October 1983

A.E. Ext. 83-25

DAIRY FARM BUSINESS SUMMARY

A Computer Program Users' Guide and Reference Manual

for

DFBS V1.1

DEC PDP 11/24 UNIX V7m

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ACKNOWLEDGMENTS

The authors wish to acknowledge the helpful comments from Wayne A. Knoblauch and Stuart F. Smith on earlier drafts of this publication.

Thanks go to Beverly Carcelli, Mary Chaffee, and Cindy Farrell for their expertise in the typing and proofreading of the publication.

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INTRODUCTION

This publication describes the features of the Dairy Farm Business Summary (DFBS) computer program. The introduction includes purpose of the project, background of the DFBS, and the organization of the user's reference manual.

Purpose of Project

Farm business management projects are a basic part of the agricultural extension program in New York State. The New York State College of Agriculture and Life Sciences at Cornell University, and the County Extension staffs, cooperate in sponsoring the projects. Records submitted by New York State dairyfarmers provide the basis for extension educational programs and data for applied research studies.

Extension agents and specialists enroll the cooperators and collect the records. Regional summary reports are prepared by the college staff for use by the agents. Each cooperator receives a summary and analysis of his or her business, and a regional report for making comparisons. These extension activities aim to help the operators develop their managerial skills and solve business management problems.

The DFBS computer program organizes and summarizes dairy farm business and financial data, computes important business management factors, and prints a farm business summary and analysis for individual dairyfarmers. The farm business and financial data is keyed directly from a multiple page check-in form to the minicomputer using 12 input screens, data is verified, and a six page individual farm summary plus diagnostics is produced. DFBS does not produce county, regional or state summaries.

Background

Farm accounting projects have been a part of the Department of Agricultural Economics' Cooperative Extension program since 1934. A project similar to today's Farm Business Summary Project, called the "Expanded Farm and Home Management" project, began in 1955. Under this project, individual farm data was calculated by hand by a clerical staff of more than 10 people. Completed records were then tabulated by hand to obtain averages for regional and state summaries.

In 1972, the summary and analysis of the individual farm data became completely computerized. All analyses (individual farm, county, regional, and state) were computed on the IBM 370, Cornell's mainframe computer.

In 1982, individual farm data was analyzed using the computer program described in this publication. The equipment used is a Digital Equipment Corporation (DEC) 11/24 minicomputer. Data is transferred to the IBM 370 where county, regional, and state summaries continue to be computed.

Manual Organization

This users' guide and reference manual is divided into eight sections as follows:

I. Introduction

The introduction provides discussion on the purpose of the project, the background of the DFBS, and users' guide and reference manual style and usage.

II. Collection of Data

In the collection of data, reference is made to the check-in sheet, the collection of farm information, and the similarity of the check-in sheets to the input screens.

III. Using the DFBS Computer Program

Using the DFBS computer program describes system usage, including system initialization, logging in, accessing information, entering information, verifying information, accessing input screens, posting information, transferring data, synopsis of system functions, and a flow diagram of system usage.

IV. DFBS Output

DFBS output is introduced with an example.

V. Menu Functions

The menu function section describes the subroutines intended to be called by the DFBS program.

VI. System Functions

The system function section describes the programs intended to be invoked directly by the user, in contradistinction to the menu functions.

VII. References

A list of references is provided to aid your understanding of the system.

VIII. Appendix

The appendix contains an example of a completed data check-in form, suggestions for completing a check-in form, and list of DFBS diagnostics.

In the menu and system function sections (V. and VI.), all entries are based on a common format designed after the UNIX* Programmer's Manual. Each function is described on a separate page. The pages are divided into five subsections - NAME, USAGE, DESCRIPTION, SEE ALSO and DIAGNOSTIC as follows:

*UNIX is a trademark of Bell Laboratories.

1. NAME - Lists the exact name of the command and a very short description of its purpose.

2. USAGE - Summarizes the use of the function being described. A few conventions are used:
   < > around a statement means the statement is to be treated as a literal and the substitution for the statement is to be typed there.

   [ ] around an argument indicates the argument is optional.

3. DESCRIPTION - Describes in detail the subject at hand.

4. SEE ALSO - Gives pointers to related information.

5. DIAGNOSTICS - Discusses the diagnostics which may be produced.

At the beginning of this manual is a table of contents organized by section. The MENU and SYS sections are composed of manual pages which are arranged alphabetically by the title of the function. The title is followed by an appropriate section label in parentheses.

COLLECTION OF DATA

Data from New York State dairy farms are collected on a nine-page data check-in form. These completed forms are sent to farm management faculty in the Department of Agricultural Economics by extension agents and specialists. The data are edited for accuracy and completeness before entered into the DFBS computer program for summary and analysis. A copy of the data check-in form and instructions to agents for completing the form are included in the appendix.

The boxed-in areas of the check-in form correspond to the 12 input screens in the DFBS program (see pages 8 to 15 for sample input screens).

USING THE DFBS COMPUTER PROGRAM

This section sketches the basic information you need to know to get started: how to initialize diskettes, how to log-in, how to access floppies, how to enter information, how to verify information, how to access input screens, how to post and process information, how to transfer data, a synopsis of system functions, and a flow diagram of DFBS system usage.

Initialization of Diskettes

At the beginning of each year you must initialize a set of floppy diskettes to store farm information. A set of floppies consists of 12 diskettes, six for the main copy and six for backup.

The organization of farm information on these diskettes is by region. Six floppies will contain 10 regions as follows:

ORGANIZATION OF DISKETTES

Diskette	Region Number	Region Name
A	1	Southern New York
A	2	Eastern Plateau
B	3	Northern Hudson
C	4	Northern New York
D	5	Oneida-Mohawk
B	6	Southern Hudson
E	7	Western Plain
F	8	Western Plateau
E	9	Central Plain
E	10	Central New York

Label the main and backup diskettes as described above, indicating which are to be used as backups (see last year's diskettes), then initialize the main copies following the steps described in INITIALIZE(SYS). Only the main copies are of concern to us now, the backup copies will be taken care of by the program BACKUP(SYS).

Logging-In

When the UNIX system is up and running multiuser, it displays a 'LOGIN:' prompt on the screen. Typing in 'dfbs' and pressing <return> will log you into the system and display the main menu as follows:

```
COOPERATIVE EXTENSION                                  _____
                                                      /     |
Prepared by                                  ________/      |
DEPARTMENT OF                                |              |
AGRICULTURAL ECONOMICS                      /    NEW YORK  |
CORNELL UNIVERSITY                         [_____________   |
                                                     \      |
                                                      \_____|
Dairy Farm Business Summary System                          /__]

============================================================

[ ] Create record                [ ] Calculate farm summary
[ ] Verify record                [ ] Print farm summaries
[ ] Display record               [ ] Post progress data
[ ] Update record                [ ] Update system constants
[ ] List files                   [ ] Help
[ ] Delete file                  [ ] Quit

============================================================
```

The DFBS menu has 12 functions to select from (see sample menu above). Following is a brief synopsis of the functions.

1. Create record - Create a new farm file on floppy diskette.

2. Verify record - Verifies information in a farm file.

3. Update record - Updates information in a farm file.

4. Post progress data - Post the progress of the farm business information from the previous year to the current year.

5. Calculate farm summary - Calculate part or all of a DFBS.

6. Print farm summary - Prints the DFBS produced by CALCULATE(MENU).

7. Display record - Displays information from farm file.

8. List files - Lists farm files from a region.

9. Delete file - Delete a file from the data base.

10. Update system constants - Allows changes to system constants. (Not implemented.)

11. Help - Displays a brief synopsis of the menu selections.

12. Quit - Exits the program.

Further instructions for each one of the above functions can be found on its own manual page in the section MENU.

Accessing Floppies

All the information for the DFBS is contained on floppy diskettes. Selection of CREATE(MENU) through POST(MENU), except LIST(MENU) which asks for 'Region Number', will prompt you for a 'FARM NUMBER'. Enter the farm number, or in the event you have already entered it you may access it repeatedly by typing a period ('.'). If the floppy diskette does not contain the region for that farm or if no diskette is mounted the program will prompt you with:

> **Farm no. <farm number> does not belong in the region. Request volume for <region name> region? (Y/N).**

Entering 'N' will return you to the menu. Entering 'Y' will prompt you with:

> **Please mount floppy labeled <region name> in drive 0. Press return if successful, enter 'N' if not.**

If you enter 'N' in response to the above, you will exit the program and must type '0' to start up again.

If you press <return> after mounting the floppy (insert label up, notch to the right), the program checks to see if the farm has been created. If you are in the creation mode and the farm has not been created it will do so, any other mode will print the following message:

Farm file has not been created.
Type <return> to continue.

Pressing <return> will return you to the menu.

Entering Information

The DFBS program will prompt you for input information. It does this by displaying the field you are to type into. For example, '___.__' suggests a number with three leading values and two decimal places. The function that is reading the input checks numeric values and range of the number. If you enter anything but a numeric value, or a decimal point in the case of a real number, the program will prompt you with:

Illegal input [<bad character>] please reenter.

If the number is out of range it will prompt you with:

Range error - please reenter.

In the case of a string variable, as used in farm information (Screen 1), no type checking is done, only range checking.

In either case the program will return you to the input field and prompt you with the field size.

Typing errors can be corrected by using the 'backspace' key if you have not entered <return>. Otherwise, errors must be corrected using VERIFY(MENU) or UPDATE(MENU). Do not use the arrow keys to move the cursor, they will only cause errors and confusion.

Verifying Information

After the information has been entered using CREATE(MENU), it should be verified. Verification is very much like the original input session with one major difference. The information you first enter in using VERIFY(MENU) must match the information previously entered or VERIFY(MENU) will prompt you to enter it again. VERIFY(MENU) will continue to prompt you until the value entered matches the previous value or you enter the same value two times in a row.

The verification of data is an important function to insure the accuracy of the information being summarized. Currently there is no way the program knows whether or not the verification process has been performed. Therefore, it is up to the administrator of the program to assure this process is done.

One final word on verification; the person creating the original farm data file should not be the one to do the verification, there should always be two people involved in the process.

Accessing Screens

Once a farm has been found or created the program will prompt you with 'NEXT SCREEN'. Pressing <return> in response takes you to the next screen. Typing a number will take you directly to that screen. In the DFBS program there are 13 screens numbered 0 through 12. Following is a brief description of the screens.

DFBS SCREENS

Number	Description
0.	Menu Screen
1.	Farm Information
2.	Machinery and Equipment Inventory
3.	Livestock Inventory and Feed and Supplies
4.	Real Estate Inventory
5.	Livestock and Business Description
6.	Labor and Land Inventory
7.	Tillable Land Use
8.	End of Year Family Financial Situation Assets
9.	Liabilities and Planned Debt Payment Schedule
10.	Financial Leases
11.	Summary of the Year's Farm Expenses
12.	Summary of the Year's Farm Receipts

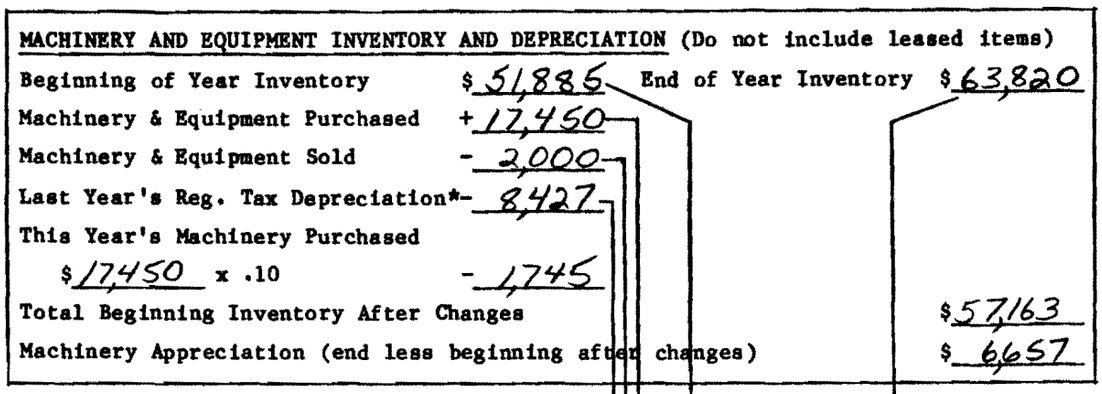
Following is a discussion of the individual screens including an example of each screen.

The menu screen (Screen 0) shown on page 4, was discussed earlier. It is the screen you see when you log onto the system.

```
                                                          Screen no. 1

                          Farm Information
================================================================================

     Farm no. ........... 12001
     Farm Name .......... Clover Estates
     Operator's Name .... D. Warren
     Address ............ 407 Warren Hall
     City ............... Ithaca, N.Y.
     Zip ................ 14850
     County ............. Delaware
     Phone .............. 256-4592

      Regular [ ]                                    Irregular [X]
================================================================================
```

Farm information is entered for each farm; however, only the farm number is used for identification purposes. At the bottom of the screen, you find the classifications 'Regular' and 'Irregular'. These classifications indicate the consistency of the information and whether or not this farm will be included in the county, regional, and state summaries. Regular is included; irregular is not. Farm data is automatically coded 'Regular' when first entered using CREATE(MENU). If the data is to be coded 'Irregular' it must be done using UPDATE(MENU).

If information is missing, such as the zip code or phone number, any character can be entered so the cursor will move to the next space.



MACHINERY AND EQUIPMENT INVENTORY AND DEPRECIATION (Do not include leased items)

Beginning of Year Inventory	$ 51,885	End of Year Inventory	$ 63,820
Machinery & Equipment Purchased	+ 17,450		
Machinery & Equipment Sold	- 2,000		
Last Year's Reg. Tax Depreciation*	- 8,427		
This Year's Machinery Purchased $ 17,450 x .10	- 1,745		
Total Beginning Inventory After Changes			$ 57,163
Machinery Appreciation (end less beginning after changes)			$ 6,657

*Exclude buildings from ACRS depreciation.

FARM NO. 12001 Screen 2.

Machinery and Equipment Inventory

Machinery & Equipment Inventory	Beginning $ 51885	End $ 63820
Machinery & Equipment Purchased	+ 17450	
Machinery & Equipment Sold	- 2000	
Depreciation:		
Previous year's Reg. Tax	- 8427	
This year's Mac. Purch. x 10%	- 1745*	
Total beginning Inventory After Changes		- $ 57163*
Machinery Appreciation (end less beginning after changes)		$ 6657*

The machinery and equipment inventory screen presented above along with a part of a check-in sheet, will serve as an example of data entry into the DFBS program. Screens 3 through 12 are handled in a similar way and, as with Screen 2, are designed to resemble the check-in form as closely as possible.

The values preceding the '*' are values calculated by the program. You are not permitted to enter these values at the terminal. Wherever an item is entered that affects a calculated variable, that calculation is performed and the results saved.

The end of year inventory value is a good example. When this inventory item is entered, it not only affects the machinery appreciation on this screen, it also affects the total inventory, total farm assets and total assets; items displayed on Screen 8, page 12.

The remaining discussion in this section will be confined to outstanding features of the individual screens.

FARM NO. 12001 Screen 3.

Livestock Inventory and Feed & Supplies

Leased dairy cows 10	Beginning of Year No.	Beginning of Year Total value	End of Year Beg. prices No.	End of Year Beg. prices Total value	End of Year End prices Total value
Dairy cows	58	$ 81200	54	$ 89600	$ 96000
Youngstock & bulls	40	$ 8875	40	$ 11625	$ 12525
Other livestock	2	$ 400	2	$ 400	$ 400
Total livestock	100*	$ 90475*	96*	$ 101625*	$ 108925*
Total feed & supplies		$ 17720			$ 12280

Data entry in Screen 3 starts with "leased dairy cows" then continues across the remaining rows. A column titled "Value per head" appears on the data check-in form but is not entered on the screen. If a zero is entered in a "No." column, the cursor will skip over the corresponding "Total Value" entry.

FARM NO. 12001 Screen 4.

Real Estate Inventory

Land and building market value		Beginning $ 325500		End $ 340500
New real estate:				
Land 2000 +Bld. 4030	= 6030*			
Less lost capital	- 1000	= VALUE ADDED	+ 5030*	
Depreciation: Previous yr's annual tax			- 2999	
5% of new buildings			- 202*	
Beginning of year value of real est. sold			- 1000	
Total beginning value after changes				- $ 326329*
End less beginning (after changes) = APPRECIATION				$ 14171*

The data for Screen 4 is entered in the following order: beginning year market value, end year market value, new land, new buildings, lost capital, previous year's depreciation, and real estate sold.

FARM NO. 12001 Screen 5.

Livestock and Business Description

Livestock	Average No. For Year	Testing	Milking System	Business Type
dairy cows	60	D.H.I	Dumping station	Partnership
heifers (dairy)	40			
bulls	1			
other livestock	4			

Milk production		Type of Barn	Record System
		Stanchion	Account book
milk sold (Lb.)	838800		

Average milk plant test 3.5 %B.F.

The value entered for other livestock is the number of total work units for the total number of other livestock.

Business description items are entered by typing the number that appears in parentheses on the data check-in form and pressing <return>. The appropriate business description item will be displayed on the screen.

The order of data entry is as follows: numbers of livestock, testing, milking system, business type, milk sold, butterfat test, type of barn, and record system.

FARM NO. 12001 Screen 6.

L a b o r a n d L a n d I n v e n t o r y

Labor	Full time months	Age	Years of educ.	Value of asmt. & labor
Operator no. 1	12	23	14	$ 13000
no. 2	12	25	14	$ 13000
no. 3	12	27	16	$ 13000
Family (Paid)	1			
Family (Unpaid)	1			
Hired	4			
Total	42* / 12 = 3.5* Worker equivalent			

Land	Acres owned	Acres rented	All acres
Tillable land	153	11	164*
Pasture (non-tillable)	300	3	303*
Woods & other non-tillable	240	6	246*
Total	693*	20*	713*

In Screen 6, if a zero is entered for full-time months for Operator number 2 or 3, the cursor will skip the remaining entries in that row and move to the "Family Paid" entry.

The order of data entry for the land inventory is across the rows.

FARM NO. 12001 Screen 7.

Tillable Land Use

	Acres (1st cut)	Total production (all cuttings)		Dry matter coefficient	Total tons dry matter
Hay crop	100				
Hay		190	tons	.90	171*
Hay silage		220	tons	.40	88*
Corn silage	57	650	tons	.46	299*
Other forage	0	0	tons	0	0*
Corn for grain	4	280	bu.	Total tons D.M.	558*
Oats	0	0	bu.		
Wheat	0	0	bu.		
Other	1	6	w.u.		
Tillable pasture	1				
Idle tillable Acr.	1				
Total tillable Acr.	164*				

When entering the data in the dry matter coefficient column, the decimal must be typed. If zero tons is entered for hay crop silage the cursor skips to corn silage acres. If zero acres are entered for a crop, the cursor will skip the production and dry matter entries and move to the next crop. The entry for total production of "Other Crops" is in number of work units. The order of data entry is across the rows.

FARM NO. 12001 Screen 8.

End of Year Family Financial Situation Assets

Total farm inventory	$ 525525*	Cash in savings account	$ 50
Other farm assets:		Cash value life insurance	500
Accounts receivable	$ 8350	Nonfarm real estate	600
Cash on hand & checking	50	Personal share auto	1000
Co-op stock & cert.	2000	Stocks & bonds	700
Total Farm Assets (excluding leases)	$ 535925*	Household furn. & equip.	800
		Other	900
Nonfarm assets (from right col.)	4550*	Total nonfarm assets	$ 4550*
TOTAL ASSETS	$ 540475*		

The first item on the screen, "total farm inventory", is calculated from data entered in earlier screens and is displayed here. The order of data entry is down the left column, then down the right column.

FARM NO. 12001 Screen 9.

Liabilities and Planned Debt Payment Schedule

Liabilities		Amount			Debt payment
long term	$	16264			$ 2083
		45000			3600
		8000			2720
		19000			4000
Intermediate	$	17000			$ 3500
		13000			3000
		11000			2500
		8000			2000
		7000			1500
Short term	$	4000			4000
		2200			2200
Open accounts	$	817		(net reduction)	$ 100
Total Farm(ex leas.)	$	151281*		Total Farm	$ 31203*
Total Nonfarm	$	2000		Total Nonfarm	$ 500
Total Liabilities	$	153281*			

Total assets $ 540475* less Total Liab. $ 153281* = Family Net Worth $ 387194*

Only the "liability amount" and "total annual payments" columns on the data check-in form are entered on Screen 9. The other columns are for clarification and calculation purposes.

Entering a zero after the last entry in the first three liability sections (long term, intermediate, and short-term) will skip the cursor to the first space of the next section. When entering "debt payments", the cursor will move only to those spaces where a liability has been entered in the left column. The order of data entry is down the left column, then down the right column.

FARM NO. 12001 Screen 10.

Financial Leases

Leased item	Amount of each payment	No. of payments/ full year	No. of payments remaining
Cattle:	$ 30	6	15
	0	0	0
	0	0	0
Equipment:	35	6	15
	0	0	0
	0	0	0
Structures:	32	6	15
	0	0	0
	0	0	0

Only the columns titled "amount of each payment", "no. of payments/ full year", and "no. of payments remaining" from the data check-in form are entered on Screen 10. The other columns are for clarification and calculation purposes.

In the first column, "amount of each payment", entering a zero after the last entry in each lease section (cattle, equipment, and structures), will skip the cursor to the first entry of the next lease section. In the second and third columns the cursor will move only to those spaces where a lease payment has been entered in the first column. The order of data entry is down the columns.

FARM NO. 12001 Screen 11.

Summary of the Year's Farm Expenses

Hired labor	$ 4500		
Dairy concentrate	27145	Spray & other crop expenses	1100
Hay and other feed	100	Land, buildings, fence repair	4450
Machine hire, rent & lease	830	Taxes	6080
Truck, trac., other mach. exp.	8685	Insurance (fire & farm busi.)	2450
Auto expense (farm share)	1500	Electricity (farm share)	1611
Gasoline & oil	4725	Telephone (farm share)	515
Breeding fees	1750	R.E. rent/lease blds. or land	704
Veterinary & medicine	3000	Interest paid	17145
Milk marketing	2860	Miscellaneous	560
Cattle lease	90	Replacement livstk. pur.	4975
Other livestock expense	7360		
Lime & fertilizer	6150	TOTAL CASH OPERATING EXPENSES	110035*
Seeds & plants	1750	Expansion livestock purchased	2000

The format of Screen 11 differs from the data check-in form in that expenses are split into two columns on the screen. The order of data entry is down the left column starting with "hired labor", then down the right column starting with "spray and other crop expense".

FARM NO. 12001 Screen 12.

Summary of the Year's Farm Receipts

Milk sales (gross)		$ 116890
Dairy cattle sales		3500
Calf & other livestock sales		1350
Crop sales		600
Income from machinery work		150
Gas tax refunds		100
Government payments		300
Other large receipt items		30
Other miscellaneous receipts		20
TOTAL CASH RECEIPTS		$ 122940*
Off Farm Income	$ 10000	

The format of Screen 12 differs from the data check-in form in that there are no blank spaces for other entries. All data must be categorized into one of the existing receipt descriptions.

Posting and Processing

Posting data means copying information from last year's diskette to this year. This function requires having last year's floppies at your disposal. The function POST(MENU) will request you to mount this year's floppy in drive 0 and last year's floppy in drive 1. You only need to post the information to a farm once regardless of how many times you alter the current information. If the farm was not on the system last year, it will let you know, then continue.

Processing information includes calculating the business summary and printing it. Once the information has been entered and verified, you are ready to process it. The processing is done by CALCULATE(MENU) and PRINT (MENU).

CALCULATE(MENU) calculates the information and creates a temporary file in /tmp. PRINT(MENU) collects all the temporary files created by CALCULATE(MENU) and prints them one at a time.

If you need to review the list of farms ready to be printed you can do this by leaving the DFBS program and using DFBSQ(SYS) prior to executing PRINT(MENU).

If you wish to cancel the printing of summaries, you can do this by removing /tmp/dfbsprint and /tmpbs.t.* using RM(1)†.

Transferring Data

Individual farm summary data must be transferred to the IBM 370 where county, regional, and state summaries are produced. Two programs are used to transfer data, BSTOA(SYS) and CALL(SYS).

The first step in transferring data begins by converting binary files to ASCII text files using BSTOA(SYS). The second step uses CALL(SYS). Once your files are converted, CD(1)† to /tmp then use CALL(SYS) to link to the IBM. The command looks like this:

```
call 6-3870 c
```

The 'c' is to connect you to the c machine. The CALL(SYS) program will output a message to the command terminal as follows:

```
Please call 6-3870 for dfbs High speed.
```

Dial 6-3870. When you hear the computer answer, switch the rightmost switch on the modem to DA and hang up the phone. Your terminal will respond with:

```
connected
enter a, c, or ?
c
vm/370 online
```

† See UNIX Programmer's Manual.

You are ready to 'logon' to the DFBS account on the IBM (see Introduction to CMS). Once logged on, run 'rioh exec' to set up the proper environment to transfer data. The exec 'rioh' looks like this:

```
*
*   This exec sets up the cms environment
*   for communication with the farm
*   decision network 11/24
*
*   The set3705 and terminal commands below
*   are essential for proper communication!!!!!!!!!
*
&control error
&begtype
Setting up environment for communication with 11/24
&end
set3705 XLate std
cp term linedel @
cp term linend off
access 193 a
```

Next, transfer the ASCII file from the 11/24 to the IBM. The command to do this is:

~%put <11/24 file name> <IBM filename> <filetype>

The program will respond with:

UNIX: /<11/24 file name> --> cms:<IBM file name> xx%

The xx% is the percent of the file transferred from UNIX to IBM.

After the transfer is complete, the program responds with:

transfer complete
nn lines (nnnn bytes) sent.
nn errors encountered.
elapse time h hours m minutes s seconds.

This is the end of a transfer session. To repeat this process be sure to wait for a CMS prompt by entering <return> as many times as necessary. You are now ready to log off. Type 'logoff <return>' then type '~.<return>' to return to the UNIX system.

System Functions

System functions are those programs or instructions used independently of the menu portion of the DFBS program. Following is a brief synopsis of the functions.

1. BACKUP - Backup DFBS floppies.

2. BSTOA - Converts binary data to ASCII text used to upload to the IBM mainframe.

3. CALL - Transfer ASCII data to the IBM mainframe.

4. DFBSQ - Displays list of farms ready to be printed.

5. FORMAT - Format and initialize floppy diskettes.

6. INITIALIZE - Initialization of storage system.

7. INSTALL - Instructions to install DFBS on another UNIX system.

8. MAN - Display or print manual pages.

9. MOUNTF - Mount floppy diskettes.

10. SET PRINTER - Printer set-up for DFBS output.

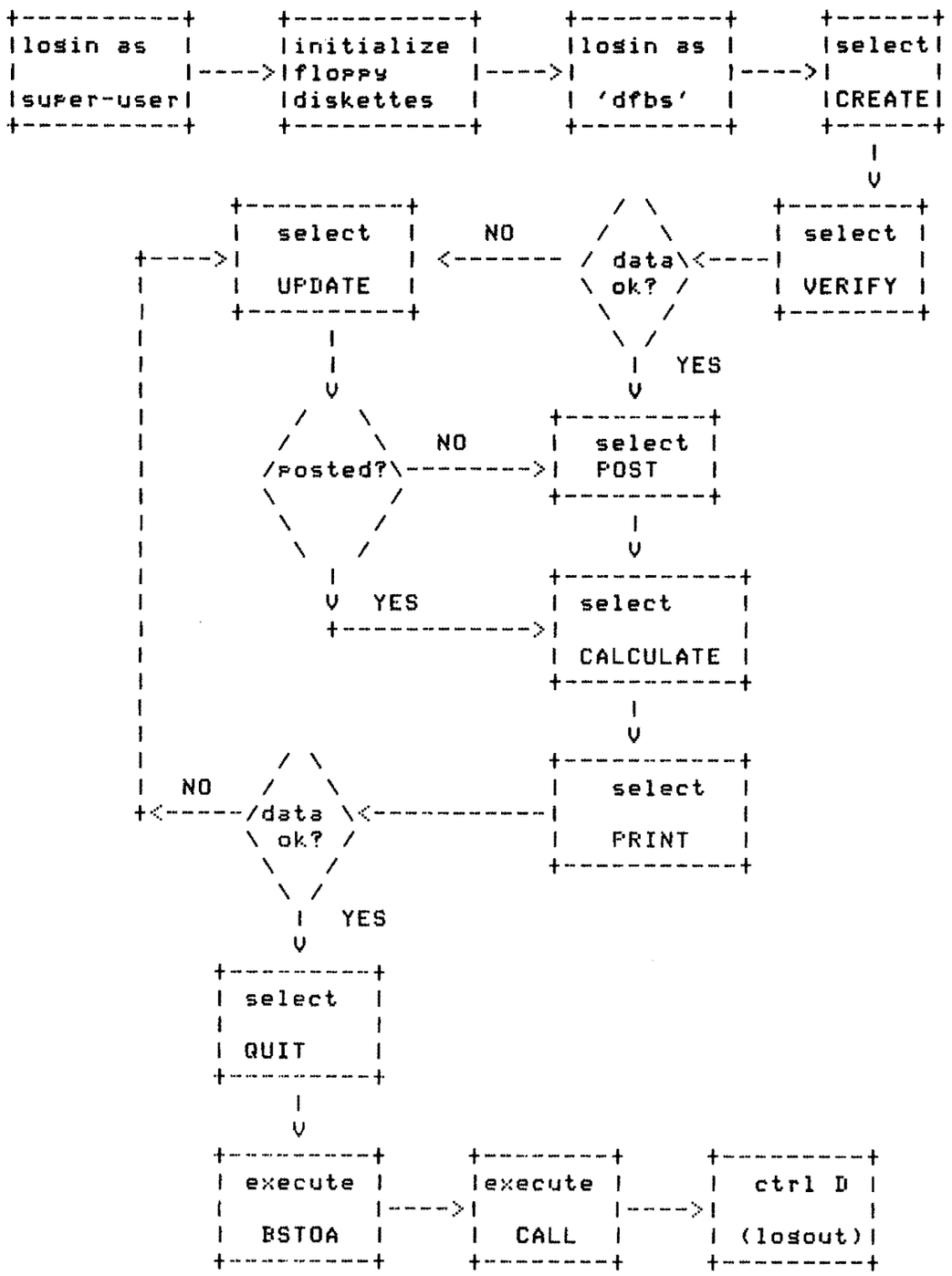
11. SIZE - Size in bytes of the DFBS modules.

12. UMOUNTF - Dismount floppy diskettes.

A detailed discussion of these functions can be found on individual manual pages in the section SYS.

Flow Diagram of System Usage

Following is a flow diagram depicting the usage of the DFBS program from initialization as super-user through transferring information to the IBM mainframe computer.



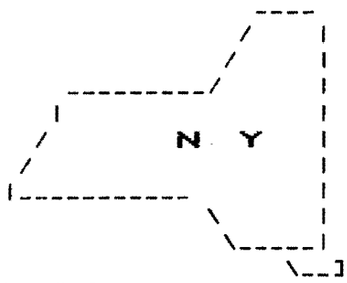
Flow Diagram of DFBS Usage

DFBS OUTPUT

DFBS output is an individual farm summary up to eight pages long including diagnostics. This summary is prepared by CALCULATE(MENU) and printed by PRINT(MENU). The sequence of menu selection allows you to calculate several farm summaries before selecting PRINT(MENU), which will independently and sequentially print them out while you continue to use the DFBS program.

Following is a sample of the output.

Prepared by
DEPARTMENT OF
AGRICULTURAL ECONOMICS
CORNELL UNIVERSITY



1982 DAIRY FARM BUSINESS SUMMARY
FARM NO. 12001 September 14, 1983

BUSINESS CHARACTERISTICS <<< OWNER >>>

60 cow dairy farm
Stanchion
Dumping station

Partnership
Account Book
D.H.I.

LABOR FORCE	MONTHS	AGE	YEARS ED	$ MGT & LAB
operator no. 1.	12	23	14	13000
operator no. 2.	12	25	14	13000
operator no. 3.	12	27	16	13000
family paid	1			
family unpaid	1			
hired	4			
totals...>	42			39000

worker eqv.- years >>> 3.50 operator years >>> 3.00

LAND (ACRES)	OWNED	RENTED	TOTAL
tillable land	153	11	164
nontillable pasture	300	3	303
other nontillable	240	6	246
Total...>	693	20	713

CAPITAL INVESTMENT	$ BEG YEAR	$ END YEAR
livestock	90475	108925
feed & supplies	17720	12280
machinery & equipment	51885	63820
land & buildings	325500	340500
Totals...>	$ 485580	$ 525525

INVENTORY ACCOUNTING	$ AMOUNT	$ AMOUNT
Livestock		
end of year market value	108925	108925
less beginning of year market value		90475
Total change in value...>		$ 18450
less end of year at beg. price	101625	
Change due to price (appreciation)...>		7300
less beginning of year market value	90475	
Change in inventory...>		$ 11150

FARM NO. 12001 **September 14, 1983** **page 2.**

INVENTORY ACCOUNTING (CONT.)	$ AMOUNT	$ AMOUNT	$ AMOUNT
Machinery & Equipment			
end of year market value			63820
beg. of year market value		51885	
plus machinery purchased		17450	
less machinery sold		2000	
less depreciation		10172	
net end investment			57163
Appreciation...>			$ 6657
Real Estate			
end of year market value			340500
beg. of year market value		325500	
plus cost of new real estate	6030		
less lost capital	1000		
value added		5030	
less depreciation	3201		
less real estate sold	1000		
value deducted		4201	
net end investment			326329
Appreciation...>			$ 14171

RECEIPTS	$ PER COW	$ PER FARM
milk sales	1948.17	116890
crop sales	10.00	600
dairy cattle sales	58.33	3500
calves & other livestock sales	22.50	1350
gas tax refund	1.67	100
government payments	5.00	300
machine work	2.50	150
miscellaneous	0.83	50
Total cash receipts...>	$ 2049.00	$ 122940
increase in livestock inventory	185.83	11150
Total excluding appreciation...>	$ 2234.83	$ 134090
livestock appreciation	121.67	7300
machinery appreciation	110.95	6657
real estate appreciation	236.18	14171
Total farm receipts...>	$ 2703.63	$ 162218

FARM NO. 12001 **September 14, 1983** **page 3.**

EXPENSES	$ PER COW	$ PER FARM
Hired labor	75.00	4500
Feed		
dairy grain & concentrate	452.42	27145
hay and other	1.67	100
Machinery		
machine hire, rent & lease	13.83	830
machine repair	144.75	8685
auto expense (farm share)	25.00	1500
gas and oil	78.75	4725
Livestock		
replacement livestock	82.92	4975
breeding fees	29.17	1750
veterinary and medicine	50.00	3000
milk marketing	47.67	2860
cattle leased	1.50	90
other livestock expense	122.67	7360
Crops		
fertilizer and lime	102.50	6150
seeds and plants	29.17	1750
spray and other	18.33	1100
Real estate		
land, building & fence repair	74.17	4450
taxes	101.33	6080
insurance	40.83	2450
rent/lease	11.73	704
Other cash expense		
telephone (farm share)	8.58	515
electricity (farm share)	26.85	1611
interest paid	285.75	17145
miscellaneous	9.33	560
total cash expense...>	$ 1833.92	$ 110035
decrease in feed and supplies	90.67	5440
expansion livestock	33.33	2000
machinery depreciation	169.53	10172
building depreciation	53.34	3201
unpaid labor @ $500/mo.	8.33	500
Total excluding interest on equity...>	$ 2189.13	$ 131348
interest on equity capital @ 5%	320.54	19232
Total farm expense...>	$ 2509.66	$ 150580

FARM INCOME SUMMARY	$ AMOUNT	$ AMOUNT
cash farm receipts	122940	
less cash farm expenses	110035	
Net cash farm income		12905
Total farm receipts excluding appreciation	134090	
less total farm expenses	150580	
Labor & management income per farm		-16490
Labor & management income per operator		-5497
full time operator/manager equivalents >>>		3.00

FARM NO. 12001 **September 14, 1983** **page 4.**

FARM INCOME SUMMARY (CONT.)	$ AMOUNT	$ AMOUNT
total farm receipts	162218	
less total expenses excluding int. on equity	131348	
labor, mgt. & ownership income per farm	30870	
labor, mgt. & ownership income per operator		10290
less value of operator (s) mgt. & labor	39000	
return on equity capital...>	$ -8130	
rate of return on $ 384644 equity...>		$ 0.0%
rate of return on equity excluding appreciation...>		0.0%

FARM FAMILY FINANCIAL STATEMENT	$ ANNUAL PAYMENTS PLANNED	$ END OF YEAR
Assets		
livestock, including $ 354 disc. lease pymt.		109279
feed and supplies		12280
machinery and equipment, including $ 413 disc. lease pymt.		64233
land and buildings, including $ 377 disc. lease pymt.		340877
co-op investment		2000
accounts receivable		8350
cash and checking accounts		50
Total farm assets...>		$ 537069
savings accounts		50
cash value of life insurance		500
stocks and bonds		700
nonfarm real estate		600
auto (personal share)		1000
all other		1700
Total farm and non-farm assets...>		$ 541619
Liabilities		
long term	2083	16264
long term	3600	45000
long term	2720	8000
long term	4000	19000
intermediate	3500	17000
intermediate	3000	13000
intermediate	2500	11000
intermediate	2000	8000
intermediate	1500	7000
financial lease	--	1144
short term	4000	4000
short term	2200	2200
open accounts	100	817
Total farm payments & liabilities	31203	152425
Total non-farm payments & liabilities	500	2000
Total payments planned & liabilities	31703	154425
farm net worth (equity capital)...>		$ 384644
family net worth...>		$ 387194

FARM NO. 12001 **September 14, 1983** **Page 5.**

SELECTED BUSINESS FACTORS

Size of Business Factors

number of cows:	beg. owned >	58	end owned >	54			
	end leased >	10	total end >	64	average >		60
number of heifers							40
milk sold (pounds)							838800
worker equivalent							3.50
total work units							650
total tillable acres							164

Rates of Production

pounds of milk sold per cow	13980

Crops	acres	total production	production per acre
dry hay		171 Tons DM	
hay crop silage		88 Tons DM	
Total hay crop production	100	259 Tons DM	2.6 Tons DM
corn silage	57	650 Tons	11.4 Tons
		299 Tons DM	5.2 Tons DM
other forage	0	0 Tons DM	0.0 Tons DM
Total forage production	157	558 Tons DM	3.6 Tons DM
corn grain production	4	280 Bushels	70.0 Bushels
oat production	0	0 Bushels	0.0 Bushels
wheat production	0	0 Bushels	0.0 Bushels
other crops	1		
tillable pasture	1		
idle tillable land	1		

Labor Efficiency

cows per worker	17
milk sold per worker	239657
work units per worker	186

Capital Efficiency (based on year-end capital & cow no.)

farm capital per worker	$ 150150	per cow	$ 8211
machinery investment per cow	$ 997	per tillable acre	$ 389
land & building per cow	$ 5320	per till. acre owned	$ 2225
capital turnover (years)			3.2

Financial Management

amount available for debt service & living			$ 40050
total debt payments planned			$ 31703
debt pymts. planned per cow	$ 488	as % of milk sales	27%
debt/asset ratio - long term	0.26	- inter./short term	0.32
debt per cow			$2382
percent equity (total)			71%

Feed Costs & Related Factors

dairy grain & conc. - per cow	$ 452	- per cwt. milk	$3.24
- as % of milk receipts	23%		
crop expenses - per cow	$ 150	- per cwt. milk	$1.07
feed & crop expense - per cow	$ 604	- per cwt. milk	$4.32
forage dry matter harvested per cow (tons)			9.3
tillable forage acres per cow			2.6
total tillable acres per cow			2.7
fertilizer & lime expense per tillable acre			$ 38
heifers as % of cow number			67%

FARM NO. 12001 **September 14, 1983** page 6.

BUSINESS FACTORS (CONT.)		$ AMOUNT			$ AMOUNT
Machinery & Labor Costs					
machinery:	deprec.	10172	labor:	value op(s)	27000
	interest	2893		unpaid family	500
	op. exp.	15740		hired	4500
Total machinery		28805	Total labor		32000
	per cow	480		per cow	533
	per cwt. milk	3.43		per cwt. milk	3.81
Total machinery & labor		60805			
	per cow	1013			
	per cwt. milk	$7.25			

Other Costs & Receipts	$ AMOUNT
total lvsk exp (excluding replacements & overhead) per cow	251
total real estate expenses per cow	228
milk & cattle sales per cow	2029
average price per cwt. milk sold	13.94
total cash receipts per worker	35126

PROGRESS OF THE FARM BUSINESS

SELECTED FACTORS	1980	1981	1982
Size of Business			
number of cows	0	0	60
number of heifers	0	0	40
milk sold (in pounds)	0	0	838800
worker equivalent	0.00	0.00	3.50
total tillable acres	0	0	164
Rates of Production			
pounds milk sold per cow	0	0	13980
tons hay DM per acre	0.0	0.0	2.6
tons corn silage per acre	0.0	0.0	11.4
Labor Efficiency			
cows per worker	0	0	17
pounds of milk sold per worker	0	0	239657
Cost Control			
purchases of feed as % of milk sold	0%	0%	23%
feed & crop expense per cwt. milk	$ 0.00	$ 0.00	$ 4.32
labor & machinery costs per cow	$ 0	$ 0	$ 1013
Capital Efficiency			
farm capital per cow	$ 0	$ 0	$ 8211
capital turnover	0.0	0.0	3.2
Price			
price per cwt. of milk	$ 0.00	$ 0.00	$ 13.94
Financial Summary			
net cash farm income	$ 0	$ 0	$ 12905
labor & mgt. income per operator	$ 0	$ 0	$ -5497
net worth (equity capital)	$ 0	$ 0	$ 384644
rate of return on equity	0.0%	0.0%	0.0%
percent equity	0%	0%	71%
farm debt per cow	$ 0	$ 0	$ 2382

DAIRY SUMMARY DIAGNOSTICS

Livestock Inventory

2. End of year inventory at beginning prices > beginning of year inventory but no increase in livestock numbers.
2. Expansion livestock expense > $0 but no increase in dairy cow numbers.
2. Dairy cow end year inventory at beginning prices > beginning year inventory but no increase in dairy cow numbers.

Feed & Supplies

2. Feed and supply inventory decreased > 25%.

Management performance measures

8. Labor and management income per operator <= 0 or > 30,000 = $ -5497.

NAME

Calculate farm summary

DESCRIPTION

Calculates part or all of a Dairy Farm Business Summary. Upon selection of CALCULATE, the program will prompt you for 'FARM NUMBER'. After typing an existing farm number the program will prompt you with:

Page number, D for diagnostics, '.' for pages, <Return> for all.

Select either an individual page of the business summary output (or "d" for diagnostic page only) or the complete report with or without diagnostics.

A complete report without diagnostics is generally used to produce output on 3-part paper.

After responding to the prompt, the program will process for a moment then return to CALCULATE.

NAME

Create record

DESCRIPTION

Creates a new farm file by first reserving space on an initialized diskette and writing the farm number and county name to it, then prompting you for input screen-by-screen.

The program responds in two ways. Upon selection of create, the program prompts you with 'FARM NUMBER'. If the farm number does not exist, it will create it then ask you for the 'NEXT SCREEN'. CREATE then guides you field-by-field through the screen prompting you for input. At the end of the screen, the program prompts you again with 'NEXT SCREEN' and the process continues until all 12 screens have been completed. If at any time during CREATE you want to 'redo' a screen, type the screen number when prompted with 'NEXT SCREEN'.

If the farm number already exists, CREATE will prompt you with:

Farm already exists. Continue? (Y/N)

Typing an 'N' will cancel the command and return you to CREATE. However, typing a 'Y' will prompt you to re-enter the farm number. In this way you can open any existing farm file in the CREATE mode by typing its number at the terminal.

Caution must be taken when entering data to an existing farm file in this mode because:

CREATE will overwrite any data currently in the file.

The above option to enter an existing farm file in the create mode is to facilitate stopping in the middle of creating a farm record then returning to it later. However, the best practice is to complete a farm's file in one sitting before you QUIT(MENU) the program.

Farm data is assumed 'regular' when first entered. To code a farm 'irregular', you must use UPDATE(MENU).

SEE ALSO

Introduction, QUIT(MENU), UPDATE(MENU).

NAME

Delete file

DESCRIPTION

Deletes a file from the data base. Upon selecting delete, the program will prompt you with:

Enter farm number

After typing an existing farm number at the terminal, the program will prompt you with:

Delete farm <farm number>, are you sure?

Typing 'Y' will delete <farm number>, typing any other character will return you to DELETE.

NAME

Display record

DESCRIPTION

Displays information from an existing farm file at the terminal only. Upon selection of DISPLAY, the program prompts you with 'FARM NUMBER', then 'NEXT SCREEN'. Choosing the screen number will display its contents.

SEE ALSO

Introduction

HELP(MENU) Dairy Farm Business Summary HELP(MENU)

NAME

Help

DESCRIPTION

Help is a brief synopsis of the menu selections at the terminal. The messages are as follows:

Create record .... Creates a new farm file.
Data should be added in one sitting.

Verify record .... Verifies an existing farm.
Data should be verified in one sitting.
You can verify as many times as you like.

Update record .... Updates an existing farm one variable at a time.
You can start on any screen and go to any screen.

Display record ... Display data stored for an existing farm.
You can list screens in any order.

List files ..... Farm files for a region are displayed.

Delete file ..... Deletes farm file from data disk.

Calculate ..... Calculate individual farm summaries.
Type <return> for all pages, '.' for no diagnostics or the page number, there are 6 pages, type 7 for diagnostics.

Print ..... Sends farm summaries to print que.

Update constants . Not implemented.

Help ..... You are there.

Quit ..... Terminates program.

NAME

List files

DESCRIPTION

Lists the farm files currently in a region. Upon selection of LIST, the program prompts you with:

Enter region number.

After typing the region number at the terminal, the screen will be cleared and all of the farm numbers input to the data base for that region will be displayed. The program then prompts you with:

Files in <region name>. Type <return> to continue.

Typing <return> will return you to LIST.

If the screen gets full you can stop the scrolling by pressing the 'NO SCROLL' key; to start it press the key again.

SEE ALSO

Introduction

NAME

Post progress data

DESCRIPTION

Posts the 'progress of the farm business' information from the previous year to the current year. Upon selection of POST, the program will prompt you for 'FARM NUMBER' and then to mount the floppies. If the farm has information to post, it will do it, then return to POST. However, if there is no information, the program will print:

Please remove floppy from drive 1.
Farm no <farm number> has no data to post.
Wait 10 sec. and I will continue.

PRINT(MENU) Dairy Farm Business Summary PRINT(MENU)

NAME

Print farm summaries

DESCRIPTION

Prints the Dairy Farm Business Summary previously calculated by CALCULATE(MENU). Upon selection of PRINT, the cursor will 'blip' to the left bottom and top of the screen; then it returns to PRINT to await your command.

Not long after you selected PRINT, the Dairy Farm Business Summary will be output at the printer.

Printer settings are described in SET PRINTER(SYS).

SEE ALSO

CALCULATE(MENU), SET PRINTER(SYS)

NAME

Quit

DESCRIPTION

Ends the program. It displays the following message on the screen:

****
END DAIRY FARM BUSINESS SUMMARY
****

To restart type '0' <return>

Please remove floppy from drive <drive number>.

NAME

Update record

DESCRIPTION

Updates information currently in an existing farm file. Upon selection of UPDATE, the program prompts you with 'FARM NUMBER'. If the farm exists it prompts you with 'NEXT SCREEN'. Once you are in the screen, the cursor will be pointing at the farm number. You are now able to select a field for updating by moving the cursor to it. With the cursor pointing at the field to be updated, typing <return> will prompt you for input.

Also, this is the only place that farms can be coded irregular.

CAUTION, THERE IS NO CHECKING FOR BAD DATA.

When you are done updating a screen, returning the cursor to the farm number and typing <return> will prompt you with 'NEXT SCREEN'.

SEE ALSO

Introduction

NAME

Update system constants

DESCRIPTION

Updatesys has not been implemented. Its purpose is to allow changes to be made to certain system constants such as: interest rate, value of unpaid family labor, work units, etc.

NAME

Verify record

DESCRIPTION

Verifies information currently in an existing farm file. Upon selection of VERIFY, the program prompts you for 'FARM NUMBER'. If the farm exists it prompts you with 'NEXT SCREEN'. Once you are in the screen, the program guides you field-by-field through the screen, prompting you for input. If the input matches the data in the file, the program goes to the next field. However, if it does not match, it prompts you again. This activity continues until your entry matches the data on the file or the data just entered.

SEE ALSO

Introduction

NAME

Backup - backups floppy diskette

DESCRIPTION

Once a week during the use of the Dairy Farm Business Summary, the floppies should be backed up.

BACKUP is the program to use and is only callable by the superuser. The procedures are as follows:

1. Check to see there are no floppy volumes mounted.

2. Log-in as superuser.

3. Typing 'backup' at the terminal will prompt you with:

   Mount a BLANK diskette in floppy drive 1, please.
   (Press a return to continue.)

   Then:

   RX02 drive 1 format double density. Are you sure?

   Type 'yes'.

   The program will work for a moment, then prompt you with:

   Please mount the floppy to be copied in drive 0.
   (Press return when ready.)

   After typing <return>, the program will respond with:

   Copying drive 0 to drive 1...

   You will hear the copying taking place (it sounds like a bunch of clicking and takes about 6 minutes), after which the program will respond:

   1001 +0 records in
   1001 +0 records out
   Backup complete.

4. Date the copy and file it.

5. Log-out (ctrl D).

DIAGNOSTICS

If the disk to be backed up on is bad, you will get an I/O error. The disk is not usable.

NAME

bstoa - business summary to ASCII

USAGE

bstoa f1; or bstoa f1 ... fn

DESCRIPTION

Bstoa converts binary data stored in the business summary farm file to ASCII. It takes the information from f1 or f1 ... fn and puts it on standard out. The procedures to do this are as follows:

1. Log-in as dfbs then QUIT(MENU) the program.

2. MOUNTF(SYS) the volume that you want to transfer onto /rx02.

3. Call BSTOA as follows:

```
bstoa  /rx02/<region number>/<farm number>.<year>
       >/tmp/dfbs.<file name>
eg:  bstoa  /rx02/2/12001.82 >/tmp/dfbs.12001
```

OR

```
cd  /rx02/<region number>

bstoa  <farm number>.<year> >/tmp/dfbs.<file name>
```

4. UMOUNTF(SYS) the volume.

Note: Wild card (*) and multiple file names can be used in the command. Remember to CD(1) to /tmp before using CALL(SYS) to transfer farm data.

SEE ALSO

Introduction, CALL(SYS), CD(1), MOUNTF(SYS), UMOUNTF(SYS), UNIX for Beginners.

NAME

Call - calls IBM

USAGE

Call <telno> [c]

DESCRIPTION

Calls the Cornell IBM 370 c machine. The command call manages an interactive conversation for the transfer of text files, telno is the telephone number (6-3870), [c] is the c machine.

After making connection, call runs send and receive processes: The send process reads the standard input and passes most of it to the remote system; the receive process reads from the remote system and passes most data to the standard output. Lines beginning with '~' have special meaning.

The send process is as follows:

~%put <11/24 file name> <IBM filename> <filetype>

copy from <11/24 file name> to <IBM filename> <filetype>

NOTE: Remember to CD(1) to /tmp before using CALL(SYS).

SEE ALSO

Introduction, call(1c), CD(1), echo(1)

DIAGNOSTICS

Put will complain about characters sent but not received. It will try to correct the error by sending the line over again. If more than 100 errors occur, put will terminate.

Put will also report on the progress of the transfer and the total elapse time.

BUGS

Mysterious things can happen when the erase, kill and line end characters are not what ~%put expects.

Put sometimes gets stuck waiting for an XOM from CMS. This can be remedied by echoing some XOM's from another terminal to the communication line. For example:

echo <ctrl q> <ctrl q> <ctrl q> >/dev/TTYØØ <return>

NAME

Dfbsq - displays the print queue

USAGE

dfbsq

DESCRIPTION

Dfbsq displays the summaries to be printed by PRINT(MENU). The farm data output from PRINT(MENU) is found in /tmp.

If you wish to cancel the output of summaries, use RM(1) to remove /tmp/dfbsprint and /tmp/bs.t.* from the temporary directory.

SEE ALSO

Introduction, PRINT(MENU), CALCULATE(MENU), RM(1)

NAME

Format - format and/or initialize floppy diskette

USAGE

Format

DESCRIPTION

Format can only be used by the superuser. Format formats a floppy diskette in double density, on drive 0.

When format prompts you with:

RX02 drive <drive> format <density> density. Are you sure?

You must type 'yes' <return> to continue.

When format prompts you with:

INITIALIZE?

You must type <return> to continue or 'n' <return> to stop.

SEE ALSO

INITIALIZE(SYS), FORMAT(8)

DIAGNOSTICS

If the disk is bad you will get an I/O error. This disk is not usable.

NAME

Initialize floppy diskette

DESCRIPTION

Each year a set of floppies must be initialized for the Dairy Farm Business Summary. These floppies are organized by region and, unless specified, should follow the same organization as the previous year.

The program used to format a floppy is FORMAT(SYS), and can only be run by your local superuser.

The steps to format a floppy are as follows:

1. Log-in as the superuser.
2. Insert floppy in drive 0.
3. Type 'format' at the terminal.
4. The program will prompt you with:

   RX02 Drive 0 format double density. Are you sure?

   Respond to this by typing 'yes'.
5. The program will run for a moment, then prompt you with:

   INITIALIZE?

   Typing <return> will initialize the floppy with a file system.
6. Leave the superuser mode by typing SU(1) 'dfbs'.
7. MOUNTF(SYS) the newly initialized floppy onto /rx02 then CD(1) to it.
8. Use MKDIR(1) to create a directory using the region number.
9. CD(1) yourself out of /rx02 and UMOUNTF(SYS) the floppy.
10. The floppy is now ready for use.

SEE ALSO

Introduction, FORMAT(SYS), MOUNTF(SYS), UMOUNTF(SYS), SU(1), CD(1), MKDIR(1).

NAME

Install

DESCRIPTION

These are a set of instructions to install the DFBS on a system supporting RX02 floppy disk drives in a UNIX environment.

The source code, written in 'C', is provided for recompilation. It is furnished on 8 inch double density floppy diskettes in TAR format. The source code is provided for three reasons. First, customization may be needed to get the system runing in its new environment. Second, the calculations desired to process the farm information may differ from those used in New York State. Third, there will not be any software support provided for this package; it must be maintained by the local installation.

SOURCE INSTALLATION

1. Mount floppy diskette in RX02 drive.

2. TAR portdfbs. This directory has everything in it you need for the DFBS program. The command to do this is TAR X Portdfbs.

3. Look over the code and do any necessary customization.

4. Use the MAKEFILE to recompile the program.

SEE ALSO

TAR(1)†, MAKE(1)†

PACKING LIST

Following is the TAR DIRECTORY from the distribution disk. These files are the UNIX version of the DFBS.

†See UNIX Programmer's Manual.

Fri Oct 21 16:45 1983 From root. Page 1

```
rw-rw-r-- 30/5  8366 Oct 21 14:29 1983 portdfbs/bstos.c
rw-rw-r-- 30/5 16202 Oct 21 14:29 1983 portdfbs/call.c
rw-rw-r-- 30/5   291 Oct 21 14:29 1983 portdfbs/cmdline.c
rw-rw-r-- 30/5   457 Oct 21 14:29 1983 portdfbs/date.c
rw-rw-r-- 30/5   515 Oct 21 14:29 1983 portdfbs/delete.c
rw-rw-r-- 30/5  7395 Oct 21 14:29 1983 portdfbs/diag2.c
rw-rw-r-- 30/5 25488 Oct 21 14:30 1983 portdfbs/diagnose.c
rw-rw-r-- 30/5  1618 Oct 21 14:30 1983 portdfbs/discount.c
rw-rw-r-- 30/5   331 Oct 21 14:30 1983 portdfbs/error.c
rw-rw-r-- 30/5  1789 Oct 21 14:30 1983 portdfbs/fields.c
rw-rw-r-- 30/5   170 Oct 21 14:30 1983 portdfbs/fill.c
rw-rw-r-- 30/5  7910 Oct 21 14:30 1983 portdfbs/frmfam.c
rw-rw-r-- 30/5  5638 Oct 21 14:30 1983 portdfbs/frminfo.c
rw-rw-r-- 30/5  1519 Oct 21 14:30 1983 portdfbs/getfarm.c
rw-rw-r-- 30/5  1370 Oct 21 14:30 1983 portdfbs/getfield.c
rw-rw-r-- 30/5  1355 Oct 21 14:30 1983 portdfbs/getint.c
rw-rw-r-- 30/5  1351 Oct 21 14:30 1983 portdfbs/getlng.c
rw-rw-r-- 30/5   387 Oct 21 14:30 1983 portdfbs/getpage.c
rw-rw-r-- 30/5  1649 Oct 21 14:30 1983 portdfbs/getrel.c
rw-rw-r-- 30/5   814 Oct 21 14:30 1983 portdfbs/getscreen.c
rw-rw-r-- 30/5  1073 Oct 21 14:30 1983 portdfbs/getstr.c
rw-rw-r-- 30/5  3246 Oct 21 14:30 1983 portdfbs/inregion.c
rw-rw-r-- 30/5 11915 Oct 21 14:30 1983 portdfbs/lbrlnd.c
rw-rw-r-- 30/5 10165 Oct 21 14:30 1983 portdfbs/leased.c
rw-rw-r-- 30/5  1075 Oct 21 14:30 1983 portdfbs/list.c
rw-rw-r-- 30/5 10403 Oct 21 14:30 1983 portdfbs/livbus.c
rw-rw-r-- 30/5 15449 Oct 21 14:30 1983 portdfbs/livstk.c
rw-rw-r-- 30/5  7951 Oct 21 14:30 1983 portdfbs/macexp.c
rw-rw-r-- 30/5  5296 Oct 21 14:30 1983 portdfbs/main.c
rw-rw-r-- 30/5   234 Oct 21 14:30 1983 portdfbs/message.c
rw-rw-r-- 30/5   554 Oct 21 14:30 1983 portdfbs/mountf.c
rw-rw-r-- 30/5  3907 Oct 21 14:31 1983 portdfbs/mreq.c
rw-rw-r-- 30/5  5860 Oct 21 14:31 1983 portdfbs/newfarm.c
rw-rw-r-- 30/5  1837 Oct 21 14:31 1983 portdfbs/output.c
rw-rw-r-- 30/5  6771 Oct 21 14:31 1983 portdfbs/page1.c
rw-rw-r-- 30/5  4891 Oct 21 14:31 1983 portdfbs/page2.c
rw-rw-r-- 30/5  6175 Oct 21 14:31 1983 portdfbs/page3.c
rw-rw-r-- 30/5  5226 Oct 21 14:31 1983 portdfbs/page4.c
rw-rw-r-- 30/5  8086 Oct 21 14:31 1983 portdfbs/page5.c
rw-rw-r-- 30/5  6472 Oct 21 14:31 1983 portdfbs/page6.c
rw-rw-r-- 30/5 14399 Oct 21 14:31 1983 portdfbs/plndet.c
rw-rw-r-- 30/5  2467 Oct 21 14:31 1983 portdfbs/post.c
rw-rw-r-- 30/5 11205 Oct 21 14:31 1983 portdfbs/process.c
rw-rw-r-- 30/5  8446 Oct 21 14:31 1983 portdfbs/relest.c
rw-rw-r-- 30/5   476 Oct 21 14:31 1983 portdfbs/screenno.c
rw-rw-r-- 30/5  9483 Oct 21 14:31 1983 portdfbs/sumexp.c
rw-rw-r-- 30/5  5304 Oct 21 14:31 1983 portdfbs/sumrec.c
rw-rw-r-- 30/5 14977 Oct 21 14:32 1983 portdfbs/tillnd.c
rw-rw-r-- 30/5   975 Oct 21 14:32 1983 portdfbs/toppage.c
rw-rw-r-- 30/5   397 Oct 21 14:32 1983 portdfbs/umountf.c
rw-rw-r-- 30/5   577 Oct 21 14:32 1983 portdfbs/verint.c
rw-rw-r-- 30/5   575 Oct 21 14:32 1983 portdfbs/verlng.c
rw-rw-r-- 30/5   655 Oct 21 14:32 1983 portdfbs/verrel.c
rw-rw-r-- 30/5   583 Oct 21 14:32 1983 portdfbs/verstr.c
rw-rw-r-- 30/5  2446 Oct 21 14:32 1983 portdfbs/writef.c
rw-rw-r-- 30/5   810 Oct 21 14:33 1983 portdfbs/equip.scn
rw-rw-r-- 30/5   981 Oct 21 14:33 1983 portdfbs/frmfam.scn
```

Fri Oct 21 16:45 1983 From root. Page 2

```
rw-rw-r-- 30/5    552 Oct 21 14:33 1983 portdfbs/frmvta.scn
rw-rw-r-- 30/5    922 Oct 21 14:33 1983 portdfbs/lbrlnd.scn
rw-rw-r-- 30/5    572 Oct 21 14:33 1983 portdfbs/leased.scn
rw-rw-r-- 30/5    708 Oct 21 14:33 1983 portdfbs/livbus.scn
rw-rw-r-- 30/5   1072 Oct 21 14:33 1983 portdfbs/livstk.scn
rw-rw-r-- 30/5   1432 Oct 21 14:33 1983 portdfbs/plndpt.scn
rw-rw-r-- 30/5   1004 Oct 21 14:33 1983 portdfbs/relest.scn
rw-rw-r-- 30/5   1253 Oct 21 14:33 1983 portdfbs/signon.scn
rw-rw-r-- 30/5   1225 Oct 21 14:33 1983 portdfbs/sumexp.scn
rw-rw-r-- 30/5    699 Oct 21 14:33 1983 portdfbs/sumrec.scn
rw-rw-r-- 30/5   1031 Oct 21 14:33 1983 portdfbs/tillnd.scn
rw-rw-r-- 30/5   1229 Oct 21 14:34 1983 portdfbs/help.man
rw-rw-r-- 30/5   1125 Oct 21 14:34 1983 portdfbs/help.txt
rw-rw-r-- 30/5   3392 Oct 21 14:34 1983 portdfbs/makefile
rw-rw-r-- 30/5  15307 Oct 21 14:35 1983 portdfbs/dfbs.h
```

NAME

man - lists available manual pages or displays a page

pman - prints a manual page

USAGE

man [<name>.man <name...>.man *.man]

pman <name>.man or *.man

DESCRIPTION

Man lists the files of available manual pages or optionally uses <name>.man to display a manual page. Pman uses <name>.man to print a manual page. One or more manual pages can be displayed or printed at a time, plus an optional wildcard '*.man' can be used to represent all pages.

For example:

man man.man <return>

will access this page.

NAME

Mountf - mounts floppy diskette

USAGE

Mountf <label> <pathname>

DESCRIPTION

Mountf mounts a floppy on an RX02 device, <label> is the label on the floppy, <pathname> is the directory the floppy is to be mounted on.

For example, to mount a DFBS floppy on the directory /rx02, type: mountf dfbs /rx02.

SEE ALSO

Introduction, INITIALIZE(SYS), BSTOA(SYS), MOUNT(1M)

DIAGNOSTICS

-1 Floppy not found.
-2 No drive available.
-3 Mount request on nondirectory (use /rx02).
-4 Permission denied (must be superuser or dfbs).

NAME

Set printer - printer set-up for DFBS

DESCRIPTION

There are two settings you need to pay attention to when printing farm summaries. One is the left hand margin. The left hand margin of the paper should be positioned at the black mark on the printer frame in front of the print head.

The other setting is the print impression. When running single paper, the print impression adjustment should be all the way forward, in the first notch. When running 3-part paper, it should be in the 5th notch from the forward position.

Remember to line up the top of the printhead with the perforation, this assures you that the printer will start at the proper place at the top of the page.

SEE ALSO

LA120-RA User Guide

NAME

Size in bytes of the DFBS modules

DESCRIPTION

This manual page describes the size in bytes of the functions, programs, and structures that make up the Dairy Farm Business Summary.

Module	Size (bytes)	Function
0	26898	Main Program
1	10448	Farm Information
2	12068	Machinery, Equipment Inventory
3	14396	Livestock Inventory & Feed
4	12300	Real Estate Inventory
5	14040	Livestock & Business Description
6	13448	Labor & Land Inventory
7	13372	Tillable Land Use
8	11902	End of Year Assets
9	12988	Planned Debt Payment
10	12298	Financial Leases
11	12504	Summary of Expenses
12	11306	Summary of Receipts
		Program
Output	46558	Prints individual summary.
bstoa	18810	Translates binary to ASCII.
		Structures
file	1778	Size of storage file.

NAME

Umountf - dismount floppy diskette

USAGE

Umountf <pathname>

DESCRIPTION

Umountf dismounts a floppy diskette from an RX02 device, <pathname> is the directory the floppy is dismounted from.

SEE ALSO

Introduction, INITIALIZE(SYS), MOUNTF(SYS), BSTOA(SYS), MOUNT(1M), CD(1).

DIAGNOSTICS

-1 No floppy mounted here.
-2 Drive busy, can't unmount (you are probably in the directory, cd(1) out).

REFERENCES

Computer Science Division, Department of Electrical Engineering and Computer Science, UNIX Programmer's Manual, 7th Edition, University of California, Berkeley, California, October 1982.

Cornell Computer Services, Introduction to CMS, Cornell University, Ithaca, New York, August 1979.

Kernighan, Brian W., Unix for Beginners - Second Edition, Bell Laboratories, Murry Hill, New Jersey, July 1983.

Smith, Stuart F. and Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1982, A.E. Res. 83-32, Department of Agricultural Economics, Cornell University, Ithaca, New York, September 1983.

APPENDIX

1. Completed Data Check-In Form.
2. How to Complete Check-In Data Sheets.
3. Dairy Farm Business Summary Diagnostics.

NEW YORK STATE COOPERATIVE EXTENSION DAIRY FARM BUSINESS
SUMMARY AND DATA CHECK-IN FORM

Name D. Warren, Clover Estates Address 407 Warren Hall, Ithaca, NY 14850
256-4592
County Delaware

For Cornell Use Only
Proc. number 12001 Year 1982
(✓) complete, (✓) entered, ( ) ready

CHECK-IN SHEET 1

MACHINERY AND EQUIPMENT PURCHASED

Description	Amount or boot paid +	Your inv. value of trade-in =	Inventory value of new item	Inventory Checks (✓) Remove Trade-In	Add New Item
	$	$	$		
TOTAL MACH. & EQP. PURCHASED	$				

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

Description	Price Received	Insurance Received	Removed from Inventory?
	$	$	$
TOTAL MACH. & EQUIP. SOLD	$		

MACHINERY AND EQUIPMENT INVENTORY AND DEPRECIATION (Do not include leased items)

Beginning of Year Inventory	$51,885	End of Year Inventory	$63,820
Machinery & Equipment Purchased	+17,450		
Machinery & Equipment Sold	- 2,000		
Last Year's Reg. Tax Depreciation*	- 8,427		
This Year's Machinery Purchased $17,450 x .10	- 1,745		
Total Beginning Inventory After Changes			$57,163
Machinery Appreciation (end less beginning after changes)			$ 6,657

*Exclude buildings from ACRS depreciation.

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Cow No. Check: _____ (cows at yr. end) = _____ (cows beg. yr.) + _____ (heif's fresh) + _____ (cows purch.) - _____ (sold, died, etc.)

LIVESTOCK

Number of leased dairy cows at end of year 10

	Beginning of Year Inventory			End of Year Inventory: Beg. of Year Prices			End of Year Prices	
Owned Livestock	No.	Value Per Head	Total Value	No.	Value Per Head	Total Value	Value Per Head	Total Value
Dairy Cows	58	$1400	$81,200	54	$1659	$89,600	$1778	$96,000
Youngstock & bulls	40	222	8,875	40	291	11,625	313	12,525
Other livestock	2	200	400	2	200	400	200	400
Total Livestock	100		$90,475	96		$101,625		$108,925

Feed & Supplies

Total feed & supplies $17,720 Beg. of year $12,280 End of year

Explain large change in feed & supply inventory: _____

Explain change in livestock value per head from beginning of year to end of year at beginning of year prices: _____

LAND AND BUILDING PURCHASES AND SALES

New Purchases and Capital Improvements				Capital Sales and Losses		
Description	Cost	Est. Yrs. Life	1st Year Deprec.	Description	Amount Received	Beg. Inv. Value
	$		$		$	$
Total New Cost	$	Deprec.	$	Total Beg. Inventory Value		$

REAL ESTATE INVENTORY BALANCE

Land & Building Market Value: Beginning $325,500 End $340,500

New Real Estate:

Land $2,000 + bldg. $4030 = $6030

Less lost capital - 1000

= Value added + 5030

Depreciation: from last year's income tax - 2999

*New bldg. $4030 x .05 - 202

Beginning of year value of real estate sold - 1000

Total Beginning Value after Changes $326,329

Real Estate Appreciation (end less beginning after changes) $ 14,171

*Include depreciation on buildings in ACRS 5 year class from 1981.

CORN GRAIN CONVERSION WORKSHEET

	Percent Moisture	Tons as Harvested[1]		Conversion Factor[2]		Dry Shell Equivalent
Ear Corn:	_____%	_____T	÷	_____	=	_____bu.
	_____%	_____T	÷	_____	=	_____bu.
	_____%	_____T	÷	_____	=	_____bu.
Shell Corn:	_____%	_____T	÷	_____	=	_____bu.
	_____%	_____T	÷	_____	=	_____bu.
	_____%	_____T	÷	_____	=	_____bu.
		Total (enter on opposite page)				_____bu.

[1]Use Table 1 below.
[2]Use Table 2 below.

TABLE 1. TOWER SILO CAPACITIES FOR HIGH MOISTURE CORN

Settled Depth	Tons High Moisture Ear Corn[1] Inside Diameter in Feet 14	16	18	20	Tons H.M. Shelled Corn[2] Sealed Storage 20 ft. Diameter
15	47	62	78	97	113
20	65	84	107	132	154
25	83	108	137	169	192
30	102	133	168	207	235
35	121	158	200	247	274
40	142	185	234	289	320
45	163	213	269	332	360
50	185	241	305	377	407
55		271	342	423	448
60		302	381	471	498
65			421	520	
70			462	571	

[1]Based on 33 percent moisture content.
[2]Based on 28 percent moisture content.

H.M.E.C. stored in horizontal silos will range from 40 to 42 pounds per cubic foot.

TABLE 2. CORN GRAIN CONVERSION TABLE

Percent moisture in kernel	Tons of shelled corn needed to equal one bushel of dry shelled[1]	Percent moisture in whole ear	Tons of ear corn needed to equal one bushel of dry shelled corn[1]
14.0	.0275	14.2	.0335
15.5	.0280	16.0	.0342
16.0	.0282	16.6	.0345
18.0	.0289	19.7	.0357
20.0	.0296	22.6	.0370
22.0	.0300	25.2	.0384
24.0	.0312	27.9	.0399
26.0	.0320	30.0	.0414
28.0	.0329	32.6	.0428
30.0	.0338	34.6	.0443
32.0	.0348	36.4	.0457
35.0	.0364	39.3	.0479

[1]One bushel of No. 2 corn at 15.5 percent moisture content.

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LIVESTOCK & BUSINESS DESCRIPTION

Livestock	Ave. No. For Year	Testing	Milking System	Business Type
Dairy cows (owned & leased)	60	✓(1)D.H.I.	___(1)Bucket & carry	___(1)Single prop.
Heifers (dairy)	40	___(2)O.S.	✓(2)Dumping station	✓(2)Partnership
Bulls	1	___(3)Other	___(3)Pipeline	___(3)Corporation
horses - 2	4 w.u.	___(4)None	___(4)Herringbone par.	___(4)Other
			___(5)Other parlor	

		Type of Barn	Record System	
Pounds of milk sold	838,800	✓(1)Stanchion	___(1)CAMIS	___(5)Agway
		___(2)Freestall	✓(2)Acct. Book	___(6)On-Farm Computer
Average milk plant test	3.5% B.F.	___(3)Other	___(3)Agrifax	
			___(4)Fm. Bureau	___(7)Other

LABOR INVENTORY	Full Time Months	Age	Yrs. of Educ.	Value of Management & Labor
Operator - 1	12	23	14	$ 13000
- 2	12	25	14	$ 13000
- 3	12	27	16	$ 13000
Family (paid employees)	1			
Family (unpaid)	1			
Hired	4			
Total	42	÷ 12 = 3.5 Worker Equivalent		

LAND INVENTORY	Acres Owned	Acres Rented	All Acres
Tillable land	153	11	164
Pasture (nontillable)	300	3	303
Woods & other nontillable	240	6	246
Total	693	20	713

TILLABLE LAND USE	Acres (1st cut only)	Total Production (all cuttings)	Percent Dry Matter	Total Tons Dry Matter
Hay Crop (1st cut acres only)	100	xxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxx	xxxxxxxxxx xxxxxxxxxx	xxxxxxxxxx xxxxxxxxxx
Hay	xxxxxxxxxxxxxxx xxxxxxxxxxxxxxx	190 tons	.9	171
Hay crop silage	xxxxxxxxxxxxxxx xxxxxxxxxxxxxxx	220 tons	.4	88
Corn silage	57	650 tons	.46	299
Other forage harv.		tons		
Corn for grain*	4	280 dry sh. bu	Tot. tn. DM	558
Oats		dry sh. bu		
Wheat		dry sh. bu		
Potatoes	1	6 w.u.		
Tillable pasture	1			
Idle tillable acres	1			
Total tillable acres	164			

*Convert to dry shelled equivalent (see tables opposite page).

GUIDELINES FOR COMPLETING PAGE 6

ASSETS

1. Total farm inventory is the sum of end of year machinery inventory, end of year livestock inventory (total value at end of year prices), end of year feed and supplies, and current or end of year real estate market value.

2. Remember to include the January milk check as an account receivable.

3. Separate farm assets from nonfarm assets.

LIABILITIES AND PLANNED DEBT PAYMENT SCHEDULE

1. 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.

2. If more liabilities exist than there are lines for, liabilities for the same term may be combined.

3. Do not include leased items. They are entered separately on the next page.

Farm Business Summary & Analysis

Name Clover Estates
[Proc. no. 12001]

END OF YEAR FARM FAMILY FINANCIAL SITUATION, DECEMBER 31, 1982

ASSETS			
Total Farm Inventory*	$525,525	Cash in savings accounts	$ 50
Other Farm Assets:		Cash value life insurance	500
Accounts receivable	8,350	Nonfarm real estate	600
Cash on hand & checking	50	Personal share auto	1000
Co-op stocks & certificates	2,000	Stocks & bonds	700
Total Farm Assets	$535,925	Houshold furn. & equip.	800
Nonfarm assets (from right column)	4,550	Other	900
		Total nonfarm assets	$ 4,550
TOTAL ASSETS $540475			

LIABILITIES	Amount	PLANNED DEBT PAYMENT SCHEDULE, 1983** Int. Rate	Amount of Payments***		Payments Per Year	Total Annual Payments
Long term debt (10 yrs. & over)						
	$16,264	___%	$_____	x	_____	= $ 2,083
	45,000	___%	$_____	x	_____	= $ 3,600
	8,000	___%	$_____	x	_____	= $ 2,720
	19,000	___%	$_____	x	_____	= $ 4,000
Intermediate term debt (over 1 yr., under 10 yrs.)						
	$17,000	___%	$_____	x	_____	= $ 3,500
	13,000	___%	$_____	x	_____	= $ 3,000
	11,000	___%	$_____	x	_____	= $ 2,500
	8,000	___%	$_____	x	_____	= $ 2,000
	7,000	___%	$_____	x	_____	= $ 1,500
Short term debt (1 yr. or less)						
	$ 4,000	___%	$_____	x	_____	= $ 4,000
	2,200	___%	$_____	x	_____	= $ 2,200
Open accounts:						
Beg. of Year $_____						
End of Year	$ 817	(net reduction planned)				= $ 100
Total Farm Liabilities	$151,281	Total Annual Farm Loan Payments				$ 31,203
Nonfarm Liabilities	2,000	Total Annual Nonfarm Payments				$ 500
TOTAL LIABILITIES	$153,281					

Total Assets $540,475 less Total Liabilities $153,281 = Family Net Worth $387,194

*Total end of year farm inventory is the total of end-of-year values for livestock, feed and supplies, machinery and equipment, and land and buildings.
**Include planned payments on all liabilities listed to the left.
***Include interest and principal paid.

FINANCIAL LEASES

Fill in the following table if you are leasing cattle, equipment, or structures from outside your family or business. Do not include rent paid for farms and cropland here but record it as real estate rent under expenses on next page.

Leased item	Amount of each payment	No. of payments in 1982	Total 1982 expense	No. of payments/ full year	No. of payments remaining
Cattle:	$ 30	3	$ 90	6	15
		Total	$ 90		
Equipment:	35	3	105	6	15
		Total	$ 105		
Structures:	32	3	96	6	15
		Total	$ 96		

Farm Business Summary & Analysis

Name Clover Estates
[Proc. no. 12001]

SUMMARY OF THE YEAR'S FARM EXPENSES AND RECEIPTS, 1982

Expenses		Receipts	
Hired Labor (Wages, Social Security, Worker's Comp., Privileges Pur.)	$ 4500	Milk Sales (gross) 838,800 lbs.	116890
Dairy concentrate	27145	Dairy cattle sales	3500
Hay & other feed	100	Calf & other livestock sales	1350
Machine hire, rent & lease	830	Crop sales	600
Truck, trac., other mach. exp.	8685	Income from machine work	150
Auto expense (farm share)	1500	Gas tax refunds	100
Gasoline & oil	4725	Government payments	300
Breeding fees	1750	Machinery sold $----------	xxxxxxxx xxxxxxxx
Veterinary & medicine	3000	Real estate sold $----------	xxxxxxxx xxxxxxxx
Milk mktg.(hauling, ADA, dues)	2860	Other large receipt items	30
Cattle lease	90		
Other livestock expense	7360		
Lime & fertilizer	6150	Other miscellaneous receipts	20
Seeds & plants	1750	TOTAL CASH RECEIPTS	$122940
Spray & other crop expense	1100	Off Farm Income $10,000	
Land, building, fence repair	4450	Increase in livestock inventory attributed to herd growth	$
Taxes	6080	Increase in feed & supplies	$
Insurance (fire & farm busi.)	2450	TOTAL FARM RECEIPTS (excluding appreciation)	$
Electricity (farm share)	1611	TOTAL FARM EXPENSES	$
Telephone (farm share)	515	FARM LABOR & MANAGEMENT INCOME	$
R.E. rent/lease(✓)bldg.(✓)land	704	Total Farm Receipts (excluding appreciation)	$
Interest paid	17145	Livestock appreciation	
Miscellaneous	560	Real estate appreciation	
Replacement livestock pur.[1]	4975	Total Farm Receipts	$
TOTAL CASH OPERATING EXPENSES	$110035	Total Farm Expenses	$
Expansion livestock purchased[2]	$ 2000	Interest on equity capital	-
Mach. & bldg. depreciation[3]	$	Total Farm Expenses less Interest on Equity	$
Decrease in lvstk. and/or sup.[3]	$	LABOR, MANAGEMENT, AND OWNERSHIP INCOME	$
Unpd. family labor (__ mo. x $500)	$		
Int. on equity capital (5%)	$		
TOTAL FARM EXPENSES	$		

[1]Cattle purchased to replace those sold and culled. [2]Cattle purchased that contribute significant increase in herd size from beginning to end of year. [3]From pages 1 and 2.

GUIDELINES FOR RECORDING THIS YEAR'S EXPENSES AND RECEIPTS

Fill in the dollar amount column for each cash operating expense and each cash receipt item. Round off to the nearest dollar. All other items are optional.

A. EXPENSES

1. Enter hired labor expenses separately including wages, social security paid on labor, worker's compensation insurance, unemployment insurance, and privileges purchased for hired labor. Wages paid must be consistent with months of hired labor. Check to see that monthly wages range between $500 and $1,200 per employee.

2. Dairy concentrate bought should include the concentrate, minerals, protein, and grain purchased and fed the dairy herd during the year. Hay and other feed includes hay, silage, and all feed purchased for nondairy livestock.

3. Milk marketing expenses include milk hauling, milk promotion and coop dues. Do not include capital assessments. Cattle lease expense includes cattle lease payments and cattle rent. Other livestock expenses include DHIC dues, cattle registration, livestock board, milk house supplies and bedding.

4. Enter all the town, county, and school taxes paid on farm real estate. Exclude income and self employment taxes. (Itemize corporate taxes under miscellaneous.) Sales taxes should be capitalized along with cost of improvement.

5. Enter all the fire and farm liability insurance paid on farm property. Exclude life insurance and personal health insurance. Enter employee health insurance under hired labor.

6. Enter the farm share of electricity and telephone expenses.

7. Include all real estate rent paid and any structure lease payments. Check land or building or both. Identify taxes and insurance paid by the rentee as rent. Enter machinery lease payments under machine hire, rent or lease; cattle lease payments under cattle lease expense.

8. Include all interest paid on farm liabilities including finance charges. Make sure interest paid represents liabilities recorded on previous sheet.

9. Miscellaneous expenses should not be large. Include only those items which cannot be identified within another category.

10. Cattle and other livestock purchased must be divided into those purchased as replacements and those that increase the size of the herd.

B. RECEIPTS

1. Include gross value and pounds of milk sold.

2. Dairy cattle sales include receipts from cull cows and breeding stock. Include bob calf receipts under calf and other livestock sales.

3. Sales of standing and harvested crops go under crop sales. Include all receipts from custom work, gas tax refunds, and government payments.

4. Machinery and real estate sales are netted out in the inventory-depreciation calculations and must not be added in with other farm receipts.

5. Itemize and identify miscellaneous receipts of more than $500.

6. Income from off farm work and other nonfarm income that is available for debt payments and family living should be recorded as off farm income. It will be omitted from total farm receipts.

7. All entries and calculations below the main summary table are optional.

Farm Business Management Project For Agents Use

HOW TO COMPLETE CHECK-IN DATA SHEETS

Page 1

Cooperator's Name

Fill in the name of the operator(s) of the farm business, the address, and the county whose record project he or she is participating in.

Machinery and Equipment Purchased

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 inventory value of items traded-in and make the inventory checks in order to substantiate beginning and end inventory values. Check the farmer's capital expenditures with the inventory book for the business. New items should be inventoried at "boot" plus inventory value of trade-in less first year's depreciation. 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.

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

Machinery and Equipment Sold or Destroyed

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, the three preceding lines provided as a worksheet are not needed for input and need not be used.

Machinery and Equipment Inventory and Depreciation

The information to be collected in this section is required to calculate the business expense 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.

The next two items -- machinery and equipment purchased and machinery and equipment sold -- are the totals of the above two sections.

The next two items provide an estimate of the machinery and equipment depreciation as calculated for tax purposes. This estimate is used as the charge against the farm business for the use of the machinery and equipment complement. The estimate is obtained by taking last year's regular tax depreciation, excluding buildings from ACRS depreciation, plus 10 percent of this year's machinery purchases. 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 cost basis.

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.

Livestock Inventory

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 capital efficiency items 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 information required in this section is the total value at the beginning of the year, the total value at the end of the year using beginning-of-year prices and the total value at the end of the year using end-of-year prices. In addition, the number of dairy cows at the beginning and the end of the year is required. The remaining entries are provided for use in obtaining these figures. If a worksheet developed either by Cornell staff or by field staff that inventory the livestock by increased numbers of categories -- such as calves, open heifers, bred heifers -- is deemed to be more useful, such a worksheet can be used and the information concerning number of dairy cows and number of total livestock and their value transferred to this section.

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 that resulting from labor and management and that resulting from ownership. 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, 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 are a large change in the composition of the livestock group (example would be average age of calves 2 to 3 months more than at beginning of year) and a purchase of a large number of animals of higher quality than those previously in the herd. Finally, the end-of-year inventory at end-of-year prices is usually the same number 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.

For Agents Use — Farm Business Management Project

Feed and Supplies Inventory

Report beginning and end market values of feed and supplies, calculate and explain the change. Examples include: "Crop failure," "doubled crop acres," "no grain this year," "bumper crop," "crop sales made for more than one crop year." A worksheet developed by Cornell staff or by field staff could very effectively be used to assist cooperators in calculating the feed and supplies inventory at the beginning and end of the year. Of course, if an accurate accounting was made for the previous year, the end-of-year inventory could and should be used for the beginning-of-year inventory for this year. If winter wheat is grown, be sure to include in end-of-year inventory the value of the crop based on the cost incurred in growing it.

Land and Buildings Purchases and Sales

In this section only the totals for total new cost, depreciation and total beginning inventory value of capital sales and losses are required. If the cooperator has an accurate record of his real estate transactions, these totals can be taken from that record; if the cooperator does not, the three rows can be used to assist in calculating the total.

Real Estate Inventory Balance

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.

c) Building depreciation on new buildings and from last year's tax return are needed to calculate a total building depreciation charge for this year. If the tax return is not available, estimate last year's depreciation. New building depreciation should include depreciation on buildings in ACRS 5-year class from prior years. Building depreciation generally falls between 2 and 3 percent of real estate value.

d) Deduct the beginning inventory value of real estate sold. A tenant house inventoried at $20,000 and sold for $25,000 must be entered here at $20,000.

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. This value is then used as the contribution toward ownership income from real estate.

Livestock and Business Description

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 also 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.

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 Testing, Milking System, Business Type, Type of Barn, and Record System.

Labor Inventory

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 many instances, a husband and wife who operate and manage the farm as a team should both 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 operator of the farm business has 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 perquisities 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.

For Agents Use — Farm Business Management Project

Land Inventory

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.

Tillable Land Use

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. Tables are 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 then 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.

See instructions on page 5 of Check-In Form.

Farm Business Management Project For Agents Use

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Financial Leases

The purpose of this table is to help calculate the expenses associated with financial leases and to determine the future assets and liabilities for the leased items. Include those items for which the farmer has an obligation to make specific payment for more than one year. Do not include rented items such as hourly machine rental.

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 are entered under expenses on page 8. 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 R.E. rent/lease ( )bldg. ( )land.

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

Page 8

See instructions on page 9 of Check-In form. After total cash receipts, enter income from off-farm work by any member of the family. In other words, income from any member of the family, whether they are an operator or not, that will go into the cash available for family living and debt service should be included. The amount entered in this place is not utilized in calculating farm income measures but will be used in calculating the amount available for debt service.

FEED AND SUPPLY INVENTORY WORKSHEET*

Item	Beginning of Year Quantity	Price Per Unit	Total Value	End of Year Quantity	Price Per Unit	Total Value
Hay Crops:						
Hay		$	$		$	$
Silage		$	$		$	$
Corn Crops:						
Silage		$	$		$	$
Grain - dry		$	$		$	$
Grain - H.M.		$	$		$	$
Small Grain:						
Oats		$	$		$	$
Wheat		$	$		$	$
Barley		$	$		$	$
Silage		$	$		$	$
Other Crops:						
		$	$		$	$
		$	$		$	$
		$	$		$	$
Supplies:						
Feed conc.		$	$		$	$
Fertilizer		$	$		$	$
Pesticides		$	$		$	$
Seed		$	$		$	$
Semen		$	$		$	$
Lvsk. supplies		$	$		$	$
Fuel & lubes		$	$		$	$
Machine parts		$	$		$	$
Other:						
		$	$		$	$
		$	$		$	$
		$	$		$	$
TOTAL			$			$

*The Feed & Supply Inventory Worksheet is an optional form to help in the check-in procedure. Its primary purpose is to help identify the various feed and supply inventory items that should be included in the inventory. If this or a similar worksheet is used, totals must be transferred to Page 2 of the Data Check-In Form.

LIVESTOCK INVENTORY WORKSHEET*

	Beginning of Year Inventory			End of Year Inventory				
				Beg. of Year Prices			End of Year Prices	
	No.	$ Per Head	Total Value	No.	$ Per Head	Total Value	$ Per Head	Total Value
Dairy Cows:								
_____	___	$_____	$_____	___	$_____	$_____	$_____	$_____
_____	___	$_____	$_____	___	$_____	$_____	$_____	$_____
_____	___	$_____	$_____	___	$_____	$_____	$_____	$_____
Youngstock & bulls:								
_____	___	$_____	$_____	___	$_____	$_____	$_____	$_____
_____	___	$_____	$_____	___	$_____	$_____	$_____	$_____
_____	___	$_____	$_____	___	$_____	$_____	$_____	$_____
Other Livestock:								
_____	___	$_____	$_____	___	$_____	$_____	$_____	$_____
_____	___	$_____	$_____	___	$_____	$_____	$_____	$_____
_____	___	$_____	$_____	___	$_____	$_____	$_____	$_____
Total Livestock	___		$_____	___		$_____		$_____

*The Livestock Inventory Worksheet is an optional form that may be used to help summarize dairy farm business records. Note that the column headings are identical to the ones on the top of Page 2 of the Data Check-In Form. Use of this worksheet will allow separation of the dairy cows, youngstock, and other livestock. Separating the herd into different age groups or other classifications related to quality such as breed type, can be helpful in identifying increases in value due to change in quality versus change in price.

See other side for an example.

(OVER)

For example, Don Dairyfarmer had 50 head of youngstock valued at $35,000 at the beginning of the year. At the end of the year, he still has 50 head of youngstock but his total inventory value has increased to $45,000. How much of the $10,000 increase in value was caused by a physical change in the herd make up and how much is due to inflation? A completed worksheet can provide the answers. At the beginning of the year, Don had 20 calves less than one year old, 20 open yearlings, and 10 bred heifers. At the end of the year, he has 10 calves, 20 open yearlings, and 20 bred heifers. The completed youngstock section of the worksheet is illustrated below and clearly shows that $5,000 of the increase in youngstock value was due to a change in the physical make up of the herd while $5,000 was due to higher prices used at the end of the year.

	Beginning of Year Inventory			End of Year Inventory				
				Beg. of Year Prices			End of Year Prices	
	No.	$ Per Head	Total Value	No.	$ Per Head	Total Value	$ Per Head	Total Value
Youngstock & bulls:								
Calves	20	$ 500	$10,000	10	$ 500	$ 5,000	$ 500	$ 5,000
Open Yearlings	20	750	15,000	20	750	15,000	800	16,000
Bred Heifers	10	1,000	10,000	20	1,000	20,000	1,200	24,000
Total	50		$35,000	50		$40,000		$45,000

DAIRY FARM BUSINESS SUMMARY DIAGNOSTICS

Page No. of
Check-In Form

Machinery and Equipment Inventory

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

1. "Machinery appreciation exceeds depreciation."

1. "Machinery appreciation = -$n." (When n < 0.)

Livestock Inventory

2. "End of year inventory at beginning prices > beginning of year inventory but no increase in livestock numbers."

2. "End of year inventory at beginning prices < beginning of year inventory but no decrease in livestock numbers."

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

2. "Livestock appreciation is < $0, = $_____."

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

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

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

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

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

Feed and Supplies

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

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

Real Estate Inventory

2. "Real estate appreciation >.15 of beginning + value added or <0."

2. "Lost capital >.50 of real estate purchased = _____."

Real Estate Inventory (continued)

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

2. "Land is owned but no L&B inventory."

2. "Building depreciation $\geq$ 4% of beginning real estate."

2. "Real Estate inventory value added < $0."

Livestock

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

4. "Milk per cow = n lbs." (When n < 8,000 or n > 18,000.)

4. "Milk per worker = n lbs." (When n < 200,000 or n > 700,000.)

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

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

4. "Average number of heifers out of range of beginning and end inventory."

Labor

4. "Single prop. but operators labor = n months." (When n > 12.)

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

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

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

Land and Crops

4. "Land is rented but rental expense = $0."

4. "There is less than 2 tillable acres per cow."

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

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

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

Land and Crops (continued)

4. "Oat yield is < 20 or > 80 bushels per acre. Yield is _____."

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

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

Assets and Liabilities

6. "Scheduled debt payment > .35 of milk sales = _____%."

6. "Long term debt > .80 of land and building inventory."

6. "Farm net worth < .30 of farm capital. NW = _____."

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

6. "Accounts receivable < 5% of milk sales."

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

6. "Long term planned payments > long term debt."

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

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

6. "Planned reduction of open account > open account debt."

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

Financial Leases

7. "Leases cattle but no lease expense."

7. "Leases equipment but no lease expense."

7. "Leases structures but no lease expense."

Expenses

8. "Wages < $400 or > $1,200. Wages = $_____ per month."

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

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

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

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

Receipts

8. "Government payments, other receipts or miscellaneous receipts > $5,000."

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

8. "Tillable crop acres/cow > 4, but $0 crop sales."

Management Performance Measures

8. "Net cash income = $n." (When n < 10,000 or > 80,000.)

8. "Labor and management income per operator < $0 or > $30,000 = $_____."

8. "Labor, management and ownership income < labor and management income."

8. "Feed % milk unusually low or high. Value is n%." (When n < 10% or n > 40%.)

Other

Farm coded renter.

Farm coded irregular.