock	0	1600	0	1600
Crops	400	12485	0	12885
Gov't receipts	2230	-2000**	0	230
Custom machine work	250		0	250
Gas tax refund	160		0	160
Other	200		0	200
- Nonfarm noncash capital		(-) 1600***		(-) 1600
TOTAL ACCRUAL RECEIPTS	\$ 165315	\$ 23485	\$ 525	\$ 189325

*Change in lvstk inv. w/o apprec. & total change in grown feeds inv.

**Change in advanced government receipts.

***Gifts & inheritances of cattle & crops.

PROFITABILITY ANALYSIS

	Without Apprec.	Appreci- ation	With Apprec.
RETURN TO OPERATOR(S) & FAMILY LABOR UNPAID, MGMT., & EQUITY CAPITAL:			
Total Accrual Receipts	\$ 189325		
Livestock Appreciation		\$ 5000	
Machinery Appreciation		3730	
Real Estate Appreciation		9615	
Other Stock/Cert. Appreciation		0	
			\$ 207670
- Total Accrual Expenses	\$ 154483		\$ 154483
= NET FARM INCOME	\$ 34842		\$ 53187
RETURN TO OPERATOR(S) LABOR, MANAGEMENT & EQUITY CAPITAL:			
Net Farm Income	\$ 34842		\$ 53187
- Family Labor Unpaid @ \$700/mo.	2100		2100
= RETURN TO OP.'S LABOR, MGT. & EQ. CAPITAL	\$ 32742		\$ 51087
RETURN TO OPERATOR'S LABOR & MANAGEMENT:			
Return to Op.'s Labor, Mgt. & Eq. Capital	\$ 32742		
- Real Interest on \$ 312441 Average Equity Capital @ 5%	15622		
= LABOR & MANAGEMENT INCOME	\$ 17120		
LABOR & MANAGEMENT INC. PER 2.00 OP./MGR.	\$ 8560		
RETURN TO EQUITY CAPITAL:			
Return to Op.'s Labor Mgt. & Eq. Capital	\$ 32742		\$ 51087
- Value of Operator's Labor & Management	40000		40000
= RETURN TO EQUITY CAPITAL	\$ -7258		\$ 11087
Rate of Return on Equity Capital	-2.3%		3.5%
RETURN TO ALL CAPITAL:			
Return to Equity Capital	\$ -7258		\$ 11087
+ Interest Paid	19100		19100
= RETURN TO ALL CAPITAL	\$ 11842		\$ 30187
Rate of Return on All Capital	2.4%		6.1%

FARM NO. 38006
Sam Farmer

1988 BALANCE SHEET

NOVEMBER 4, 1989

FARM BUSINESS					
ASSETS		LIABILITIES & NET WORTH			
	Jan. 1	Dec. 31			
<u>Current</u>			<u>Current</u>		
Farm cash, chkg & savings	\$ 13000	\$ 11200	Accounts payable	\$ 5500	\$ 18600
Accts. rec.	12500	13025	Operating debt		
Prepaid exp.	200	800	PCA	16000	15000
Feed/supplies	41165	51292		0	0
			Short term:		
				0	0
				0	0
Total	\$ 66865	\$ 76317	Advanced Gov. Rec.	0	2000
			Total	\$ 21500	\$ 35600
<u>Intermediate</u>			<u>Intermediate</u>		
Dairy cows:			First Bank	18000	18000
owned	63000	76000	PCA	30000	33000
leased	0	0		0	0
Heifers	30500	35500		0	0
Bulls/other				0	0
lvstk.	0	1600		0	0
Mach/eq owned	90000	94000		0	0
Mach/eq leased	5073	3517		0	0
FLB/PCA Stock	6950	7250	Financial lease		
Other stock			(cattle/mach.)	5073	3517
& cert.	3000	3200	FLB/PCA Stock	6950	7250
Total	\$ 198523	\$ 221067	Total	\$ 60023	\$ 61767
<u>Long-Term</u>			<u>Long-Term</u>		
Land/buildings:			1st Bank Mtg	36000	35000
owned	190000	240000	FLB	60000	58000
leased	0	0		0	0
Total	\$ 190000	\$ 240000		0	0
			Fin. lease (struc)	0	0
Total Farm			Total	\$ 96000	\$ 93000
Assets	\$ 455388	\$ 537384	Total Farm Liab.	\$ 177523	\$ 190367
			FARM NET WORTH	\$ 277865	\$ 347017

NONFARM

	Jan. 1	Dec. 31		Jan. 1	Dec. 31
Nonfarm Assets			Nonfarm Liab.	\$ 0	\$ 10000
Pers cash, chkg. & savings \$	1500	\$ 1600			
Cash value of					
life ins	3000	3200			
Nonfarm RE	0	0			
Auto (pers sh)	2000	1500			
Stocks & Bonds	0	0			
Hshld. furn.	5000	5000			
All other	0	14940			
Total Nonfarm	\$ 11500	\$ 26240	NONFARM NET WORTH	\$ 11500	\$ 16240

FARM & NONFARM

Total Farm & Nonfarm Assets	\$ 466888	\$ 563624	Total Farm & Nonfarm Liab.	\$ 177523	\$ 200367
			FARM & NONFARM NET WORTH	\$ 289365	\$ 363257

FARM NO. 38006

NOVEMBER 4, 1989

BALANCE SHEET ANALYSIS

<u>Financial Ratios</u>	<u>Farm Business</u>	<u>Farm & Nonfarm</u>
Percent equity	65%	64%
Debt to asset ratio		
Total	0.35	0.36
Long-term	0.39	
Intermediate/current	0.33	

Change in Net Worth

Without appreciation	\$ 50807	
With appreciation	\$ 69152	\$ 73892

Debt Analysis

Accounts payable as % of total debt	10%
Long-term liabilities as a % of total debt	49%
Current & intermediate liabilities as % of total debt	51%

Debt Levels

	<u>Per Cow</u>	<u>Per Tillable Acre Owned</u>
Total farm debt	\$ 2380	\$ 952
Long-term debt	1163	465
Intermediate/current	1217	487

Farm Inventory

	<u>Real Estate</u>	<u>Machinery & Equipment</u>	<u>Livestock</u>	<u>Feed & Supplies</u>
Beginning of Year	\$ 190000	\$ 90000	\$ 93500	\$ 41165
Purchases	10300*	10800		
+ Nonfarm Noncash Transfer	60000	5000		
- Lost Capital	3300			
- Sales	17000	1250		
- Depreciation	6615	14280		
= Net Investment	43385	270	14600**	
Appreciation	6615***	3730	5000	
End of Year	\$ 240000	\$ 94000	\$ 113100	\$ 51292

* \$ 0 Land + \$ 10300 Building.

** See page 9, Dairy Inventory Analysis, for dairy cow and heifer inventory detail.

*** Excludes \$ 3000 of appreciation on assets sold during the year.

FARM NO. 38006

NOVEMBER 9, 1989

ANNUAL CASH FLOW STATEMENT

Cash Inflows

Beginning farm cash, checking & savings	\$ 13000	
Cash farm receipts	165315	
Sale of assets: Machinery	1250	
Real estate	3500	
Other stock & certificates	1000	
Money borrowed (intermediate & long-term)	5000	
Money borrowed (short-term)	0	
Increase in operating debt	0	
Nonfarm income	10435	
Cash from nonfarm capital used in business	2000	
Money borrowed - nonfarm	12000	
TOTAL		\$ 213500

Cash Outflows

Cash farm expenses	\$ 109730	
Capital purchases: Expansion livestock	9000	
Machinery	10800	
Real estate	10300	
Other stock & certificates	1200	
Principal payments (intermediate & long-term)	5000	
Principal payments (short-term)	0	
Decrease in operating debt	1000	
Personal withdrawals & family expenditures, including nonfarm debt payments	55270	
Ending farm cash, checking & savings	11200	
TOTAL		\$ 213500
Imbalance (error)		\$ 0

FARM NO. 38006

REPAYMENT ANALYSIS

NOVEMBER 9, 1989

<u>Debt Payments</u>	<u>Planned for 1988*</u>	<u>Made in 1988</u>	<u>Planned for 1989</u>
Long term	\$ 10988	\$ 10000	\$ 10980
Intermediate term	12639	6500	12636
Short-term	0	0	0
Operating (net reduction)	4000	1000	4000
Accounts payable (net reduction)	1000	0	1000
Total	\$ 28627	\$ 17500	\$ 28616
(% made of planned = 61%)			
Per cow	\$ 372	\$ 227	
Per cwt. 1988 milk	\$ 2.56	\$ 1.57	
Percent of total 1988 receipts	15%	9%	
Percent of 1988 milk receipts	19%	12%	

* If on Business Summary in 1987.

Cash Flow Coverage Ratio

Cash Farm Receipts	\$ 165315	
- Cash Farm Expenses	109730	
+ Interest Paid	17000	
- Net Pers. Withdls from Farm**	32835	
(A) = Amount Available for Debt Service		\$ 39750
(B) = Debt Payments Planned for 1988		\$ 28627
(A / B) Cash Flow Coverage Ratio for 1988		1.39

** Personal withdrawals & family expenditures less nonfarm income and nonfarm money borrowed.

FARM NO. 38006

NOVEMBER 4, 1989

CROPPING PROGRAM ANALYSIS

<u>Land</u>	<u>Owned</u>	<u>Rented</u>	<u>Total</u>
Tillable	200	60	260
Nontillable	30	10	40
Other nontillable	160	5	165
Total	390	75	465

<u>Crop Yields</u>	<u>Acres</u>	<u>Total Production</u>	<u>Production Per Acre</u>
Dry hay		128 Tons DM	
Hay crop silage		192 Tons DM	
Total Hay Crop Production	120	320 Tons DM	2.67 Tons DM
Corn silage	70	980 Tons	14.00 Tons
		343 Tons DM	4.90 Tons DM
Other forage	10	16 Tons DM	1.60 Tons DM
Total Forage	200	679 Tons DM	3.40 Tons DM
Corn grain	35	3300 Bushels	94.29 Bushels
Oats	10	560 Bushels	56.00 Bushels
Wheat	0	0 Bushels	0.00 Bushels
Other crops	0		
Tillable pasture	15		
Idle tillable land	0		
Total tillable acres	260		

Crop Related Accrual Expenses

<u>Crops</u>	<u>Total/ Till. Acre</u>	<u>Hay Crop Per Acre</u>	<u>Per Ton DM</u>	<u>All Corn Per Acre</u>	<u>Corn Silage/ Ton DM</u>	<u>Corn Grain Per Dry Shell Bu.</u>
Fert. & lime	\$ 38.08	\$ 26.14	\$ 9.80	\$ 58.78	\$ 12.00	\$ 0.62
Seeds & plants	12.69	7.64	2.87	20.32	4.15	0.22
Spray/other						
crop expense	11.50	5.23	1.96	21.83	4.45	0.23
Total Crop	\$ 62.27	\$ 39.02	\$ 14.63	\$ 100.93	\$ 20.60	\$ 1.07

<u>Machinery</u>	<u>Total Expenses</u>	<u>Per Tillable Acre</u>
Fuel, oil & grease	\$ 4028	\$ 15.49
Machinery repair & parts	7275	27.98
Machine hire, rent & lease	2240	8.62
Auto expense (farm share)	500	1.92
Interest (5%)	4600	17.69
Depreciation	14280	54.92
Total Machinery	\$ 32923	\$ 126.63

Crop/Cow Factors

Total Tillable Acres per Cow	3.38
Total Forage Acres per Cow	2.60
Harvested Forage Dry Matter per Cow	8.82

FARM NO. 38006

NOVEMBER 4, 1989

DAIRY ANALYSIS

<u>Dairy Inventory</u>			<u>Heifers</u>					
	<u>Dairy Cows</u>		<u>Bred</u>		<u>Open</u>		<u>Calves</u>	
	<u>No.</u>	<u>Value</u>	<u>No.</u>	<u>Value</u>	<u>No.</u>	<u>Value</u>	<u>No.</u>	<u>Value</u>
Beg. of Year	70	\$ 63000	10	\$ 8500	20	\$ 13000	20	\$ 9000
+ Change in Inv.								
(w/o apprec.)		9000		8500		0		-4500
+ Appreciation		4000		1000		0		0
= End of Year	80	\$ 76000	20	\$ 18000	20	\$ 13000	10	\$ 4500
Total End								
(incl. leased)	80							
Average Number	77		50	All Age Groups				

Milk Production

Total milk sold 1116500 lbs.
Milk sold per cow 14500 lbs.
Average milk plant test 3.40 % butterfat

<u>Accrual Receipts From Dairy</u>	<u>Total</u>	<u>Per Cow</u>	<u>Per Cwt.</u>
Milk	\$ 146970	\$ 1909	\$ 13.16
Dairy cattle (including culls)	27300	355	2.45
Dairy calves	1330	17	0.12
Total	\$ 175600	\$ 2281	\$ 15.73

Accrual Cost of Producing Milk -
Whole Farm Method

Operating cost of producing milk	\$ 91233	\$ 1185	\$ 8.17
Total cost of producing milk excluding operator's labor, management & capital	114228	1483	10.23
Total cost of producing milk	169850	2206	15.21

Dairy Related Accrual Expenses

Purchased dairy grain & concentrates	\$ 36250	\$ 471	\$ 3.25
Purchased dairy roughage	0	0	0.00
Total Purchased Dairy Feed	36250	471	3.25
Purchased grain & concentrates as % of milk receipts	25%		
Purchased feed & crop exp.	\$ 52440	\$ 681	\$ 4.70
Purchased feed & crop exp. as % of milk receipts	36%		
Breeding	\$ 2300	\$ 30	\$ 0.21
Veterinary & medicine	1980	26	0.18
Milk marketing	8500	110	0.76
Cattle lease	0	0	0.00
Other livestock expense	\$ 5565	\$ 72	\$ 0.50

D.H.I., PIPELINE, STANCHION, 2 TIMES/DAY.

FARM NO. 38006

NOVEMBER 7, 1989

CAPITAL & LABOR EFFICIENCY ANALYSIS

Capital Efficiency (Average for Year)

	<u>Per Worker</u>	<u>Per Cow</u>	<u>Per Tillable Acre</u>	<u>Per Tillable Acre Owned</u>
Farm capital	\$ 180504	\$ 6447	\$ 1909	\$ 2482
Real estate		2792		1075
Machinery & equip.	35016	1251	370	
Capital Turnover, years		2.39		

<u>Labor Force</u>	<u>Months</u>	<u>Age</u>	<u>Years of Education</u>	<u>Value of Labor & Mgmt.</u>
Operator number 1	12	51	14	\$ 20000
Operator number 2	12	28	16	\$ 20000
Family paid	6			
Family unpaid	3			
Hired	0			
Total	33 / 12 =	2.75	Worker Equivalent	
		2.00	Operator/Manager Equivalent	

Labor Efficiency

	<u>Total</u>		<u>Per Worker</u>
Cows, average no.	77		28
Milk sold, lbs.	1116500		406000
Tillable acres	260		95
Work units	808		294
<u>Labor Cost</u>	<u>Total</u>	<u>Per Cow</u>	<u>Per Till Acre</u>
Value of Operator(s)			
Labor (\$1000/month)	\$ 24000	\$ 312	\$ 92.31
Family unpaid (\$700/month)	2100	27	8.08
Hired	3000	39	11.54
Total Labor	\$ 29100	\$ 378	\$ 111.92
Machinery Cost	\$ 32923	\$ 428	\$ 126.63
Total Labor & Machinery Costs	\$ 62023	\$ 805	\$ 238.55

FARM NO. 38006

11

NOVEMBER 9, 1989

ANNUAL CASH FLOW WORKSHEET

Item	Receipt or Expense		Expected Change	1989 Projection
	Total	Per Cow		
Average Number of Cows	77			
<u>ACCRUAL OPERATING RECEIPTS</u>				
Milk	\$ 146970	\$1908.70		\$
Dairy cattle	27300	354.55		
Dairy calves	1330	17.27		
Other livestock	1600	20.78		
Crops	12885	167.34		
Miscellaneous receipts	840	10.91		
Total	\$ 190925	\$2479.55		\$
<u>ACCRUAL OPERATING EXPENSES</u>				
Hired labor	\$ 3000	\$ 38.96		\$
Dairy grain & concentrate	36250	470.78		
Dairy roughage	0	0.00		
Nondairy feed	0	0.00		
Machine hire/rent/lease	2240	29.09		
Mach.repair/parts & auto	7775	100.97		
Fuel, oil & grease	4028	52.31		
Replacement livestock	1800	23.38		
Breeding	2300	29.87		
Veterinary & medicine	1980	25.71		
Milk marketing	8500	110.39		
Cattle lease	0	0.00		
Other livestock expense	5565	72.27		
Fertilizer & lime	9900	128.57		
Seeds & plants	3300	42.86		
Spray/other crop expense	2990	38.83		
Land, bldg., fence repair	2900	37.66		
Taxes	2800	36.36		
Real estate rent/lease	1200	15.58		
Insurance	2730	35.45		
Utilities	4900	63.64		
Miscellaneous	1330	17.27		
Total Less Interest Paid	\$ 105488	\$1369.97		\$
<u>NET ACCRUAL OPERATING INCOME</u>				
(w/o interest paid)	\$ 85437	\$1109.57		\$
- Change in lvstk/crop inv	23485	305.00		
- Change in accounts rec.	525	6.82		
+ Change in feed/supply inv	1758	22.83		
+ Change in accts. payable*	11000	170.13		
NET CASH FLOW	\$ 74185	\$ 963.44		\$
- Net personal withdrawals & family expenditures	32835	426.43		
Available for Farm Debt				
Payments & Investments	\$ 41350	\$ 537.01		\$
- Farm debt payments	17500	227.27		
Avail. for Farm Investment	\$ 23850	\$ 309.74		\$
- Capital purchases; cattle, machinery, improvements	31300	406.49		
Additional Capital Needed				\$

* Less change in account payable for interest.

FARM NO. 38006

NOVEMBER 7, 1989

MACHINERY & EQUIPMENT INVENTORY
FEED AND SUPPLY INVENTORY
LIVESTOCK INVENTORY
REAL ESTATE INVENTORY
LIVESTOCK & BUSINESS DESCRIPTION
LABOR
LAND INVENTORY AND CROPS
ASSETS AND LIABILITIES
FINANCIAL LEASES
RECEIPTS
EXPENSES
CROP EXPENSE BREAKDOWN
MANAGEMENT PERFORMANCE MEASURES

*.Net farm income w/appreciation = \$ 53187.
*.Rate return on equity capital w/o appreciation = -2.3.
*.Cash flow coverage ratio < .8 or > 1.2, = 1.47.
OTHER

Farm coded irregular.
Dairy Farm
Full-Time Farm
OWNER

VII. Check the diagnostics page.

The last page of the summary is a diagnostic page, a listing of data items that fall outside of "normal" ranges for that item. These unusual items may indicate data entry errors or simply unusual farm situations. Look over the diagnostics page. Refer to the section at the back of this manual entitled, "Hints for Interpreting and Using Dairy Farm Business Summary Diagnostics". Initial each item and write an explanation as necessary on one copy. Send this copy to Cornell along with the diskette and check-in form to indicate that the record is correct. This will save everyone time and telephone calls spent verifying and correcting farm records.

VIII. Update a record.

Select the "Create/Update/Display Record" option on the main menu to update a farm record. After entering the farm number, the program will take you to Screen 1. If no updates are to be made on Screen 1, press the [Esc] key to display the message:

[PgDn] or [RETURN] - next, [PgUp] - previous screen, [Esc] to exit, or # of Screen.

Enter the number of the screen where a change needs to be made. Use the cursor keys to move to the appropriate value and retype the new value over the old one. Important: If totals or calculated values appear on the screen, be sure to press return or use the ↓ arrow key to move through the calculated items so they will be recalculated.

You may now move to another screen to make more changes in data or return to the main menu.

IX. Display a record.

To display a record, select "Create/Update/Display Record" on the main menu. Move to any screen by entering the screen number as described in the previous section.

X. Delete a record.

To delete a farm record, select "Delete Record" on the main menu. You will be prompted for a farm number. Enter the number of the farm you want deleted. The current year's data file (<farm no.>.87) will be erased.

XI. Help

Select the "Help" option on the main menu. A brief description of each option on the main menu will be displayed.

XII. Quit

To leave the Micro DFBS program, select "Quit" on the main menu. You will then be at the DOS prompt (C>). For a two-floppy disk system, you will be prompted to insert the DOS diskette in drive A. You can restart Micro DFBS by typing 'dfbs'.

XIII. Make two backup copies of the data diskette.

Remove the DFBS program diskette from drive A and insert a blank, formatted diskette. To review the data files on your data diskette, type:

DIR B:↵
(Or DIR C:↵ if the data is on the hard disk and you are still in the 'dfbs' directory.)

You should see a list of data files as shown below.

```
A:\>dir b:

Volume in drive B has no label
Directory of B:\

38006      88      8809    1-04-89   10:28a
38006     870      321    11-01-88   10:25a
38006     860      260    11-01-88   10:27a
38006     PRN    35242    1-04-89   11:00a
          4 File(s)      315392 bytes free
```

The 1988 farm record files entered in 1989 will have file extensions of .88. The sample farm is file 38006.88. Its print file has a file extension .prn. It is less important to backup print files than record files because the print file can be easily recreated from the record file using "calculate and print farm summary". If you wish to save the print files, it is recommended you save them on a separate disk.

To make backup copies of the farm record files from drive B to the blank, formatted diskette in drive A, type:

COPY B:*.8* A:↵
(Or COPY *.8* A: if the data is on the hard disk.)

Do this twice.

One backup diskette is now ready to be shipped to Cornell, along with the check-in form, a copy of the printout and initialed diagnostics page. Keep the other diskette as your backup. This completes the operation of Micro DFBS.

DFBS ERROR MESSAGES

Run Time Error 02 PCXXXX¹⁰ - Caused by an attempt to divide by zero. Check input to assure that all information is correct. If problem persists, call the authors for help.

Run Time Error F0 PCXXXX - Caused by program attempting to locate and not finding the program file Calc.000. Check the program disk to see if the file is present. If the file is not present, copy the file from a backup disk to the program disk.

I/O Error 01 PCXXXX - Caused by an attempt to open a file that the program cannot find; i.e., a data file that is not on the disk. Check to make sure the file exists and that you are using the proper disk drive.

I/O Error F0 PCXXXX - Disk full error. Too many files on the data disk. See the next section "What to do When the Diskette Gets Full".

I/O Error F3 PCXXXX - Too many files open. See Appendix B.

All of the above errors will cause the program to terminate and will bring the user back to the operating system. After checking and correcting the cause of the problem, the program may be run as usual.

COMMON PROBLEMS:

<u>Message</u>	<u>Interpretation</u>	<u>Solution</u>
Program won't recognize a farm record file	File extension (year, example .88) must be one less than the year you entered when you turned the computer on or typed "DATE"	Rename the file, changing the file extension. See your DOS manual, RENAME command
Disk error on drive A (or B or C)	Diskette not inserted, door not closed, bad diskette	Insert diskette Close door Try again or copy files from other drive. Replace diskette.
	Drive out of alignment	Service disk drive
CAN'T OPEN FILE!! or other cycling - keyboard won't respond	Cannot locate a file	Check file name. Use DIR command to check disk to see if file exists.

If the program locks up, the user can exit by pressing the Ctrl and C keys at the same time or, if that fails, by turning the computer off.

Please notify the authors (607-255-8429) of any problems.

¹⁰"XXXX" will be replaced by a number. Make note of this number. It is useful information to the programmer if there is a persistent problem.

WHAT TO DO WHEN THE DISKETTE GETS FULL

A diskette formatted in DOS 2.1 holds about 360K of data. The "Create/Update/Display Record" option creates a data file for each farm which is about 9K in size. The two previous year's data files total 1K. "Calculate and Print Farm Summary" creates a file (the one with the .prn extension) which is 35K. So, it takes a total of 45K for each farm if you have previous year's data, enter new data and calculate each summary in turn. The data diskette should then hold about eight (360K ÷ 45K) farm records if you save the print files, and about 36 farm records if you do not. If you do wish to save the print files (<farm no.>.prn), it is recommended you save them on a separate disk.

When you fill up the diskette, you will get a message telling you to change diskettes. This may happen when you use "Create/Update/Display Record", but more likely at "Calculate and Print Farm Summary".

When this happens, you will need to use the DOS command COPY to copy the current and previous years' farm record files to another diskette. For example, to copy the record files for farm 38006 to a new diskette, remove the DFBS program diskette from drive A and insert a blank, formatted diskette. Then type:

```
COPY B:38006.* A:←
```

Then remove the original data diskette from drive B and move the new one from A to B.

HINTS FOR INTERPRETING AND USING DAIRY FARM BUSINESS SUMMARY DIAGNOSTICS

The last page(s) of a farm business summary printout are the "diagnostics". Diagnostics serve the purpose of alerting the person editing the record to possible data problems. Diagnostic statements are generated when data is missing, inconsistent or outside a "normal" expected range. Each diagnostic statement should be carefully scrutinized to help insure that the data is accurate. One should not rely on the diagnostics to "catch" data entry or data acquisition errors. Accurate original collection and entry of data are the best methods.

Page No. of
Check-In Form

MACHINERY AND EQUIPMENT INVENTORY

1. "Machinery owned but no machinery depreciation."

Check to see if machinery depreciation was collected on the check-in form (Screen 2) and not entered or if an entry error is present. Machinery could be rented from a partner in the business with the market value being reported, but not the depreciation. In situations where machinery is rented from a partner, it is preferable to enter machinery inventory values and depreciation for business analysis purposes. However, check to make certain machinery rental payments have been removed as a cash expense, but that debt payments on machinery remain.

1. "Machinery depreciation = n% of beginning inventory plus new machinery." (When $n < 5\%$ or $n > 20\%$)

Depreciation reported is probably too low or too high (Screen 2). Check to be certain that building and/or cattle depreciation has not been included as a machinery entry. Low depreciation values are expected when the average age of machinery is high (greater than 10 years) and little if any new machinery was purchased. High depreciation values are expected when the average age of machinery is low (less than five years) and relatively large purchases of new machinery occurred in recent years.

1. "Machinery appreciation exceeds depreciation."

Check to see if depreciation is within the expected range, but is not correct (Screen 2). Low depreciation often results in appreciation that is unrealistically high. In "normal" years of low to moderate inflation, machinery appreciation is expected to be less than machinery depreciation.

1. "Machinery appreciation = -\$n." [When $n < (-)10\%$ of beginning machinery inventory]

Reported machinery market values fell more than was accounted for by depreciation (Screen 2). While this is possible, especially in periods of "soft" machinery markets, the decrease was more than 10% of beginning machinery inventory. Check to see if all values, especially depreciation, are correct.

FEED AND SUPPLIES

2. "Feed and supply inventory increase > 25%."

Feed and supply inventory increased beyond what would "normally" be expected (Screen 3). Check to see if physical quantities and/or prices increased from beginning to end of year.

2. "Feed and supply inventory decrease > 25%."

Feed and supply inventory decreased beyond what would normally be expected (Screen 3). Check to see if physical quantities and/or prices decreased from beginning to end of year.

LIVESTOCK INVENTORY

3. "End of year (bred, open, or calf) heifer inventory at beginning prices > beginning of year inventory but no increase in (bred, open, or calf) heifer numbers."

Two possible explanations exist:

- (1) An increase in the quality of heifers has occurred.
- (2) The average age of youngstock from beginning of year to end of year has increased and thereby value per head increased.

Check to be certain one or both of the above actually occurred (Screen 4).

3. "End of year (bred, open, or calf) heifer inventory at beginning prices < beginning of year inventory, but no decrease in (bred, open, or calf) heifer numbers."

Again, two possible explanations exist:

- (1) A decrease in the quality of heifers has occurred.
- (2) The average age of youngstock from beginning to end of year has decreased and thereby value per head decreased.

Check to be certain one or both of the above actually occurred (Screen 4).

3. "Change in cow values/head >\$100, change = \$_____."

The upward or downward movement in dairy cow market prices was greater than \$100 per head. Check to see if this actually occurred as a result of:

- (1) An increase or decrease in quality of animals.
- (2) A change in market conditions from beginning to end of year.

Check to be certain one or both of the above occurred (Screen 4). If the beginning of year values taken from last year's end of year inventory were incorrect, make the change in beginning of year

values so as to accurately reflect the market at the beginning of the year being analyzed.

3. "Number of leased dairy cows > 0 but cattle lease expense = \$0."

An inconsistency may exist. Check to see if cattle were leased (Screen 4) and if lease payments were entered correctly (Screens 11 and 13). Cows may in fact be rented from others or boarded for others. In this situation, do not report cows as leased, but enter the rental expense on Screen 13 and total average numbers, including rentals, on Screen 6.

3. "Livestock appreciation is < \$0, = \$_____."

Livestock values fell from beginning to end of year (Screen 4). Check to make certain this occurred.

3. "Livestock appreciation > change in inventory, = \$_____."

The majority of the increase in total livestock inventory resulted from price increases and not growth or quality improvement of the herd (Screen 4). Check to see if this is accurate.

3. "Expansion livestock expense > \$0 but no increase in dairy cow numbers."

An inconsistency exists. If herd size did not increase from beginning to end of year, cattle purchases were not for increase of herd size. Cattle purchases should be entered under "Replacement Livestock" on Screen 13.

An exception to the above is the purchase of youngstock/bred heifers in anticipation of a herd size increase. If this is the situation, disregard the diagnostic.

3. "Dairy cow numbers decreased _____ and dairy cattle sales < \$400/head."

The revenue from dairy cattle sales is divided by the number of cows by which herd size decreased and this diagnostic is printed if the result is less than \$400 per head.

Did dairy cow numbers decrease (Screen 4) and, if so, were the prices received for cull cows low or did a higher proportion of cows die, or was the sales revenue not accurately reported (Screen 13)? Check the accuracy of input data.

3. "Dairy cow end year inventory at beginning prices > beginning year inventory but no increase in dairy cow numbers."

Quality of cows increased from beginning to end of year (Screen 3). Check to see if this is accurate.

3. "Dairy cow end year inventory at beginning prices < beginning year inventory but no decrease in dairy cow numbers."

Quality of cows decreased from beginning to end of year (Screen 3). Check to see if this is accurate.

3. "Number of cows = 0, total value = \$x." (Where $x > 0$)
 "Number of cows = x, total value = \$0." (Where $x > 0$)
 (Also for heifers and bulls and other livestock.)

There is missing data. If number of livestock is entered there must be a corresponding value for those livestock. If a value for livestock is entered, the number of livestock must be entered.

REAL ESTATE INVENTORY

3. "Real estate appreciation > 0.05 of beginning + value added or < 0 ."

Real estate appreciation is greater than expected in "normal" circumstances or is negative (Screen 5). Real estate values may have not been changed for several years and this year's change reflects more than one year's increase. If this occurred, change the beginning of year value to accurately reflect beginning of year value.

3. "Lost capital > 0.50 of real estate purchased = _____."

Lost capital is greater than "normally" expected (Screen 5). Small capital improvements may not add to the market value of the property and, therefore, lost capital could be equal to the total cost.

3. "Land and building inventory $> \$30,000$ but no land is owned."

Implies ownership of buildings, but no land (Screens 5 and 7). Check to see if this is accurate. The operator could rent or lease a farm, but own improvements or real estate consistent with the terms of the contract. If the farm is a partnership or corporation, check to determine if assets are recorded consistent with expenses.

3. "Land is owned but no land and building inventory value."

If land is owned, a market value was not entered (Screen 4). Land owned may have incorrectly been entered. The above stated possibilities should also be explored.

3. "Building depreciation $> 4\%$ of beginning real estate."

Building depreciation is greater than "normally" expected (Screen 4). Check to see if machinery and equipment or livestock depreciation was incorrectly included. Large investments in new buildings may justify depreciation in excess of four percent.

3. "Real estate inventory value added $< \$0$."

Lost capital exceeds the value added from new real estate purchases (Screen 5). At worst, this should be \$0. Check to be certain data entry is correct.

LIVESTOCK AND BUSINESS DESCRIPTION

5. "Number of bulls and other livestock inconsistent with livestock inventory." (When number = 0 and inventory > 0, or number > 0 and inventory = 0)

Data entered on Screens 4 and 6 are inconsistent with respect to other livestock. Check data collected and entered for accuracy.

5. "Milk per cow = n pounds." (When $n < 8,000$ or $n > 18,000$)

Pounds milk sold per cow is outside the "normal" range. Check to see if average cow numbers and pounds of milk sold (Screen 6) are entered correctly. Check butterfat content to see if a non-Holstein herd is being analyzed.

5. "Milk per worker = n pounds." (When $n < 200,000$ or $n > 700,000$)

Milk sold per worker is outside the "normal" range. Check to see if months of labor (Screen 7) and milk sold (Screen 6) are entered correctly.

5. "Average number of dairy cows at least 25% more than total at end, owned and leased."

Implies a significant reduction in herd size from beginning to end of year which occurred close to year end (Screens 4 and 6). Check to see if this is correct.

5. "Average number of dairy cows at least 25% less than total at end, owned and leased."

Implies a significant increase in herd size from beginning to end of year which occurred close to year end (Screens 4 and 6). Check to see if this is correct.

5. "Invalid business description."

One or more of the coded business descriptions (Screen 6) are out of acceptable range. Check data entry.

LABOR

5. "Single proprietorship but operators labor = n months." (When $n > 12$)

Single proprietorship category was checked on Screen 6, but more than one operator was recorded on Screen 7. A single proprietor in the majority of instances would have only one operator, the other should be reported as family unpaid. An exception to this would be when a second person is significantly involved in the day-to-day management of the business, then this person would be entered as Operator #2.

5. "Hired labor expense but no hired labor."

Hired labor expense was recorded on Screen 13 but no months of hired labor were recorded on Screen 7. Check to be certain these

two entries are consistent. Example: labor hired off farm to repair a roof should be reported as land, building, and fence repair, not as hired labor. If the farm is a partnership or corporation, check the labor inventory against business organization for consistency.

5. "Hired labor but no hired labor expense."

Hired labor months were recorded on Screen 7 but no expense on Screen 13. These two entries should be consistent. Example: Hired labor was paid with milk, beef or other farm products. Add the value of the products to receipts (Screen 12) and then count it as an expense (Screen 13). If the farm is a partnership or corporation, check the labor inventory against business organization for consistency.

5. "Partnership or corporation but operator labor is $\leq$ 12 months."

Partnership or corporation operator labor input is "normally" expected to be greater than 12 months. Check to see if labor input (Screen 7) is correct.

LAND AND CROPS

5. "Land is rented but rental expense = \$0."

Land is rented (Screen 7) but real estate rent/lease is \$0 (Screen 13). Check to see if this is correct. Example: If land rent is paid with a portion of crop, report that value as a crop sale and as a rent payment.

5. "There are less than two tillable acres per cow."

Land is very limited. Check to see if feed purchases (Screen 13) reflect low levels of farm grown feeds. Check to see if all owned and rented land has been omitted (Screen 7).

5. "Hay crop yield is < 2 or > 4 tons DM per acre. Yield is _____."

Hay crop yield is outside the "normal" range. Check to see if a large number of acres of new seeding were established, poor weather or good weather existed. Also check acres in hay for accuracy (Screen 8).

5. "Corn silage yield is < 2.5 or > 7 tons DM per acre. Yield is _____."

Corn silage yield is outside "normal" range. Check to see if the dry matter coefficient and conversion are correct (Screen 8). Check acres of corn silage (Screen 8) and determine if some acres were not harvested. Check calculation of quantity harvested.

5. "Corn grain yield is < 50 or > 120 bushels per acre. Yield is _____."

Corn grain yield is outside "normal" range. Check to see if moisture conversion and/or bushel conversions were done correctly

(Screen 8). Check acres in corn grain and repeat calculations of quantity harvested.

5. "Oat yield is < 40 or > 100 bushels per acre. Yield is _____."

Oat yield is outside the "normal" range. Check to see if oat acreage was reported under grain and production under forage if harvested as oatlage (Screen 8).

5. "Tons DM harvested per cow < 4 or > 12 = _____."

Tons of dry matter harvested is outside "normal" range. Check dry matter harvested calculations, cow numbers, and feed purchases for consistency.

5. "Tillable land, all acres, does not equal total tillable acres."

Calculations on Screen 7 and Screen 8 are not correct/consistent. Review the data entries for accuracy and recheck your math.

ASSETS AND LIABILITIES

7. "Scheduled debt payments > 0.35 of milk sales = _____%."

Scheduled debt payments are 10 percentage points above the average (Screens 10 and 12). Check milk sales and debt payment schedule for accuracy.

7. "Long-term debt > 0.80 of land and building inventory."

Long-term debt is higher than "normally" expected. Check to see if data is entered correctly (Screen 10). Falling asset values may have contributed to creation of this situation as well as increased borrowing.

7. "Farm net worth < 0.30 of farm capital. NW = _____."

Farm net worth is lower than normal (Screen 10). Check all calculations for accuracy. Falling asset values and increased borrowing may have contributed.

7. "Debt per cow $> \$3,500$ = \$_____."

Debt per cow is above average. Check for accuracy of data (Screens 6 and 10).

7. "Accounts receivable $< 5\%$ of milk sales."

The December milk check may not have been included as an account receivable (Screen 12). Check to see if all accounts have been included.

7. "Intermediate term debt $>$ total farm inventory less real estate."

Intermediate term debt is high and, in fact, greater than intermediate term assets (Screens 9 and 10). Check to see if this is correct.

7. "Long-term planned payments > long term debt."

Long-term planned payments being greater than long-term debt would be expected to occur only in the last year of the payment schedule. Check all entries for accuracy (Screen 10).

7. "Intermediate term planned payments > intermediate term debt."

Intermediate term planned payments greater than intermediate term debt would be expected to occur only in the last year of the payment schedule. Check all entries for accuracy (Screen 10).

7. "Short-term planned payments > 120% of short-term debt."

Short-term planned payments are higher than expected. Check for accuracy of entries (Screen 10).

7. "Planned reduction of operating debt > operating debt."

This is a definite inconsistency. The reduction in operating debt cannot be greater than the end of year balance (Screen 10). Check to see if interest is included.

7. "Planned reduction of accounts payable > accounts payable."

This is a definite inconsistency. The reduction in accounts payable cannot be greater than the end of year balance (Screen 10). Check to make certain interest and penalties have not been included.

7. "Liability > 0 but no scheduled payment, liability = \$_____."

Liabilities are greater than \$0 but scheduled debt payments are \$0, indicates that the payments were inadvertently omitted or, in fact, that no payments are scheduled (Screen 10). Check to make certain the data is accurate.

7. "Decrease in _____ liability from beginning to end year does not equal principal paid."

If no new money was borrowed, the decrease in the liability amount from beginning to end year should equal the amount of principal paid during the year. Check to make certain the data is accurate (Screen 10).

7. "Amount of money borrowed entered (_____) does not equal calculated money borrowed (_____)."

If a value was entered in the "amount of new borrowings" column (Screen 10), it should equal the calculated value for money borrowed. The formula for calculating money borrowed is: (end year liability - beginning year liability) + principal paid. Check to make certain the data is accurate (Screen 10).

FINANCIAL LEASES

8. "Leases cattle but no lease expense."

Cattle are leased (Screen 11) but lease expense is \$0 (Screen 13). Check to be certain cattle lease is not included with machinery or real estate lease and the cattle are in fact leased, not rented.

8. "Leases equipment but no lease expense."

Equipment is leased (Screen 11), but lease expense is \$0 (Screen 13). Check to see if cattle or real estate lease includes equipment (Screen 13) and if equipment is in fact leased.

8. "Leases structures but no lease expense."

Structures are leased (Screen 11), but lease expense is \$0 (Screen 13). Check to see if cattle or real estate lease includes equipment (Screen 13) and if equipment is in fact leased.

RECEIPTS

9. "Milk price < \$11 or > \$15. Price = \$_____ per cwt."

Milk price is outside the "normal" range. Check to see if pounds of milk sold are under-reported (Screen 6), milk sales (gross) is over-reported (Screen 12) or a Jersey herd is being summarized (Screen 6).

9. "Tillable crop acres per cow > 4, but \$0 crop sales."

Tillable crop acres per cow are high (Screen 7) but not crop sales are reported (Screen 12). Check to see if crop yields are low (Screen 8) or inventories of feed and supplies increased (Screen 3).

9. "No dairy cattle sales."

This statement indicates that dairy cattle sales on Screen 12 is blank. Check to see if this was overlooked when gathering data or not entered in the computer.

9. "No dairy calf sales."

This statement indicates that dairy calf sales on Screen 12 is blank. Check to see if this was overlooked when gathering data, not entered in the computer or if in fact all calves were either raised or died and, therefore, no sales existed.

9. "Government receipts, other receipts or miscellaneous receipts > \$5,000."

Government receipts, other receipts or miscellaneous receipts are greater than normally expected. Verify that the entry is correct (Screen 12) and that other categories are not more appropriate.

9. "Gas tax refund in excess of \$500."

Gas tax refund is greater than normally expected. Verify that the entry is correct (Screen 12) and that other receipts have not been included here.

- 6 & 9 "Total change in accounts receivable entered as a receipt does not equal change in accounts receivable entered as an asset."

This indicates a problem in calculation or data entry as these two totals should be equal.

EXPENSES

11. "Hired labor expense < \$400 or > \$1,200 per month, = \$_____ per month."

Expenses per month for family paid and hired labor are outside the normal range. Determine if months of labor recorded (Screen 7) and labor expense (Screen 13) are accurate.

11. "Total accrual (item) expenses are negative."

An accrual expense (Screen 13) would not likely be a negative value. Check the data for accuracy. Values in the column "Cash amount paid" cannot be negative. It is possible to have negative values in the "Change in Acct. Payable" column; however, an offsetting value in "Cash Amt. Paid" calculates to a positive accrual expense. It is possible to have negative values in the "Change in Inventory" column calculated from entries made on page 2, Screen 3. However, this indicates an increase in that inventory item and, therefore, should be offset by "Cash Amt. Paid" or "Change in Acct. Payable".

11. "Owns farm real estate but pays no taxes."

Farm real estate is owned (Screen 5) but taxes are not reported (Screen 13). Check to see if taxes were paid but not reported, paid by a third party or not paid during the year.

11. "Farm liabilities > \$0 but no interest expense, liabilities = \$_____."

Farm liabilities exist (Screen 10), but no interest expense reported (Screen 13). Check to see if special circumstances exist or if interest was in fact not paid during the year.

11. "Interest expense on page 11 does not equal interest payments on page 7."

The total farm liability interest (Screen 10) does not equal total interest expense (Screen 13). Check to see if data was collected and entered correctly. These two totals must be identical.

11. "Cattle lease expense > \$0, but no lease information."

Cattle lease expense is reported (Screen 13), but lease information is missing (Screen 11). Record the information on Screen 13 once the existence of an actual lease has been verified.

11. "Owns farm real estate but pays no insurance."

Farm real estate is owned (Screen 5) but no insurance expense is reported (Screen 13). Check to see if insurance expense was omitted or is included in other categories. Make certain real estate is owned.

11. "Personal withdrawals and family expenditures < nonfarm income."

This indicates that the nonfarm income could be subsidizing the farm business and, therefore, the Net Personal Withdrawals from Farm on page 7 of the Business Summary will be negative. Check to be certain this is accurate.

- 6 & 11 "Total change in prepaid expenses entered as an expense (\$_____) does not equal the total prepaid expenses change entered as an asset (\$_____).

The total change in prepaid expenses in Screen 13 does not equal the total prepaid expenses change in Screen 9. There must be a data acquisition or data entry problem.

- 7 & 11 "Total change in accounts payable entered as expense does not equal change in accounts payable entered as liability."

The total change in accounts payable on Screen 10 does not equal the total accounts payable change on Screen 13. There must be a data acquisition or data entry problem.

11. "Operating cost of producing milk is < \$8 or > \$12/cwt., = \$_____."

The operating cost of producing milk is outside the "normally" expected range. Check all operating expenses and nondairy receipts for accuracy (Screens 12 and 13) as well as total pounds of milk sold (Screen 6).

11. "Total cost of producing milk is < \$10 or > \$16/cwt., = \$_____."

The total cost of producing milk is outside the "normal" range. Check all expenses and nondairy receipts, plus interest on equity capital and value of operator's labor and management and unpaid family labor for accuracy (Screens 12, 13, and 7). Also check the total pounds of milk sold for accuracy (Screen 6).

MANAGEMENT PERFORMANCE MEASURES

- 12 & 13 "Net farm income w/o appreciation = \$n." (When n < \$10,000 or > \$50,000)

Net farm income without appreciation is outside the "normally"

expected range. Review receipts and expenses especially accounts payable and receivable, depreciation, and inventory changes for accuracy.

- 12 & 13 "Net farm income w/appreciation = \$n." (When $n < \$10,000$ or $> \$50,000$)

Net farm income with appreciation is outside the "normally" expected range. Review receipts and expenses especially livestock, machinery, and real estate appreciation for accuracy.

- 12 & 13 "Labor and management income per operator $< \$0$ or $> \$30,000$ = \$_____."

Labor and management income is outside "normally" expected range. Review the cash receipts and cash expenses (Screens 12 and 13) and especially inventory adjustments and/or depreciation for real estate, machinery and equipment, livestock, and feed and supplies.

- 12 & 13 "Return to operator's labor, management, and equity capital $< \$10,000$ or $> \$50,000$."

Return to operator's labor, management, and equity capital is outside the "normally" expected range. Check all receipts and expenses, plus the unpaid family labor for accuracy.

- 12 & 13 "Grain and concentrate as % milk unusually low or high. Value is n%." (When $n < 10\%$ or $> 40\%$)

Feed purchases as a percent of milk sales is outside the normally expected range. Check feed purchases (Screen 11) for accuracy, check to see if crop yields are high and/or a large number of crop acres per cow exists.

- 12 & 13 "Rate of return on equity capital w/o appreciation = n%." (When $n \leq 0\%$ or $> 10\%$)

This indicates a rate of return without appreciation outside the "normally" expected range. Check expenses and receipts as well as assets and liabilities for accuracy.

- 10, 12 & 13 "Cash flow imbalance (error) is $> 1\%$ of total cash inflows."

The cash flow imbalance is greater than can be accepted. Check the family withdrawals and family expenditures calculations for accuracy; remember income and social security taxes are considered personal withdrawals and family expenditures. Check principal payments as well as new borrowings for accuracy. Also consider gifts and inheritances as possible sources of discrepancy.

7. "Debt to asset ratio < 0.3 , = _____."

Debt to asset ratio is very low. Check asset values and liabilities for accuracy.

10, 12 & 13 "Cash flow coverage ratio < 0.8 or > 1.2."

Cash flow coverage ratio is outside "normal" range. Check receipt and expense items as debt payments made for accuracy.

CROP EXPENSES

13. "Sum of fertilizer and lime expenses for hay crop and corn is > farm total for all crops."

The allocation of expenses among crops is not accurate (Screen 14). Check the allocations.

13. "Sum of seed and plant expenses for hay crop and corn is > farm total for all crops."

The allocation of expenses among crops is not accurate (Screen 14). Check the allocation.

13. "Sum of spray and other expenses for hay crop and corn is > farm total for all crops."

The allocation of expenses among crops is not accurate (Screen 14). Check the allocations.

13. "Total crop expenses per acre of hay crop is > \$150 or < \$20, = \$_____."

The total crop expense per acre of hay is outside the "normally" expected range (Screen 14). Check the allocation of expenses to hay and compare with yields to see if a deviation is justified. Also check acreage for accuracy.

OTHER

"Farm coded irregular" - A farm is coded irregular when data is incomplete, missing or judged to be inaccurate.

"Farm coded part-time" - A farm is coded part-time when operator months are less than six months and total labor months are less than 12.

"Farm coded renter" - A farm is coded renter when no tillable land is owned or the real estate inventory at end year = 0.

"Farm coded cash-crop" - A farm is coded dairy-cash crop when cash crop sales amounted to more than 10 percent of accrual milk sales.

APPENDIX A

HOW TO COMPLETE DAIRY FARM BUSINESS SUMMARY
DATA CHECK-IN FORMS

HOW TO COMPLETE DAIRY FARM BUSINESS SUMMARY DATA CHECK-IN FORMS

Screen 1. Cooperator's Name and Address (page 1)

Fill in the name of the operator(s) of the farm business, the farm name if there is one, the address, and the county's record project in which he or she is participating. The processing number will be assigned at Cornell if the data is to be entered on the computer at Cornell. If entering the data in the county, use the list of processing numbers provided by Cornell to assign numbers to new cooperators and to confirm numbers used for continuing cooperators.

Please indicate if a farm is to be coded "irregular" at the top of the check-in form. An "irregular" farm has missing or inaccurate data.

Worksheet 1. Machinery and Equipment Purchased (page 1)

The only item from this section required to complete a farm business summary is the total machinery and equipment purchased. Worksheet 1 is included to provide a workplace for the operator, manager or managers to calculate this information. If prior to completion of the check-in forms the farm business has an accurate, up-to-date machinery and equipment inventory there is no particular need to copy that information onto Worksheet 1.

If completion of the worksheet is required, list all new or used machinery and equipment acquired during the year and the "boot" amount paid or obligated to pay on each item. List the market value of items traded-in and make the inventory checks in order to substantiate beginning and end inventory values. Check reported capital expenditures with the inventory book for the business. New items should be inventoried at "boot" plus market value of trade-in less first year's depreciation. Loss or increase in market value may occur from date of purchase to year end. Adjust year end value recorded in inventory to represent year end market values of machinery and equipment purchased. Make sure traded items are removed from this year's inventory. Do not include any leased items. We will assume the list of capital purchases and dollar amount reported here are correct and it will take precedence over other lists that may be included in the record.

Worksheet 2. Machinery and Equipment Sold or Destroyed (page 1)

List machinery and equipment that was disposed of by outright sales and items that were destroyed by fire, flood, and other disasters. Do not list items traded-in here. Report insurance received from machinery destroyed and check to see that all dispositions are removed from the end inventory.

As with the machinery and equipment purchased, only the total machinery and equipment sold is required to complete a business summary; consequently, if the farm records are complete and accurate, Worksheet 2 is not needed for input and need not be used.

Screen 2. Machinery and Equipment Inventory and Depreciation (page 1)

The information to be collected in this section is required to calculate the ownership costs incurred in maintaining an inventory of owned machinery and equipment and to calculate the increase (or possibly decrease) in the value of the machinery complement resulting from changes in the price level of farm

machinery and equipment. The fixed cost of maintaining the equipment inventory is charged as a business expense while machinery appreciation is credited toward the ownership income of the farm business.

Probably the most difficult information to obtain in this section is the beginning and end-of-year inventory. If this cooperator had a business summary the previous year, the end of the year inventory is the beginning of year inventory for this year. The cooperator then must inventory and determine the market value of his machinery and equipment as of December 31 of the year for which you are summarizing. Do not include any leased items.

Machinery and equipment purchased and machinery and equipment sold are the totals from Worksheets 1 and 2 discussed above. If an alternative source of complete information for purchases and sales is available, it is not necessary to complete Worksheets 1 and 2.

Machinery and equipment received from "Nonfarm Noncash Transfer" is entered in Screen 2. Include machinery and equipment received as a gift/inheritance or converted from nonfarm to a farm asset.

The next item is machinery and equipment depreciation as calculated for tax purposes. This value is used as the charge against the farm business for the use of the machinery and equipment complement. It is obtained by taking 1988 regular tax depreciation, excluding buildings and cattle from ACRS and MACRS depreciation. End-of-year inventory less the total beginning inventory after changes is equal to machinery appreciation. This value is then used as the contribution toward ownership income from machinery and equipment.

If machinery appreciation appears to be too high or too low given changes in prevailing machinery and equipment prices during the year, one might consider some of the following possible causes:

If change in inventory due to price appears to be too high, check the following possible causes:

- a) There are more new items in the inventory book than listed as capital purchases.
- b) New items were not depreciated this year or were valued at "list price" rather than at a value based on cost.
- c) Trade-ins and other dispositions were not removed from book.
- d) Machinery was revalued upward during the year and beginning inventory was not adjusted in the same direction.

If change in inventory due to price appears to be too low, check these possible causes:

- a) New items were not all listed in inventory book.
- b) Items acquired through trade were not valued correctly.
- c) Items no longer in use were removed from end inventory or devaluated without corresponding changes to beginning inventory.
- d) Machinery was revalued downward during the year and beginning inventory was not adjusted in the same direction.

Worksheet 3. Grown Feed Inventory Worksheet (page 2)

This worksheet is used to calculate the grown feed inventory at the beginning and end of year. Space is provided to enter quantities of the various grown feeds, their market value per unit, and the calculated market value for each grown feed. The total values of the grown feeds at beginning and end of year need to be calculated and entered in the appropriate spaces in Screen 3. The change will be computed and will appear on Screen 12 as a change in crop inventory. Inventory growth will produce a positive change or increase in crop receipts.

Screen 3. Feed and Supply Inventory (page 2)

Report beginning and end market values of purchased feeds and supplies in Screen 3. Workspace is provided for the quantity and market value per unit for the purchased feed and supply categories to assist in the calculation of the total value for each item at beginning and end of year. Of course, if an accurate accounting was made for the previous year, the end-of-year inventory should be used for the beginning-of-year inventory for this year. The beginning-of-year data is not optional; it is required. If winter wheat is grown, be sure to include in grown feed end-of-year inventory (Worksheet 3) the value of the crop based on the cost incurred in growing it. The footnote for Screen 3 explains how inventory changes are computed and their effect on accrual expenses.

Screen 4. Livestock Inventory (page 3)

Report all leased dairy cows at end of year in the space provided. This number will be added to owned dairy cows at end of year when computing debt levels per cow.

For owned livestock, this section is used to obtain information on the inventory of livestock at the beginning and end of the year and to separate the change in inventory during the year into the change (a) that results from changes in numbers and/or qualities of livestock and (b) that result from price changes during the year. The screen is designed to help inventory the livestock by categories. The heifer inventory allows space for three categories: bred heifers, open heifers (6 months to breeding), and calves (under six months). The information required is the number and value at the beginning of the year, the number and value at the end of the year using beginning-of-year prices, and the value at the end of the year using end-of-year prices. The value per head columns are calculated. If you prefer, the values per head may be entered and the total value columns will be calculated.

The quantity and value for beginning-of-year inventory can either be taken from last year's end-of-year inventory if accurate information is available or can be calculated based on the livestock on hand and the value per head at the beginning of the year.

The end-of-year inventory is more complex since the livestock numbers at the end of the year need to be valued both at beginning-of-year prices and at end-of-year prices in order to separate the increase in inventory into two parts. Unless large numbers of animals have been purchased of a different quality or the composition of the animals in the group has been altered significantly during the year, the value per head using the beginning-of-year prices is the same as the value per head in the beginning-of-year inventory. Situations which could result in the value per head in the beginning-of-year inventory and the value per head using beginning-of-year prices for the end-of-year inventory being different include: 1) the purchase of a large number of animals of higher quality than

those previously in the herd, and 2) the average age of calves in the end inventory being two or three months more than those in the beginning inventory. Finally, the end-of-year inventory at end-of-year prices is the same number of head as for the end-of-year inventory at the beginning-of-year prices times the value per head based on the market price of the livestock on December 31 of the summary year.

Worksheet 4. Land and Buildings Purchases and Sales (page 2)

In this section, only the totals for cost and lost capital of new purchases and capital improvements, and sale price/amount received and beginning inventory value of capital sales and losses are required. If the cooperator has an accurate record of his or her real estate transactions, these totals can be taken from that record; if the cooperator does not, Worksheet 4 can be used to assist in calculating the totals.

Screen 5. Real Estate Inventory Balance (page 3)

This section must be completed to confirm changes in the market value of real estate during the year.

- a) Report the beginning-of-year market value (previous year's end-of-year value).
- b) Enter the cost of new purchases and capital improvements for land and buildings and subtract lost capital. Value added (the difference between cost of new real estate and lost capital) is that proportion of the new investment that adds to the market value of the farm.

Enter the value of real estate that has come into the farm business during the year from gifts/inheritances and from conversion of nonfarm real estate to farm real estate.

- c) Building depreciation from 1988 tax return is used as an estimate of a total building depreciation charge for the year. Be sure to include depreciation on buildings in ACRS 5, 10, 15, 18, and 19-year classes as well as pre-ACRS, MACRS, and ADS depreciation.
- d) Deduct the beginning inventory value of real estate sold. For example, a tenant house inventoried at \$20,000 and sold for \$25,000 with \$1,000 of sale expenses and a mortgage of \$15,000 held by the seller would be entered as follows:

<i>Real Estate Sold: Beginning of year inventory value</i>	<i>-\$20,000</i>
<i>Total sale price</i>	<i>\$25,000</i>
<i>Sale expenses</i>	<i>-1,000</i>
<i>Note/mortgage held by seller</i>	<i>-15,000</i>
<i>Net cash amt. rec'd. in 1988</i>	<i>=9,000</i>

The "note/mortgage held by seller" of \$15,000 must be entered as an "Other Nonfarm Asset" in Screen 9, page 6. If the seller is not the mortgage holder, there would be no entry in the "note/mortgage held by seller" space and the "Net cash amount received in 1988" would then equal \$24,000.

The calculated value, "net cash amount received in 1988", is a cash inflow to the farm. If part or all of this was converted to nonfarm,

include that amount as a "personal withdrawal and family expenditure" in Screen 13.

- e) Beginning market value plus value added from real estate purchased, minus depreciation and the value of sales, equals total beginning value after changes.
- f) End-of-year market value less the total beginning value after changes is equal to real estate appreciation on the assets owned at end of year. Real estate appreciation also needs to be calculated for the assets sold during the year by subtracting the beginning year value of real estate sold from the sale price. These values are then used as the contribution toward ownership income from real estate.

Screen 6. Livestock and Business Description (page 5)

The average number of cows for the year is a key factor. It can be taken from the DHIA or other herd testing records. It is the average number of cows in the herd each month totaled and divided by 12. It includes dry cows as well as cows in milk. It includes leased cows. It is not an average of beginning and ending inventory numbers. Also report the average number for year of dairy heifers and bulls. If the data is being entered on a computer in the county, enter the work units for other livestock. Use Table 1, page 17 of the Micro-DFBS User's Manual as a guide.

Total pounds of milk sold is the total weight reported by the milk plant. Average milk plant test is not used to convert to a 3.5 equivalent. It is used as a reference only.

Check the appropriate item under Production Record, Milking System, Business Type, Milking Frequency, Dairy Housing, and Primary Financial Recordkeeping System.

Under milking frequency, check "2x/day" if all cows were milked twice a day for the entire year; check "3x/day" if all cows were milked three times a day for the entire year; or, check "other" if a portion of the herd was milked three times a day or the total herd was milked three times a day for part of the year.

Screen 7. Labor Inventory (page 5)

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. 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 addition, for each operator, indicate their age, their years of education, and the estimated value of their management and labor input. This value should be based on what that person could earn in a similar capacity in similar employment. Any farm expenses for labor or perquisites for these operators should be excluded from the labor expenses entered later in the input. This exclusion will probably be most relevant for corporations but may also apply to other businesses.

In addition, the total months of family labor who are paid, the months of family labor not paid, and the total full-time months of hired labor should be recorded. The full-time months can then be totaled and divided by 12 to determine the worker equivalent.

The conversion to full-time, worker-month equivalents is necessary; conversion is not always easy but is very important to an accurate summary. A high school student may provide three months of worker-month equivalent labor during the 10 month school year by working part-time. Convert hourly labor on the basis of 230 hours per month.

Screen 7. Land Inventory (page 5)

The purpose of this section is to obtain a complete accounting of the owned and rented acreages included as a part of this farm business. First, the tillable acres owned and rented should be entered. Tillable acres should include all acres that normally are cropped, either in row crops, hay crops, or cropland pasture. Pasture acres owned and rented should include all acres of pasture that are not cropland. Nontillable woodland and other acres owned would then be included and the three would add to total acres owned, rented and to the total acres in the farm business.

Screen 8. Tillable Land Use (page 5)

The purpose of this section is to obtain a complete accounting of the tillable acres in the farm business and an accurate record of the cropping program of the farm business. This record is an essential part of the business summary.

The forage crops should be separated into hay, hay crop silage, corn silage, and other forage crops harvested (could include green chop, small grain silage, and sudan/sorghum silage). Enter only the first cut acres for all hay crops on the first line. The measure of production of the roughages is the total tons of dry matter. The intermediate columns of total production and percent dry matter are used to assist in calculating the total tons of dry matter. Total production of all hay crops are divided into dry hay and hay crop silage. The total production of corn for grain, oats, and wheat should be reported on a dry bushel equivalent. Worksheet 5 is included on the opposite page for conversion of corn to a dry shelled basis.

Clear seeding acres should be entered under hay unless another crop is grown on those acres and considered the major crop in which case the acres are entered with the major crop. Acres used to grow winter wheat should be entered with the crop grown during the regular growing season.

After the acreages and production of the harvested crop enterprises have been reported, the acres of tillable cropland included in pasture and the acres of idle tillable cropland should be recorded. The total of all of the acres in each of these enterprises should be the total tillable acres. This total should then be compared to the total tillable acres recorded above in the land inventory. Furthermore, if this cooperator was in the summary the previous year and has not had a change in owned or rented acres, the tillable acres should be exactly the same as they were in the previous year.

Screen 9. Farm Family Financial Situation - Assets (page 6)

The assets section of the Farm Family Financial Situation requires entry of all farm and nonfarm assets for beginning and end of year. Total farm inventory is calculated from the previously-entered inventory sections.

If a cooperator had a business summary the previous year, the end-year assets are the beginning-year assets for this year, with one exception. "Prepaid expenses" was not a farm asset category last year. The x____x spaces for prepaid expenses indicates optional input; i.e., the entire concept of prepaid expenses may be ignored if you feel it has no significant affect on the profitability of the business.

Do not enter negative numbers for "Farm cash, checking & savings". If there is a negative checkbook balance, it should be considered money borrowed and included in operating debt, and a zero entered for farm cash, checking, and savings.

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

Mortgages or notes held from the sale of farm real estate should be included as "Other Nonfarm Assets".

See the footnotes at the bottom of page 6 of the check-in form for further guidelines to completing the assets section.

Screen 10. Farm Family Financial Situation - Liabilities (page 7)

The liabilities and debt payments sections of the Farm Family Financial Situation require entry of all liabilities for beginning and end of year, the principal and interest actually paid in 1988, and the planned payments for 1989. If a cooperator had a business summary the previous year, the end-year liabilities are the beginning-year liabilities for this year.

The primary objective in classifying liabilities is to identify the correct term of the loan. Long-term and intermediate term loans will be analyzed separately in the summary. If more liabilities exist than there are lines for, liabilities for the same term may be combined. Do not include leased items, they are entered in Screen 11.

The "Amount of New Borrowings" column is optional input. If the amount of money borrowed in 1988 is entered, this value will be compared to the calculated value for money borrowed ((End year liability - beginning year liability) + principal paid). If the two values do not agree, a diagnostic will be printed. The calculated value for money borrowed will be used in the Annual Cash Flow Statement.

For FLB and PCA liabilities, be sure the proceeds amount is entered as the liability (i.e., exclude FLB and PCA stock). The amount of FLB and PCA stock will be displayed under Intermediate Term Debt. These values are automatically carried over from FLB and PCA stock assets entered in Screen 9, page 6.

Include debt payments for all liabilities listed. If no payments are made, please enter zero.

The total of the farm interest actually paid in 1988 (6th column) should equal the interest expense entered in Screen 13, page 11.

The "Nonfarm Liability/Payments" line includes debt incurred for all nonfarm assets purchased. For example, if a pleasure boat was purchased using debt capital, record the beginning and end of year nonfarm loan balances, amount of new borrowing for the boat, actual payments made on the boat or any other nonfarm loan during the year, and next year's planned payments. If the farmer prefers not to record nonfarm liabilities, any new nonfarm borrowings must also be excluded from "personal withdrawals and family expenditures" in Screen 13, page 11.

See the footnotes at the bottom of page 7 of the check-in form for additional guidelines to completing this section.

Screen 11. Financial Leases (page 8)

The purpose of this table is to help calculate the expenses associated with financial leases and to determine the present assets and liabilities for the leased items. Include those items for which the farmer originally had an obligation to make specific payment for more than one year. Do not include items such as: machines rented per hour or day; buildings, equipment and, cattle rented from a family member; payments on purchase contracts.

The total yearly expense is calculated by multiplying the amount of each payment times the number of payments for the year. The total yearly expenses for each item are added to get the total expense for cattle, equipment, and structures. The totals must be entered under expenses on page 11. The total expense for cattle is entered under cattle lease; the total expense for equipment is entered under machine hire, rent and lease; and the total expense for structures is entered under real estate rent/lease.

Enter the number of payments in a full year and the number of payments remaining for each item. From this information present values for assets and liabilities can be computed for the leased items.

Worksheet 6. Changes in Operating Accounts Receivable (page 8)

The purpose of Worksheet 6 is to assist in calculating the changes in operating accounts receivable and to allocate the changes to the appropriate receipt category for entry in Screen 12, page 9. If there are no operating accounts receivable other than the January milk check, it is not necessary to use the worksheet. Simply calculate the difference in the account receivable from beginning to end of year and enter that value in Screen 12 in the space for "Milk, Change in Accounts Receivable".

Note: To calculate the correct change in accounts receivable, subtract the beginning of year balance (January 1, 1988) from the end of year balance (December 31, 1988) to get the increase in accounts receivable. Worksheet 6 is designed to produce the right calculation when used correctly.

The total of the column "Balance, December 31, 1988" in Worksheet 6 must equal the value in Screen 9, page 6 for "Accounts Receivable, December 31, 1988". The total of the column "Balance, January 1, 1988" in the worksheet must equal "Accounts Receivable, January 1, 1988" in Screen 9. The totals of the "Change in Account" and "Receipt Category Amount" columns in Worksheet 6 must be equal. They must also equal the total of the column "Change in Accounts Receivable" in Screen 12, page 9. See the bottom of page 8 of the check-in form for further guidelines to recording changes in accounts receivable.

Screen 12. Summary of 1988 Receipts and Changes in Inventory and Accounts Receivable (page 9)

Record the 1988 cash receipts and changes in accounts receivable in Screen 12. The "Change in Inventory" column is calculated by the computer program from entries previously made in Screen 3 (grown feeds inventory) and Screen 4 (livestock inventory) and Screen 10 (advanced government receipts). Use Worksheet 6 on page 8 to assist in the calculation of changes in accounts receivable. The "Accrual Receipts" column is the total of the first three columns.

Enter the amount received for sale of stock and certificates other than FLB and PCA stock. This value will be used in the calculation of appreciation of stock and certificates to be included as ownership income.

The section at the bottom of Screen 12 is used to record nonfarm cash inflows. The last line in Screen 12 is for nonfarm noncash capital used in the farm business for cattle, crops, etc., excluding machinery (enter in Screen 2) and real estate (enter in Screen 5).

See the bottom of page 9 of the check-in form for further guidelines to recording the farm and nonfarm receipts.

Worksheet 7. Changes in Operating Accounts Payable (page 10)

The purpose of Worksheet 7 is to assist in calculating the changes in operating accounts payable and to allocate the changes to the appropriate expense category for entry in Screen 13, page 11. If there are no operating accounts payable, do not use the worksheet, go directly to Screen 13 on page 11. When Worksheet 7 is used, enter the end of year balance, then enter and subtract the beginning of year balance to obtain the correct change in accounts payable.

The total of the column "Balance 12/31/88" in Worksheet 7 must equal the value in Screen 10, page 7 for "Accounts Payable, December 31, 1988". The total of the column "Balance 1/1/88" in the worksheet must equal the value in Screen 10 for "Accounts Payable, January 1, 1988". The totals of the two "Change in Accounts Payable" columns in Worksheet 7 must be equal. They must also equal the total of the column "Change in Accounts Payable" in Screen 13, page 11. See the bottom of page 10 of the check-in form for further guidelines to recording changes in accounts payable.

Screen 13. Summary of 1988 Expenses and Changes in Inventory and Accounts Payable (page 11)

Record the 1988 cash expenses and changes in accounts payable in Screen 13. Be sure to include as cash expenses any items paid directly by a bank through use of a "line-of-credit". Payment on the "line-of-credit" is a reduction in the account payable to the bank. Use Worksheet 7 on page 10 to assist in the calculation of changes in accounts payable. The "Accrual Expenses" column is the total of the first three columns.

The "change in inventory or prepaid expenses" column contains both calculated values and optional input values. The change in inventory items (.... spaces) are calculated by the computer program from entries previously made in Screen 3 (purchased feed and supplies inventory). The change in prepaid expense items (x _____ x spaces) are optional input (i.e., the entire concept of prepaid expenses may be ignored if you feel it has no significant affect on the profitability of the business). The total change in prepaid expenses must equal

the difference between prepaid expense totals in Screen 9, page 6 (beginning year - end year).

Enter the amount spent for purchase of stock and certificates other than FLB and PCA stock. This value will be used in the calculation of appreciation of stock and certificates to be included as ownership income.

Enter all personal withdrawals and family expenditures in the space provided at the bottom of Screen 13. Do not skip this entry. It is necessary for the Annual Cash Flow Statement to balance and also for an accurate Cash Flow Coverage Ratio to be calculated. Include all cash withdrawals plus all additional nonfarm expenses paid with farm cash or from farm accounts, e.g., income tax, self-employment tax, and 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 nonfarm liability in Screen 10, page 7. E.g., if a pleasure boat was purchased using debt capital, in the year of purchase the amount borrowed and any payments made during the year must be included as a family expenditure. If any or all "Nonfarm Cash Income" has been excluded from the value entered in Screen 12, page 9, you must also exclude any family expenses paid from that income.

See page 12 of the check-in form for further guidelines to recording farm expenses.

Screen 14. Breakdown of 1988 Crop Expenses by Crop (page 13)

Record the breakdown of crop expenses for hay crop, corn, and other crops in Screen 14. The "Total" line at the bottom of the screen must equal the accrual expenses on Screen 13, page 11, for fertilizer and lime, seeds and plants, and spray and other. Calculate the accrual expense for these three crop expense categories on Screen 13 by totaling "Cash Amount Paid" + "Change in Inventory" + "Change in Accounts Payable". The "Change in Inventory" values are calculated from the beginning and end year inventory values in Screen 3, page 2 (beginning year - end year = change in inventory).

The computer program will display on Screen 14 the total accrual expenses for the crop expense categories from Screen 13 at the time of data entry. The "All other crops" line will be calculated using the accrual expense totals less the values entered in the first two lines of the screen for hay crop and corn.

Unless you have a better basis for allocation, allocate lime expenses proportionately across all crop acres, to allow for the fact that benefits extend to crops grown in future years, not just the first year. Charge fertilizer, chemical, and seed costs to the crop applied to. Of course, fertilizer and chemicals can have carryover effects on future crops as well, but in most cases, it would be impossible to accurately allocate these carryover effects.

APPENDIX B

PROCEDURES FOR CALCULATING
COST OF PRODUCING MILK

PROCEDURES FOR CALCULATING COST OF PRODUCING MILK -
1988 DAIRY FARM BUSINESS SUMMARY

		<u>Example^{a/}</u>
Total Accrual Operating Expenses	\$124,588	
Plus: Expansion Livestock Expense	<u>+9,000</u>	
Accrual Operating Expenses Including		
Expansion Livestock		\$133,588
Total Accrual Receipts	\$189,325	
Less: Accrual Milk Sales	<u>-146,970</u>	
Accrual Receipts Less Milk Sales		<u>- 42,355</u>
Operating Cost of Producing Milk ^{b/}		\$ 91,233
 Total Accrual Expenses		 \$154,483
Family Labor Unpaid		+ 1,950
Accrual Receipts Less Milk Sales		<u>- 42,355</u>
 Total Cost of Producing Milk Excluding Operator's Labor, Management & Capital ^{c/}		 \$114,078
 Total Accrual Expenses		 \$154,483
Family Labor Unpaid		+ 1,950
Value of Operator's Labor & Management		+ 40,000
Real Interest on Equity Capital		+ 15,622
Accrual Receipts Less Milk Sales		<u>- 42,355</u>
 Total Cost of Producing Milk ^{d/}		 \$169,700

a/Same example as in Section VI of this publication.

b/Considering only operating costs, this measure shows how you are doing on cost control in "operating" the business. If milk receipts are less than this measure, the farm has serious milk production profitability troubles which must be corrected immediately if the business is to survive.

c/Considering all costs except the opportunity cost of operator's labor, management, and equity capital, this measure after being subtracted from milk receipts will show the return from milk production to the above mentioned factors of production. If milk receipts are less than this measure of cost of producing milk, the business has milk production profitability difficulties. If the operating cost of producing milk is less than milk sales, but this measure is more than milk sales, the farm business is contributing to but not totally covering fixed costs. This situation must be corrected for long-run business survival.

d/Considering all costs of producing milk, including the opportunity cost of operator provided inputs, this measure is the best indicator of long-run business survival. On many farms, the total cost of producing milk will be less than milk sales. This does not imply the business is doomed. If milk sales are greater than the previously discussed two measures of cost of milk production, but less than the total cost of producing milk, the business is not returning the total opportunity cost of operator provided inputs. For long-run business survival, farms should strive for milk sales to meet or exceed this cost of producing milk.

APPENDIX C
CREATION OF A CONFIG.SYS FILE

CREATION OF A CONFIG.SYS FILE

In order for the program to work properly, a CONFIG.SYS file must exist in the root directory of a hard disk or on the MSDOS or PCDOS boot diskette of a floppy based system. To see if such a file exists, use the DIR command to get a directory of the existing files in the root directory.

For example, on a hard disk you would type:

```
DIR C:\CONFIG.SYS and press return.
```

If the file exists, it will be listed on the screen, if the file is not present a message "FILE NOT FOUND" will be displayed.

Existing files will need to be edited. This can be done by using the EDLIN command. To use this command, type:

```
EDLIN CONFIG.SYS and press return
```

and the following message will be displayed if the file is found:

```
End of input file
*
```

To get a listing of the file, type 1 and press return. The contents of the file will now be displayed:

```
*
1:*FILES = 10
2: BUFFERS = 10
*
```

What is displayed on your screen will be similar to the above example.

You will need to edit the line that contains the FILES statement. In the example above, line 1 contains the statement. To edit the line type:

```
1 and press return.
```

The following will then display:

```
*1
1:*FILES = 10
1:*
```

Enter new information on the blank line directly below the statement. You will now type:

```
FILES = 16 and press return.
```

The prompt will reappear. Type:

```
E and press return.
```

You will then return to the operating system prompt.

If the file does not exist on your disk, one has been supplied for you on the program diskette. Simply copy the file onto your boot diskette or into the root directory of the hard disk.

Once you have completed either of the steps outlined above, you will need to reboot the computer.

NOTES