

Directions for the Analysis of Farm Records

(A portion of a colloquium paper by Ralph E. Smith - 1955)

The Experiences and Suggestions as a Result of the First Year's Analysis at the West Central School and Station

Personnel, Office Space and Equipment

When an analysis center is organized, it will probably be impossible to hire clerical help that is familiar with the Minnesota Farm Account Book. In general, the clerical workers will have to learn through experience. The Supervisor of the Analysis Center would be fortunate to have his help return from year to year after they have become trained. We found that mature people seemed to have more interest in the analysis work and their chance of returning in succeeding years is greater.

The amount of office space required will depend, of course, on the number of personnel working. Each worker should have a spacious desk or table and a comfortable chair. The room should be rather isolated to receive the least amount of disturbance. The room should also be locked when authorized personnel is not around as these records are confidential and specific information from the records must not fall into public hands without permission from the farmer.

The equipment needed will also depend on the number of personnel. Each clerk will need either an adding machine or comptometer. Comptometers are preferred if you have trained operators because the work can be done more rapidly. In addition, there will be need for an automatic calculating machine capable of handling large reciprocals. The need for another type calculator may arise as the number of books increases.

Order of Procedure in Analyzing Account Books

In our first year of analysis at West Central, we made some extra work for ourselves by doing things in an improper sequence. An attempt is made in this section to set forth a logical order of the analysis work from the time the books are received until the analysis is completed. In our next year's analysis, we plan to follow the procedure as listed. We feel that this sequence will cause the least amount of backtracking in case errors are found.

1. Checking of books by Supervisor
 - a. Check inventories for reasonable weights and values.
 - b. Check FA 11 Crop and Feed report for completeness.
(Be sure purchased feed has been entered and allocated to livestock.)
 - c. Check FA 12 Livestock Report.
 - d. Check FA 51 Supplementary Information, for completeness.
 - e. Check pasture days for livestock.
 - f. Check skim milk fed if cream is sold.
 - g. If operator is renter, check landlord's sale of crops, other wise cash rent.
 - h. Check farm share of auto expense, telephone, electricity, building repairs, and equipment purchased.
 - i. Check for landlord's taxes and insurance if a rental.
 - j. Check five year depreciation schedule.
 1. Landlord's real estate if rental.
 2. Equipment purchased during year should be properly entered.
2. FA 23 - Crop data can be taken at this time from page 29 of the account book. An experienced person should do this as there are often minor adjustments.
3. Clerks re-add all columns in the record book.
4. Crop and feed check can be calculated and totalled.
5. Livestock numbers added to find the average number of head on hand during the year.
6. FA 20 - Summary of Inventories and FA 21 - Summary of Earnings (Cash Statement). One person may do both these forms at the same time. Include family living from the farm and household and personal expenses if they are present.
7. FA 22 - Farm Earnings (by enterprises). This should be taken by a second person.
8. Cross check the figures on the FA 20 and FA 21 against those on the FA 22. If correct, the forms may be completed to obtain labor earnings.
9. After labor earnings have been calculated, an experienced person should look them over carefully for reasonableness. Many errors can be picked up at this time. The operator's and landlord's share on the left side of the FA 21 can be completed at this time.

10. On the reverse side of the FA 22, enter feed consumed by all livestock. At the same time, enter the feed consumed on the proper FA 24 - Livestock Summary. Complete the FA 24 from the FA 22 and the Livestock Report.
11. Make necessary calculations on the FA 24's.
12. Check FA 24's for reasonableness.
13. Copy the returns over feed on the reverse side of FA 20 - Summary of inventories.
14. Check the return over feed for correctness on the FA 20 and decide if any should be omitted from the averages.

After these fourteen steps, the forms are completed to the point where "recapping" is necessary. These forms can be grouped in their respective categories, fanned out and summarized as one straight line. The order of "recapping" is advised in the procedure that follows:

1. Recap individual crop yields and land utilization.
 - a. FA 23 - Crop data can be calculated at this time to find the index or crop yields.
2. Recap FA 24 - Livestock Summaries.
 - a. The index of returns per \$100 feed fed to livestock can now be calculated.
3. Recap FA 20 - Summaries of Inventories.
4. Recap FA 21 - Summary of Earnings (Cash Statement).
5. Recap FA 22 - Farm Earnings (Enterprise Basis).
6. Recap the amount of Livestock on back of FA 20.
7. Recap the Power and Machinery costs per acre on reverse side of FA 22.
8. Recap Family Living from Farm on reverse side of FA 21.
9. Recap the factors of management on the reverse side of FA 20.
10. Recap Household and Personal Expenses and Receipts on back of FA 21.
11. Recap Net Worth on tenure basis from FA 20.
12. Recap Cash Earnings on tenure basis from left side of FA 21.

When the recapping is completed and cross checked, the report may be set up and the necessary copies made. After they are completed, the farmer's own information is copied into a report designated as his own and the thermometer chart should be completed. The report and account books are then ready to be returned to the farmers.

Completed Forms Illustrating the Analysis in Detail and Comparison
of this example to the 1955 West Central Analysis Report

For purposes of example only, a sample farm account book is analyzed on the following forms. An effort has been made by the author to complete these forms as accurately and completely as possible. It was found in the first year's work at Morris that a sample copy of the various procedures would have been of great assistance. This may also prove of benefit to those instructors who are not familiar with the analysis in detail. Perhaps if they are aware of the integration of the various parts of an individual record, they may be able to impress their cooperators of the value and importance of complete and accurate records.

The first three forms that follow are to be completed by the cooperator and instructor before the book is sent to the analysis center. They are FA 11 - Crop and Feed Check, FA 12 - Livestock Report, and FA 51 - Supplementary Information. The calculations shown on these forms in different colored pencil are done at the center for analysis.

The calculations shown on the FA 12 - Livestock Report, are the result of adding the number of head on hand the first of each month plus the number on hand the end of December and dividing by 13. This may in some cases give a more accurate picture than adding those on hand the first of each month and dividing by 12. If there are wide variations from month to month as may be true in the case of feeder livestock, it may be advisable to add the number on hand the beginning and end of each month and divide by 24.

The forms should be checked for their presence as well as their completeness along with the account book itself.

FA 23 - Crop Data

Before the account book is turned over to the clerks for re-adding, we attempted in all cases to enter the information from page 29 of the account book to the FA 23 - Crop Data form. It is probably well for an experienced person to do this so he can observe acreages or yields that may be unreasonable and make the minor adjustments.

(Continuance of FA 23 - Crop Data)

The calculations for tillable land, high return crops, and work units on crops are well explained on the FA 23. The example for calculations of crop index is taken from the FA 23 that appears following this page.

Crops Raised	Acreage	Total Production	Average yield for all forms in this report		Average Needed with Average yields
Oats	30	1800	divided by 34.1	equals	53
Corn	40	1900	divided by 47.0	equals	40
Alfalfa	50	144.3	divided by 2.4	equals	60
	<u>120</u>				<u>153</u>

$(153 \text{ divided by } 120) \times 100 = 127.5$ Index of Crop Yields (unadjusted)

When the index of crop yields (unadjusted) of all cases is added together, the total should approximate the number of cases times 100. With our forty-seven cases, the total was 4747. $(4747 \text{ divided by } 47 = 101)$

$127.5 \text{ divided by } 101 = 126$ Index of Crop Yields (adjusted)

After the FA 23's are all calculated the information may be copied on the reverse side of the FA 20 and the crop acreage may be entered on the reverse side of the FA 22.

Recapping the FA 20, FA 21 and FA 22

The final step in the analysis report will be the recapping of the information contained on the margins of either side of these three forms. We found that 15 to 20 forms are enough to recap at one time because the volume of a large group made it difficult for the operator to handle. The same cross checks will be found in the recap figures of these three forms as are found in the individual forms. For instance, five per cent of the average farm capital at beginning and end of year should equal the average net increase or decrease in farm capital. These and other cross checks are circled in red on pages 3, 4, and 5 of the accompanying report of West Central Minnesota.