AN EXPLANATION OF YOUR FARM BUSINESS ANALYSIS

-12

1

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The purpose of the attached explanation is to provide a quick reference for answers to questions you may have about the analysis. It will help to explain where the figures come from and what they mean or represent. Your instructor will be aware, and can inform you, of minor differences in the way he may interpret certain data and also changes or additions that occur in the analysis program.

Each of the first 10 tables will be treated separately. All items are referred to by table number and line number. (i.e. Table 1, Line 1 would be referred to as T. 1, L. 1) Several important items from the livestock tables are combined in this abbreviated explanation.

The accompanying explanation has been prepared by Duane Lemmon, Farm Management Instructor at the Detroit Lakes Area Vo-Tech Institute, to help his farmers better understand their analysis. I believe it will help you, too.

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Table 1 indicates, "Whole Farm" inventories which means that inventories other than those owned by the operator are included. They should be such items as rented land or buildings, machinery, and livestock owned by a landlord or leased equipment.

- L. 1-2 Lists total acres in the operation and tillable acres farmed including rental land.
- L. 3-5 Shows the distribution of work units between crops, livestock and other. 1 work unit approximates the average accomplishment in a 10 hour day. It is a common measure of the <u>size</u> of the farm business and can be used to indicate how the <u>size</u> of a particular farm compares to others.
- L. 3 The basis for work units for crops are the figures on the following chart. Some of the more common crops grown are assigned the following values per acre. See the master crop list for a complete listing.

• 30	Other Legume Hay	.40	
• 50	Brome Grass Hay	• 30	
•55	Wild Hay (non-tillable)	.20	
.45	Red Clover Seed	•50	
.40	Grass Seed	•40	
2.00	Summerfallow(ave. tillage)	.20	
3.00	Raspberries (fresh market)	30,00	
•60	Strawberries (fresh market)	35.00	
.60	Vegetable Crops (fresh market)	2.00	to 8.00
	•30 •55 •45 •40 2.00 3.00 •60 •60	.30Other Legume Hay.50Brome Grass Hay.55Wild Hay (non-tillable).45Red Clover Seed.40Grass Seed2.00Summerfallow(ave. tillage)3.00Raspberries (fresh market).60Strawberries (fresh market).60Vegetable Crops (fresh market)	.30Other Legume Hay.40.50Brome Grass Hay.30.55Wild Hay (non-tillable).20.45Red Clover Seed.50.40Grass Seed.402.00Summerfallow(ave. tillage).203.00Raspberries (fresh market).30.00.60Strawberries (fresh market).35.00.60Vegetable Crops (fresh market)2.00

Total crop work units would be the summation of, or the adding together of, the acres of each specific crop multiplied times the work unit assignment for the crop.

Example:	Crop	Acres	W. U./Ac.	Total	
	Barley	30	. 30	9.0	
	Corn Silage	20	•60	12.0	
	Alfalfa	50	.60	30.0	
				51.0 W.	U. for Crops

L. 4

Basis for work units for livestock are the figures on the following chart.

Animal	Units	andres ge All Bray office days in a second sec
Dairy Cows	Ave. No. Head - Adults	7.00 w.u./head
Other Dairy Cattle	Ave. No. Head - Others	1.20 w.u./head
Beef Breeding Cows	Ave. No. Head - Adults	1.50 w.u./head
Beef Feeders	Cwt. Produced	12 w.u./cwt.
HogsComplete	Cwt. Produced	12 w.u./cwt.
HogsFinishing	Cwt. Produced	.06 w.u./cwt.
HogsWeaning Pigs	Litters Farrowed	1.40 w.u./cwt.
SheepFarm Flock	Ave. No. Head - Adults	.60 w.u./head
SheepFeeders	Cwt. Produced	.30 w.u./cwt.
ChickensLaying Flocks	100 Hens Kept	5.00 w.u./100 hens
ChickensBroilers	Cwt. Produce	.20 w.u./cwt.
TurkeysLaying Flocks	Hen	.20 w.u./hen
TurkeyPoults	Cwt. Produced	.12 w.u./head
Mink	Ave. No. Head - Adults	.60 w.u./head
Honey Bees	Ave. No. Colonies	.30 w.u./head

- L. 5 Shows number of work units acquired from farm type work performed for others. Calculated from labor income from work off the farm with \$25 equal to 7 day or 1 w.u. Also add in days of custom work performed by you, as operator, or your hired help.
- L. 6 Total of L. 3 + L. 4 + L. 5.
- L. 7

A measure of the labor resource you <u>used</u> in your farm business. It is all labor utilized converted to a man - year equivalent basis. Number of Workers is calculated by the following method:

Reported in record book or at close-out:

Months worked by operator other partners monthly hired labor	·····
Conversion of other labor to months of labor:	
Days of unpaid family labor + 25 days/month Days of day labor hired + 25 days/month Days of labor hired for custom work enterprise + 25 days/month	-
Labor share of custom work hired + \$40.00/day equals days of labor share of custom wor	k ()

Days of labor share of custom work hired + 25 days/month

Total number of months of labor utilized

Total number of months of labor utilized + 12 months/year equals Number of Workers

- L. 8 Average total farm capital. T. 1, L. 29 (beginning inventory plus ending inventory +2) divided by number of workers T. 1, L. 7. You need to be careful in interpretating this figure. Any comparisons must be made with farms of the same type (dairy, hogs, cash crops, etc.) within the same geographical area.
- L. 10-29 Shows distribution of whole farm capital including any rental land, buildings, machinery or livestock owned by your landlord.
- L. 30 Shows the change in total farm capital from January 1 to December 31. This change, either positive or negative, will be used in determining the earnings from the farm as shown in Table 2B and 3.

Table 2A - Whole Farm Summary of Cash Receipts

- L. 1-37 Shows distribution of whole farm receipts, including landlord share.
- L. 31 Capital assets sold--could be land, buildings or machinery.
- L. 38 Shows increase in the whole farm capital from January 1 to December 31, if there is an increase.
- L. 39 Value of food, used by family, that was produced on the farm. Almost always valued at an on-farm price rather than grocery store price.
- L. 40 Total farm receipts all sources.

Table 2B - Whole Farm Summary of Cash Expense

- L. 1-33 Shows distribution of whole farm operating expense, including landlord share. These items make up the operating expense of the business including the purchase of livestock.
- L. 34-38 Shows distribution of new capital asset purchases. These items go on the depreciation schedule and are not considered as operating expenses.
- L. 40 Shows decrease in whole farm capital from January 1 to December 31, if there is a decrease.
- L. 41 Average whole capital (average of January 1 December 31. T. 1, L. 29) times 7% - Shows an interest charge if all the money invested in the business were borrowed at 7%. It is an "opportunity cost" of using capital in a business as opposed to putting it in a bank.
- L. 42 Value attributed to your unpaid family labor, currently figured at (<u>\$</u>____) per day. This would be determined by you or your instructor.
- L. 43 Value attributed to your partners labor, if applicable.
- L. 44 Value of board furnished for hired help.
- L. 45 This total will include both cash and non-cash items.
- L. 46 Total farm receipts (T. 2A, L. 40) minus total farm expenses (T. 2B,
 L. 45). Value received for the labor and management on this farm for both yourself and other sources not entered as an expense. (Ex.--Landlord)
- L. 47 Number of operators as reported on close-out forms.
- L. 48 Number reported on L. 47 x number of months reported worked + 12.
- L. 49 L. 46 + L. 48.

Table 3 - Enterprise Statement (Whole Farm)

L. 2-15 Shows the combined value of sales and inventory increases or decreases from various classes of productive livestock. An example of items considered in the calculation would be:

FOR DAIRY COWS

Ending Inventory Transfers Out Butchered Sales Milk and Cream used in the Home Milk and Cream Sold Milk Fed to Young Stock Miscellaneous Livestock Income	\$
TOTAL (possible output) (A)	
Begining Inventory Transfers in Purchases TOTAL (inputs) (B)	

Value of returns and net increases (A minus B) It is a summation of the total value of production for that year whether sold, consumed, or retained in the herd.

- L. 16 Value of all feed fed to livestock, including <u>both</u> purchased and raised.
- L. 17 Your return over the value of feed fed to all productive livestock (L. 15 minus L. 16).
- L. 18 This calculation reports somewhat of a <u>net</u> value of the crops produced for the year. The following chart illustrates the calculation:

	Ending Inventory Crops Crop Sales Crops used in the Home Crops Fed to Livestock	\$	
TOTAL	L	(A)	
	Feed Bought Fertilizer Bought Chemical Bought Other Crop Expense Irrigation Operation Costs Value of Milk Fed to Livestoc Begining Inventory Crops	:k	
TOTAL	L	(B)	

Value of Crop, Seed, and Feed (A minus B)

This value could be influenced by an increase or decrease in market value of crops held over one year. Also, crops sold for more or less than their begining inventory value would have an influence.

- L. 19 Cooperative patronage refunds as reported. It should include both the cash and equity portions of the refunds.
- L. 20 Miscellaneous farm income that is not reported anywhere else.
- L. 21 The net return from the custom work enterprise. Total income minus all reported expenses for custom work.
- L. 22 Total of lines 17 thru 21.
- L. 24-35 Shows actual expenses for certain items and actual expenses plus inventory decreases or depreciation for others.
- L. 24-25 These two values if added together determine your total power and machinery expense that is to be later allocated to crops on L. 17 and 18 of the crop analysis tables or to the various livestock enterprises. However, the truck or machine share of any custom work hired would be excluded before this allocation would be made. An example of the calculation would be as follows for L. 25.

Expenses and Net increases for Tractors and Crop Machinery

Begining Inventory Value tractors and crop machinery Custom work hired, power and machinery share Power and machinery bought Gas, oil, and grease bought for power and machinery Repair and operation of tractor and crop machinery

TOTAL A

Ending Inventory Value tractor and crop machinery Power and machinery sold Income from farm work off farm, power and machinery share Gas tax refund

TOTAL B

Net decrease, tractor and crop machinery equals A minus B You should view this item as the cost of <u>owning</u> and <u>operating</u> the various categories of assets.

- L. 27, 34 Show actual expenses for these categories minus any household and & 35 personal share.
- L. 31 The miscellaneous livestock expenses reported plus veterinary and medicine expense.
- L. 32 Labor costs would include wages for hired labor, value of unpaid family labor, labor share of custom work hired and value of board for hired labor minus any labor share of income from work off the farm. This could be a negative value if you earned more from farm work off the farm than labor hired.
- L. 33 Labor charge for other operators as reported, if more than 1 operator.
- L. 36 The interest charge against the farm business as if all the money invested in the business were borrowed at 6%; same as T. 2B, L. 41.
- L. 37 Total of L. 24 thru L. 36.
- L. 38 (L. 22 minus L. 37) Amount received for the labor and management put into this farm operation. Should be the same as T. 2B, L. 46. If not, there is an error. If you are a renter, check this labor earnings figure with that found on Table 6B. If labor earnings on Table 6B is greater than Table 3, it could be an indication that you are getting a better deal by renting than owning (assuming all entries are accurate and complete).

L. 39 Number of operators reported on the close out forms.

A very personal area of your record and analysis, but necessary for a more meaningful and accurate record. Particularly important if an accurate cash balance is to be made. Expenses are listed in total and on an adult equivalent basis.

- L. 1 Number of persons reported living in home.
- L. 2 Adult equivalent living in the home based on the following:

NUMBER	MEMBERS OF FAMILY	VALUE PER PERSON	TOTAL
	Child under 7 years	.4	
	Child from 7 to 12 years	.6	
	Women 13 years and older	•8	
	Boys from 13 to 18 years	•9	No. of Concession, Name
	Men 19 years and older	1.0	
	•		Statistics of the second state
	TOTAL ADULT EQUIVALENTS	=	

L. 3-20 Actual values reported in the record book.

L. 26-33 Quantity and value of various farm grown foods that were reported used in the home. This is the same value as reported on Table 2A.

Table 5 - Net Worth Statement - (Operator)

- L. 1-5 Shows the distribution of capital invested in farming. This is the operator's share. If you are a renter, compare with Table 1 and notice the effect of the Landlord's investment which was included in Table 1.
- L. 6 The total of L. 1 thru 5.
- L. 7A Reported cash on hand and in the bank. Would include savings accounts if reported.
- L. 7 Capital invested in non-farm items, but also includes such assets as shares in marketing organizations and accounts receivable that are very much a part of the farm business.
- L. 8 Value of farm home.
- L. 9 Total assets (L. 6 + 7 + 8)
- L. 10-13 Shows the distribution of the operator's liabilities, divided into categories.
- L. 14 Total liabilities (L. 10+ 11 + 12 + 13)
- L. 15 Net Worth is L. 9 (total assets) minus L. 14 (total Liabilities)

This may not be the true net worth since it is calculated on the basis of values reported on L. 9. Land, as an example, may be in at a price paid several years ago, rather than the current market value. (See T. 5A)

- L. 16 An indication of financial gain or loss in net worth from January 1 to December 31. This is an important figure to watch. You can check the accuracy of your record by the following formula--In a good record (L. 24) - (L. 27) should approximately equal L. 16. See Table 100 in your analysis report for a more detailed accuracy check.
- L. 18- Earnings and returns as calculated from T. 6B.
- L. 21- Non-farm and personal income as reported in the record.
- L. 25- Total of figures reported on the financial page in the record book.
- L. 27 Total family living costs.

19

23

26

- L. 28 Expense incurred, incl. cap. purchases, for each \$1.00 of farm receipts (T. 6B, L. 46 + T. 6A, L. 40). It would include any increase (receipt) or decrease (expense) in farm capital.
- L. 29 Shows the amount you own for every \$1.00 you owe according to values reported in your inventories. Buildings, machinery and equipment are in at book value (depreciated value). Two values shown - Beginning of year, January 1, and end of year, December 31. Credit people may refer to this ratio as the net capital ratio.
- L. 30 Shows the amount you own in non-real estate assets for each \$1.00 you owe in non-real estate liabilities. Credit people may refer to this as working ratio.
- L. 31 Shows the amount you own in real estate assets for each \$1.00 you owe in real estate liabilities. Credit people would refer to this item as the <u>fixed ratio</u>. This value for real estate should be based on original cost. It may be wise to watch the relative values of these two categories of liabilities. You may not want a lot of short term debt but rather more in long term (real estate) to ease the demand on cash flow.
- L. 32 Shows the dollar amount of net worth (at reported values) for each \$1.00 of total liabilities.
- L. 33 Amount of operating expense incurred for each \$1.00 of total farm sales, not including and capital assets sold. (T. 6B, L. 35) + (T. 6A, L. 37 minus T. 6A, L. 31). You can use this item to determine how much business volume you must have to live on, pay debt, buy new assets and save.
- L. 34 Measures the dollar amount of total farm receipts for each \$1.00 of farm capital invested, whole farm. (T. 2A, L. 40) + (average of T. 1, L. 29)
- L. 35 Measures the dollar amount of total farm receipts for each \$1.00 of farm capital invested, operator share. (T. 6A, L. 40) + (average of T. 5, L. 6).

Both of the above (L. 34 & 35) ratios give an indication of how fast a farmer can turn over his money invested in the farm business. A cash crop farmer with high priced land may have a very low turmover rate compared to a hog or poultry farm with a small investment and a high volume of production. A ratio used by other businesses such as grocery stores, lumber yards, etc. Table 5A - Net Worth and Working Financial Statement

This table is very similar to the Table 5 Net Worth Statement and is made available for the operator to use in developing an updated Net Worth Statement as of a "current date". It is generally thought of as a planning table to use with your banker or other financial institutions. Items are expressed on the Historic, end of year date and whatever "current date" you choose to use.

- L. 1-9 Correspond to the same general categories of assets as L. 1 thru L. 9 on Table 5. However, since the data is being collected at a time that could be several months later than the end-of-year close out, the values could change drastically. Some examples of change that could take place are:
 - 1. A feed lot that has been filled or sold out.
 - 2. A crop, seed, and feed inventory that has been fed or sold.
 - 3. New capital assets purchased.
 - 4. Land values that have increased dramatically.
 - 5. Non-farm assets or cash in the bank can change.
- L. 10-14 Also correspond to the same categories as L. 10 thru 14, T. 5. These values could change if more money were borrowed to some paid off on the liabilities.
- L. 15 Net worth is L. 8 (total assets) minus L. 14 (total liabilities). It could be described as the amount of, or value of, total assets that you actually own.
- L. 18-24 Correspond to L. 18 thru L. 24 on Table 5 and on the blank spaces provided you are encouraged to project your next year's results.
- L. 25 Shows money borrowed last year and allows space to project the current year's needs.
- L. 26 Shows amount paid on debt last year and allows space to project what you expect tp repay in the current year.
- L. 26A Shows interest paid last year and allows for a projection for the current year.
- L. 29-32 These ratios correspond to those on T. 5 new "current date" ratios can be calculated after current values have been established for assets and liabilities.

Signature can be added to verify that the information given is authentic.

Table 6A - Operator's Share of Cash Receipts. This table is almost identical to Table 2A except it reports only the operator's share of the business.

- L. 2-16 Shows distribution of cash receipts from various classes of livestock.
- L. 17 The total of L. 2 thru 16 total sales from productive livestock.
- L. 19-28 Shows distribution of cash receipts from various types of crops sold.
- L. 29 Government payments received is payment for set aside acres.
- L. 30 Total of L. 19 thru 29 total sales from crop sources.
- L. 31 Amount received for capital assets sold. Items that should be removed from the depreciation schedule.
- L. 32 Amount reported received for gas tax refunds.
- L. 33 Income you received for farm type work done for others--could be labor, baling, trucking, etc.
- L. 34 Total income received from a custom work enterprise.
- L. 35 Cash received as patronage refunds.
- L. 36 Farm income that doesn't fit somewhere else, could include government payments for grain storage or disaster payments.
- L. 37 Total of 17 + 30 + 31 + 32 + 33 + 34 + 35 + 36 * total income from sales for the year.
- L. 38 Shows the increase in operator's farm capital from January 1 to December 31, if there is an increase. (From T. 5, L. 6).
- L. 39 Value of food used by the family produced from the farm.
- L. 40 Total of L. 37 + 38 + 39 includes sales, inventory increases, and personal consumption.
- L. 41 This is the total farm sales (L. 37) minus capital assets sold (L. 31) to give a measure of the productive sales from the farm.
- L. 42 From T, 6B, L. 35.
- L. 43 L. 41 minus L. 42 or the amount of money you have available to spend for family living, paying off debts or buying new equipment and real estate.
- Table 6B Operator's Share of Cash Expenses (except for <u>cash rent</u> and <u>interest paid</u>, the headings are identical to Table 2B. It reports the <u>operator's</u> share of the business.)
 - L. 2-34 Expenses incurred in the various categories listed. Personal share of auto, telephone, and electricity expense has been excluded.

Actual interest paid.

- L. 35 Total of L. 2 thru 34 total operating expense or necessary production costs.
- L. 36-40 New items of equipment or real estate that should also be recorded on the depreciation schedule.
- L. 41 Total of L. 35 thru 40 Total spent for farm purposes.
- L. 42 Decrease in operator's farm capital from January 1 to December 31 if there is a decrease. (From T. 5, L. 6).
- L. 43 This is the value of interest remaining after the actual interest (L. 34) is subtracted from the interest calculated by taking 7% times the operator's average farm capital (T. 5, L. 6). Essentially this figure represents the interest you are earning on that portion of your farm capital which you own, debt free.
- L. 44 Value attributed to unpaid family labor @ (\$) per day.
- L. 45 Value placed on board furnished to hired labor.
- L. 46 Total of L. 41 thru 45 Total of cash expenditures.
- L. 47 Return for your (operator's) labor total farm receipts (T. 6A, L. 40) minus total farm expense (T. 6B, L. 46). Compare with whole farm labor earnings on T. 2B. If you are a renter and T. 2B labor earnings is less, it is possibly telling you that renting is a good deal under your specific conditions that year. . .
- L. 48 Total of L. 47 + 44 + 43 It is what your family received from the farm. Includes operator labor earnings, unpaid family labor and interest on farm capital.

Table 8 - Measures of Farm Organization and Efficiency

Much of this table is based on averages and therefore printed after the averages are run.

- L. 1 Labor Earnings A measure of financial return for the operator's labor and management, taking into account all income and expense, cash and non-cash including a charge for the use of farm capital. This is based on whole farm business and is taken from T. 2B, L. 46.
- L. 2 <u>Crop Yield Index</u> A measure of the crop yield level for all crops produced expressed as a percentage of the average. 100 would be average--if your index is 115, it means your yields are 15% above the average. A low index would mean you are below the analysis average for your area. You have to determine the production potential on your farm in determining if your yield index should be average or above. Some farms will always be below average because of soil and climate conditions.
- L. 3 <u>Percent of Tillable Crops in High Return Crops</u> Not used by the Thief River Falls Center. In other areas it is a measure of the percentage of your land that is in potentially high return crops, based on long term net returns to crops. It is a way of examining how your cropping program is organized.

- L. 4 GROSS RETURN PER CROPPED ACRE This is the gross value of the production from all tillable acres, except pasture, on a per acre basis. It is extremely dependent on the type of crops raised and the area in which you are located. Comparing yourself to the average may or may not be meaningful to you. The values used are based on prices at the time of harvest. It is the best single measure of how well your crop contributes to your income.
- L. 5 Return Per \$100 Feed Fed to Productive Livestock Measures the general level of efficiency for all livestock. This index figure represents how you compare with the average on your return for every \$100 worth of feed fed to all productive livestock. Again, if your index is 115, it would mean you are 15% above the average.
- L. 6 Livestock Units Per 100 Acres of Land This would be livestock units per 100 acres of land usuable for some type of production. It includes tillable land, non-tillable hay, and pasture. It is much more meaningful for the operator to study his own individual farm operation on this point than to look at averages. (Example: A large grain farm may have more livestock than can adequately be handled, but still have a low figure; whereas, a confined hog operation on a few acres could well afford to expand.)
- L. 7 Size of Business--Work Units A measure of the total work load. A work unit represents the average accomplishment of a worker in one 10-hour day. It is useful in comparing the size of your business to other farms.
- L. 8 Work Units Per Worker Measures labor efficiency. It is the total work units divided by the average number of workers (T. 1, L. 7). It includes the operator, hired labor, and reported family labor on a man-year basis. It is a measure of labor efficiency, or the amount of farm size that is accomplished by each full time worker.
- L. 9 <u>Power, Machinery, Equipment and Building Expense Per Work Unit</u> -A measure of expense control. It is the total cost of items 24 through 29 in T. 3 divided by the number of work units.
- L. 10 Farm Capital Investment Per Worker An indication of the relative use of labor and capital useful in comparing a farm business to other industries or businesses, and to other farm businesses of the same type in the same general geographic area.
- L. 7,8, A study of these four figures and their relationship and importance to each other can give information on your overall efficiency. Examples: (1) you may be low on 7 and 8, but also low on 9 and 10; you would be utilizing labor rather than capital. (2) You may be high on 7 and 8 and also high on 9 and 10; you would be getting a lot of work from each worker by being highly mechanized with expensive machinery. (3) You may be low on 7 and8 and high on 9 and 10; not a good situation as you would not be making wise use of heavy investments. Somewhere there has to be an optimum, or best, combination of labor and capital, with each farm operation having its own formula.

L. 12 Index of return for \$100 worth of feed fed for each individual Thru 29 class of livestock. Again 100 is average.

L. 30 Number of animal units on your farm. Determined on the basis of the following chart. It is based on comparitive feed consumption.

	Livestock	Animal Units	Livestock	Animal Units
1	Dairy Cow	1.00	1 Feeder Pig	.20
1	Other Dairy	• 50	1 Ewe	. 14
1	Beef Cow	.80	1 Other Sheep	.07
1	Other Beef Animal	. 30	1 Laying Hen	.005
1	Beef Feeder	1.00	1 Turkey Hen	.04
1	Sow	. 40	1 Market Poultry	.003
1	Other Pig	.20	1 Horse	.80

L. 32, 33 Work units reprinted from T. 1, L. 3, 4 and 5. Shows the areas & 34 from which your work units originate.

- L. 36 Individual expense items expressed on a per work unit basis. Thru 40 Important to and dependent on the size and type of farm. Each of these specific items are taken in total from the lower half of Table 3 and divided by total work units. If farm share of truck and auto appears high it might be because of some added expense of trucking in large amounts of hay or feed that is not normal. They are useful figures to compare from year to year to determine the trends in costs.
- L. 41 This is the total tractor and crop machinery from T. 3, L. 25 divided by total tillable acres plus non-tillable hay acres, both owned and rented. It includes the costs of depreciation, repairs, fuel, and power and machinery share of custom work hired, less any income from work off the farm with your machinery and gas tax refund.
- L. 42 This is the amount of farm power and machinery expense that is allocated to livestock. The total farm power and machinery expense is divided between crops and livestock on a work unit basis. 1 work unit in crops is allocated approximately 10 times the power and machine expense that 1 work unit would receive in livestock.
- L. 43 Building, fence and tiling costs are allocated proportionately between crops and livestock on a work unit basis. This amount, held aside for crops, <u>is not</u> allocated to the specific crops on the enterprise tables.
- L. 46 <u>Marketing Index</u> A measure of the market price received for selected crops expressed as a percentage of the average. 100 would be averageif your index is 105, it means your market prices were 5% above the average. An index lower than 100 would indicate you received market prices lower than the average of your analysis area.

This Marketing Index is confined to those crops for which there are established cash markets, measurable yields, and the quantity sold is reported in a unit of production other than dollars.(Bu., Lbs., etc.) Only those eligible crops, for which both a quantity and value of the operator's share of crop sold are reported, will be used in the index. All eligible crops will be combined into one index for each farm. If 3 crops, such as wheat, barley, and sunflowers are marketed, each will be compared to the area average market price for that crop before the calculation of the marketing index. Top portion of this table lists the individual acreages and average yields for the various crop enterprise analyses requested. It would include both owned and rented if combined that way in the requested analysis. It lists the total acreages cropped, combining both owned and rented, according to the following categories:

- A. Total acres of small grain and canning peas.
- B. Total acres of row crops.
- C. Total acres in legumes including legume seed crops.
- D. Total acres in other types of hay crops, such as Bromegrass, orchardgrass, timothy, oat hay, etc.
- E. Total acres in silage or fodder.
- F. Total acres in tillable pasture
- G. Total acres in grass crops grown primarily for seed or sod.
- H. Total acres in commercial fruits and nuts.
- I. Total acres in commercial vegetables (large volume production).
- J. Total acres in roadside market and specialty crops.
- K. Total acres in fallow or idle land (tillable acres).
- L. Total tillable acres Total of L. A thru K.
- M. Total acres of harvested non-tillable hay and pasture.
- N. Total acres non-tillable forest crops reported harvested.
- O. Total acres land not harvested, wasteland, farmstead, etc.
- P. Total acres non-tillable land (Total of L. M + N + O).
- Q. Total of all reported acres (owned and rented).
- L. 9993 The percent of all land in farm operation that is tillable (L. L + L. Q).
- L. 9994 Not used in Northwestern Minnesota. In others, it is the same value as reported on Table 8, L. 3.
- L. 9995 Fertilizer cost per acre of tillable land cropped. It is the sum of all allocated fertilizer used from the crop data page divided by total cropped acres. Does not include tillable pasture fallow or idle land.
- L. 9996 Crop chemical cost per acre of tillable land cropped. (Determined same as L. 9995).
- L. 9997 Seed and other cost per acre of tillable land cropped. (Determined same as L. 9995).
- L. 9998 Gas, oil, and grease purchased per acre of tillable land cropped. Based on the value reported in the record book for farm share of gas, oil, grease, and diesel fuel purchased minus the gas tax refund. This figure could vary from amount actually used if a large fuel bill was owed at the end of the year or a large inventory was on hand at the begining of the year.

Each farm business analysis can presently have up to 24 individual crop analysis printouts. This allows the farmer the opportunity to compare various crops, different fields of the same crop, dryland vs. irrigated, owned versus rented, different treatments, varieties or cropping methods.

- L. 1 Acres of production reported for the specific crop.
- L. 2 Total yield divided by the number of acres equals average production per acre.
- L. 3 Reported dollar value per unit of production which may be in bushels, tons, pounds or listed as a dollar amount. This should be a harvest value before any special treatment for storage or marketing has been applied.
- L. 4 Gross dollar value of crop produced, both total and on a per acre basis, based upon the production and the harvest value per unit.
- L. 5 Value of other production that can be credited to these acres for this crop year. This could be straw, pasture, clover seed, insurance payments, aftermath grazing, etc.
- L. 6 Total of L. 4 and L. 5.
- L. 8 Reported value of fertilizer used for this specific crop. May have been spring or fall applied.
- L. 9 Value of chemical applied.
- L. 10 Value of seed and other materials used. Could include baling twine for hay or straw.
- L. 11 Normally indicates special labor for a high labor crop such as sugar beets, potatoes, or fruits and vegetables. However, can be used to allocate hired labor on a normal grain or livestock farm.
- L. 12 This is the value of custom work reported for this particular crop.
- L. 13 Cost of irrigation operation and includes fuel or electricity and repairs. Based on acres actually irrigated this year and amount of water applied.
- L. 14 Total of L. 8 thru L. 13 Direct costs are those specific to this particular crop.
- L. 15 L. 5 minus L. 14 Gross return minus direct cost.
- L. 17 This is the proportion of the total power and machinery ownership cost (essentially depreciation) that has been allocated to an acre of this particular crop.

L. 18 This is the proportion of the total power and machinery operation cost (fuel and repair costs) that has been allocated to an acres of this particular crep. Custom work hired is on L. 12 and is excluded from both the ownership and operation costs on L. 17 and 18. Both L. 17 and 18 are calculated on the basis of work units assigned as shown for each crop on page 1 of this explanation. Example: Oats = .30/ac. Alfalfa Hay = .60/ac. Alfalfa would have twice as much power and machinery cost as oats.

> However, both L. 17 and 18 can be adjusted by the use of a power cost allocation factor (PCAF). This is shown below on L. 27 of T. 10. It can be used as an adjustment when more or less than average power and machine usage would apply to a certain crop. This could be re-planting because of frost, only 1 alfalfa crop because of drought, no combining because you hired a custom operator, etc.

- L. 19 The per acre cost of owning irrigation equipment, such as depreciation, is shown as ownership cost per acre. It would include annual interest on investment if calculated. It would be the lease charges if you had that arrangement. This cost has been calculated on intended usage at the time of acquisition, not on the basis of actual usage as in L. 13.
- L. 20 This is a hand calculated figure based on interest x land value + real estate taxes attributed to land if it's owned land. On rented land it's the actual cash rent paid or value of crop share less any amount due the operator for combining charges or direct costs from the landlord.
- L. 21 These are crop costs that fit in no other place. You may have elected to handle some cost of production different than the normal methods. This line is often used to prorate the costs of summer fallow or land planing over several years.
- L. 22 This is a 7% interest charge on your investment in machinery and equipment. Based on average investment of the year and allocated as are ownership and operation costs in L. 17 and 18.
- L. 23 Total of L. 17 thru 22.
- L. 24 L. 6 minus (L. 14 + L. 23).
- L. 26 This is the work unit assignment for this particular crop. Same information as reported on the chart on page 1.
- L. 27 An adjustment factor explained in L. 18 above, used to vary the power and machine cost if necessary.
- L. 28 Total direct costs (L. 14) + total allocated cost (L. 23) + yield (L. 2).

L. 29 Return over all listed costs (L. 24) + yield (L. 2).

L. 30 The yield necessary, at the quoted price on L. 3, to cover total listed costs per acre on L. 31.

Includes all whole milk, skim milk, or cream reported sold, fed to livestock, or used in the home.

Power and machinery costs:

This is the share of total power and machinery ownership and operation costs allocated to the livestock enterprise.

This allocation is made by a standard formula incorporated into the program which divides power and machinery cost according to work units. A livestock work unit will receive 1/10 or 1/12 the power and machinery expense of a crop work unit. (1/10 if there are less than 400 work units in livestock and 1/12 if there are 400 or more livestock work units). The total amount held out from crops for livestock enterprise allocation is listed on T. 8, L. 42.

You will notice (PCAF) printed on this line. PCAF stands for Power Cost Allocation Factor and can be used to increase or decrease the power and machinery costs normally allocated by the standard formula. Work with your instructor to determine the factor to be assigned, if a change is necessary.

Livestock equipment costs:

This is the share of the total livestock equipment ownership and operation or repair costs allocated to the livestock enterprise. This allocation is made between livestock enterprises on the farm on a work unit basis. ECAF is livestock Equipment Cost Allocation Factor and can be used to adjust the equipment costs to something other than the equal work unit allocation, if necessary. An illustration would be a beef herd requiring a minimum of livestock equipment, sharing the cost of equipment for a modern hog facility.

Building and fences:

This is the share of building and fences, ownership and up-keep costs, allocated to the livestock enterprise. This cost is allocated on a work unit basis with each livestock and crop work unit getting an equal share. If something other than equal shares are desired between crops and livestock, or between various livestock enterprises, the use of the Building Cost Allocation Factor (BCAF) should be considered. Again, as an example, it would not be reasonable for a beef herd raised in a grove of trees to share the cost of buildings for a modern hog facility. The Supplementary Management Information calculated for the various livestock enterprises differs according to the type of livestock being considered. Some items follow that may need further explanation.

Return for \$100 feed fed:

The gross return realized for every \$100 worth of feed fed. It is determined by dividing the total value produced by total feed cost and multiplying by 100.

Average price received per animal sold:

The average price received for each animal sold including both young animals and breeding stock.

Average price per animal or per cwt. sold or transferred:

Average price received or value per cwt. or per head for all young animals sold or transferred out in the analysis year. This refers to the value of young animals produced in current analysis year.

Average weight per young animal sold or transferred:

This refers to the average weight of young animals produced in current analysis year.

Percent death loss:

Calculated by the following formula:

Number young died	
Number old died	
TOTAL (A)	
Number on beginning inventory	
Number transferred in	
Number purchased	
Number born	
TOTAL (B)	
Number transferred in Number purchased Number born TOTAL (B)	

Total A = Total B x 100 equals percent death loss.

Percent calf death loss (Other dairy only):

Death loss of baby calves only. It is the number of young died divided by the number born.

A measure of the rate at which new cows are put into the milking herd. Determined by adding together:

Number	of	COWS	sold	
			died	
			transferred out	
			butchered	
			TOTAL (A)	

Divide total A by the average number of cows and multiply times 100 to get percent.

Effective daily gain (feeder livestock enterprises):

Found by multiplying the average number of animals on hand by 365 and then dividing this quantity into the total pounds produced.

Percent calf crop:

Determined by dividing the number born by the number of cows that were supposed to have calves, then multiplying by 100.

Utilities and other general farm expense:

Interest allocation:

Other costs not listed:

Costs that can be hand allocated and entered to determine the total production costs.