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Staff Papers Series

Staff Paper P86-46 July, 1986

Review Of The Farm Accounting Package Cashmaster 4012

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Table of Contents:

	Pg
Introduction	1
Method of Analysis	2
Orientation and Support Materials	3
Operating Features	4
Output Features	13
Use in Farm Planning and Control	15
Summary and Conclusion	16

Introduction:

This study evaluates the farm accounting package, Cashmaster 4012, developed at Clemson University by Woodrow Dick et al. The evaluation was based on the a general review of the package and its features, and a test of its capabilities was done by processing a set of test data through it. The test data used is a set of hypothetical farm records for a typical Minnesota dairy and mixed crop farm. The data were developed by Delane Welsch at the University of Minnesota and Donald Walker, Area Vo-ag coordinator, Austin, Minnesota. Although not completely comprehensive in nature, this study evaluates the usefulness of this package to do profit and cost centered managerial accounting while at the same time providing financial accounts suitable for tax reporting.

Cashmaster is a single input, single entry accounting system. Single input refers to the nature of the data input method while single entry refers to the method of the accounting used. In addition to financial data recorded for each transaction cashmaster also has the capacity to record physical transactions associated with each financial

transactions associated with each financial transaction. The output for the system is a flexible set of financial reports that are suitable for tax reporting, more specifically, for reporting tax on a cash basis. Although conceptually innovative in its approach to farm accounting, the system does have some limitations, which are outlined this report.

Method of Analysis:

The initial step in the evaluation process was to evaluate the orientation procedure and the ease of use for a first time user of the package. An evaluation of the supporting materials for the package, screen supplied help and general difficulty of use of the program as a whole were considered. The accounting knowledge and computer background required to operate the package were also considered.

Major advantages and disadvantages of this approach to accounting and to this package in particular were assessed using insight gained from the general overview of the package and from its use with farm data. Finally, an assessment of the usefulness of the package for a cost center and profit center approach to managerial accounting for use in farm management and

control is assessed.

Orientation and Support Materials.

Orientation to the accounting system is supplied in two forms, a set of audio cassette tapes and an operators manual that can be printed out from a disk file supplied with the package. The approach suggested by the developers to a first time user of the package is to listen to audio tapes provided with the package while operating the program. This allows the user to "walk through" the operating procedures with oral instruction. This proved to be an innovative and helpful method of introduction to both the computer operating procedures required to load the program and also for getting a general feel for the package itself. This would be a useful starting point for a user new to either or both the operation of a personal computer and this package. The use of some type of remote control devise on the tape recorder that will allow the user to stop the audio tape at any point is recommended. This will allow the user to regulate the pace of the "walk through" as needed.

Although the audio tapes do provide a useful orientation tool they are less useful as a reference devise. The manual is incomplete, having no index,

little apparent order and lacking concise instructions for use of the package. The major problem with the manual is the lack of specificity concerning many steps or functions of the package. The necessary information either does not exist, or the entire manual may have to be searched in order to find it. Despite the lack of a good manual the package is fairly simple to use, being menu driven with the menus largely self explanatory. It should not take an inexperienced user more than 4 or 5 hours to become familiar with the package.

All input requirements are met by filling in the data about each transaction on a fixed format screen. Each screen has the necessary prompts to solicit the required data. The level of accounting knowledge required is minimal. The most demanding requirements, in terms of accounting knowledge, is a knowledge of how to distribute costs between profit centers and cost centers and how to account for the internal transfer of products and inputs between enterprises.

Operating Features:

The structure of the package and its approach to farm accounting is rather unique. It addresses

an important need in farm accounting software, that of a simple input, easy to use software package that requires very little accounting knowledge by the user and can provide information for reporting tax on a cash basis. Toward this end the developers of the package have relied on a fixed format input screen for all input requirements. Each transaction is recorded on a fixed format input screen which has fifteen possible input entries. Some of these entries are necessary in order to record a transaction while others are not. The system will not allow the user to move to the next transaction record without completing the necessary input requirements. Both financial and physical information for a particular transaction are entered in the same input screen. An example of a typical input screen before data entry, is presented in Appendix Figure 1c, and an example of a typical input screen after data entry is presented in Appendix Figure 1d. The data entered in each input screen allocates a particular transaction to one major and one minor financial account, records the day and month of the transaction, the amount of the transaction in both dollars and physical units, and allocates the transaction to various user specified major and minor managerial

accounts. Major and minor financial accounts are both identified by corresponding account numbers used in the package. Major financial accounts and their corresponding account numbers are fixed in the package while minor accounts and their corresponding account numbers are user specified. Major managerial accounts, namely Labor account, Enterprise account, Owner account, Payee account, and Asset/liabilities account appear directly on the input screen and only the corresponding minor account number need be recorded. Major managerial accounts are fixed within the system while minor managerial accounts and their corresponding numbers are user specified. The use of a menu driven structure and a fixed format input screen for all data entry is especially useful for the infrequent user with only a few transactions every month.

This system is a single input, single entry accounting system. It is a single input system in that each transaction is only entered into the system once, i.e. in this case, it requires only the completion of one input screen per transaction. It is a single entry system in that it operates on a single entry, as opposed to the double entry method of accounting. As the name of the package suggests, the cash basis as

opposed to the accrual basis of accounting is used.

The system seems to be designed for smaller family farm operations to be used primarily for reporting tax on a cash basis. It is estimated that 95% or more of the U.S. farmers in this category report their taxes on a cash basis.

The package does facilitate the separation of accounts for separate legal entities involved in the same firm or business. For example, a partnership or a multi-owner operation. The system can support up to 40 separate entities. A list of the "owner" entities for the example problem used is shown in Appendix Figure 2p. In this case there is only one owner.

Another feature of the program which could limit its use to smaller farm businesses is the number of possible accounts that can be created. There are eleven major financial accounts and five major managerial accounts that are specified and fixed within the package. A list of these accounts as they appear in the system input menu is presented in Appendix Figure 2a. Minor financial and managerial accounts are allocated to any one of the major accounts as needed. Each major account has a limited capacity of 40 minor accounts. Definition of each major account

is determined by the minor accounts allocated to that major account. Minor accounts are specified by the user as needed. This does provide some flexibility in the specification of accounts but the upper bound on the total number of minor accounts and the number within each major account still remains. This can be limiting, and was found to be so with the test data used. Using the test data, an illustration of how minor accounts can be specified and allocated among the available categories is presented in Appendix Figures 2b-2p.

Account identification for transaction data entry is done by means of account identification numbers. The use of numbers to identify accounts in the input screen proved to be cumbersome, particularly in the early stages of use of the package, before some familiarity with the individual account numbers occurred. There was a substantial learning curve effect associated with the frequent use of these account numbers. To give some idea of this effect, the author using the test data mentioned above, found that the time required to input data for the twelfth month was approximately 1/6 of the time required to input data for the first month. The amount of data for

each month is approximately the same.

The easiest way to keep track of account numbers is to print out a set of all 11 major financial accounts and 5 major managerial accounts and keep them near at hand for reference purposes while entering data using the direct journal entry option (option 1 of the menu presented in Appendix Figure 1b). This was cumbersome and slow but more efficient than using the help features of the menu driven input mode(option 2 of the menu presented in Appendix Figure 1b).

When entering data in the fixed input screen, the system generates a description of each input item entered on the input screen, allowing the user to check that the number entered corresponds with the intended input. This feature is shown in Appendix Figure 1d. An annoying aspect of this feature is that the description does not appear on the screen until the cursor is moved on to the next input position on the screen and therefore serves little or no purpose as a check to the user at the time of entry. The feature would be of far more use and save time if the user could observe the result of his entry and make any necessary corrections while at the same cursor position.

Another annoying feature of the data entry screen

is that once a transaction has been entered into the system files, which is necessary in order to move on to the next transaction, the enterprise account and labor account numbers cannot be changed. This requires a nullifying of that transaction by setting the dollar amount of the incorrect transaction to zero, and setting up the new transaction correctly. This feature is useful for maintaining a record of all entries made, making the accounts auditable. However the fact that the dollar amount can be set to zero makes auditing imprecise. A better approach might be to allow changing of all journal entries until the end of each month, at which time the entries are closed out and can only be changed with a reciprocating entry.

One reason why this package was selected for evaluation was that it was felt that the input format used would provide a means to collect both physical and financial data in the same input screen. This is achieved to some degree but is limited in that only one measure of physical input or output per transaction entry is allowed. For instance, either 9 Hogs or 1500 pounds of slaughtered hog can be recorded, but not both. The former of these two options allows

the user to keep a record of inventories, but have no record of market information, and with the latter it is the reverse.

Although the package does allow the recording of physical data associated with each transaction it does not allow for the accumulation of physical quantities used or produced in the course of a production period. This would be a useful addition to the system.

One feature of the system which requires a higher level of programming expertise than the rest of the system operation is changing the amount of the automatic social security deductions. This requires that the user change the required percentages in the BASIC program that drives the package. The procedure in the instruction manual for making these changes are very clear, but for a user not familiar with programming, this could be a formidable task. A useful addition to the system in this respect would be to add a program to the existing system that would allow the change of social security deductions through menu options. This would make the package more user friendly to the user not familiar with BASIC programming, who will be the most

likely clientele for this package.

In reviewing previous journal entries in the "journal review" (option 2 of the main menu shown in Appendix Figure 1a.) section of the package, no descriptive supports are given to the corresponding numerical entries unless the user uses the "change" prompt and runs the cursor through the options on the input screen. This makes reviewing journal entries tedious if the user does not have a good knowledge of the account names corresponding to account numbers. Two additions to the package that would make reviewing easier would be the automatic display of descriptive supports for corresponding numbers and the provision of a scratch pad at the bottom of each journal entry. This would allow the reviewer quicker recognition of the transaction when reviewing.

Individual minor accounts can be reviewed using the "account review" option (option 3 of the main menu presented in Appendix Figure 1a). This provides the user with a set of total values for all transactions by month within each minor account.

Movement between the six major sections of the program, namely Journal entry, Journal review, Account review, Financial reports, Journal reports,

and File manager, through the main menu displayed in Appendix Figure 1a, was extremely slow. This could be improved by compiling the programs.

No problems were experienced with the data storage capacity of the package for the example farm record data used. This amounted to 762 transactions.

Output Features:

The output capabilities of this package are good, giving the user considerable flexibility in the specification of reports. Reports generated by the system fall into two broad categories, Financial reports and Journal reports (options 4 and 5 respectively of the main menu displayed in Appendix Figure 1a). A menu of options available for each of these two categories is presented in Appendix Figures 4a and 4b respectively. The reports generated by each of the options on the financial reports menu are presented in Appendix Figures 5.1a-5.6a. The reports generated by each of the options on the journal reports menu are presented in appendix Figures 6.1a-6.4q. The second digit in the appendix figure number corresponds to the option number on the menu listing. Options 5 and 6 of the journal report were not generated in this case, because this would have meant generating a list of all journal entries made.

In addition to the reports presented in Appendix Figures 5.1-6.4, user specified reports of the same type limited to a specific month or sets of months, enterprises or sets of enterprises and to a specified group of sequential record numbers can also be generated. An example of such limited output is presented in Appendix Figure 7, where the report is a cash flow report limited to the dairy enterprise and to the months of January - March.

Report headings can be specified by the user. An illustration of a the input screen used to specify the report headings used in the example problem are presented in Appendix Figure 4c.

A minor change that may be considered in future revisions of the package is that account names should be limited to a number of characters that can be printed out on the reports. This would necessarily lead to further abbreviation of names but would prevent the truncation of names on the reports as is presently the case.

As mentioned earlier, additional physical data collection capabilities would be a useful feature of this package. This is also true of the processing and output capabilities of the system for physical data. Additional

physical data input and processing capabilities would necessarily require report format changes. Ideally a set of physical records with a format similar to those for the financial records could be developed. This would give beginning inventories, inventory additions, inventory uses and the transfer of inventories between enterprises. That is, the flow of physical resources as well as cash could be considered. This concept would merge very well with the present package, and would be far more useful to the farmer in that there would be a single input point for both financial and physical data for both financial and management use.

Use in Farm Planning and Control:

The capability for allocating costs to various "enterprises" allows the allocation of costs and profits to user specified cost centers and profit centers. This allows the user to generate cash flows and transactions reports for each of these individual cost centers and profit centers, thus providing a means to examine and identify individual financial entities within the farm business for improved planning and control.

Cost and profit centers for the example farm used are set up as an illustration. Each "enterprise" in

the example problem is set up as a cost center or profit center. For a listing of these cost centers and profit centers see Appendix Figure 2n. A set of reports generated by cost center and profit center (i.e. enterprise) are presented in Appendix Figure 6.4a-6.4q. As noted in the previous section, all reports can also be restricted to particular months or sets of transactions. This also applies within enterprise reports. An example of a dairy enterprise cash flow report restricted to a three month period from January to March is presented in Appendix Figure 5.9. Note that farm overhead is specified as cost center.

A useful feature of the system for the purposes of cash flow forecasting and short term farm planning is the ability to specify any month of the year as the benchmark date at which to begin the cash flow analysis and therefore the planning period. An illustration of a full cash flow report with the benchmark month as March is presented in Appendix Figure 5.6a. This can be compared with the full cash flow report with the benchmark month as January presented in Appendix Figure 5.3a.

Summary and Conclusion:

Conceptually the development of this package is good. It addresses an important need in the development of a software package suitable for the farm business which can be used for reporting taxes on a cash basis. Because the package is limited to the cash basis accounting method, and has limitations on the number of possible accounts, its use will generally be limited to smaller farm operations.

An inadequate operators manual make trouble shooting difficult and tedious. The package itself is easy to use, being menu driven with menus that are largely self explanatory. A single fixed format input screen for all data entries makes the package easy to use, and will be a particularly useful for the infrequent user. Input of data can be slow because a system of number references is used to identify major and minor accounts. These numbers have to be identified by the user through keeping listing of all accounts and their corresponding numbers near at hand while entering data, or through a menu driven input system which provides the information.

The reports generated by the package are

good, providing the user with considerable flexibility in generating the reports required.

Although conceptually good in its approach, the package has some technical problems that have been outlined above. For these reasons and the fact that the package does not have any guaranteed backup support the use of this package by farmers at this stage in its development may be limited. This package provides a useful conceptual development and prototype on which further work is required in order to refine its operation to the point where it would compete well with commercially available packages.

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Appendix

Due to the large number of appendix tables, only a list of these tables have been included in this report. Should a complete or partial set of tables be required, they can be obtained by contacting,

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List of Appendix Figures:

Number	Title	Pg
1a	Cashmaster Main Menu	21
1b	Journal Entry Menu	21
1c	Fixed Format Journal Entry Screen	22
1d	Fixed Format Journal Entry Input Screen with Example Entry Made	22
2a	Menu for Selection of Major Accounts for Review	23
2b	List of Minor Accounts in the Primary Income Major Account	23
2c	List of Minor Accounts in the Primary Expense Major Account	24
2d	List of Minor Accounts in the Internal Income Major Account	24
2e	List of Minor Accounts in the Internal Expense Major Account	25
2f	List of Minor Accounts in the Family Living Expense Major Account	25
2g	List of Minor Accounts in the Secondary Income Major Account	26
2h	List of Minor Accounts in the Secondary Expense Major Account	26
2i	List of Minor Accounts in the Capital Purchase Major Account	27
2j	List of Minor Accounts in the Capital Sale Major Account	27
2k	List of Minor Accounts in the Receivables Major Account	28
2l	List of Minor Accounts in the Debts Major Account	28

List of Appendix Figures (cont.):

Number	Title	Pg
2m	List of Minor Accounts in the Cash Flow Major Account	29
2n	List of Minor Accounts in the Enterprise Major Account	29
2o	List of Minor Accounts in the Payroll Major Account	30
2p	List of Minor Accounts in the Payee Major Account	30
2q	List of Minor Accounts in the Owner Major Account	31
3a	Account Review Menu	31
4a	Financial Reports Menu	32
4b	Journal Reports Menu	32
4c	Report Heading Input Screen	33
5.1a	Full Income and Expense Report, Primary Income/Primary Expense, Example Farm	34
5.1b	Full Income and Expense Report, Secondary Income/Secondary Expense, Example Farm	35
5.1c	Full Income and Expense Report, Enterprise Income/Enterprise Expense, Example Farm	36
5.1d	Full Income and Expense Report, Owner Income/ Owner Expense, Example Farm	37
5.1e	Full Income and Expense Report,Family Living, Example Farm	38
5.2a	Capital Sales and Purchase Report, Example Farm	39
5.3a	Full Cash Flow Report, Source of Funds and Use of Funds Summary, Example Farm	40

List of Appendix Figures(cont.):

Number	Title	Pg
5.3b	Full Cash Flow Report, Enterprise Cash Flow Summary, Example Farm.....	41
5.3c	Full Cash Flow Report, Owner Cash Flow Summary, Example Farm.....	41
5.4a	Full Receivables Report, Example Farm.....	42
5.5a	Full Debt Report, Example Farm.....	43
5.6a	Full Cash Flow, Enterprise Cash Flow, with Benchmark Month March, Example Farm.....	44
6.1a	Full Major Account Journal Report, Primary Income, Example Farm.....	45
6.1b	Full Major Account Journal Report, Primary Expense, Example Farm.....	46
6.1c	Full Major Account Journal Report, Internal Income, Example Farm.....	51
6.1d	Full Major Account Journal Report, Internal Expense, Example Farm.....	51
6.1e	Full Major Account Journal Report, Family Living Exp., Example Farm.....	52
6.1f	Full Major Account Journal Report, Secondary Income, Example Farm.....	54
6.1g	Full Major Account Journal Report, Secondary Expense, Example Farm.....	55
6.1h	Full Major Account Journal Report, Capital Purchase, Example Farm.....	56
6.1i	Full Major Account Journal Report, Capital Sale, Example Farm.....	56
6.1j	Full Major Account Journal Report, Receivables, Example Farm.....	57

List of Appendix Figures (cont.):

Number	Title	Pg
6.1k	Full Major Account Journal Report, Debts, Example Farm	58
6.2a	Full Monthly Journal Report, January, Example Farm	59
6.2b	Full Monthly Journal Report, February, Example Farm	60
6.2c	Full Monthly Journal Report, March, Example Farm	61
6.3a	Full Labor Report, John White, Example Farm	62
6.3b	Full Labor Report, Dick White, Example Farm	62
6.3c	Full Labor Report, Bob White, Example Farm	62
6.4a	Full Enterprise Journal Report, Farrow-Finish Hog, Example Farm	63
6.4b	Full Enterprise Journal Report, Beef Feeder Cattle, Example Farm	64
6.4c	Full Enterprise Journal Report, Dairy Cattle, Example Farm	65
6.4d	Full Enterprise Journal Report, Other Cattle, Example Farm	67
6.4e	Full Enterprise Journal Report, Corn, Example Farm	67
6.4f	Full Enterprise Journal Report, Oats, Example Farm	67
6.4g	Full Enterprise Journal Report, Soybeans, Example Farm	68
6.4h	Full Enterprise Journal Report, Corn Silage, Example Farm	68
6.4i	Full Enterprise Journal Report, Ford Ltd, Example Farm	68

List of Appendix Figures (cont.):

Number	Title	Pg
6.4j	Full Enterprise Journal Report, Chev Pickup, Example Farm.....	69
6.4k	Full Enterprise Journal Report, JD 720 Tractor, Example Farm.....	69
6.4l	Full Enterprise Journal Report, JD 4020 Tractor, Example Farm.....	69
6.4m	Full Enterprise Journal Report, Overhead, Example Farm.....	70
6.4n	Full Enterprise Journal Report, Mill, Example Farm.....	73
6.4o	Full Enterprise Journal Report, Alfalfa, Example Farm.....	73
6.4p	Full Enterprise Journal Report, New John Deere, Example Farm.....	74
6.4q	Full Enterprise Journal Report, Hay, Example Farm.....	74