FARM MANAGEMENT ENTERPRISE ANALYSIS AND EVALUATION

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Contributions By Vocational Agriculture Instructors
in Minnesota and North Dakota

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FOREWORD

This series of programmed teaching guides is the product of many. Vocational agriculture instructors in Minnesota and North Dakota, through a series of workshops and courses in farm management education, worked diligently in drafting and revising the programmed unit for each enterprise included in this booklet. The editors attempted to unify the format so that the units might be easier to utilize in group and individual instruction.

While the instructors who developed the units used the best technical data available to them, it is possible that some inaccuracies exist in the technical information. It is also possible that the general technology or practices described in the units do not fit a particular locality. Thus it is important that each instructor who contemplates using the programmed units for instruction review each unit carefully to insure that the information is up to date and that the practices described are appropriate for his area.

The major purpose of these units is to develop a closer tie between the practices in which a producer engages and the results of his efforts as illustrated by his farm business analysis. Each enterprise unit contains questions which refer to specific items by table and line number within the business analysis. By following the business analysis carefully while completing the programmed unit for a particular enterprise, the farmer-student may discover some important changes necessary in the management and operation of an enterprise if he is to achieve his goals.

The reader will note that almost all units start with the question, "Are you satisfied...?". This format is in keeping with the farm management education philosophy that the purpose of instruction is to assist farmers and their families in attaining their goals. Since each family might be expected to have a different goal in mind, it is important to recognize that satisfaction with performance will occur at different levels.

Instructors are urged to develop additional units to evaluate enterprises not covered in this publication. If additional units are sent to Dr. Persons they will be considered for inclusion in the first revision of this document.

The editors wish to express their thanks to the many vo-ag teachers who contributed to the programmed units. While their names do not appear as authors of the individual units, the reader should recognize the contributions the instructors have made in improving the opportunities for better business management.

Enterprise Analysis For Beef Breeding Cattle

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over all listed costs per cow as shown on Line 22F?

   Highest return farms _____

   My farm _____

   Average farms _____

2. Are pounds of beef produced per cow as high as I want them to be? Total pounds of beef produced (Line 3) divided by average number of cows (Line 1) equals pounds of beef produced per cow.

   a.____ Yes. Go to question 3.

   b.____ No. The pounds of beef produced varies depending on replacement numbers and calf selling weight, but under normal circumstances, this weight should be between 450 and 550 pounds per cow.

3. The percent calf crop is at 95 or above as shown on Line 28.

   a.____ Yes. Go to question 4.

   b.____ No. When your calf crop drops below 95%, profit drops. You are essentially feeding a cow all year for no return. Start looking at your breeding practices and pregnancy test if you are not currently doing so. Also, look at your calving procedures and gestation nutrition to see if either could be improved.

4. Cows are settling and calving within 60 day periods.

   a.____ Yes. Go to question 5.

   b.____ No. Stop! Consider the following list of recommended breeding management practices before going to question 5.

      1) Immunize each breed cow for IBR, Leptospirosis and perhaps BVD annually when she is not pregnant.

      2) Be sure the cows and bull are in breeding condition. It takes 40 to 50 days of satisfactory nutrition to prepare the reproductive tract for the reproductive process.

3) Bulls should be fertility checked and observed to be vigorous maters.

4) Cows to bull ratio must be in line with the breeding method used.
   a) Hand mating: 40 to 50 cows can be serviced per bull.
   b) Pasture mating: 1 mature bull to 25 to 35 cows. Yearling bulls limited to about 20 cows.

5) If cows are grouped in separate pastures, rotate the bulls among the groups every 2 to 3 weeks to minimize possiblity of bull infertility.

6) Turn bull in with (or start inseminating) yearling heifers about three weeks before the cow herd. This will have them calving at the desired time in future years since they tend to have a slightly longer interval than mature cows before cycling and conceiving while nursing their first calf.

7) Consider the use of artificial insemination (A.I.). If using A.I. observe regularly for estrus and check for abnormalities such as infections and cystic ovaries during breeding.

8) Pregnancy check 40 to 60 days after breeding. Treat nonbreeders if possible. Cull those that won't breed. Percent calf crop increased from 80 to 90.6 when pregnancy checked in a Colorado study.

5. Are you satisfied with your return over feed cost as shown on Line 16?

a.____ Yes. Go to question 6.

b.____ No. Read the following, then go to next question.

1) Land type and cropping program should match the specifications for a profitable beef cow-calf enterprise. Large quantities of low value forages can be a mainstay of the beef cow's diet. But despite the beef cow's ability to convert low quality roughage into meat, effort should still be made to produce good quality forage and pasture.

2) An abundance of land unsuited for general cropping should be utilized as hay land and pasture. The beef breeding herd can put much otherwise wasted land into production, but may not be suited for an operation with much Class I land.

3) The basic requirements of beef cows and calves program should be decided on a low cost basis with home grown feeds.

4) Cows should be separated into winter feeding groups by age and condition.
   a) Mature cows in good flesh should be receiving 15 - 20 lbs. of good quality mixed hay per head daily or 8 - 10 lbs. of alfalfa hay plus 20 - 25 lbs. of corn silage ot provide adequate protein and energy.
   b) Yearling heifers, first calf heifers, older cows and extra thin cows should be fed to gain 1 to 1 1/2 lbs. daily. Replacement heifers of common breeds should weigh 600 to 650 lbs.

at breeding and crossbreds and larger breeds 650 - 700 lbs.

c) If hay doesn't have good green color or is from the previous year, feed 20,000 I. U. of vitamin A per head per day.

d) Provide trace mineralized salt and a calcium-phosphorous mineral mix free choice.

6. Are you completely satisfied with your calf weights and grades?

a.____ Yes. Go to question 7.

b.____ No. Stop! Many of the practices previously discussed will do much to change these factors. However, several more practices such as the following could be initiated in your herd and have considerable impact on these figures. Consider this list before going to question 7.

1) Follow a program such as the Minnesota Beef Improvement Program where calves are weighed and graded. Cows that have produced the lightest calves on a weight-for-age basis are then called if economics and herd size allow. Replacement heifer calves can be chosen by keeping the top 40% by 205 day weights and further culling done by yearling weights in the spring and at completion of breeding season.

2) Bulls used as herd sires have at least 550 lbs. 205 day and 1000 lb. yearling weights (heavier if from larger breeds). Remember, the bull is 1/2 the herd for calf production purposes.

3) Also consider characteristics other than size when selecting a herd sire. He contributes 50% per generation to the herd's many performance traits. Heritability estimates for several traits are: fertility-10%, birth weight-40%, weaning weight-30%, mothering instinct-40%, efficiency of gain-40%, conformation at slaughter-45%, and carcass grade-30%.

4) Calves have clean water and creep feed available. This is especially helpful for calves from first calf heifers and old cows and during dry seasons or where pasture quality is marginal.

5) Steer valves are implanted at 1 to 2 months of age and succeeding 120 day intervals with 12 to 15 mg. of stillbestrol or other effective FDA approved growth promotant. Check latest allowable chemicals.

6) Start calving earlier. Calves born several weeks before the pasture season will be heavier at weaning time because they are better able to utilize the increased milk flow when cows are turned into early, high quality pasture and ready to consume considerable amounts of forage themselves.

7) If herd size and labor supply warrants spreading of the calving and breeding seasons beyond 60 days, consider both spring and fall calving. Fall calving offers the following advantages and disadvantages:

Advantages

a) Reduced risk from storms and lessened calf disease causing cold weather stress.
b) Lessened bull investment. Bull cost can be spread over more cow units due to split breeding season.
c) Spread out labor load; fall-spring combination calving results in less conflict with spring cropping than straight spring calvin
d) Less pasture needed or more pasture can be utilized. Calves can be weaned and kept in dry-lot when cows go to pasture in spring, thus releasing limited pasture space for dry cows and spring calves or fall born calves can make better use of it themselves, if available.
e) Cows that didn't rebreed in original group can be delayed to freshen with group 6 months later; keeps calvings better bunched into desired 60 day periods.
f) Undersized heifers can be bred to freshen at 30 months of age; spring born heifers will calve in fall and fall born heifers with spring group.

Disadvantages

g) Winter feed requirements are higher due to feeding lactating cows throughout winter. This increases both feed and labor needs.
h) Good nutrition level must be maintained to facilitate rebreeding during winter.
i) Separate herds must be maintained during much of the year.

8) Artificial insemination can provide you with more "bull power" and certainty of improvement potential. These bulls are intensely selected to meet strict criteria and boast progeny performance records you can refer to before mating. Consideration should be given if facilities and labor are available.

9) Crossbreeding, particularly a three-breed rotational system, results in the offspring receiving an extra boost out of the mating of genetically unlike parents. Most likely advantages are earlier maturity, increased fertility, less death loss, increased weaning weight, improved weight gains and added milk production. The accumulative improvement amounts to 20 - 25% increased production from a three-breed cross when compared to straight bred cattle.

7. Is the percent calf death loss (Line 27) less than 5%?

a.____ Yes. Go to question 8.

b.____ No. Stop! Consider the following list of practices which should be observed at calving time before going to question 8.

1) Keep calving pens clean and well ventilated and disinfect if possible

2) Check the cows often, especially first calf heifers. Only by being there can abnormal deliveries be observed and corrective measures taken promptly. A Montana study determined that calf losses at birth can be reduced to 1/2 if observation and assistance and provided.

3) Clean mucous and phlegm from calf's nasal area and throat, tie off or pinch off navel cord and dip in tincture of iodine.

4) If weather is cold or windy, get the calf rubbed down & dried off to avoid chilling and stimulate activity.

5) Make sure the cow claims the calf, she has milk available and that the calf nurses soon after birth.

6) Put cow and calf in a separate pen for 3 to 5 days, then return to herd if both are satisfactory.

7) Observe calves closely during the first few weeks for signs of diseases such as scours and pneumonia. Be prepared to treat promptly

8) Be sure cow cleans or undertake corrective treatment in consultation with vet.

9) Cows and calves should be moved to nearby pasture early if possible.

10) If calf scours is a major problem, immunize cows against clostridirum perfringens, enteritis and autogenous bacteria 60 - 90 days before calving.

11) Consideration should be given to cow or heifer size and the possibility of calving problems when mating to the herd size.

8. Are your brood cows kept at an adequate nutritional level to support milk production and rebreeding?

a.____ Yes. Go to question 9.

b.____ No. Stop! Skimping on feed after calving is being "penny-wise and dollar-foolish." Low nutritional levels at this time result in cows either not rebreeding at all or delaying breeding until late in the season. Either way, there's a loss you cannot afford.

Feed needs for a 1100 lb. lactating cow increase approximately 50% for dry matter to 30 lbs. daily; 100% for protein to 2.2 lbs. daily; and 70% for energy to 14 lbs. daily. In addition, 20,000 I. U. of vitamin A should be fed daily and trace mineralized salt and a calcium-phosphorous supplement calculated according to your ration requirements should be provided free choice. Now proceed to question 9.

9. Are you utilizing your pastures to their full capacity?

a.____ Yes. Go to question 10.

b.____ No. Stop! Several practices can greatly increase the carrying capacity of a pasture. A few common ones to consider before going to question 10 are as follows:

1) Renovation. Minnesota study at Grand Rapids found that mixtures of alfalfa-reed canary grass resulted in less than one acre improved

pasture being required to provide sufficient pasture for a beef cow and calf.

2) Soil testing and following recommendations. Iowa experiments have shown that 240 lbs. of N in split applications, 13 lbs. of P and 50 lbs. of K were needed annually to maintain a pasture planted to a legume-grass combination such as above.

3) Pastures harrowed in the spring to scatter manure piles.

4) Where layout allows, pastures rotated every 2-3 weeks to allow for recovery.

10. The summer herd and health management program followed is completely in accordance with the herd's needs.

a.___ Yes. Go to question 11.

b.___ No. Stop! Before going to question 11 review what a good management program would likely contain.

1) Hooves trimmed, if needed, before cattle go to pasture.

2) Herd observed daily. Watch for foot rot, pink eye, bleat, grass tetany and other abnormal conditions.

3) Back rubbers or dust bags are used for fly control.

4) Each calf is identified with a tatoo, ear tag or brand and calf's no., dam's no. and birth data recorded in a pocket record book.

5) Calves castrated and dehorned at 3-6 weeks of age.

6) Veterinarian is consulted concerning the advisability of vaccinating calves for diseases such as blackleg and malignant edema with a trivalent or quadrivalent bacteria.

11. The fall herd and health management program is completely in accordance with the herd's needs.

a.___ Yes. Go to question 12.

b.___ No. Stop! A good management program would likely contain the following practices. Review them before going on to question 12.

1) Veterinarian is consulted concerning the advisability of vaccinating calves for Leptospriosis, BVD, IBR, and PI_3.

2) Pour-in systemic grubicide and/or louse control is used to help control grubs and lice.

3) Fecal check is made and calves wormed if fecal count indicates heavy worm infestation.

12. Veterinary expenses (Line 19) are satisfactory and in line with the intensity of practice followed and herd health success.

a.___Yes. Go to question 13.

b.___ No. Stop! Before proceeding to question 13, consider assembling a veterinary cabinet and doing many of the routine tasks yourself. Logical items to include in a home veterinary cabinet are:

1) Hoof trimmer--long handle
2) Hoof knives
3) Hoof rasp and Kopertox for treatment of foot rot
4) Rope halters--1/2 inch rope
5) Milk tincture of iodine for treating navels of newborn calves
6) Quseptic, Nolvasan or quaternary ammonium preparations
7) Equipment to aid in calving: plastic sleeves and gloves, OB chains, calf puller
8) Equipment for dehorning: caustic, gouge or electric iron
9) Equipment for castrating: knife or scalpel and an emasculatoms; emasculator or Burdizzo
10) Pinkeye medication
11) Ear tags, ear tag pliers, tattoo pliers, tattoo ink and tooth brush to rub tattoo ink into needle holes; medication for calf scours

13. Power, machinery, equipment and building expenses acceptable?

a.___ Yes. Go to question 14.

b.___ No. Stop! Examine your harvesting, storage, feeding, and housing methods before going to question 14. Many of these costs may be built into the enterprise and relatively fixed. But a few seemingly minor considerations can do much to make these figures more desirable.

1) Buildings and equipment should be used to their full capacity. If sheds or barns are used for shelter, about 40 square feet per cow should be provided. Beef cow herds won't normally justify the costs of buildings and feeding equipment beyond bare minimums.

2) Economical feed costs require economical harvesting and storage methods. Little justification can be made for storing low value feeds such as stalklage, grass hay, straw, etc. in expensive structures. Check into bunker silos, pole sheds and other low cost storage facilities. Hay harvesting methods is another place costs can be shaved.

14. Are you satisfied with the performance and potential of the beef breed you now have?

a.___Yes. Go to question 15.

b.___ No. Stop! Investigate the advantages and disadvantages of other breeds and crossbreeding before going to question 15. If contemplating increasing calf size consider introduction of size from the sir's side. Nebraska research indicates that a 15-20 lb. increase in calf weight is requred to pay increased maintenance costs for each 100 lb. increase

in brood cow weight. Also noted is that within breeds there is only a slight tendency for heavier cows to wean heavier calves, giving the smaller cow some advantages.

15. Price per hundred weight sold (Line 25) is at a satisfactory level.

a.___ Yes. Go to question 16.

b.___ No. Stop! Consider the success the following practices may have at raising this figure before going to question 16.

1) "Precondition" calves to spread weaning time stress out and thereby raise their market value. This is actually the performing of many of the recommended calf management practices previously outlined. Since this program will increase your costs per calf by $10 to $20 (cash outlay and calf setback), a reasonable prospect of gaining this much or more must be anticipated.

2) Sell calves as "short yearlings" unless it's projected that growing them to yearling weights will provide adequate additional income to justify the labor, facilities, management and risk involved

3) Investigate contracting and hedging as methods of looking at an assured market price.

4) Consider proportion of steers to heifers in sale group. This may not be controllable to a great degree but needs to be considered in evaluating price received per pound.

16. You have completed the beef breeding enterprise herd analysis sheet and plan to make improvements wherever feasible.

a.___ Yes. Congratulations, and keep up the good work!

b.___ No. You'd better consider other alternatives.

Enterprise Analysis For Beef Feeder Cattle

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Do you feel that the return over all listed costs is adequate for a profitable farm business enterprise? These returns are found in Table 15B, Line 21F.

   a.____ Yes. You have reached your goal, should you set it higher for next year? Go to question 2.

   b.____ No. Let's determine where problems might occur. Go to question 2.

2. Are you satisfied with total net increase in value of animals as shown on Line 3?

   a.____ Yes. Go to question 12.

   b.____ No. Go to question 3.

3. Are you satisfied with your buying price as shown on Line 26?

   a.____ Yes. Go to question 6.

   b.____ No. What grade of feeders are you currently buying? Go to question 4.

4. Were the feeders selected for grade at finishing which you desired to produce?

   a.____ Yes. Go to question 6.

   b.____ No. Feeders must be selected that can finish in the grade desired. Go to question 5.

5. Are you familiar enough with grade requirements to select feeders desired?

   a.____ Yes. If you select your own cattle, make sure price is in line with grade. Go to question 6.

   b.____ No. Consult a reliable jobber or dealer to provide grade of cattle desired, consider purchasing preconditioned feeders (vaccinated, castrated, dehorned and weaned). Go to question 6.

6. Are you satisfied with your selling price on Line 24?

   a.____ Yes. Go to question 12.

   b.____ No. Maybe you should consider the livestock futures market to cover your investment. Proceed with caution. Get a reliable market analyst to help you.

7. Are cattle normally marketed at a weight of 1000 to 1300 pounds?

   a. ——Yes. This weight is most popular to buyers. Go to question 8.

   b. ——No. Check your selling procedures and market your cattle in these weight brackets if your selling weight is usually heavier. Your feed efficiency is reduced at the higher weights. Go to question 8.

8. Is the most efficient market selected for your finished cattle? To determine this, inspect price paid and marketing services offered.

   a. ——Yes. If satisfied, go to question 12.

   b. ——No. If you aren't sure go to question 9.

9. Do you know the services provided by available markets?

   a. ——Yes. Set value for services and select market which provides highest net returns. Go to question 10.

   b. ——No. Loss of weight can make a difference of many dollars in the buying or selling price. Go to question 11.

11. Do your cattle reach normal choice or prime grade when marketing at weights of 1000 to 1300 pounds?

   a. ——Yes. Go to question 12.

   b. ——No. Is the right feeding program being fed to finish cattle in the right weight range for the capabilities of the cattle? Go to question 12.

12. Are you satisfied with return over feed costs?

   a. ____ Yes. Go to question 13.

   b. ____ No. Examine the nutrition portion of your beef program to see if it can be improved. Go to question 13.

13. Is your return per $100 worth of feed satisfactory on Line 23?

   a, ____ Yes. Go to question 20.

   b. —— No. Go to question 14.

14. Do your animals average as finishing yearlings 2.2 to 2.8 pounds daily gain?

   a. —— Yes. This rate of gain is adequate for this age group. Go to question 20.

   b. —— No. Indication of possible feed problems. Go to question 15.

15. Does your ration include enough protein to ensure maximum growth and energy for basic body functions?

   a. —— Yes. If so, go to question 16.

   b. —— No. If not, obtain local assistance in establishing a balanced ration for maximum growth. Consider low cost protein (urea). Go to question 16.

16. Is the ration economical and does it provide adequate growth at minimum cost? To find out consult Table 15B, Line 14.

a.____ Yes. Go to question 17.

b.____ No. Review total ration and reevaluate ingredients as to cost. Substitute if necessary to lower cost. Also consider the University of Minnesota's computerized ration service. Contact your county agent for information. Go to question 17.

17. Is your starter ration approximately 50% roughage and 50% concentrate?

a.____ Yes. Go to question 18.

b.____ No. Possible reason for low rate of gain. Go to question 18.

18. Is your finishing ration 10 - 20% roughage and 80 - 90% concentrate.

a.____ Yes. These proportions are normally the best for a fattening ration. Go to question 19.

b.____ No. Possible reason for poor gains and poor finish grade. Go to question 19.

19. Does your feeding program include feeding of vitamins and minerals to prevent untimely disease problems and insure adequate supplies available to the animal?

a.____ Yes. These nutrients are needed for basic body functions.

b.____ No. Consult local feed dealer and set up an adequate vitamin and mineral program. Go to question 20.

20. Are you satisfied with supplemental cost figure, line 20?

a.____ Yes. Go to question 22.

b.____ No. Go to question 21.

21. Do you have a vaccination and herd health program?

a.____ Yes. This will more than pay for itself in steady gains of cattle. You can save money if you do it yourself and get vaccines from vet supply service. Go to question 22.

b.____ No. You should consult a veterinarian and get one established. You will get steadier gains in your cattle. Go to question 22.

22. Are your total allocated costs the same relative to others in your area as shown on Line 21E?

a.____ Yes. Go to question 24.

b.____ No. Go to question 23.

23. Have any large purchases been made? (buildings, equipment, machinery and tractors)?

a.____ Yes. This would be reason for high allocated costs. When purchases are made, make sure they fit your total beef feeder scope. Go to question 24.

b.____ No. Go to question 24.

24. Are you satisfied with the total scope of your operation?

a.____ Yes. You have reached some of your goals. Keep it up.

b.____ No. Evaluate your situation more and decide if you need to increase or decrease scope. Decide if enterprise really fits into your farming picture.

Enterprise Analysis For Complete Hogs

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you completely satisfied with returns over all listed costs as shown on Line 20F of Table 11A?

   a.____ Yes. Are your goals adequate or should they be adjusted upward? Go to question 6.

   b.____ No. You need to examine this enterprise further. Go to question 2.

2. Is your feed conversion per 100 lbs. pork produced less than 420 lbs. total concentrate consumed as shown on Line 8?

   a.____ Yes. Excellent, but keep watching their feed consumption costs. Go to question 6.

   b.____ No. Do you have your sows on a good limited feeding program or are you holding your fats past a reasonable market weight? Go to question 3.

3. Does your ration include enough protein to ensure maximum growth and production?

   a.____ Yes. Go to question 4.

   b.____ No. Weaning pigs need an 18% digestible protein ration; growing pigs a 14-16% ration, depending on size; and finishing pigs need at least a 12% ration for best efficiency. Have your agriculture instructor look at your feeding program. Feed is too expensive to waste.

4. Does your feeding program ensure adequate vitamins and minerals?

   a.____ Yes. Go to question 5.

   b.____ No. Review your feeding program to see if a vitamin deficiency could be the cause of inefficient gains. Go to question 5.

5. Is your feed cost as low as the high return group shown on Line 13 of this table?

   a.____ Yes. Good. You are watching your costs. Go to question 6.

   b.____ No. Review your feeding program and its basic ingredients. Are they the best for the most reasonable cost? Go to question 6.

6. Are you satisfied with your data stated in Table 11A, Supplementary Management Information, Lines 22 through 29?

   a.____ Yes. You need go no further. However, it would be a good idea to review this entire study guide to brush up on your management procedures and ideas. Then go to the next question.

   b.____ No. You need to review them and their causes. Go to question 7.

7. Is your return per $100 feed fed as high as the high return group?

   a.____ Yes. Go to question 9.

   b.____ No. Go back to that figure in the analysis book and determine why it is low. Go to question 8.

8. Are your hogs beingmarketed at 225 lbs. in 5 1/2 months or less?

   a.____ Yes. Go to question 9.

   b.____ No. Feed efficiency is not economical after 230 lbs. Perhaps an on farm portable scale is in order if you consistently miss this weight. Go to question 9.

9. Are you weaning eight or more growthy pigs per litter? Refer to Line 26 of Table 11A.

   a.____ Yes. Go to question 15.

   b.____ No. If you are continually farrowing low numbers, compare the cost of buying feeder pigs vs. raising them. Go to question 10.

10. Are you farrowing at least 9 live, healthy pigs per litter?

    a.____ Yes. Go to question 13.

    b.____ No. Review your farrowing procedures. Are you clipping teeth, giving iron shots, having feed and water available for little pigs and constantly checking for diarrhea in the young pigs? Under normal conditions, expect 5 to 10% mortality from birth to weaning. Go to question 11.

11. Are all vaccination practices being carried out for prevention of pig losses during gestation?

    a.____ Yes. Go to question 12.

    b.____ No. Leptosporosis and erysipelas should be administered 1 month prior to breeding. Go to question 12.

12. Do you have a specific feeding program for your sows prior to, during gestation, and through lactation?

    a.____ Yes. Go to question 13.

Enterprise Analysis For Dairy Cows

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Have you made satisfactory progress toward your goals on the entire herd as shown on Line 30F in your analysis?

   Average of high return farms _____
   Average of my farm _____
   Average of middle return farms _____

   a.____ Yes. Are your goals high enough? Do they need to be adjusted because of the changing economic situation? Go to question 2.

   b.____ No. Go to question 2.

2. Do you feel the return over feed cost is reasonable?

   Average of high return farms _____
   Average of my farm _____
   Average of middle return farms _____

   a.____ Yes. Go to question 3.

   b.____ No. There are many factors which can influence this number. Go to question 3.

3. Are you satisfied with the supplementary management information found in Lines 31 through 37 in your dairy cow analysis?

   a.____ Yes. If you are completely satisfied with these items and have answered yes to the first three questions, you need go no further UNLESS you feel that a review of this management guide could help you raise the rate of return for next year. Go to question 4.

   b.____ No. Let's examine your dairy cow enterprise in detail through the use of this study guide to see if you can find a management problem that would improve your net return for next year. Go to question 4.

4. Are you using your dairy facilities to the maximum extent?

   a.____ Yes. Go to question 5.

   b.____ No. Go to question 5.

5. Are you satisfied with your pounds of milk produced as shown on Line 2?

   a. ~~Yes~~. Go to question 6.

   b. ~~No~~. Go to question 6.

6. Do you have individual cow production records?

   a. ~~Yes~~. Go to question 7.

   b. ~~No~~. Consider starting DHIA (Dairy Herd Improvement Association) record system. Contact the county agent in your county for details. Go to question 8.

7. Do you understand your individual cow records?

   a.____ Yes. Go to question 8.

   b. ~~No~~. Discuss this matter with your agriculture instructor, or county agent, so you can make full use of your individual cow production records. You can use them for feeding, breeding, culling, and drying off cows. Go to question 8.

8. Are you satisfied with your returns over feed costs?

   a. ~~Yes~~. Go to question 9.

   b. ~~No~~. Go to question 9.

9. Do you have your feed tested at least once a year?

   a. ~~Yes~~. Go to question 10.

   b. ~~No~~. It is an economical practice to analyze your feed for nutritional content. You may be over or under feeding your cattle. Weather, soil fertility and length of crop season can change feed quality dramatically from year to year. Go to question 11.

10. Do you use the information obtained from feed testing in the formulation of the ration for your herd?

    a. ~~Yes~~. Go to question 11.

    b. ~~No~~. The feed analysis gives you a good handle on your feed nutrition from which you can calculate your most economical or efficient rations.

11. Is your ration balanced for protein, energy, fiber, vitamins and minerals?

    a. ~~Yes~~. Go to question 12.

    b. ~~No~~. Have your agriculture instructor or county agent help you in putting one together. It will save you money and possibly nutritionally based disease problems. Go to question 12.

12. Are salt, mineral and water readily available free choices?

a.____ Yes. Go to question 13.

b.____ No. Make these three items available. A full grown cow may drink from 10 to 30 gallons of water per day. Go to question 13.

13. Are you satisfied with the progress being made to get better production and dairy type into your herd through your breeding program?

a.____ Yes. Go to question 14.

b.____ No. Go to question 14 and look at your breeding program.

14. Do you breed your cows artificially?

a.____ Yes. Go to question 15.

b.____ No. Give serious thought to this procedure. You greatly reduce the possibility of using a poor bull for your herd. A.I.gives you the availability of excellent bulls at a modest cost. Go to question 15.

15. Do you breed 2/3 of your cows with sires that have a predicted difference of 500 pounds of milk plus and a repeatability of 60% or more?

a.____ Yes. Go to question 16.

b.____ No. Use Who's Who in Minnesota A. I. Sires as an aid to sire selection. Have one or preferably two choices of sires selected for each cow to be bred artificially. Have this information available for your technician when he comes to service your cows. Go to question 16.

16. Do you select sires to improve individual cow weaknesses?

a.____ Yes. Go to the next question.

b.____ No. Have your cows classified by a qualified individual. Use this information for sire selection. You may consider computer mating programs that are available. Go to question 17.

17. Are you having your cows tested for pregnancy?

a.____ Yes. Go to question 18.

b.____ No. Discuss this practice with your veterinarian. It can save you time and feed money to do this test. Go to question 18.

18. Do you select replacement stock based on type and production from the top 50% of your herd?

a.____ Yes. Go to question 19.

b.____ No. Use this management tool whenever you can. Good heredity takes time to establish. Use the best you have available. Go to question 19.

19. Are your cows checked for heat twice daily?

a.____ Yes. Go to question 20.

b.____ No. Use this practice, since cows will settle better if heat is detecte early. Go to question 20.

20. Is calving interval between 12 and 13 1/2 months?

a.____ Yes. Go to question 21.

b.____ No. The most profit is derived from regular calving intervals of 12 months. Go to question 21.

21. Are cows dry more than 60 days or less than 45 days?

a.____ Yes. If dry less than 50 days you have a management problem. If dry more than 70 days, check feed levels and cow health. Go to question 22.

b.____ No. Go to question 22.

22. Are culling standards high enough?

a.____ Yes. Go to question 26.

b.____ No. Go to question 23.

23. Is your culling rate at least 15% per year?

a.____ Yes. Go to question 24.

b.____ No. You either have an exceptional herd or are not doing an adequate culling job. Go to question 24.

24. Is your culling rate less than 25% per year?

a.____ Yes. Go to question 25.

b.____ No. Go to question 25.

25. Is at least 1/2 of the culling due to low production?

a.____ Yes. Go to question 26.

b.____ No. You should rank your herd by production and cull accordingly. Go to question 26.

26. Do you have problems with disease and injuries in your herd?

a.____ Yes. Go to question 27.

b.____ No. Go to question 27.

27. Are your veterinary expenses, Line 27, in the high 1/3 of the herds?

a.____ Yes. Go to question 28.

b.____ No. Veterinary expense seems to correlate with high returns. Go to question 28.

28. Do you have a regularly scheduled herd health check?

a.____ Yes. Go to question 29.

b.____ No. Consider a preventative medicine program, it may save you money in the long run. Go to question 29.

29. Are your cows checked for healthy reproductive tract within 15 to 45 days after calving?

a.____ Yes. Go to question 30.

b.____ No. This should be checked if the cow has other than a normal birth or if she has a poor history of cleaning normally after calving. Go to question 30.

30. Does mastitis cause reduction in salable milk?

a.____ Yes. Use a C.M.T. test to check each quarter to detect mastitis; use teat dip, dry cow treatment, have your milk machine equipment checked for proper operation. Go to question 31.

b.____ No. Go to question 37.

31. Are udders washed to stimulate milk letdown and remove contamination?

a.____ Yes. Excellent. Go to question 32.

b.____ No. This is an excellent proven practice--use it. Go to question 32.

32. Are teat cups removed at the end of milk flow?

a.____ Yes. Go to question 33.

b.____ No. Irritation of udder tissues is a prime target area for mastitis organisms. Go to question 33.

33. Do you dip teat cups between cows?

a.____ Yes. Go to question 34.

b.____ No. This practice helps control and reduce mastitis. Go to question 34.

34. Do you have a mastitis program for dry cows?

a.____ Yes. Good. It reduces problems during lactation. Go to question 35.

b.____ No. This is a necessary program to keep udders in good condition. Go to question 35.

35. Are inflations replaced as needed?

a.____ Yes. Go to question 36.

b.____ No. Don't gamble on questionable inflations. They cause udder irritation which is a prime target for disease. Go to question 36.

36. Can you maintain constant and correct vacuum pressure in the air line?

a.____ Yes. Go to question 37.

b.____ No. Clean vacuum lines, check vacuum regulator, pump and hoses. Replace worn equipment. Go to question 37.

37. Can herd health problems be eliminated by closer observation to your management of the herd?

a.____ Yes. Go to question 38.

b.____ No. Review your problem with your local vet. Go to question 38.

38. Are more cows being injured (stepped on teats, cuts, bruises, etc.) than you would like?

a.____ Yes. Keep a list of the injuries: cause, kind, time of occurance and place. Once you identify the causes you can eliminate them where possible. Go to question 39.

b.____ No. Go to question 39.

39. Are you participating in a herd health program offered by a veterinary service?

a.____ Yes. Go to question 40.

b.____ No. Discuss such a program with your veterinarian. Such a program works on the basis of prevention. It is a lot cheaper in the long run if herd health is a problem for you. Go to question 40.

40. Do you keep strangers or new animals from coming in contact with your herd?

a.____ Yes. Go to question 41.

b.____ No. People may unknowingly carry disease into your herd. Have strangers wear plastic boots and keep them away from direct contact with animals. Isolate new animals from your herd until you are sure they won't introduce new diseases into your herd. Go to question 41.

41. Do you have a problem with milk fever or ketosis?

a.____ Yes. Check the level of calcium, phosphorus and protein in your ration. Go to question 42.

b.____ No. Go to question 42.

42. Are you in the high group of average price per cwt. milk sold?

a.____ Yes. Go to question 43.

b.____ No. Check the co-ops in your area for competitive prices. Maybe you should switch. Go to question 43.

43. Are you selling Grade A milk?

a.____ Yes. Go to question 44.

b.____ No. Examine the cost of switching over vs. the advantage of higher price. Go to question 44.

44. Are you getting the highest possible price for your product?

a.____ Yes. Go to question 45.

b.____ No. A nickel more per cwt. of milk will mean $7.50 on a cow producing 15,000 pounds of milk. $20 to $40 more a cow could be received, depending on who picks up your milk. Marketing can be as important as production. Go to question 45.

45. Are you satisfied with your return to labor and management on each cow?

a.____ Yes. Go to question 46.

b.____ No. Set a goal to be one of the high 1/3 of the herds. Determine what areas are restricting you from achieving this level and deal with it. Go to question 46.

46. Are you satisfied with your working conditions?

a.____ Yes. You need to like steady work if you are going to continue milking and do a good job.

b.____ No. List the areas that you are most unsatisfied with when working with your dairy herd. See what changes would make it more pleasant by the addition of labor saving equipment or other helpful devices.

End

Enterprise Analysis For Feeder Lambs

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with your return over all listed casts as recorded on Line 25F of table 16B?

   Average of high return farms _____

   Average of my farm _____

   Average of middle return farms _____

   a.____ Yes. Are your goals high enough? Do they need to be adjusted because of changing economic situations or are they adequate for next year? Go to question 2.

   b.____ No. Go to question 2.

2. Do you feel the return over feed cost is reasonable?

   Average high return farms _____

   Average of my farm _____

   Average of middle return farms _____

   a.____ Yes. Go to question 3.

   b.____ No. There are many factors which can influence this number. Go to question 3.

3. Are you satisfied with the supplementary management information found in Lines _____ through _____ ?

   a.____ Yes. If you are completely satisfied with these items and have answered yes to the first three questions, you need go no further, UNLESS, you feel that a review of this management guide could help you raise the rate of return for next year. Go to the next question.

   b.____ No. Let's examine your feeder lambs in detail, and in light of this study guide. You may find some management factor which can aid you in getting higher returns for next year. Go to the next question.

4. Did you sell lambs at a weight consistent with market demand? Line 30.

   a.____ Yes. 95# to 105# wt. usually best. Go to Question 5.

   b.____ No. Go to 5. Overweight or underweight lambs result in considerable dockage.

5. Did you purchase lambs consistent with profit potential: Line 31.

   a.____ Yes. See also question 6.

   b.____ No. Price paid should be such that you can sell and get return over feed, investment costs, interest & labor. Go to question 6.

6. Has average wt. of lamb purchased been consistent with your feeding program, feed supply, and the market demand? Line 32.

   a.____ Yes. Your use of Table 16 for budgeting purposes has been successful. See also question 7.

   b.____ No. Determine feed supply and possible best time to sell them. Plan purchase of lambs at suitable time and wt. to reach your goal. Go to question 7.

7. Are the feeders purchased pre-started, casterated, drenched, docked, free of parasites before delivery to your operation?

   a.____ Yes. Good practices resulting in less death loss and decreased feed consumption in feed lot.

   b.____ No. May indicate reasons for high weight and death loss at beginning of feeding period. Go to question 8.

8. Are your lambs vaccinated for enterotoxemia early in the feeding period?

   a.____ Yes. 15 mg. of aureomycin or terramycin per lb. of feed is included in complete self-fed rations. See also question 9.

   b.____ No. Go to question 9.

9. Are death losses below 2% in the feed lot? Line 29.

   a.____ Yes. If 1% or less, go to 12.

   b.____ No. Go to 10. Losses over 2% indicate health & sanitation problems.

10. Do you follow a timely program of parasite control concerning lice, ticks, grubs, flies, worms?

   a.____ Yes. Good practice to continue to insure good feedlot gains. Go to 12.

   b.____ No. Set up a good well-planned control program with your vet, Vo-Ag instructor or county agent now and stay with it. Go to 11.

12. Is your feed cost per hundredweight (Line 18) as low or lower than the high efficiency group?

    a.____ Yes. You have a good feeding program but there may still be room for improvement. See question 13.

    b.____ No. Go to 13.

13. Is the cost of concentrates in line with the high efficiency group? Line 15.

    a.____ Yes.

    b.____ No. There are many reasons for this which are price paid, high consumption, improper ration, disease problem, nutritional problem, etc. Go to 14.

14. Does your feeding program include feeding of vitamins, minerals, and salt to prevent nutritional deficiencies and insure adequate nutrition?

    a.____ Yes. These nutrients are needed for basic body functions.

    b.____ Consult feed dealer, nutritionist, or someone with nutritional knowledge to help set up suitable program. Go to 15.

15. Do you feed a balanced ration at a reasonable cost?

    a.____ Yes. Go to 16.

    b.____ No. Review information on feeding a balanced ration to feeder lambs and ask for assistance in developing a low cost balanced ration. Go to 16.

16. Are the pounds of grain, protein, salt, mineral, and legume hay consistent with the feeding program you are attempting to follow for the weight and quality of feeder lamb you have purchased.

    a.____ Yes. My feed use is equal to or better than shown on the table below. See also question 17.

    Estimated feed required for fattening western feeder lambs to 100 pounds

    a.

Purchase Wt.	Total Wt. Gain	Ave. Daily Gain	Days in Feed Lot	Feed Requirements				
				Hay #	Corn Bu.	Supplement C	Salt	% Conc. in ration
70	30	.33	90	135	2.4	18	2	50 d
75	25	.33	75	115	2.2	15	2	50 d
80	20	.33	60	100	2.0	12	2	50 d

Estimates based upon requirements between the weight purchased and the weight sold. Final slaughter grade - choice to prime.

b. Weight gain as considered here takes into account purchase and marketing shrink and a rest period. Farm raised lambs will gain .4 - .5 pounds per day. Daily gains will diminish slightly at weights over 100 #.

c. Soybean oil meal is the most common supplement fed.

d. The % concentrate (corn & supplement) in the ration is about 30% at the start of feeding and rises to 70% during the finishing phase.

b.____ No. Go to question 17.

17. My supplemental costs are equal to or better than the most profitable group Line 24, Table 16B.

a.____ Yes. See also question 18.

b.____ No. Examine veterinary expenses. Remember, a sick sheep is a dead sheep! Go to question 18.

18. Are your total allocated costs in line with your goals or desires? Line 25E.

a.____Yes. Stop here and review those questions indicating room for improvement, then proceed to question 19.

b.____ No. Go to question 19.

19. Are the power and machinery costs equal or better than the average in the analysis? Line 25B.

a.____ Yes. Go to 20.

b.____ No. Go to 20. If costs are not commensurate with analysis costs could be improper distribution or out of line in total farm business, increased labor saving.

20. Do you excell in livestock equipment costs? Line 25C.

a.____ Yes. Go to 21.

b.____ No. Go to 21. If too high, could be due to high equipment costs, necessary repairs, or high investment in labor-saving equipment.

21. Do your building and fencing costs (Line 25D) meet with your approval?

a.____ Yes. Proceed to question 22.

b.____ No. Could be improper distribution of costs, too small enterprise or various other reasons.

22. Are the pounds of wool and value of wool (Lines 3 and 5) satisfactory for your type of feeding operation?

a.____ Yes. Go to question 23.

b.____ No. You may want to consider shearing your feeders. Go to question 23.

23. Are the results of your feeder lamp operation (Table 16B, Lines 1 through 33) satisfactory for you.

a.____ Yes. Continue the good work and possibly expand.

b.____ No. Where are those areas of efficiency that you might improve? If this seems suitable, review and make plans for changes or discontinue the enterprise.

Enterprise Analysis For Hog Finishing

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Fead each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with your hog finishing enterprise?

   a.____ Yes. Are your goals high enough? You may have to consider changing them in view of the economic situation. Go to question 2.

   b.____ No. Go to question 2.

2. Are you satisfied with your return over all listed costs (net return) compared to the high and average farms?

   a.____ Yes. Go to question 25.

   b.____ No. You need to look for specific areas in your analysis report which may show the cause of your problem. Go to question 3.

3. Do you feel your return over feed costs is satisfactory?

   a.____ Yes. Go to question 9.

   b.____ No. You need to review your feed program. Go to question 4.

4. Are you satisfied with your total feed cost?

   a.____ Yes. Go to question 9.

   b.____ No. Go to question 5.

5. Are you satisfied with the total amount of concentrates needed to produce 100 pounds of gain?

   a.____ Yes. Go to question 6.

   b.____ No. This amount should not exceed a ratio of 3 or 3.5 to 1. Go to question 6.

6. Do you raise all the grain you need for feeding your hog finishing enterprise?

   a.____ Yes. Go to question 7.

   b.____ No. Buying grain will increase feed costs if not done at the right times. Consider buying grain on a seasonal basis and take advantage of low markets. Go to question 7.

7. Are you buying protein concentrate in bulk?

   a.____ Yes. Go to question 8.

   b.____ No. Check the cost of bulk purchases. They are usually cheaper than buying in limited quantities. Go to question 8.

8. Do you keep accurate records of purchased feed weights and amounts of feed fed?

   a.____ Yes. Go to question 9.

   b.____ No. Weight and quantity records on purchased feeds are essential for computing feed efficiency. Go to question 9.

9. Are you satisfied with the rate of gain shown by your pigs?

   a.____ Yes. Go to question 13.

   b.____ No. Are the pigs under any type of stress conditions such as crowding, excess draft, slats or mud floors that would reduce this figure? If this is not the case, let's check your feeding program. Go to question 10.

10. Do you purchase pigs from quality herds using tested boars?

    a.____ Yes. Go to question 11.

    b.____ No. Check this before you buy: gainability in an inherited trait. Go to question 11.

11. Are these pigs uniform in size and quality?

    a.____ Yes. Go to question 13.

    b.____ No. Pen pigs according to size. This will provide more equal competition for feed, water and lay space. Go to question 12.

12. Do you buy pigs that weigh 40 pounds or more?

    a.____ Yes. Go to question 13.

    b.____ No. Winter temperature and adverse conditions may cause severe stress on lighter pigs. Go to question 13.

13. Are you buying and marketing and finishing hogs on a regularly scheduled program?

    a.____ Yes. Go to question 14.

    b.____ No. Review your cash flow for a complete finishing enterprise for better distribution of income and expense. Go to question 14.

14. Is your death loss percentage below average?

a.____ Yes. Keep up the good work. There is always room for improvement. Go to question 16.

b.____ No. Check management practices such as vaccinating, castrating and purchasing healthy pigs. Go to question 15.

15. Are you buying castrated and vaccinated pigs?

a.____ Yes. Go to question 19.

b.____ No. This would be a good idea if you could get your supplier to do it. This would reduce the stress on your pigs, especially after just moving them. Go to question 16.

16. Are you buying pigs from a herd with a good sanitation program?

a.____ Yes. Go to question 19.

b.____ Care in selection can be added returns. Consider the sanitation programs of the seller. You don't need contaminated stock to test your health treatment program. Go to question 17.

17. Do you use a good sanitation program?

a.____ Yes. Go to question 19.

b.____ No. Check with your veterinarian to analyze and establish a program for your herd health. Go to question 18.

18. Do you have a veterinarian who knows your pig operation?

a.____ Yes. Go to question 19.

b.____ No. It would be worth your time and money to have him drop by and look at your operation. He could give you health suggestions and point out problem areas. It may also give him a head start on any major problem you may need immediate help with. Go to question 19.

19. Do you use the most efficient marketing system based on prices paid and services provided?

a.____ Yes. Go to question 21.

b.____ No. You should investigate the various marketing options. They might be worth your while in more dollars returned to you. Go to question 20.

20. Are the marketing services provided by these agencies available to you?

a.____ Yes. Go to question 21.

b.____ No. Check what these services are and how much value they have for you. Example: farmer-owned marketing services. Go to question 21.

21. Are you satisfied with your total allocated cost for your finishing operation?

a.____ Yes. Go to question 25.

b.____ No. Let's take a closer look. Go to question 22.

22. Is your power and machinery cost below the average?

a.____ Yes. Go to question 25.

b.____ No. Compare your machinery costs to the average. If you are much higher, it could mean your investment is too high for your output. Is this your problem? Check with your farm management instructor. He can help you decide. Go to question 23.

23. Is your livestock equipment cost below average?

a.____ Yes. Are you underequipped? Go to question 25.

b.____ No. Are your figures in the ballpark with the average? If not, do you have a high investment in labor saving devices which would raise that figure? Go to question 24.

24. Is your building and fences cost below average?

a.____ Yes. Go to question 25.

b.____ No. Ask the same questions as listed in Part B of questions 21 and 22. Go to question 25.

25. Are the facilities and equipment organized to efficiently use labor?

a.____ Yes. I don't have to carry and lug many pails each chore time. Go to question 26.

b.____ No. I do carry and lug pails of feed and water. You need better equipment if you want to keep this a viable operation without consuming excess labor. Go to question 26.

26. Is the present labor force fully employed in your operation?

a.____ Yes. Go to question 27.

b.____ No. Reorganize your labor and facilities to cut down on time needed for feeding and watering your hogs. Go to question 27.

27. Are your facilities fully used in a year round situation?

a.____ Yes. Go to question 29.

b.____ No. Cost could be lowered substantially by establishing a program to keep your facilities filled to capacity. Go to question 28.

28. Do you have other livestock or crop facilities which should carry more of the allocated costs?

    a.____ Yes. Analyze which equipment and facilities for each enterprise should bear more cost and recalculate them. Go to question 29.

    b.____ No. Go to question 29.

29. Have you budgeted the labor returns for the future expansion of your hog finishing enterprise?

    a.____ Yes. Go to question 30.

    b.____ No. Check with your PCA, local banker and others to determine how much should be budgeted each year to put back into the operation. Also is it feasible to expand it?

30. Have you looked into cost and materials necessary to expand your hog finishing enterprise?

    a.____ Yes. Good. You are on your way to a successful finishing operation.

    b.____ No. To fully utilize labor and other farm business factors, this might be your answer to a more profitable business. Go to the next item.

31. Review this study guide to see if it is correct. Write down any questions you have right now on this paper and discuss them with your farm management instructor when he visits you.

Enterprise Analysis For Other Dairy Cattle

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you completely satisfied with the return over all listed costs of the dairy enterprise as shown on Table 10 Line 20F of your farm analysis report?

   a.____ Yes. If you are completely satisfied with your returns from the dairy enterprise then go to question 61.

   b.____ No. Go to question 2.

2. Do you manage the dairy cow herd the same as the dairy youngstock?

   a.____ Yes. Stop. There are some very important differences between the producing herd and the dairy youngstock requiring major differences in feeding, care and management practices between the two enterprises. See your local vo-ag instructor or county agent for further details.

   b.____ No. Go to question 3.

3. Are you satisfied that your return over all listed costs per head for your other dairy cattle enterprise is average or above when compared with figures from other dairy farmers as shown on Table 13, Line 20F of your farm analysis report?

   a.____ Yes. If you are satisfied with this figure, then your problem may be with the producing herd. See question 1 of Enterprise Analysis For Dairy Cow Enterprise.

   b.____ No. Go to question 4.

4. Are you satisfied with your return over feed and supplemental costs as shown on Table 13, Line 20 of your analysis report?

   a.____ Yes. Go to question 5.

   b.____ No. Go to question 6.

5. Is your cost for power and machinery as shown on Table 13, Line 20B more than the high return herd?

   a.____ Yes. If your power and machinery cost is higher than most other operators with similar operations, it may be advisable to reevaluate your machinery expense to see if some adjustment could be made which would get the machine work done more efficiently. Go to question 6.

   b.____ Go to question 6.

6. Is your veterinary expense from Table 13, Line 17 of your analysis report average or below average when compared with other similar operations?

   a.____ Yes. Go to question 7.

   b.____ No. Go to question 12.

7. Do you do your own castrating, vaccinating and dehorning?

   a.____ Yes. Go to question 8.

   b.____ No. Stop! Many small tasks such as these can be done by the farm operator, thereby reducing veterinary expense. However, caution should be used to make sure that all these tasks are accomplished at the right time and according to instructions. Go to question 8.

8. Are your dairy calves kept in the same building as the dairy cows?

   a.____ Yes. If your vet expense is continually high because of health problems with your youngstock, you should consider the possibility of separate housing for the youngstock herd. Young calves are very susceptible to airborn transmittable disease old stock are immune to. Go to question 9.

   b.____ No. Go to question 9.

9. Is your calf barn relatively free of drafts?

   a.____ Yes. Go to question 10.

   b.____ No. Stop! Cold drafts are a major cause of calf pneumonia. Broken windows and cracks in walls and foundations should be repaired as soon as possible to prevent this costly disease. Go to question 10.

10. Are your calves raised in individual pens for the first four weeks?

    a.____ Yes. Go to question 11.

    b.____ No. Young calves should be kept separated for the first four weeks or as long as pen space allows to help prevent the spread of communicable diseases such as pneumonia and calf scours. Go to question 11.

11. Are calf pens kept dry and sanitary?

    a.____ Yes. Go to question 12.

    b.____ No. Stop! Wet, unsanitary pen conditions provide excellent habitat for bacteria which cause many of the common calf diseases such as scours and pneumonia. Go to question 12.

12. Is your percent death loss in your young calves over 5%?

    a.____ Yes. There are many factors that can help reduce the death rate among calves. Go to question 8.

    b.____ No. Go to question 13.

13. Are you completely satisfied with your feeding program for youngstock?

a.____ Yes. Go to question 25.

b.____ No. Go to question 14.

14. Do you make sure that your calves receive colostrum milk for the first few days?

a.____ Yes. Go to question 15.

b.____ No. Stop! Newborn calves should receive colostrum milk for the first few days because of its high feeding value and particularly because of the antibodies in this milk which will help the calf fight off diseases until it can build up its own resistance. Go to question 15.

15. Is fresh water always available to calves?

a.____ Yes. Go to question 16.

b.____ No. Although plenty of fresh water often necessitates cleaning pens more often because of wetter conditions, it is essential for fast, efficient growth rates. Go to question 16.

16. Do you feed your calves milk replacer in place of milk?

a.____ Yes. Go to question 17.

b.____ No. Stop! Milk replacers are especially formulated to provide all the essential nutrients found in milk at a much lower cost than the cost of the milk. Go to question 18.

17. Do you purchase milk replacer on the basis of a close examination of several brands?

a.____ Yes. Go to question 18.

b.____ No. All milk replacers are not the same. Some replacers have only the minimum amount of nutrients while others have larger percentages of nutrients. Many milk replacers are also fortified with antibiotics to prevent some of the common calf diseases. Examine the ingredient tag before making your decision. Go to question 18.

18. Are calves started on dry food by two weeks of age?

a.____ Yes. Go to question 19.

b.____ No. Calves will gain much faster and more economically on dry feed so the sooner they can be started on a dry ration, the better. Go to question 19.

19. Is hay offered to calves at an early age (about 1 1/2 to 2 weeks)?

a.____ Yes. Go to question 20.

b.____ No. Calves should be started on a high quality roughage as soon as possible for faster, more economical gains and also to increase rumen development. Go to question 21.

20. Are calves fed the highest quality hay?

a.____ Yes. Go to question 21.

b.____ No. Growing calves have a high requirement for essential nutrients and feeding a poor quality hay will not be sufficient to meet all these requirements and result in slower growth rates and unthrifty calves. Go to question 21.

21. Have you checked your ration against the nutrient requirements of growing calves?

a.____ Yes. Go to question 22.

b.____ No. Morrison's Feeds and Feeding is a good reference on nutrient requirements. If you have or can get this book, it may pay large dividends to examine the nutrient requirements for calves and compare them with the amount of each of these nutrients offered in your present ration. If the above reference is unavailable, check with your local vo-ag instructor or county agent or with a reliable feed dealer on the ability of your ration to meet nutrient requirements. Go to question 23.

22. Do you change your calf ration to correspond with increasing size and weight of calves and changing conditions?

a.____ Yes. Go to question 23.

b.____ No. Review the nturient requirements of growing calves. Their needs will change as they grow older and you can save money by changing their ration to include more roughages until about half way through the first gestation. Go to question 23.

23. Do you observe calves closely for symptoms of malnutrition?

a.____ Yes. Go to question 24.

b.____ No. Calves that are suffering from deficiencies will normally show some kind of abnormal behavior such as chewing on wood, licking dirt, and excessive bellowing. Careful observation and early detection of these danger signs will often avoid later, more serious problems. Go to question 24.

24. Is rumen development hastened by the introduction of rumen bacteria to the ration as an aid in feed digestion?

a.____ Yes. Go to question 25.

b.____ No. The proper functioning of the rumen in breaking down large amounts of fiber such as is found primarily in roughages, depends on the kind and amount of bacteria in the rumen. These bacteria can be added to the ration through the use of special feed additives or, in the case of young calves, by feeding calves the "cud" of older animals to help increase rumen activity. Go to question 25.

25. Do you feel that you are marketing your bull calves in the most profitable manner?

a.____ Yes. Go to question 26.

b.____ No. Bull calves can be marketed in a number of ways, all of which are profitable under the right conditions. They can be vealed, raised and sold for breeding purposes, castrated and sold as feeders, or castrated and fed out to slaughter weights. Which of these options is best for your operation depends on available feed, feed prices, room and condition of pens, local marketing prices, market trends and personal preferences. See your local vo-ag instructor or county agent to assist you in your decision. Go to question 26.

26. Do you use your own heifer calves for herd replacements?

a.____ Yes. Go to question 27.

b.____ No. Go to question 29.

27. Do you cull any heifer calves?

a.____ Yes. Go to question 28.

b.____ No. You may be able to increase profits from your total dairy operation by culling some of the poorer animals and buying some high quality replacements based on careful selection procedure. Go to question 28.

28. Do you select your replacement heifers on the basis of dam's production records and sire's repeatability?

a.____ Yes. Go to question 29.

b.____ No. Take advantage of superior inheritance and available records to increase your selection ability. Go to question 29.

29. Do you buy your replacement heifers from production tested herds?

a.____ Yes. Go to question 30.

b.____ No. Many of the traits related to production and profit are inherited so production records of sire and dam and grandparents are good indicators of the inherited ability of offspring. Go to question 30.

30. Is the health of replacement heifers carefully checked to prevent the introduction of disease to the home herd?

a.____ Yes. Go to question 31.

b.____ No. Stop! You are leaving the door open to a host of very expensive health problems such as T.B., scours, Bang's Disease, Redness and other serious diseases. Go to question 31.

31. Are boughten animals transported in draft free vehicle?

a.____ Yes. Go to question 32.

b.____ No. Drafts and unfavorable weather can cause pneumonia and shipping fever. Go to question 32.

32. Do you isolate newly introduced heifer calves?

a.____ Yes. Go to question 33.

b.____ No. This is an important measure to help reduce the spread of disease. You should observe the droppings and general health of new animals and allow them to acclimate themselves to a new environment for a few days before being turned in with the herd. Go to question 33.

33. Do you treat calves and premises for lice, mange, and other parasites?

a.____ Yes. Go to question 34.

b.____ No. Lice, mange and other parasites can cause unthriftiness and lack of gain among calves, particularly during the winter months. The problem can usually be solved with little cost or effort. Use your local veterinarian for further details. Go to question 34.

34. Do you have a purebred dairy operation?

a.____ Yes. Go to question 35.

b.____ No. Go to question 38.

35. Do you keep registration papers up on all animals?

a.____ Yes. Go to question 36.

b.____ No. If you plan on selling any breeding stock currently or at some future date, the cost and effort involved in getting animals registered will be more than returned through increased demand and prices paid for your stock. A purebred herd without papers to prove it isn't much better than a grade herd. Go to question 36.

36. Do you show and advertise your dairy calves?

a.____ Yes. Go to question 38.

b.____ No. If you plan on selling any registered cattle, you can improve the demand for your stock by letting more people know about what you have to offer. It pays to advertise. Go to question 37.

37. Are your calves permanently identifed for sire and dam information?

a.____ Yes. Go to question 38.

b.____ No. Ear tags, tattoos, neck chains, brands and other means of identification should be used to help identify calves and provide

information needed in selecting sires. Go to question 38.

38. Is pasture used as part of the calf raising program?

a.____ Yes. Go to question 39.

b.____ No. Stop! You may be missing a chance to reduce health problems, feed costs and labor through a sound pasture program. Go to question 40.

39. Do you rotate your pastures on a regular basis?

a.____ Yes. Go to question 40.

b.____ No. If at all feasible, pastures should be rotated regularly to prevent a build-up of parasites and to keep the pasture from getting overgrazed. Go to question 40.

40. Are your heifers bred to freshen at about 2 years of age or 1000 lbs.?

a.____ Yes. Go to question 44.

b.____ No. The sooner a dairy heifer can be transferred into the dairy herd, the sooner she will begin paying her way. Heifers which do not freshen as soon as they are mature enough do not utilize feed as well and often use the extra feeding time to put on unnecessary and harmful fat. Go to question 44.

41. Are heifers bred to dairy bulls?

a.____ Yes. Go to question 45.

b.____ Go to question 42.

42. Do you breed heifers to production tested beef bulls?

a.____ Yes. Go to question 43.

b.____ No. Evaluate your sire selection. A superior sire can breed in high gains and better quality meat animals. Go to question 43.

43. Do you use small beef breeds?

a.____ Yes. Go to question 45.

b.____ No. If beef breeds are used on dairy heifers, you can reduce calving problems by using smaller beef breeds such as angus which will drop smaller calves. Go to question 45.

44. Are your heifers bred artificially?

a.____ Yes. Go to question 41.

b.____ No. You can't buy the superior quality and heritability of artificial

breeding in a herd bull at comparable prices. If you are using a herd bull, it might pay to closely evaluate his ability through production records of dam and offspring and any other records available to make sure you are breeding your heifers to the best available genetic material for your future herd. Go to question 45.

45. Do you take advantage of mate selection services offered by your stud service?

a.____ Yes. Go to question 46.

b.____ No. Ask your technician about the mate selection service offered by his breeding service. This new service is a valuable tool for all progressive dairymen to use in determining strong and weak points in individual animals so that a sire can be selected which will do the best job of improving the genetic ability of the animal. Go to question 46.

46. Do your heifers receive special care as they approach calving time?

a.____ Yes. Go to question 47.

b.____ No. First calf heifers often have calving difficulties and it is time well spent to give them some extra special attention when calving time approaches and assist them if needed. Go to question 48.

47. Do you isolate heifers in a separate maternity area before calving?

a.____ Yes. Go to question 48.

b.____ No. If heifers calve in a special pen, they are much easier to work with during calving, particularly if they need assistance. However, an exercise period should be provided each day that she is confined. Go to question 48.

48. Heifers expel afterbirth within 24 hours without assistance after calving.

a.____ Yes. Go to question 49.

b.____ No. Afterbirth should be expelled within 24 hours after calving. If many of your heifers have this problem, you should check with your local veterinarian to see if your heifers have a health problem or nutrient deficiency. Go to question 49.

49. Are heifers put on grain feeding about 3 weeks before calving?

a.____ Yes. Go to question 50.

b.____ No. Go to question 22.

50. Do you keep a record of the kind and amount of feed which is fed to youngstock?

a.____ Yes. Good work. Go to question 51.

b.____ No. The only way to tell whether or not you are making money on your

other dairy cattle enterprise is by knowing all the expenses as well as the receipts and feed makes up the largest single cost to the enterprise. Feed records are also necessary in determining the feed efficiency of your youngstock and can provide a basis for changing the ration to one that is more efficient. Go to question 53.

51. Do you complete the midyear crop and feed check to arrive at accurate feed records and costs?

a.____ Yes. You are a progressive farmer. Keep up the good work. Go to question 52.

b.____ No. The mid-year crop and feed check is used with the Minnesota Farm Accounting Program as a check on the accuracy of feed records and to show current feed supply by making inventories. This is a very useful tool in farm management and if you haven't been using it or are unacquainted with the Minnesota Farm Accounting Program, see your local vo-ag instruction or county agent for more information. This step could well be the most important farm management decision that you will ever make. Go to question 52.

52. Do you value your inventory of other dairy cattle according to average market price and accurate weights?

a.____ Yes. Go to question 53.

b.____ No. Most of the income from the other dairy cattle enterprise is derived from increase in inventory. If you use inaccurate prices or weights in determining your inventories, your basis for all other management decisions will be wrong and could result in some very costly mistakes.

53. Is your feed properly allocated between the different enterprises on the form?

a.____ Yes. Good. Proper allocation of feed is very important in keeping accurate feed records. Go to question 55.

b.____ No. There is little value in keeping feed records unless they are properly allocated to the different enterprises. There is no way of knowing the profit from a particular enterprise unless you know how much food was consumed by that enterprise. If the feed records are inaccurate, then the profit figures cannot be accurate and there is no basis on which you can decide on whether to expand the enterprise or drop it. Go to question 54.

54. Do you believe your feed records for other dairy cattle are accurate?

a.____ Yes. Go to question 55.

b.____ No. Go to question 50.

55. Are you making maximum use of home grown feeds in your ration?

a.____ Yes. Go to question 56.

b.____ No. Home grown feed can usually be considered the most economical source. Go to question 56.

56. Do you take advantage of seasonal price variations in purchased feeds?

a.____ Yes. Go to question 57.

b.____ No. Purchase feeds at the low of their seasonal variation.

57. Could you receive a substantial discount by purchasing feeds in larger quantities?

a.____ Yes. Go to question 58.

b.____ No. Many feed dealers will make a quantity discount which can help cut costs. This is worth your time to check out.

58. Can any substitutions be made in your ration?

a.____ Yes. Be sure quality of the feed is also considered as well as T.D.N. and protein. Go to question 59.

b.____ No. Go to question 59.

59. Do you have a portable grinder-mixer?

a.____ Yes. Go to question 60.

b.____ No. If you have available labor, grinding and mixing your own feed will eliminate a good share of the expense you pay out for custom work.

60. Are you satisfied that your feed costs are as low as they can be in your management area?

a.____ Yes. Go to question 61.

b.____ No. There are no immediate remedies at hand. However, on a longer term basis, next year, keep even more accurate feed records and double check feed allocation. Go to question 61.

61. Review this study guide to see if it is correct. Write down any questions you have right now on this paper and discuss them with your farm management instructor when he visits you.

Enterprise Analysis For Sheep Breeding Flock

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with your return over all listed costs as recorded on Line 25F of Table 16A?

   Average of high return farms _____

   Average of my farm _____

   Average of middle return farms _____

   a.____ Yes. Are your goals high enough? Do they need to be adjusted because of changing economic situtions? Go to question 2.

   b.____ No. Go to question 2.

2. Do you feel the return over feed cost is reasonable?

   Average of high return farms _____

   Return from my farm _____

   Average of middle return farms _____

   a.____ Yes. Go to question 3.

   b.____ No. There are many factors which can influence this number. Go to question 3.

3. Are you satisfied with the supplementary management information found in Lines 26 through 32?

   a.____ Yes. If you are completely satisfied with these items and have answered yes to the first three question, you need go no further UNLESS you feel that a review of this management guide could help you raise the rate of return for next year. Go to the next question.

   b.____ No. Let's examine your sheep breeding flock in detail and in light of this study guide to see if you can find a management problem that would improve your breeding flock management. Go to the next question.

4. Do you have enough breeding ewes to meet your goals for the sheep enterprise?

   a.____ Yes. Even a few ewes are all you care to have. Go to question 5.

   b.____ No. In order to make this a profitable enterprise you should have

enough ewes to make this a major part of the farm livestock business. Go to question 5.

5. Are you doing an accurate job of recordkeeping for your sheep enterprise?

a.____ Yes. Information is complete and accurate. Go to question 51.

b.____ No. Caution in future years--try to provide factual information for analysis. Go to question 6.

6. Is your percent lamb crop (Line 31) better than average?

a.____ Yes. Go to question 13.

b.____ No. Remember your percent lamb crop may be the most important factor in determining profit. Strive for 140%. Go to question 7.

7. Do you cull old, unproductive ewes before breeding season?

a.____ Yes. Go to question 8.

b.____ No. You cannot afford to feed a ewe for a year without any income produced. Go on to question 8.

8. Do you "flush" ewes two weeks before and during breeding season, and rams correctly?

a.____ Yes. Go to question 9.

b.____ No. Flushing thin ewes will increase lambing by 10 - 20%. Go on to question 9.

9. Do you shear rams, and "face" and "tag" the ewes before the breeding season?

a.____ Yes. Rams are sheared 6-8 weeks before breeding season. Go to question 10.

b.____ No. Removing long or dirty fleece will make breeding easier for ram. Go to question 10.

10. Do you have enough rams to handle your ewes?

a.____ Yes. Ram lambs 15-20 ewes; adult rams 35-40 ewes. Go to question 11.

b.____ No. Rams must do their work for the year in 30 days. Go to question 11.

11. Are you selecting ewes known for multiple births?

a.____ Yes. Go to question 12.

b.____ No. Certain breeds may give you three lamb crops in two years. Careful selection of ewes will help improve number of lambs born. Go to question 12.

12. Do you mark ram so you know when ewes are bred or rebred?

a.____ Yes. Go to question 13.

b.____ No. If marked, you will know when ewes are due and if you have an infertile ram. Go to question 13.

13. Is your percent death loss less than average (Line 32)?

a.____ Yes. Go to question 21.

b.?____ No. A large lamb crop must be marketed to be profitable. Go to question 14.

14. Are you present when ewes lamb and assist, if necessary?

a.____ Yes. Go to question 15.

b.____ No. If experienced, you can save many lambs and even ewes that might be lost. Go to question 15.

15. Do you save all lambs born alive?

a.____ Yes. Go to question 21.

b.____ No. If you would lamb inside and use supplemental heat for a short time, you may improve your profits. Lamb mortality studies show 50-70% of death losses occur in first 3-5 days; 80-90% in first month. Go to question 16.

16. Do you disinfect navel at birth?

a.____ Yes. Go to question 17.

b.____ No. The navel is a "super highway" for diseases to enter the baby lamb's body. Go to question 17.

17. Do you see that lamb gets colostrum milk and udder is sound soon after birth?

a.____ Yes. Go to question 18.

b.____ No. Colostrum is higher in vitamins, energy, protein, minerals and antibodies that help them resist infection. Go to question 18.

18. Do you identify ewes and lambs soon after birth?

a.____ Yes. Go to question 19.

b.____ No. It will be easier to keep mothers with babies if marked, and easier to select replacement ewes. Go to question 19.

19. Do you give orphan or weak lambs supplemental vitamins?

a.____ Yes. Go to question 20.

b.____ No. A single dose of no less than 25,000 I. U. of vitamin A will help lambs resist diseases. Go to question 20.

20. Do you shear or crutch ewes before lambing?

a.____ Yes. Go to question 21.

b.____ No. If you have adequate facilties you will find it easier for lamb to nurse and more sanitary. Go to question 21.

21. Is your total value produced per ewe high enough (Line 7)?

a.____ Yes. Go to question 31.

b.____ No. Items to consider would be number of lambs marketed, price received amount of wool sold per ewe, etc. Go to question 22.

22. Do you try to market your lambs at peak prices?

a.____ Yes. I strive for early lambs and sell in June. Go to question 23.

b.____ No. Most lambs marketed in early to mid-summer go at lower prices. Go to question 23.

23. Do you select sheep that produce large, fast faining lambs?

a.____ Yes. Go to question 24.

b.____ No. Small framed lambs should be marketed at 90 pounds. A large framed lamb may not be penalized if they approach 120 pounds. Go to question 24.

24. Do you select tested or "proven" rams?

a.____ Yes. Go to question 25.

b.____ No. Large, well developed, fast gaining rams tend to sire the same type of lambs. Go to question 25.

25. Do you control internal and external parasites?

a.____ Yes. Go to question 26.

b.____ No. Ewes should probably be wormed about 3 times per year; spray for ticks in mid-summer (June). Go to question 26.

26. Do you shear lambs in hot weather to promote faster gains?

a.____ Yes. Go to question 27.

b.____ No. Hot weather and long wool add up to poor gains for lambs. Go to question 27.

27. Do you crop feed early lambs and continue a balanced ration for lamb crop?

a.____ Yes. Go to question 28.

b.____ No. Crop feed should increase gains, especially for multiple births. Market lambs at a younger age, usually at higher prices. Lessen pressure on pasture. Go to question 28.

28. Do you vaccinate lambs for overeating at about 6 weeks?

a.____ Yes. Go to question 29.

b.____ No. If antibiotics are not a constant ingredient of rations, you should vaccinate for "overeating" disease with "toxoid" at 6 weeks. Revaccinate ewe lambs to be saved 2 weeks later. Go to question 29.

29. Do you provide adequate feed and water space for ewe block?

a.____ Yes. Go to question 30.

b.____ No. To avoid crowding and injury you should provide 1 1/2 feet of feeder rack space per ewe. Go to question 30.

30. Do you provide clean ice-free water and the necessary salt and minerals?

a.____ Yes. Go to question 31.

b.____ No. The most economical source of nutrients you have. Go to question 31.

31. Do your feed costs and returns per ewe compare to the average? (Lines 18, 19 and 27)

a.____ Yes. Go to question 38.

b.____ No. Another "secret" to making money on a ewe flock is to keep feed costs low. Go to question 32.

32. Do you feed ewes grain only for flushing near lambing time and while nursing?

a.____ Yes. Go to question 33.

b.____ No. You can't afford to be feeding grain to ewes the year round. Concentrate on lower cost, roughage type of feeds. Go to question 33.

33. Do you take full advantage of low cost roughages and pastures?

a.____ Yes. Go to question 34.

b.____ No. Be careful here. Expecially important in times of high grain prices, hay or pasture can provide nearly all of a ewe's needs most of the time. Go to question 34.

34. Do you rotate ewes in pasture to get maximum production of forages and minimum parasite problems?

a.____ Yes. Go to question 35.

a.____ Yes. Go to question 35.

b.____ No. Be careful. Consider this as it has been proven to work in the the past. Go to question 35.

35. Do you use a systematic worming schedule to maintain health of ewes?

a.____ Yes. Go to question 36.

b.____ No. Worm on schedule three times per year: Sept. 1, May 1 and June 15. Feed the ewes, not the worms! Go to question 36.

36. Do you cull ewes that fail to produce a lamb? Do you use a pregnancy check?

a.____ Yes. Go to question 37.

b.____ No. You can't afford to feed a ewe for the wool she produces in a year. Go to question 37.

37. Do you try to feed ewes in groups to meet their needs for condition, etc?

a.____ Yes. Go to question 38.

b.____ No. Some ewes get too fat on the same amount of feed that is not enough for another ewe. Go to question 38.

38. Are your miscellaneous and veterinary costs in line with the average (Lines 21 and 22)?

a.____ Yes. Go to question 45

b.____ No. Do not let your profits slip away on these "minor" items. Go to question 39.

39. Do you try to maintain herd health the year round?

a.____ Yes. Go to question 40.

b.____ No. Maybe this causes vet bills to be high. Take care of the small problems and you'll prevent the large ones from happening. Go to question 40.

40. Do you take care of the routine vet work yourself (castrate, dock, vaccinate, etc.)?

a.____ Yes. Go to question 41.

b.____ No. Many of these can be done by you and you probably work for less than the veterinarian. Go to question 41.

41. Do you practice preventative medicine (i.e. disinfect navel and tail when docking, when castrating)?

a.____ Yes. Go to question 42.

b.____ No. This, too, may cause vet bills to be high. Go to question 42.

42. Do you use medication in the feeds or water when necessary?

a.____ Yes. Go to question 43.

b.____ No. Antibiotics may be expensive to buy, but they are a real good investment when needed. Go to question 43.

43. Do you observe and treat sick animals promptly?

a.____ Yes. Go to qustion 44.

b.____ No. Yourchances of good results will be much better the sooner you take care of it. Go to question 44.

44. Do you revaccinate ewes and rams for overeating and check feet for trimming annually?

a.____ Yes. Go to question 45.

b.____ No. A small investment of time and medication that can yield high returns. Go to question 45.

45. Do your supplemental costs compare well with the average? (Line 24)

a.____ Yes. Go to question 46.

b.____ No. You could lower costs by doing more of this work yourself (vet and shearing, etc.). Go to question 46.

46. Are your allocated costs in line with the average? (Line 25E)

a.____ Yes. Go to question 49.

b.____ No. Is the problem high costs or is it under utilization? Go to question 47.

47. Do you fully utilize your present buildings and fences (L ne 25D)?

a.____ Yes. Go to question 48.

b.____No. Go to question 48.

48. Are your buildings adequate to house ewe flock for early lambs?

a.____ Yes. Go to question 49.

b.____ No. It doesn't have to be fancy--just dry and draft free. Go to question 49.

49. Are your livestock equipment costs reasonable (Line 25B)?

a.____ Yes. Go to question 50.

b.____ No. Maybe you are replacing labor with equipment or maybe you should try to utilize it more fully. Go to question 50.

50. Are your power and machine costs reasonable (Line 25B)?

a.____ Yes. Go to question 51.

b.____ No. Again are you using machines to replace labor or not making full use of equipment? Go to question 51.

51. Do you subscribe to leading farm magazines and newspapers that present current information on the sheep enterprise?

a.____ Yes. Go to question 52.

b.____ No. This is a good place to pick up new ideas from fellow producers. Check the SID (Sheep Industry Development) Handbook; Bulletin 1022 from the U. of Illinois, and U of M, South Dakota State and Iowa State Bulletins. Go to question 52.

52. Do you attend university and industry sponsored workshops on the sheep industry?

a.____ Yes. Go to question 53.

b.____ No. The leading money makers are the people who adopt ideas quickly. Go to question 53.

53. Do you utilize the advice of vo-ag extension and industry personnel?

a.____ Yes. Go to question 54.

b.____ No. Many people are interested in seeing you succeed. Listen to them and make up your own mind. Go to question 54.

54. Are you a member of your sheep improvement association?

a.____ Yes. Go to question 55.

b.____ No. If you don't believe in your product, can you expect others to? Go to question 55.

55. Are you a member of the area sheep improvement class from the vocational-technical institute in our area?

a.____ Yes. Go to 56.

b.____ No. A very reasonable fee can have an expert at your doorstep. Go to 56.

56. Review this study guide to see if it is correct. Write down any questions you have right now on this paper and discuss them with your farm management instructor when he visits you.

Enterprise Analysis For Weaning Pigs

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over all listed costs found on Line 20F of your analysis?

   a.____ Yes. Go to question 2 after reviewing your goals to see if they need to be raised.

   b.____ No. Go to question 2.

2. Did you come reasonably close to meeting the high producers' average of return over listed costs?

   a.____ Yes. Go to question 15.

   b.____ No. Review your current management program to see if improvements can be made to raise your returns. Go to question 3.

3. Do you have facilities to handle more litters per year?

   a.____ Yes. Try to utilize your facilities as much as possible. Empty facilities cost you money. Go to question 4.

   b.____ No. Go to question 4.

4. Can you obtain or do you have labor and capital to expand your business?

   a.____ Yes. Go to question 5.

   b.____ No. If your records seem to indicate an expansionary move is beneficial and you want to, see a local lending agency for fiancial help and advice. Go to question 5.

5. Do you have feed available for expansion?

   a.____ Yes. Go to question 6.

   b.____ No. Calculate the amount, source and cost of the feed you need to expand. This may determine if you can expand or not. Go to question 6.

6. Do you regularly farrow 10 to 12 three pound pigs per litter?

   a.____ Yes. Go to question 7.

   b.____ No. Review your breeding program and farrowing procedures. Sows cannot consistently produce large litters without a sound nutrition and health program. Go to question 7.

7. Do you regularly sell 10 forty pound pigs at 8 weeks of age?

   a.____ Yes. Go to question 15.

   b.____ No. If you do not consistently market pig numbers in this weight-age category, you are costing yourself money. Go to question 8.

8. Do you ear notch, record and select from weaning data for farrowing and weaning efficiency?

   a.____ Yes. Go to question 9.

   b.____ No. You should do so. It will give you the largest percentage chance of improving your herd quickly. Consult with your agricultural specialist for ideas about an acceptable recordkeeping system. Go to question 9.

9. Are you selecting replacement gilts for farrowing potential and longevity in the sow herd?

   a.____ Yes. Go to question 10.

   b.____ No. It is cheaper to keep sows in your herd than it is to replace them with gilts. Go to question 10.

10. Are you cross breeding with proven S.P.F. or other growthy and prolific boars?

   a.____ Yes. Go to question 11.

   b.____ No. Contact an SPF or other certified breeder for a sound and proven boar. Go to question 11.

11. Do you allow at least 1 boar per 15 sows?

   a.____ Yes. Go to question 12.

   b.____ No. A boar with too many sows to breed will not do an adequate job. Some sows may not settle or farrowing numbers could be reduced.

12. Do you keep breeding records?

   a.____ Yes. Go to question 13.

   b.____ No. Records are important. You can determine longevity of particular sows, check back for farrowing problems, etc. Go to question 13.

13. Are your facilities adequate for farrowing?

   a.____ Yes. Go to question 14.

   b.____ No. Make sure you have adequate pens or crates to handle all your sows. Also you should have basic health and standby lights or heaters if needed during farrowing. Go to question 14.

14. Do you feed sow ration according to recommendations, i.e. flushing, gestation and lactation, from the University of Minnesota or some reliable feed company?

a.____ Yes. Go to question 15.

b.____ No. Check with your local agriculture specialist as to the correctness of your feeding program. Go to question 15.

15. Do you provide recommended creep feed and water for nursing pigs?

a.____ Yes. Go to question 16.

b.____ No. Water should be provided within three days and creep feed should be available within a week. Keep both fresh. Go to question 16.

16. Are your feed costs per pig sold below average as shown on Line 29 of your analysis?

a.____ Yes. Go to question 17.

b.____ No. Review your feeding program with your agriculture instructor as to the reason of your high feed cost. Go to question 17.

17. A good health program before, during and after farrowing is a must. Do you have such a program?

a.____ Yes. Go to question 18.

b.____ No. Set one up. Pre-breeding shots for sow are just as important as giving iron and clipping pigs' needle teeth at farrowing. Go to question 18.

18. Do you even off litters by numbers and size, moving the largest piglets if possible?

a.____ Yes. Go to question 19.

b.____ No. If you are going to move piglets from sows with uneven litters, you must do it within a half hour to one hour of birth to another sow who has farrowed the same day. Attempting to move a piglet after that will bring about the rejection of the new sow by the piglet or vice versa. Go to question 19.

19. Do you wean at 5 weeks or younger as your experience allows?

a.____ Yes. Go to question 20.

b.____ No. Check with area hog producers who are and make your decision from there. Go to question 20.

20. Do you feed a medicated high energy, high protein feed to the weaning pig?

a.____ Yes. Go to question 21.

b.____ No. Check with your local agricultural specialist. A good feed will get your pigs off to a good start. Go to question 21.

21. Are you weaning your pigs sorted by size, with a maximum of 20 to 25 pigs per pen?

a.____ Yes. Go to question 22.

b.____ No. Excess competition will slow growth of the smaller pigs. Health management is more difficult with larger herds. Go to question 22.

22. Do you get repeat buyers for your feeder pigs?

a.____ Yes. You must be doing a good job.

b.____ No. Review health, breeding and feeding, as well as marketing programs. Something is not right. End.

Enterprise Analysis For Alfalfa

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over total costs as shown on Line 24 of this table? The average return of high return farms was _____.

   a.____ Yes. Are your goals high enough? You may need to reexamine your goals each year in view of the changing crop and economic conditions. Go to question 2.

   b.____ No. Go to question 2.

2. The yield per acre is an important factor in determining return over listed costs. The average yield of high return farms was _____ bushels per acre. Are you satisfied with your yield of _____ bushels per acre?

   a.____ Yes. Go to question 3.

   b.____ No. There are many factors which affect this figure. Go to question 3.

3. The value per unit received is another important factor in determining total income. How did your value received per bushel compare with the average on Line 3?

   a.____ Higher price. Go to question 4.

   b.____ Average or lower price. If you are not content with the price received, look at the possibility of using the grain futures market to lock in a value for osme or all of your crop. Information sources for using the futures market may be your farm management instructor, county agent or local grain elevator manager. Go to question 4.

4. The cost per unit or per bushel of production is another important guideline of the total production picture. Are you satisfied with the level of your current cost per bushel for production?

   a.____ Yes. If you are entirely satisfied with your cost and return values and have answered yes to the first four questions, you need go no further, UNLESS you feel a review of your alfalfa crop management might raise the return figures for next year. Then go to question 5.

   b.____ No. If you are not content with your per bushel costs, let's review the entire expense section to see if a management problem can be found. Go to question 5.

5. Soil tests have been made and your management practices include fertilizing and liming according to recommendations.

   a.____ Yes. Go to question 10.

   b.____ No. Go to question 6.

6. The soil has been tested. The pH is about 6.7 to 7.0.

   a.____ Yes. Go to question 7.

   b.____ No. Lime according to test at least 6 months prior to crop use. Go to question 7.

7. Annual amounts of K_2O are added to the soil to maintain your desired yield goal.

   a.____ Yes. Go to question 8.

   b.____ No. According to soil test recommendations for Minnesota, apply annually on fine and coarse textured soils the following amounts of K_2O:

Potassium (K) Soil Test #/A	Annual Application of K_2O Fine Texture #/A	Coarse Texture #/A
0 - 90	120	240
91 - 149	90	120
150 - 219	60	60
More than 219	0	0

   Prior to seeding, incorporate K_2O into soil to a depth of six inches. Feeder roots will develop at this level later and reach adequate moisture and nutrients. Go to question 8.

8. Annual amounts of P_2O_5 are added to the soil to maintain your desired yield goal.

   a.____ Yes. Go to question 9.

   b.____ No. According to soil test recommendations for Minnesota, apply annually on established alfalfa the following:

P_2O_5 in Soil #/A	Amounts of Phosphate (P_2O_5) to Apply Annually
0 - 9	100
10 - 19	60
20 - 29	30
More than 29	0

   Go to question 9.

9. Is your alfalfa free of any minor element deficiency symptoms such as: sulfur, boron, calcium, magnesium, zinc, etc.?

   a.____ Yes. Go to question 10.

   b.____ No. Test soil for minor elements and apply to meet the recommendations. Go to question 10.

10. Does the alfalfa stand used produce above average yields consistently?

a.___ Yes. The stand should be 4 - 5 plants per square foot. Go to question 20.

b.___ No. Go to question 11.

11. The variety used is winter hardy, phytophthora root rot resistant, bacterial wilt resistant, insect resistant, and meets high forage yields consistently.

a.___ Yes. Go to question 12.

b.___ No. See your county agent or local agricultural instructor for varietal trials Miscellaneous Report 24 and follow the recommendations. Go to question 12.

12. Adequate stands are achieved at seeding time.

a.___ Yes. 8 or more plants per square foot is a good goal. Go to question 20.

b.___ No. Go to question 13.

13. Seed bed is firm and free of clods.

a.___ Yes. Go to question 14.

b.___ No. Disc, field cultivate and drag a plowed, well drained soil. A cultipacker is recommended on light soil. If there is not adequate seed-soil contact, germination may fail or be retarded. Go to question 14.

14. Do you innoculate your alfalfa seed with the proper strain of bacteria to insure proper N fixation?

a.___ Yes. Go to question 15.

b.___ No. Nitrogen fixed alfalfa provides N for alfalfa. This may add up to 500 #/A of N per year. Go to question 15.

15. Rate, depth, and time of planting are achieving adequate stands for my yield goals.

a.___ Yes. Go to question 20.

b.___ No. Go to question 16.

16. Alfalfa seed is sown at a depth of no more than one-half inch under average conditions.

a.___ Yes. Go to question 17.

b.___ No. The chart shown below made by D. D. Smith of W. S. U. points out that seeds planted too deep result in poor stands.

Alfalfa Plants Established Per 100 Seeds

Depth	Sand	Loam	Clay
1/2"	71	59	52
1"	73	55	48
1 1/2"	55	32	28
2"	40	16	13

Select proper seeding depths. Go to question 17.

17. Alfalfa is seeded at the rate of 8 - 12 #/A with nurse crop or 12 - 14 #/A without a nurse crop.

a.____ Yes. Go to question 18.

b.____ No. Failure to use recommended seeding rates will result in poor stands. Go to question 18.

18. Alfalfa is seeded in early spring or in late summer, but not after August 10.

a.____ Yes. Go to question 19.

b.____ No. Consider timely seeding. First half of April if weather permits. Alfalfa establishes itself best under cool conditions. If planting in August, be assured of adequate moisture and time as alfalfa requires approximately five weeks to establish a stand which will withstand northern winters. Go to 19.

19. The established stands survive with sufficient plant population to maintain yield goals.

a.____ Yes. Go to question 20.

b.____ No.

1) Refer back to question 11 on variety of alfalfa seed. Is it winter hardy?
2) Harvesting alfalfa after August 31 and before the first killing frost will deplete root reserves and possibly result in winter kill.
3) Plant loss due to bacterial wilt or root rot can reduce stands after the second season. Refer to question 10 for more information.
4) Insects can reduce quality and quantity of roughage (due to leaf loss), reduce stand survival and transmit plant diseases mentioned above.
5) Weeds and/or companion crop (grass mixture) compete for moisture, nutrients, space and sunlight. The result of this competition is poor stands and less than the desired yield. Go to question 20.

20. The forage has been tested and the nutrient quality (protein, TDN, vitamins, and minerals) contents meet with your satisfaction.

a.____ Yes. Go to question 26.

b.____ No. Have forage for prime nutrients tested (protein, TDN, vitamins, and minerals). See your vo-ag instructor for information. Go to 21.

21. Does one of the selected varieties have a high leaf to stem ratio?

a.____ Yes. Go to question 22.

b.____ No. Flemish varieties are exceptionally vigorous and will boost chances of getting a good stand and top yield. The Flemish varieties contain a higher percent of leaves. Alfalfa leaves contain about 70% of the total protein and 90% of minerals and vitamins. Go to question 22.

22. Are times of cuttings based on stage of growth rather than calendar?

a.____ Yes. Cuttings are made when plants are in bud stage to 1/10 bloom but before August 31 or after the first frost.

b.____ No. Early cut alfalfa has a greater nutrient content and is more palatable.

Hay and Grain Needed to Produce 40 Pounds of Milk Per Day Per Cow

	TDN	Hay consumed	Grain needed
Early cut, high palatability	65%	30%	3.5#
Late cut, low palatability	50%	25%	13.5#

Maximum feeding value is reached by early bloom, about 10 days earlier than top yields. Feeding value is reduced about 1% for each day cutting is delayed beyond early bloom. Go to question 23.

23. Are leaf losses from harvesting less than twenty percent?

a.____ Yes. Go to question 25.

b.____ No. Leaves contain less fiber than the stem and are more easily digested. Leaf loss from alfalfa yielding 3 tons annually are equal to a value of 500# of SBM plus 250# of grain per acre basis. Go to question 24.

24. Raking is done when the top leaves of the windrow are dry (50% moisture) or crop is raked early in morning when tough and wet with dew.

a.____ Yes. Go to question 25.

b.____ No. Raking when crop is less than 35-40% moisture may double the loss incurred with field cured hay.

Effects of Harvest on Hay Yields:

	Raked at 40-50% Baled properly*	Raked dry Baled	Raked and Baled dry
Unconditioned:			
Harvest yield #/A	3030	2250	1790
% Crude protein	21.7	20.3	19.2
% Crude fiber	27.5	29.2	31.0
Conditioned:			
Harvest Yield #/A	3000	2340	1900
% Crude protein	22.2	20.7	20.1
% Crude fiber	26.8	27.8	29.7

*Hay raked at 5 mph and moisture 40-50%. Baled in the A.M. after dew has dried but before dry enough to cause significant field loss. Go to 25.

25. Supplemental costs Table 10, Line 14 are in line with other farm management cooperators in your area.

a.____ Yes. Go to question 28.

b.____ No. Go to question 26.

26. Fertilizer and chemical cost per acre, Lines 8 & 9, Table 10, are comparable with the average in your analysis area.

a.____ Yes. Go to question 27.

b.____ No. Are you following the recommended fertilizer procedures given in questions 5-9? You may be wasting your fertilizer if you are applying more than the recommended amounts. Insufficient amounts of fertilizer and chemicals may be preventing your from reaching your desired yield goal. Go to question 27.

27. Seed and other costs as listed on Line 10, Table 10, are equal to other farm management cooperators in your area.

a.____ Yes. Go to question 28.

b.____ No. Check your seed, twine, and miscellaneous crop costs to see if they are too high for your yield per acre. Shop for alternative quality products at a more competitive price, check seeding rates and recommended varieties (questions 10 & 11, 17) if your costs are either above or below the average in your area. Go to question 28.

28. Is your custom work hired per acre representative of your operation?

a.____ Yes. Lines 17 + 18 + 22 + 12 do not result in excessive machine cost on my farm. Go to question 29.

b.____ No. Check your account book to determine the amount of custom work hired that you allocated to alfalfa. Go to question 29.

29. Total allocated costs (Line 23, Table 10) are in line with other farm management cooperators in your area.

a.____ Yes. Go to question 30.

b.____ No. Check each of the next three questions to locate where your allocate costs vary greatly from other cooperators in your area. Go to question 30.

30. Are you satisfied with your power and machinery costs (Lines 17, 18 and 22)?

a.____ Yes. Go to question 32.

b.____ No. Do you have too much mechanization for the acre basis of your alfalfa crop? If your costs are below average, you may be under mechanized, and suffering in some other enterprise for lack of labor input available to it. Check your PCAF (Line 27) to be sure it reflects your costs accurately. Go to question 31.

31. Do you feel satisfied with your per acre land costs (Line 20)?

a.____ Yes. Go to question 32.

b.____ No. Since you assign your own land cost, review the procedure you are using. Ask your instructor for assistance. Go to question 32.

32. Are you satisfied that your present method of harvesting is saving the maximum amount of alfalfa produced?

a.____ Yes. Go to question 33.

b.____ No. Below are some options of harvesting and a few statements that you may want to consider before selecting that particular option.

1) Windrow and condition alfalfa if taken as hay or haylage.

Windrow cut, condition, and swath the hay in one operation, thus reducing labor and leaf loss. Lodged hay is more easily cut and the stubble is higher which aids drying and increases ratio of leaf to stem when a cutter-conditioner is used. However, two restrictions exist:

a) Because hay is left to dry in the swath, drying time is lengthened somewhat.
b) Higher stubble reduces tonnage slightly.

Condition in same direction as mowing to reduce bunching. Use a high roll speed in relation to travel speed to get a thin uniform mat of material passing through the rolls. The roll pressure should be high enough to condition the stems but not the leaves. Overconditioning (from too high a roll pressure) causes leaf damage and clipping. The damaged leaves will be lost during subsequent harvesting.

2) Bale your alfalfa. Consider the following to minimize losses and maximize quality yields:

a) Wait until hay has dried to 20-25% moisture before starting to bale.
b) Always bale in the same direction as raking or windrowing for best windrow pickup.
c) Bale shape and density are controlled by the rate hay is fed into the baler, the path of the packer fingers, and the tensioning device at the rear of the baler chamber.

3) Harvest your alfalfa as haylage. The following points should be considered to minimize losses and maximize quality yields:

a) Consider conditioning to speed drying time.
b) Chop haylage between 40-60% moisture.
c) Chop as fine as possible (1/4 - 3/8") to insure good packing.
d) Keep wagons covered to reduce field losses.

4) Harvest your alfalfa as silage (65% moisture). Consider the following:

a) Either allow to wilt or direct cut when moisture content of plant is about 75%.

b) At 65-75% moisture seepage losses run 10-25%
c) Over 75% moisture seepage losses run 25-50%

5) Are you just starting alfalfa production or thinking of changing your harvest method?

Check with your agricultural specialist and other information sources. Consider your labor supply, the use to be made of the product, the quantity to be put up, estimated duration of the program, the finances available and the advantages of each system. The following are generalizations of each system:

Baled hay: Most marketable product; field losses 10-50%; excellent dairy and beef feed; low investment

Chopped hay: Low labor requirement; field losses 15-50%; difficult to mechanize feeding

Haylage: Low labor requirement; low field losses 10-20%; storage loss 2-15%; easy to mechanize feeding and handling; reduced harvesting time requirement; shortened drying time; high investment

Alfalfa silage: Low field losses 2-4%; high storage losses 10-50%; increases storage space required due to higher moisture; low labor; easy to mechanize; high investment

Field stacking and storing: Low storage losses; fast; very low labor; no storage structure needed

33. If you have checked yes to all of the previous questions and still are not satisfied, consider an alternative crop and/or purchase your hay.

Enterprise Analysis For Annual Hay

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over all listed costs as shown on Line 24 of this table?

   Average analysis return over all listed costs, Line 24 _____

   May return over all listed costs, Line 24 _____

   a.____ Yes. Are your goals high enough? You may need to re-examine your goals each year in view of changing crop and economic conditions. Go to question 2.

   b.____ No. Go to question 2.

2. The yield per acre is an important factor in determining return over listed costs. The average yield of the high yield farms was _____ dollars per acre. Are you satisfied with your yield as shown on Line 2?

   a.____ Yes. Go to question 3.

   b.____ No. Many factors influence yield. Go to question 3.

3. The value per unit received when selling your commodity is an important factor in determining total income. Does your price compare favorably with the average?

   a.____ Yes. Go to question 4.

   b.____ No. If you are not satisfied with the price received, now is the time to negotiate a different contract for next year. Go to question 4.

4. The cost per unit, or per ton of production is another important guideline of the total production picture. Are you satisfied with the level of your current cost per ton for production?

   Average cost per unit of production, Line 28 _____

   My cost per unit of production, Line 28 _____

   a.____ Yes. If you are entirely satisfied with your cost and return values and have answered yes to the first 3 questions, you need go no further UNLESS you feel a review of your annual hay crop management practices might raise the return figures for next year. Then go to question 5.

b.____ No. If you are not content with your per ton costs, let's review the entire expense section to see if a management problem can be found. Go to question 5.

5. Did you apply any fertilizer to the annual hay ground?

a.____ Yes. Did you soil test before you applied the fertilizer or did you guess? Fertilizing according to need is the most economical plan. Go to question 7.

b.____ No. Consider soil testing and fertilizing. It may show a good response to even minimal fertilizing. Go to question 6.

6. Have you had the soil tested within the recommended three year time span?

a.____ Yes. Go to question 7.

b.____ No. Most soils specialists recommend a soil test every three years. The cost is minimal. Consult your farm management instructor, county agent or local fertilizer dealer for more information on methods of testing and analysis of test results. Go to question 7.

7. Have you selected a recommended crop variety for disease resistance, hardiness and high yield potential?

a.____ Yes. Go to question 8.

b.____ No. Annual lists of recommended varieties are published by crop associations and can be acquired from your agriculture instructor or county agent. Go to question 8.

8. Are hay stands adequate?

a.____ Yes. Go to question 12.

b.____ No. If hay stands are thin or sparse, consider some type of renovation for improvement of stand. Go to question 9.

9. Did you seed at the recommended rate in pounds/acre?

a.____Yes. Go to question 10.

b.____ No. Excessive seeding rates cost money without giving you a proportionally better stand. Skimping on the amount of seed will give you poor stands and limited production. Check and calibrate your drill for the proper seeding rate. It will save you money in the long run. Go to question 10.

10. Did you seed at the recommended depth for the crop?

a.____ Yes. Go to question 11.

b.____ No. Follow the recommendations on the bag. Seeding too deep will decrease your stand. Go to question 11.

11. Did you do your seeding at the recommended date?

    a.____ Yes. Go to question 12.

    b.____ No. Planting time can have a great effect on germination and final stand count. Follow the directions on the seed bags for this specific information. Go to question 12.

12. Were weeds a problem in your annual hay stand?

    a.____ Yes. Consider University of Minnesota Extension Bulletin 212 for specific recommendations. Be sure to watch for application times vs. harvesting dates to avoid contamination. Go to question 13.

    b.____ No. Go to question 13.

13. Was there any significant insect damage to your annual hay crop?

    a.____ Yes. Go to question 14.

    b.____ No. Go to question 15.

14. Did you follow an insect control program?

    a.____ Yes. Good, but stay abreast of changes in USDA approved chemicals. Go to question 15.

    b.____ No. Consult an agricultural specialist in setting up a contingency plan for dealing with infestations should they occur regularly in your area. Go to question 15.

15. Did you harvest your particular annual hay crop at a stage recommended for maximum feed value and maximum TDN/acre?

    a.____ Yes. Go to question 16.

    b.____ No. Go to question 16. Harvesting at the correct time will give you optimum TDN and best regrowth potential.

16. Did your annual hay crop have to compete with other enterprises for labor and time at the recommended harvest time?

    a.____ Yes. You cannot expect to obtain maximum quality and optimum TDN if you treat your hay crop as one of secondary importance. Go to question 17.

    b.____ No. Go to question 17.

17. Is your hay harvesting machinery adequate to complete harvest at the proper time?

    a.____ Yes. Check the ownership and operation cost to see if they are reasonable and correct. Go to question 18.

    b.____ No. Go to question 18.

18. Did you hire any custom work to help harvest your annual hay crop?

a.____ Yes. Consider purchase of efficient hay harvesting equipment if other hay acreage justifies it. Another alternative is to re-evaluate the job done by the custom operator--perhaps get someone else who can get the harvesting done on time.

b.____ No. Consider hiring custom work if it would make harvest more timely and the increased value of the crop justifies the custom charge.

Enterprise Analysis For Canning Corn

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over all listed costs as shown on Line 24 of this table?

   Average analysis return over all listed costs, Line 24 _____

   My return over all listed costs, Line 24 _____

2. The yield per acre is an important factor in determining return over listed costs. The average yield of the high yield farms was _____ dollars per acre. Are you satisfied with your yield as shown on Line 2?

   a.____ Yes. Go to question 3.

   b.____ No. Many factors influence yield. Go to question 3.

3. The value per unit received, when selling your commodity, is an important factor in determining total income. How did your value received per ton compare with the average on line 3?

   a.____ Higher price. Go to question 4.

   b.____ Average price or lower. If you are not content with the price received, now is the time to negotiate a different contract for next year. If this is not possible discuss other areas of the contract that will make the contract more valuable to you, i.e. picking rates, planting dates, and hauling rates.

4. The cost per unit or per ton of production is another important guideline of the total production picture. Are you satisfied with the level of your current cost per ton for production?

   Average cost per unit of production, line 28 _____

   My cost per unit of production, line 28 _____

   a.____ Yes. If you are entirely satisfied with your cost and return values and have answered yes to the first four questions, you need go no further, UNLESS you feel a review of your canning corn crop management might raise the return figures for next year. Then go to question 5.

   b.____ No. If you are not content with your per ton costs, let's review the entire expense section to see if a management problem can be found. Go to question 5.

5. Canning companies have trained fieldmen to assist their growers. Are you following their recommendations?

   a.____ Yes. Go to question 6.

   b.____ No. It is necessary to closely follow the company's recommendations for cultural practices as they have conducted extensive research and have access to other research which supports their recommendations. Go to question 6.

6. Producers who have large acreages and have grown corn for many years for the canning company have a decided advantage in the selection of varieties and date of planting. Are you in a position to bargain with the canning company?

   a.____ Yes. Go to question 7.

   b.___ No. Go to question 9.

7. A good fertility program is essential for a consistently high yield. Do you have your soil tested within the recommended time limit of every three years and fertilize according to those recommendations?

   a.____ Yes. Go to question 8.

   b.____ No. Consistently high yields are dependent on many variables and one of those you control is fertility. Use it to your best advantage. Go to question 8.

8. Is your soil type and topography capable of sustaining heavy harvesting equipment under adverse field conditions?

   a.____ Yes. The physical soil characteristics may be altered and excessive erosion may occur from damage by heavy equipment. Go to question 9.

   b.____ No. Go to question 9.

9. Have you considered alternative uses for your land?

   a.____ Yes. Select the alternative use. Go to question 10.

   b.____ No. Soil losses may exceed the apparent advantage assumed from canning corn. Go to question 10.

10. Are you satisfied with your farm power and machine ownership costs for this crop on line 17?

    a.____ Yes. Go to question 11.

    b.____ No. Reevaluate your total farm power and machinery inventory if this problem exists with other crops or discuss the possibility of changing your power cost allocation factor on line 27 with your agriculture instructor. Go to question 11.

11. Is your farm power and machinery operational cost excessive?

a.____ Yes. If this is a problem with other crops, too, maybe you need to reevaluate your tillage practices. Excessive tillage operations increase fuel and repair costs. If this is a problem only with this crop maybe you need to discuss the changing of the power cost allocation factor with your instructor on line 27. Go to question 12.

b.____ No. Go to question 12.

12. Was there a proper allocation of land cost for this crop?

a.____ Yes. Go to question 13.

b.____ No. Consider and discuss the method used to determine value of land for the crop analysis with your agriculture instructor. Go to question 13.

13. If you have checked all the previous questions and still are not satisfied, consult your agriculture advisor.

Enterprise Analysis for Corn for Grain

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over all listed costs as shown on Line 24 of this table?

   Average analysis return over all listed costs. Line 24 _____

   My return over all listed costs Line 24 _____

   a.____ Yes. Are your goals high enough? You may need to re-examine your goals each year in view of changing crop and economic conditions. Go to question 2.

   b.---- No. Go to question 2.

2. The yield per acre is an important factor in determining return over listed costs. The average yield of the high yield farms was _____ bushels per acre. Are you satisfied with your yield as shown on line 2?

   a.____ Yes. Go to question 3.

   b.____ No. Many factors influence yield. Go to question 3.

3. The value per unit received, when selling your commodity, is an important factor in determining total income. How did your value received per production unit compare with the average on line 3.

   a.____ Higher price. Go to question 4.

   b.____ Average price or lower. If you are not content with the price received, look at the possibility of using the grain futures market to lock in a value for some of all of your crop. Information sources for using the futures market may be your farm management instructor, county agent or the local grain elevator manager. Go to question 4.

4. The cost per unit, or per bushel of production is another important guideline of the total production picture. Are you satisfied with the level of your current cost per bushel for production?

   Average cost per unit of Production, Line 28 _____

   My cost per unit of production, Line 28 _____

   a.____ Yes. If you are entirely satisfied with your cost and return values and have answered yes to the first 4 questions, you need go no further, UNLESS, you feel a review of your corn crop management might raise the return figures for next year. Then go to question 5.

b.____ No. If you are not content with your per bushel cost, let's review the entire expense section to see if a management problem can be found. Go to question 5.

5. Are you using varieties adapted to your farm?

a.____ Yes. Continue to update yourself on varietal developments. Go to question 7.

b.____ No. Observe test plots in your area or preferably compare results of hybrids on your own farm. Go to question 6.

6. Do you get assistance in varietal selection?

a.____ Yes. Go to question 7.

b.____ No. Suggested places to get varietal data include: seed corn dealers, company agronomists, vocational agriculture instructors, county agents. Go to question 7.

7. Was the physical condition of the soil at planting time conducive to preparing a good seed bed?

a.____ Yes. Have you observed tilth at time of planting on fields that have a history of high yields? Go to question 8.

b.____ No. Go to question 8.

8. Do you have a soil conservation service plan, and if so, are you utilizing it?

a.____ Yes. Review it again and update it as needed. Go to question 10.

b.____ No. Contact your Soil Conservation Service for help. Go to question 9.

9. Did you follow up the SCS plan with a soil test.

a.____ Yes. Go to question 10.

b.____ No. Have the soil sampled as soon as possible and tested. Your local agriculture instructor or county agent can assist you with the required information. Go to question 10.

10. Is fertilizer applied according to soil test recommendation?

a.____ Yes. If deficiencies continue to exist or there are symptoms of hidden hunger consider other diagnostic soil and plant analysis. Go to question 11.

b.____ No. Consider the availability of plant nutrients and economics of applications. Work with your fertilizer dealer, seed corn agronomist and vocational agriculture instructor. Go to question 11.

11. Have you properly identified your weed problems and can you relate weed problems to chemicals needed.

a.____ Yes. I know all weeds, chemicles and cultural practices. Go to question 13.

b.____ No. Visit your local herbicide plots to compare product performance. Go to question 12.

12. Do you know where to get information on weeds and their control?

a.____ Yes. Go to question 13.

b.____ No. Your vocational agriculture instructor, county agent and corn or herbicide dealer should have up to date material on control practices. Go to question 13.

13. Are your pesticide costs significantly above or below average costs? Refer to Line 9 of your analysis.

a.____ Yes. Good, but does your yield and weed control justify the expense? If cost is below average go back to question 11, otherwise proceed to question 14.

b.____ No. Does being average insure good control? Go to question 14.

14. Does the seeding rate make maximum use of other inputs?

a.____ Yes. If you don't get the seeds in the ground you won't get the yield. Rainfall may then be your single most limiting factor. Go to question 15.

b.____ No. Quality of seed, seeding rate and depth of planting can influence the number of plants at harvest time. Refer to seed corn companies publications on planting rate and related items. Go to question 15.

15. Is crop quality maintained during storage?

a.____ Yes. You can take advantage of a discount-free market or better livestock performance. Go to question 16.

b.____ No. Consider the following as alternatives to permitting spoilage: drying on-farm or at the elevator, high moisture storage or acid treatment. Go to question 16.

16. Can hiring custom labor improve your return over costs? Refer to Line 12 of your analysis.

a.____ Yes. Be sure the operator is reliable and competent. Go to question 17.

b.____ No. Timeliness may be enhanced with this type of hired man. Go to question 17.

17. Is your machinery selection doing the job intended? Refer to Lines 12, 17, and 18.

a.____ Yes. Your operation and ownership cost are consistent with the average. Crop yields are also acceptable. Go to question 18.

b.____ No. Breakdowns and repairs are raising these costs and possibly affecting timeliness. Go to question 18.

18. Are there other factors that may improve machinery operation costs?

a.____ Yes. Sharing ownership of machinery can lower the cost per bushel produced. Machinery off the depreciation schedule may be adequate at a limited ownership cost. Go to question 19.

b.____ No. Ownership cost may be too high without an improvement in timeliness and crops harvested. Go to question 19.

19. Have you considered replacing some items of machinery?

a.____ Yes. Do not overlook income tax benefits. Go to question 20.

b.____ No. An avoidable delay in a machine operation can reduce return over listed costs. Go to question 20.

20. Are operational costs greater than average. Refer to Line 19 of your analysis.

a.____ Yes. Too many trips over the field increase costs and delay timeliness of other field operations. Breakdowns result in too much downtime. Go to question 21.

b.____ No. Even though costs are low, there may be ways to decrease costs even further. Go to question 21.

21. Is the allocated land cost consistent with current market value or cash rent? Refer to Line 20 of the analysis.

a.____ Yes. How is method determined? Go to question 22.

b.____ No. Recalculate the figures and come as close as reasonably possible. Go to question 22.

22. Do you understand the significance of listed cost per unit of production? Refer to Line 28 of your analysis.

a.____ Yes. It relates the yield with listed cost of production. Go to question 23.

b.____ No. The previous questions have related the importance of crop yields to production costs. Business management procedures must be reviewed. Go to question 23.

23. Do you understand the significance of return over listed costs per unit of production?

a.____ Yes. You are on your way to providing an adequate family living.

b.____ No. It may be fun producing corn, but fun does not put food on the table. This measure tells you everything about your ability to manage costs and production practices.

Enterprise Analysis For Legume Pasture

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Do the acres of legume pasture on your farm and reported on line 1 of this table constitute ten or more acres of tillable land?

   a.____ Yes. Go to question 2.

   b.____ No. Go to another enterprise.

2. Do you utilize legume pasture over the full growing season?

   a.____ Yes. Go to question 3.

   b.____ No. Include with legume hay enterprise if used partially. Estimate production in tons of hay. Go to question 3.

3. Was the return over listed costs as reported on line 24 well in excess of the average return?

   a.____ Yes. Go to question 13.

   b.____ No. If not, let's review some of the management factors which affect pasture productivity. Go to question 4.

4. Was the low return, if any, as reported on line 24 due to insufficient reporting?

   a.____ Yes. Correct the reporting method. Keep grazing schedules and cattle numbers, and also any crop that is cut and baled off.

   b.____ No. Go to question 5.

5. Is the low return as reported on line 4 due to too heavy or too light grazing practices?

   a.____ Yes. Refer to question 11.

   b.____ No. Go to question 6.

6. Was the low return, as listed on line 4, due to uncontrollable or severe weather conditions?

   a.____ Yes. Go to question 7.

   b.____ No. Go to question 7.

7. Could the low return be due to an insufficient number of legume plants? Fifty percent of the plants should be legumes.

   a.____ Yes. Re-seed or renovate your pasture to improve the legume stand. Go to question 8.

   b.____ No. Go to question 8.

8. Was the low return over listed costs, if any, on line 24 due to a low level of fertility?

   a.____ Yes. Low fertility in pastures is a common problem and can be easily corrected by taking soil samples and having them tested for N, K, P, and lime.

   b.____ No. Go to question 9.

9. How often do you fertilize your legume pasture?

   a.____ Every one to two years. You fertility program may be adequate but keep on checking the samples. Go to question 10.

   b.____ Every three years or less often. You fertility program may be inadequate for the grazing demands you make on it. Fertilize a small portion of it with some left over fertilizer from the crops, you will be amazed at the results. Go to the next question.

10. Could your reduced return be due to improper drainage?

    a.____ Yes. Install tile or shallow open grassed waterways for adequate drainage.

    b.____ Go to question 11.

11. A low return on line 24 could be due to the use of unadapted varieties of legumes. Is that a problem in your field?

    a.____ Yes. Refer to University of Minnesota Bulletin 24 for recommended varieites. Go to question 12.

    b.____ No. Go to question 12.

12. Was the practice of rotation grazing used by rotating the pasture in small sections?

    a.____ Yes. Go to question 13.

    b.____ No. You should provide the necessary fencing so enough of the pasture is fenced to provide more even short term grazing of plants and promote succulent growth. Go to question 13.

13. Were the pastures clipped to control growth and were the manure droppings distributed evenly over the entire area.

    a.____ Yes. Go to the next question.

b.____ No. You should clip ungrazed portion of plants to promote succulent growth and provide a method of distributing manure evenly over the area. Go to question 14.

14. Weeds and brush plants are large consumers of nutrients and moisture. Are they a problem in your pasture?

a.____ Yes. Go to question 15.

b.____ No. Chemicals can be used to control broad leaf weeds and woody plants. Use extreme care to keep animals out of the area for the recommended time period. University of Minnesota Extension Bulletin 212 will give current information about the available and recommended herbicides. Go to question 15.

15. Do you feel that your legume pasture analysis record accurately reflects your actual cost of this enterprise?

a.____ Yes. Excellent, you are doing well.

b.____ No. Determine what input changes should be made to accurately reflect actual costs.

Enterprise Analysis For Navy Beans

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over listed costs as shown on Line 24 of this table? The average return over all listed costs of high return farms was _____.

   a.____ Yes. Are your goals high enough? You may need to reexamine your goals each year in view of the changing crop and economic conditions. Go to question 2.

   b.____ No. Go to question 2.

2. The yield per acre is an important factor in determining return over listed costs. The average yield of high return farms was _____ cwt. per acre. Are you satisfied with your yield of _____ cwt. per acre?

   a.____ Yes. Go to question 3.

   b.____ No. There are many factors which affect this figure. Go to question 3.

3. The value per unit received is another important factor in determining total income. How did your value received per cwt. compare with the average on Line 3?

   a.____ Higher price. Go to question 4.

   b.____ Average or lower price. If you are not content with the price received, look at the possibility of using the grain futures market to lock in a value for some or all of your crop. Information sources for using the futures market may be your farm management instructor, county agent or local grain elevator manager. Go to question 4.

4. The cost per unit or per cwt. of production is another important guideline of the total production picture. Are you satisfied with the level of your current cost per bushel for production?

   a.____ Yes. If you are entirely satisfied with your cost and return values and have answered yes to the first four questions, you need go no further UNLESS you feel a review of your navy bean crop management might raise the return figures for next year. Then go to question 5.

   b.____ No. If you are not content with your per cwt. costs, let's review the entire expense section to see if a management problem can be found. Go to question 5.

5. Do you irrigate your navy beans?

   a.____ Yes. Go to question 6.

   b.____ No. Go to question 26.

6. Do your yields exceed 2000 pounds per acre?

   a.____ Yes. Go to question 60.

   b.____ No. Go to question 7.

7. Do you plant your beans between May 20 and May 30?

   a.____ Yes. Go to question 8.

   b.____ No. Try it, you'll like it. Go to question 8.

8. Do you use a fungicide on the seed before planting?

   a.____ Yes. Go to question 9.

   b.____ No. Use a recommended fungicide. Go to question 9.

9. Have you innoculated seed with nitrogen fixing bacteria?

   a.____ Yes. Go to question 10.

   b.____ No. Innoculating puts bacteria in the soil to aid in nodulation. Go to question 10.

10. Do you plant your beans from 1" to 2" deep?

    a.____ Yes. Go to question 11.

    b.____ No. Deep planting may reduce germination. Consider 1" to 2" depth. Go to question 11.

11. Do you plant certified seed which is free of seed borne diseases?

    a.____ Yes. Go to question 12.

    b.____ No. Many diseases are seed borne. Good seed will prevent some of these. Western U. S. seed sources are most likely to provide disease free seed. Go to question 12.

12. Do you check the germination percentage of your seed?

    a.____ Yes. Go to question 13.

    b.____ No. Consider sending a sample to the state seed laboratory for germination checking. Go to question 13.

13. Do you plant seed which has at least 85% germination?

a.____ Yes. Go to question 14.

b.____ No. Low germination reduces plant population and thus may reduce yield. Dropping the seed may adversely affect germination. Go to question 14.

14. Is your planting rate from 40 to 50 pounds per acre?

a.____ Yes. Go to question 15.

b.____ No. Lower rates will reduce potentials, higher rates may give you lower returns for the money invested. Go to question 15.

15. Do you plant the recommended varieties of Seafarer or Sanilac?

a.____ Yes. Go to question 16.

b.____ No. The recommended varieties usually have highest yield potential. Go to question 16.

16. Is your row spacing between 24 and 30 inches?

a.____ Yes. Go to question 17.

b.____ No. Narrower may increase disease hazard and wider reduces population and thus yield. Go to question 17.

17. Did you have a complete soil test and fertilize your beans accordingly?

a.____ Yes. Go to question 19.

b.____ No. It may be the key to 2000 pound yields. Go to question 18.

18. Do you apply 25 to 30 pounds of nitrogen at planting time and additional 25 to 30 pounds by last week of June?

a.____ Yes. Go to question 19.

b.____ No. The growers that exceed 2000 pounds usually do. Go to question 19.

19. Are you satisfied with uniformity of stand?

a.____ Yes. Go to question 23.

b.____ No. Read again questions 10 and 11. Then go to question 20.

20. Do you plant in a well prepared and firm seed bed?

a.____ Yes. Go to question 21.

b.____ No. It is a must for uniform stand and good growth. Even soil beds will result in more even germination, evenness of plant development and better conditions for pulling beans in the fall. Go to question 21.

21. Do you use some sort of harrow post plant or even post emerge to kill the weeds sprouting at that time?

a.____ Yes. Go to question 22.

b.____ No. Hold it! This could be the difference of improved yields and less problems combining. Go to question 22.

22. Do you cultivate one or two times even with chemical weed control?

a.____ Yes. Go to question 23.

b.____ No. Chemical weed control is not 100% fool proof. It is a good practice to cultivate at least twice with a weed control. This should be done only when the leaves are quite dry reducing probability of disease transfer. Go to question 23.

23. Does your irrigation program have an application of 1.5" to 2.0" of water (irrigation or rainfall) per week?

a.____ Yes. Go to question 24.

b.____ No. Peak use of most crops will be approximately .25" per day. Without adequate moisture no plant can develop well. Go to question 24.

24. Do you consider evaporation rate and rainfall data in determining your irrigation schedule?

a.____ Yes. Go to question 25.

b.____ No. Peak use of moisture will vary according to climate conditions. Consider these variations in planning your irrigation schedule. Go to question 25.

25. Do you use some sort of moisture measuring method (such as tensiometers) to determine available moisture in the soil?

a.____ Yes. Go to question 44.

b.____ No. This will give you guidelines in knowing when to irrigate. Go to question 44.

26. Is the soil type on your farm sandy loam or loamy sand?

a.____ Yes. Go to question 28.

b.____ No. Heavier soils have different water holding capacities and cultural practices must be adjusted. Go to question 27.

27. Does your yield exceed 1400 pounds per acre?

a.____ Yes. You are producing a good yield. Go to question 60.

b.____ No. You probably can improve your cultural practices to increase gross yields. Go to question 32.

28. Does your gross yield exceed 900 pounds per acre?

a.____ Yes. You are producing a good dryland yield on sand. Go to question 29.

b.____ No. You should check your cultural practices to improve your yield. Go to question 29.

29. Has drouth been a problem causing your beans to mature late and have reduced yields?

a.____ Yes. Irrigation is one way of having beans mature at a uniform rate and the yield and quality will be much improved. Go to question 30.

30. Do you want to increase gross yields from what you received from dryland practices?

a.____ Yes. Irrigation is a good route to go. Go to question 31.

b.____ No. Go to question 60.

31. Are you willing to get set up to irrigate if water is available?

a.____ Yes. Great! It is usually a wise investment. Go to question 32.

b.____ No. Go to question 32.

32. Do you plant your beans between May 20 and June 5?

a.____ Yes. Go to question 33.

b.____ No. The early bird gets the worm. Go to question 33.

33. Do you use a fungicide on the seed before planting?

a.____ Yes. Go to question 34.

b.____ No. Use a recommended fungicide. Go to question 34.

34. Have you innoculated seed with nitrogen fixing bacteria?

a.____ Yes. Go to question 35.

b.____ No. Innoculating puts bacteria in the soil to aid in nodulation. Go to question 35.

35. Do you plant your beans 1" to 3" deep to put seed in moist soil?

a.____ Yes. Go to question 36.

b.____ No. Seed must have moisture to germinate. Go to question 36.

36. Do you plant certified seed which is free of seed borne diseases?

a.____ Yes. Go to question 37.

b.____ No. Many diseases are seed borne. Good seed will prevent some of these. Western U. S. seed sources are most likely to provide disease free seed. Go to question 37.

37. Do you check the germination percentage of your seed?

a.____ Yes. Go to question 38.

b.____ No. Consider sending a sample to the state seed laboratory for germination checking. Go to question 38.

38. Do you plant seed which has at least 85% germination?

a.____ Yes. Go to question 39.

b.____ No. Low germination reduces plant population and thus may reduce yield. Dropping the seed may adversely affect germination. Go to question 39.

39. Is your planting rate from 35 to 40 pounds per acre?

a.____ Yes. Go to question 40.

b.____ No. Lower rates will reduce potentials, higher rates may give you lower returns for the money invested. Go to question 40.

40. Do you plant the recommended varieties of Seafarer or Sanilac?

a.____ Yes. Go to question 41.

b.____ No. The recommended varieties usually have highest yield potential. Go to question 41.

41. Is your row spacing between 24 and 30 inches?

a.____ Yes. Go to question 42.

b.____ No. Narrower may increase disease hazard and wider reduces population and thus yield. Go to question 42.

42. Did you have a complete soil test and fertilize your beans accordingly?

a.____ Yes. Go to question 44.

b.____ No. Stop! One must remember that if only one element is deficient, this will reduce yield potential. Soil tests are tested guidelines and need to be followed to achieve better yields. Go to question 43.

43. Do you apply at least 25 to 30 pounds of nitrogen?

a.____ Yes. Good! Go to question 44.

b.____ No. It takes that much nitrogen to improve your yields. Go to question 44.

44. Have weeds been a problem in your bean fields?

a.____ Yes. Better control them. Go to question 45.

b.____ No. Go to question 47.

45. Have you followed approved practice of mechanical weed control (such as plowing, digging, disking, spike tooth harrowing or rotary hoeing either pre-emerge or post-emerge, and cultivating 2 or 3 times)?

a.____ Yes. Keep it up. It is a good way to cut down the weed population. Go to question 46.

b.____ No. Every weed you let grow is competition for your beans. Go to question 46.

46. Have you used one or a combination of chemical weed control programs?

a.____ Yes. Be sure and use a chemical designed to kill the type of weed you have. Be sure to follow all directions. Go to question 47.

b.____ No. It could solve your weed problem. Go to question 47.

47. Do you have a disease problem?

a.____ Yes. Go to question 48.

b.____ No. You are fortunate. Keep watching and go to question 48 if a problem ever develops. Meanwhile go to question 53.

48. Is root rot a problem?

a.____ Yes. Don't plant beans on same field more often than one year out of three. Go to question 49.

b.____ No. That's good but watch your rotation. Don't grow beans on beans. Go to question 49.

49. Is bacterial blight approblem?

a.____ Yes. Plant only disease free seed, don't enter the bean field when beans are wet, isolate infected fields if possible and get with a good rotation. Go to question 50.

b.____ No. Keep a watchful eye and keep up good rotation. Go to question 50.

50. Is halo blight a problem?

a.____ Yes. Use only disease free seed. Practice good crop rotation. Use inorganic copper spray. Go to question 51.

b.____ No. Don't check this one. Keep watching. Go to question 51.

51. Is rust a problem?

a.____ Yes. This can be controlled with a fungicide if done early. It would be advisable to rotate well and plow down debris in the fall. Go to question 52.

b.____ No. Be observant and refer to question 51a if problem arises. Meanwhile go to question 52.

52. Is white mold a problem?

a.____ Yes. This can be controlled with a fungicide if done early. Good rotation and plowing down debris in the fall also helps. Don't rotate with potatoes or sunflowers as they are also susceptible to white mold. Go to question 53.

53. Do you have an insect problem?

a.____ Yes. Go to question 54.

b.____ No. Keep watching. Refer to question 54 if a problem develops. Meanwhile go to question 59.

54. Are aphids a problem?

a.____ Yes. Check you field for population numbers and inquire if it is economical to spray. Use a current FDA approved chemical. Go to 55.

b.____ No. Go to question 55.

55. Are bean leaf beetles a problem?

a.____ Yes. Check for population numbers and inquire if it is economical to spray. Use a current FDA approved chemical. Go to question 56.

b.____ No. Go to question 56.

56. Are green leaf beetles a problem?

a.____ Yes. Check for population numbers and inquire if it is economical to spray. Use a current FDA approved chemical. Go to question 57.

b.____ No. Go to question 57.

57. Are leafhoppers a problem?

a.____ Yes. Check for population numbers and inquire if it is economical to spray. Use a current FDA approved chemical. Go to question 58.

b.____ No. Go to question 58.

58. Are seed corn maggots a problem?

a.____ Yes. Check for population numbers and inquire if it is economical to spray. Use a current FDA approved chemical. Go to question 59.

b.____ No. Go to question 59.

59. Do you inspect your fields every 2 or 3 days for disease or insect problems?

a.____ Yes. A very sound practice. Continue to do so. Go to question 60.

b.____ No. Get with it. Early diagnosis may save a bean crop. Go to question 60.

60. Are you satisfied with your crop before pulling?

a.____ Yes. Good! Go to question 61.

b.____ No. Recheck all cultural practices. Go to question 61.

61. Are you satisfied with the quality of your harvested beans?

a.____ Yes. Good! Go to question 68.

b.____ No. Go to question 62.

62. Are cracked seeds greater than 3%?

a.____ Yes. Slow down combine cylinder, adjust concaves. Go to question 63.

b.____ No. Go to question 63.

63. Is your dockage over 5%?

a.____ Yes. Readjust your combine. May consider a different combine or custom harvesting. Go to question 64.

b.____ No. Go to question 64.

64. Is sand a problem in your harvested beans?

a.____ Yes. Possible solutions are: better weed control, scour clean on combine, or run beans over screen from wagon to elevator. Go to question 65.

b.____ No. Go to question 65.

65. Is your field loss more than 20 beans per cubic yard?

a.____ Yes. Improved pulling and windrowing (pull when damp) are needed to reduce the first loss and then good combining is important. Go to question 66.

b.____ No. Good harvesting! Go to question 66.

66. Is damage in transfer and hauling greater than 1%?

a.____ Yes. A rubber belted elevator will reduce this damage. Go to question 67.

b.____ No. Go to question 67.

67. Are your beans sold with less than 20% moisture?

a.____ Yes. Good! Go to question 68.

b.____ No. They should be. Consider earlier varieties, planting earlier or delaying harvesting. Go to question 68.

68. Review this study guide again. Are the answers correct? Write down any questions on this paper and discuss them with your farm management instructor when he visits.

Reference List

1. Cultural and Chemical Weed Control. Extension Folder 212, U of M.

2. Cultural and Chemical Weed Control in Field Crops, 1972.

3. Diseases of Field, Snap and Dry Beans in Minnesota by Herbert G. Johnson, Extension Plant Pathologist.

4. Dry Beans for Minnesota. Agricultural Extension Service, University of Minnesota, B310.

5. Field Bean Production in Michigan. Extension Bulletin 513.

6. Field Beans. Agricultural Extension Service, University of Minnesota, Miscellaneous Report 112.

7. Growing Blight-Free Field Beans. Extension Bulletin 680, Michigan State University.

8. Halo Blight. Idaho Agricultural Extension Service Bulletin 444.

9. Insecticides and Their Uses in Minnesota. Extension Bulletin 263.

10. Mechanical Damage to Dry Beans. Extension Bulletin E-540, Michigan State University.

11. Varital Trials. Agricultural Extension Service, U of M, Miscellaneous Report 24.

Enterprise Analysis for Non-Tillable Pasture

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. I am satisfied with returns over all listed costs, Line 24.

   a.____ Yes. Go to question 2.

   b.____ No. Go to question 6.

2. I feel that my non-tillable acreage is a manageable enterprise that affects my farm earnings.

   a.____ Yes. Go to question 3.

   b.____ No. Go no further.

3. I consider my non-tillable pasture acres to be small and so would not affect my farm earnings.

   a.____ Yes. Go no further.

   b.____ No. Go to question 4.

4. The livestock enterprise utilizing this acreage is a significant part of my farm business.

   a.____ Yes. Go back to question 1 and re-evaluate your answer. If the answer is still yes, stop and go no further.

   b.____ No. Go no further.

5. The carrying capacity as reflected by Line 2 is satisfactory.

   a.____ Yes. Go no further. Your only solution is to cut costs.

   b.____ No. Go to question 6.

6. I feel my pasture could carry more livestock.

   a.____ Yes. Consider more livestock per pasture acre. Go on to question 7 if this addition would create management problems.

   b.____ No. Go to question 7.

7. Refer to Line 8. I adequately fertilize my pasture.

   a.____ Yes. Go to question 8.

   b.____ No. Soil test and apply fertilizer according to recommendations. Go to question 9.

8. Fertilizer is applied according to a soil test.

   a.____ Yes. Go to question 9.

   b.____ No. Test soil. Consult agriculture instructor for instructions. Go to question 9.

9. I have a weed problem in my pasture.

   a.____ Yes. Go to question 10.

   b.____ No. Go to question 11.

10. I clip my pasture for weed control.

    a.____ Yes. Use chemical control on problem weeds. Go to question 11.

    b.____ No. Advise clipping weeds before they go to seed; use chemicals for problem weeds. Go to question 11.

11. I am satisfied with the length of the grazing season.

    a.____ Yes. Go no further.

    b.____ No. Go to question 12.

12. Some or all of my pasture can be reseeded.

    a.____ Yes. Refer to bulletin on Pasture Renovation and contact Vo-Ag instructor and SCS for adapted varieties and mixtures. Go to question 13.

    b.____ No. As a last resort, consider sowing mixture (including birdsfoot trefoil) with cyclone seeder or by hand. Go to question 14.

13. In reseeding my pasture, I will consider soil and water management.

    a.____ Yes. Good. Contact local SCS technician (aid may be available). Go to question 14.

    b.____ No. Consider local SCS technician (aid may be available). Go to question 14.

14. I consider grass height when turning my livestock out to pasture at the beginning of the grazing season.

    a.____ Yes. Go to question 16.

    b.____ No. Go to question 15.

15. Turning my livestock out to pasture is based on a shortage of roughage.

    a.____ Yes. Grazing of grass before adequate reserves have been established reduces pasture days. Consider purchase or increase supply of alternative roughage sources (chopped corn stalks, etc.). Go to question 16.

    b.____ No. Ask yourself if it would be feasible to delay letting livestock out to pasture. Go to question 16.

16. I practice pasture rotation throughout the summer.

    a.____ Yes. Your problems should already be solved. Go no further.

    b.____ No. Go to question 17.

17. Pasture rotation, which may involve more fencing, is feasible on my farm.

    a.____ Yes. Studies show that rotation increases length of grazing season and carrying capacity. Consider rotation.

    b.____ No. Consider supplementary pasture or feeding during low production periods to increase fall carrying capacity.

Enterprise Analysis For Oats

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over all listed costs as shown on line 24 of this table?

   Average return over all listed costs L24 _____
   My return over all listed costs L24 _____

   a.____ Yes. Are your goals high enough? You may need to re-examine your goals each year in view of changing crop and economic conditions. Go to question 2.

   b.____ No. Go to question 2.

2. The yield per acre is an important factor in determining return over listed costs. The average yield of the high yield farms was _____ bushels per acre. Are you satisfied with your yield as shown on Line 2?

   a.____ Yes. Go to question 3.

   b.____ No. Many factors influence yield. Go to question 3.

3. The value per unit received when selling your commodity is an important factor in determining total income. How did your value received per production unit compare with the average on line 3?

   a.____ Higher price. Go to question 4.

   b.____ Average price or lower. If you are not content with the price received, look at the possibility of using the grain futures market to lock in a value for some or all of your crop. Information sources for using the futures market may be your farm management instructor, county agent or the local grain elevator manager. Go to question 4.

4. The cost per unit or per bushel of production is another important guideline of the total production picture. Are you satisfied with the level of your current cost per bushel for production?

   Average cost per unit of production, line 28 _____
   My cost per unit of production, line 28 _____

   a.____ Yes. If you are entirely satisfied with your cost and return values and have answered yes to the first four questions, you need go no further UNLESS you feel a review of your oat crop management might raise the return figures for next year. Then go to question 5.

b.____ No. If you are not content with your per bushel costs let's review the entire expense section to see if a management problem can be found. Go to question 5.

5. Did you observe considerable lodging in your stand of oats?

a.____ Yes. See University of Minnesota Bulletin 24, Varietal Trials. This publication gives lodging resistance according to variety. Go to question 6.

b.____ No. Go to question 6.

6. Was corn the previous crop?

a.____ Yes. High nitrogen rates are normally applied to corn and may have an effect on lodging on the succeeding oats crop. Go to question 7.

b.____ No. Go to question 7.

7. Was the oats crop fertilized with phosphorous and/or potash?

a.____Yes. Go to question 8.

b.____ No. Phosphorous and/or potash helps prevent lodging and therefore provides a higher yield. Go to question 8.

8. Soil tests are a reliable guide for fertilizer application. Did you use it to guide your applications?

a.____ Yes. Go to question 9.

b.____ No. Proper fertilizer levels are necessary for optimum yields. Go to question 9.

9. Rust in oats can reduce yields dramatically. Resistant varieties are the best control for rust. Did you use recommended varieties of oats listed in the varietal trial report?

a.____ Yes. Go to question 10.

b.____ No. Check recommended varieties in Miscellaneous Report 24. Go to question 10.

10. Was your seeding rate between 1 1/2 and 2 1/2 bushels per acre?

a.____ Yes. Go to question 11.

b.____ No. Lower rates of seeding will reduce yield. Higher rates of seeding will result in unnecessary seed cost and will be shown on line 10 of the analysis. Refer to Crop Production Guide for Minnesota. Go to next question.

11. Early spring planting is conducive to high oat production. Did you plant oats as early as the working of soil permitted?

a.____ Yes. Go to question 12.

b.____ No. Oats will germinate at temperatures as low as 36 degrees. Go to question 12.

12. Did you have a herbicide carry-over problem this past year?

a.____ Yes. Excess of atrazine used the previous year on corn may have a carry-over and will affect the stand of oats. See University of Minnesota Bulletin 212 for use of alternate herbicides for corn and other crops. Go to question 13.

b.____ No. Go to question 13.

13. Are weeds a problem in your oat field?

a.____ Yes. Go to question 14.

b.____ No. Go to question 21.

14. Were perennial weeds a problem?

a.____ Yes. Go to question 15.

b.____ No. Go to question 19.

15. Perennial weeds such as Canada thistle, sow thistle, and field bindweed are difficult to control. A combination of practices must be used to obtain satisfactory results. Did you use cultural practices such as early fall plowing and cultivate at 2 to 3 week intervals until freeze up?

a.____ Yes. Go to question 16.

b.____ No. See Extension Bulletin 212 and also go to question 16.

16. In addition to cultural practices the rate of recommended herbicides used is of utmost importance in weed control in oats. Did you use the recommended rates of herbicide chemicals recommended for oats?

a.____ Yes. Go to question 17.

b.____ No. Check the current Crop Production Guide if you do not know. Go to question 18.

17. Small grains, including oats, are susceptible to herbicide damage at certain stages of growth. Do you follow label instructions for proper timing?

a.____ Yes. Go to question 18.

b.____ No. Refer to Crop Production Guide. Go to question 18.

18. Were annual weeds such as mustard, pigweed and lambsquarter a problem in your oat field?

a.____ Yes. Go to question 19.

b.____ No. Go to question 20.

19. Herbicides are the most practical and economical method of controlling annual weeds in oats. Do you use the recommended chemicals at the prescribed rate and at the proper time of plant growth?

a.____ Yes. Go to question 20.

b.____ No. Check the Crop Guide Plan for Minnesota. Go to question 20.

20. Did you check for harvest losses at combining? Oats should be harvested at 13 to 14% moisture. If fields are weedy, swathing may be necessary to allow for drying of weeds.

a.____ Yes. Go to question 21.

b.____ No. Some of the yield may have been left in the field. Harvest losses can reduce yields and thus profits. Checking harvest losses is important! Go to question 21.

21. Harvest losses due to preharvest, cutter bar, cylinder, rack and shoe losses should be less than one and a half percent under excellent field conditions. Determine losses as in ten square feet (from Combine and Combining, Ohio State University)

Machine Swathe	Distance for 10 square feet
8'	15"
10'	12"
12'	10"
13'	9 1/4"
14'	8 3/5"

Formal count (no. kernals/10 sq. ft. = bu./acre)

Are your losses more than 1 1/2%

a.____ Yes. Check operator's manual for adjustment.

b.____ No. Go to question 22.

22. Were your custom hire costs reasonable as listed on line 12?

a.____ Yes. Go to question 23.

b.____ No. Go to question 23.

23. Were your total power, machinery expenses excessive (lines 12, 17, 18, 22)?

a.____ Yes. Apparently you have high costs of machinery with too few acres in which to spread these costs. Consider alternatives to reducing costs. You have completed the questionnaire.

b.____ No. You have completed the questionnaire.

Enterprise Analysis For Soybeans

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over listed costs as shown on Line 24 of this table? The average return over all listed costs of high return farms was _____.

   a.____ Yes. Are your goals high enough? You may need to reexamine your goals each year in view of the changing crop and economic conditions. Go to question 2.

   b.____ No. Go to question 2.

2. The yield per acre is an important factor in determining return over listed costs. The average yield of high return farms was _____ bushels per acre. Are you satisfied with your yield of _____ bushels per acre?

   a.____ Yes. Go to question 3.

   b.____ No. There are many factors which affect this figure. Go to question 3.

3. The value per unit received is another important factor in determining total income. How did your value received per bushel compare with the average on Line 3?

   a.____ Higher price. Go to question 4.

   b.____ Average or lower price. If you are not content with the price received, look at the possibility of using the grain futures market to lock in a value for some or all of your crop. Information sources for using the futures market may be your farm management instructor, county agent or local grain elevator manager. Go to question 4.

4. The cost per unit or per bushel of production is another important guideline of the total production picture. Are you satisfied with the level of your current cost per bushel for production?

   a.____ Yes. If you are entirely satisfied with your cost and return values and have answered yes to the first four questions, you need go no further, UNLESS you feel a review of your soybean crop management might raise the return figures for next year. Then go to question 5.

   b.____ No. If you are not content with your per bushel costs, let's review the entire expense section to see if a management problem can be found. Go to question 5.

5. Are you using a soybean variety recommended for your area and length of growing season?

   a.____ Yes. Go to question 6.

   b.____ No. STOP! Soybean varieties for your area should mature at least 10 days before average date of killing frost. Go to question 6.

6. Seedbed is plowed and disked to fine tilth and clod free.

   a.____Yes. This will prevent a crust and capture and hold needed rainfall. Go to question 7.

   b.____ No. STOP! Consider adequate seedbed preparation before hitching onto the planter. Go to question 7.

7. Was ground worked directly ahead of the planter?

   a.____ Yes. Go to question 8.

   b.____ No. Harrowing (fast and shallow) every 5 to 7 days before planting kills annual weed seedlings and causes severe setback to perennials.

8. Did you use preplant herbicides?

   a.____ Yes. Good method of early season weed control. Investigate the chemicals that are recommended for this year. Your vo-ag instructor or county agent or local chemical dealer can help you out. Go to 10.

   b.____ No. Go to question 9.

9. Pre-emergence herbicides were applied before plants came up and after thesoil temp was above 40° F.

   a.____ Yes. Your herbicide will give best results if applied at planting time. Go to question 10.

   b.____ No. You're not following herbicide directions and getting full return from your investment. Go to question 10.

10. Seeding rate is between 45 and 75 pounds per acre.

    a.____ Yes. Go to question 11.

    b.____ No. Seeding rate is critical in achieving 40-50 bushels per acre yields.

Recommended Seeding Rates Per Acre

Distance Between Rows	Pounds Per Acre	Plants/Foot
40 - 42"	45 - 50	6 - 8
30 - 36"	55 - 60	5 - 7
21 - 28"	65 - 75	3 - 5

Go to question 11.

11. Severe plant lodging was noticed in soybean field.

a.____ Yes. Lodging can reduce yields up to 13%. Consider lodging characteristics of the variety because it would influence plant population. Go to question 12.

b.____ No. Go to question 12.

12. Soybeans were planted 2" deep.

a.____ Yes. You have eliminated a lot of your stand problems. Go to question 13.

b.____ No. 75% of stand problems can be traced back to soybeans being planted too deep. Go to question 13.

13. Fertilizer applied according to current soil test recommendations.

a.____ Yes. CAUTION. If soybeans are planted in warm, moist soil the plants will take off with excessive branching or foliage, especially where planting rate is on the high side. Go to question 10 to recheck seeding rate, than to question 14.

b.____ STOP! Best results are obtained from yearly sampling although the University of Minnesota soil testing gives a two year recommendation. Go to question 14.

14. Was lime applied to soil before planting?

a.____ Yes. Go to question 15.

b.____ No. Soybeans require a pH of 6 to 6.3 for optimum growth. Go to question 15.

15. Innoculant was applied to seed beans.

a.____ Yes. Go to question 16.

b.____ No. Addition of N-fixing bacteria to seed usually eliminates the need for nitrogen fertilizer. Go to question 16.

16. Soybeans were cultivated during the growing season.

a.____ Yes. Go to question 17.

b.____ No. STOP! Even with the use of a herbicide, two trips through the field with the cultivator are recommended. Go to question 17.

17. First cultivation was completed by the first week in July.

a.____ Yes. Timeliness of cultivation is important in weed control. Go to question 18.

b.____ No. Late cultivation will result in a half bushel loss per acre per day after the first week in July. Go to question 18.

18. Was crop yield reduced because of disease damage?

a.____ Yes. Brown Stem Rot & Phytophthera may have caused the problem. Go to question 19.

b.____ No. Due to conditions in your area or proper crop rotation, disease may not have been a problem. Go to question 19.

19. Did you check your soybeans at harvest time with a moisture tester?

a.____ Yes. Go to question 21.

b.____ No. STOP! If possible harvest should begin when beans are 13% moisture. Go to question 20.

20. Are seed beans to be dried?

a.____ Yes. Caution! Overdrying 2% (11% moisture) will make a loss of 2.25 bushels out of every 100 bushels. Go to question 21.

b.____ No. Go to question 21.

21. Soybeans were stored on the farm at 13% moisture.

a.____ Yes. If storage period is expected to run into spring and summer, the moisture content should be no higher and preferably lower than 13%. Go to question 22.

b.____ No. Beans up to 15% can safely be stored from harvest past late winter. Go to question 22.

22. Are stored soybeans to be used for seed?

a.____ Yes. CAUTION. Seed beans should be down to 12% and should not be dried above temperatures of 110° F. Question 23.

b.____ No. Go to question 23.

23. Calculated pre-harvest and machine losses are less than 3% of the estimated yield.

a.____ Yes. Go to question 28.

b.____ No. Go to question 24.

24. Did harvest losses result from uncut lodged stalks?

a.____ Yes. Set reel lower and farther forward. Be careful! You could increase the number of cut stalks thrown on the ground and increase reel shatter. Go to question 10 and then to question 25.

b.____ No. One bushel loss per acre can be expected here. Go to question 25.

25. Was there evidence of yield loss at the reel?

a.____ Yes. 34 rpm at ground speed of 3 mph or reel speed 1.25 times ground speed. Go to question 26.

b.____ No. Go to question 26.

26. Are pods being left on the stalks?

a.____ Yes. Set cutter bar lower and slow down to a ground speed of about 3 mph. A love bar attachment to your combine may help. Go to 27.

b.____ No. A certain amount of stubble loss is unavoidable. Go to question 27.

27. Is yield reduced because of machine cylinder and separation loss?

a.____ Yes. Check cylinder speed, chaffer and the wind speed adjustment. Go to question 28.

b.____ No. Proper machine adjustment will save 99% of grain entering machine. 10% harvest loss (4 bu/ac) reduces profit by 40%. Go to question 28.

28. Is power and machinery cost (Table 10 L 14) less than the average per acre?

a.____ Yes. Go to question 29.

b.____ No. STOP! This machine cost is high. Check your machinery expense to see whether repairs are costing you more than the average. Go to question 29.

29. Were you satisfied with the gross return (Table 10 L 4) received on soybean sales?

a.____ Yes. Go to 30.

b.____ No. Beans must be 13% moisture or less to make market grade No. 1. Go to question 30.

30. Did you sell your soybeans at a time when the price was high for the year?

a.____ Yes. Timeliness of sales. Go to 31.

b.____ No. Trends show beans to bring the most money in March to May. Get price protection for stored grain by selling and buying on the Futures Market. Go to question 31.

31. Have you followed a crop rotation program for soybean enterprise?

a.____ Yes. Recommended control for nearly all diseases affecting soybeans. Go to 32.

b.____ No. STOP! Consider working out a rotation plan before continuing your soybean enterprise. Go to 32.

32. You have completed the questionnaire. Check again to see if everything is correct. If you have any questions write them down and talk them over with your farm management instructor when he visits you.

Enterprise Analysis for Spring Wheat

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you completely satisfied with your return over all listed costs as found on Line 24?

   a.____ Yes. Go to question 2.

   b.____ No. Go to question 2.

2. Are you satisfied with your wheat yield per acre this year as found on line 2?

   a.____ Yes. Go to question 3.

   b.____ No. Go to question 3.

3. The value per unit received when selling your commodity is an important factor in determining total income. How did your value per production unit compare with the average on line 3?

   a.____ Higher price. Go to question 4.

   b.____ Average price or lower. If you are not content with the price received, look at the possibility of using the grain futures market to lock in a value for some or all of your crop. Information sources for using the futures market may be your farm management instructor, county agent or the local grain elevator manager. Go to question 4.

4. Average cost per unit of production, line 28:____
   My cost per unit of production, line 28:____

   The cost per unit, or per bushel of production is another important guideline of the total production picture. Are you satisfied with the level of your current cost per bushel for production?

   a.____ Yes. If you are entirely satisfied with your cost and return values and have answered "yes" to the first four questions, you need go no further UNLESS you feel a review of your wheat crop management might raise the return figures for next year. Then go to question 5.

   b.____ No. If you are not content with your per bushel costs, let's review the entire expense section to see if a problem can be found. Go to question 5.

5. Correct fertility is one of the basic ingredients for a good crop. Are you satisfied with your fertilizer program and its costs?

   a.____ Yes. Go to question 7.

b.____ No. Look at your field records. If you don't have them, there is one problem. Make a good set of field records. There is a page in your account book for them. When were the last soil samples taken? Are they within the recommended time limit of every 3 years? Soil samples should be taken in the fall or early winter. Light ground frost won't hurt, to beat the normal spring rush. A nitrate-nitrogen test is available for portions of western Minnesota which correlates production with the amount of nitrogen (up to a specified level) available to the wheat plant. Go to question 6.

6. Did you anticipate which wheat variety you would be planting before you fertilized

a.____ Yes. Go to question 7.

b.____No. Inquire about the amount of fertilizer the variety you are planting, expecially if new, can tolerate without damage. Some semi-dwarf varieties can tolerate a higher amount than long stem varieties. Follow the recommendations. Minnesota Extension Bulletin 24 should help.

7. Were weeds a problem in your past year's wheat crop?

a.____ Yes. Most broad-leaf weeds can be controlled in wheat if caught early. Wild mustard is an especially agressive competitor for nitrogen and water but is easy to kill. Wheat should not be planted, if possible, where grasses are a nearby competitor. Go to question 8.

b.____ No. Go to question 10.

8. Wild oats can sometimes be a factor in reducing yield, especially in the northern portion of Minnesota. Was it a problem in your fields?

a.____ Yes. There are several good pre and post emergence chemicals that will control wild oats in your field. Check with your farm management instructor, county agent, or local chemical representative for recommendation for your area. Crop rotation is also effective. Go to question 9.

b.____ No. Go to question 9.

9. Did insects do any appreciable economic damge to your crop?

a.____ Yes. You should check your crop once per week for insect infestations. If it appears that a greater than normal population is found, check the surrounding areas. Contact your county agent or area entomologist as to the type of insect and its economic damage population level before taking any other action. Cool weather may lower the local population dramatically in a short time. Hot weather may expand insect populations and some spraying may need to be done. Go to question 10.

b.____ No. Go to question 10.

10. Was the germination of your seed adequate for this past year?

a.____ Yes. Go to question 11.

b.____ No. You should test the germination on all seed wheat before it is

planted. If it is not adequate, a higher seeding rate will be needed or perhaps you should consider selling it and purchase new seed. Check with an agriculture specialist on the new varieties. He can give recommendations for your area and for your needs.

11. Did the variety you planted have resistance to smuts and rusts common to your area?

a.____ Yes. Go to question 12.

b.____ No. A change in the variety you are using may be in order. Go to question 12.

12. Did you plant at a 1-2" depth on a firm, well prepared seedbed at the recommended rate, usually for 75-90 lbs. per acre?

a.____ Yes. Go to question 13.

b.____ No. Check your tillage practices, your seed depth and rate. Deep seeding in a cool year can lower plant population appreciably even at a higher seeding rate. Go to question 13.

13. Were harvesting losses observed? Wheat should be harvested at 13-14% moisture. If fields were weedy, swathing may be necessary to allow for drying of weeds.

a.____ Yes. Go to question 14.

b.____ No. Watch the moisture content of your grain. High moisture has much greater chances of bin spoilage and an extremely low harvest moisture can cause higher combine pickup losses. Go to question 14.

14. Is your custom work hired cost on Line 12 of your analysis higher than average?

a.____ Yes. Are you hiring labor that you or your family could do or do you need the extra machinery? If the machinery is needed for more than a short time, consideration should be given to purchasing it. Go to question 15.

b.____ No. Go to question 15.

15. Power and machinery ownership costs are higher than the average?

a.____ Yes. This amount is the cost of depreciation allocated to your wheat crop. A high number may indicate too great an investment in machinery for your acreage or a faster than usual tax write off. Both areas should be examined for the answer. Go to question 16.

b.____ No. Go to question 16.

16. Are your farm power and machinery operation costs (mainly gas, oil, grease, and repairs) higher than average?

a.____ Yes. A higher than average cost may indicate too high a repair bill which could indicate a greater amount of down time for your machinery than normal. Set up a year round maintenance program to reduce down time and consider major repairs in the off season which will not affect your field work. If repair costs run too high, consider replacing a piece of equipment.

b.____ No. END.

Enterprise Analysis For Sunflowers

Directions:

Refer to Enterprise Analysis Table 10 in your Farm Business Analysis. Read each question carefully. Based upon what you know about this enterprise on your farm, answer each question either yes or no. When you have completed the enterprise evaluation, make a list of the current practices you will consider changing, or new practices you will try in the coming year to increase the effectiveness of this enterprise.

1. Are you satisfied with the return over listed costs as shown on Line 24 of this table? The average return over all listed costs of high return farms was _____.

   a.____ Yes. Are your goals high enough? You may need to reexamine your goals each year in view of the changing crop and economic conditions. Go to question 2.

   b.____ No. Go to question 2.

2. The yield per acre is an important factor in determining return over listed costs. The average yield of high return farms was _____ cwt. per acre. Are you satisfied with your yield of _____ cwt. per acre?

   a.____ Yes. Go to question 3.

   b.____ No. There are many factors which affect this figure. Go to question 3.

3. The value per unit received is another important factor in determining total income. How did your value received per cwt. compare with the average on Line 3?

   a.____ Higher price. Go to question 4.

   b.____ Average or lower price. If you are not content with the price received, look at the possiblity of using the grain futures market to lock in a value for some or all of your crop. Information sources for using the futures market may be your farm management instructor, county agent or local grain elevator manager. Go to question 4.

4. The cost per unit or per cwt. of production is another important guideline of the total production picture. Are you satisfied with the level of your current cost per bushel for production?

   a.____ Yes. If you are entirely satisfied with your cost and return values and have answered yes to the first four questions, you need go no further UNLESS you feel a review of your sunflower crop management might raise the return figures for next year. Then go to question 5.

   b.____ No. If you are not content with your per cwt. costs, let's review the entire expense section to see if a management problem can be found. Go to question 5.

5. Are you satisfied with the size of your sunflower crop in acres? Table 10 Line 1.

   a.____ Yes. Keep up the good work. Go to question 6.

   b.____ No. The time is now to get better before you get bigger. Go on to question 6.

6. Is seed quality, treatment or germination a problem in your sunflower enterprise?

   a.____ Yes. Go to question 7.

   b.____ No. Go to question 15.

7. Did you select a variety that is more tolerant to rust and verticillium wilt? Page 10 Line 10.

   a.____ Yes. Go to question 8.

   b.____ No. Stop! Oil seed varieties show more tolerance to rust and verticillium wilt than do confectionary types. Go to question 8.

8. Did the seed have a germination rate of 95 percent or better?

   a.____ Yes. Good! Go to the next question.

   b.____ No. A germination test should be made. Stored seed could heat in the bin and kill the germ reducing yield. Go to question 9.

9. Did you use cleaned seed for planting?

   a.____ Yes. Very good! You don't need to plant last year's weed seeds. Go to question 10.

   b.____ No. It is too easy to clean weed seed out of sunflowers to be planting weedy seed. Go to question 10.

10. Was seed treated with an FDA approved chemical which controls mold and fungus for a better stand?

    a.____ Yes. Fine! Go to next question.

    b.____ No. Stop! Seed that appears moldy should be treated to give you a better stand. For additional information check the current FDA approved list. Go to question 11.

11. Was seed treated for wireworms?

    a.____ Yes. Good! Go to question 12.

    b.____ No. You have had no problem? Keep checking the field. If you don't know where and when to look for them, check with someone who does. Go to question 12.

12. Was seed selected for early maturing or late maturing because of the planting date?

a.____ Yes. Good! You should have ripe mature seed to harvest. Go to question 13.

b.____ No. Then you should have had the sunflowers seeded by May 10 - 25. Check your variety for specific maturity dates. Go to question 13.

13. Are you satisfied with your seed cost as compared with the high return group?

a.____ Yes. Does this mean you planted a good quality seed or merely paid a high price? Go to question 14.

b.____ No. Sometimes you may pay a slightly higher price for good seed but it pays to begin with a quality product. Keep checking the new seed releases. There are some new hybrids on the market worth looking at. Go to question 14.

14. Would you plant corn or small grain on the same ground?

a.____ Yes. Good. You made a good field choice. Go to question 16.

b.____ No. A sunflower grows quite well on a great variety of soils and likes soil that corn and small grains like. Sunflowers do not like heavy, low lying soils that are pooly drained and known to be slow in warming up in the spring. Go to question 15.

15. Did you have sunflowers on the same field in the past four years?

a.____ Yes. Downy mildew fungus lives in the soil for several years. It can reduce yields dramatically. Go to question 16.

b.____ No. Good. Go to question 16.

16. Have you controlled the wild sunflowers in the field and roadside in the past years?

a.____ Yes. Very good. Go to question 17.

b.____ No. Rust overwinters on sunflower refuse and in the spring the spores germinate and infect wild and volunteer sunflowers, which in turn infect the sunflower crop. Go to question 17.

17. Does your neighbor control wild sunflowers?

a.____ Yes. O.K. Answer question 18.

b.____ No. Do not plant sunflowers near his fields because of the disease problem. Go to question 18.

18. Have you had wire worm problems in your sunflower fields?

a.____ Yes. Have you used chemicals? Check Table 10 Line 9. If so, are they applied at the proper time and at the correct rates? Go to question 19.

b.____ Keep checking and go to question 19.

19. Did you have soil drifting problems with this field?

a.____ Yes. Stop! Sunflowers do not come up as fast as other crops and weeds and soil movement can be a problem. Go to question 20.

b.____ No. O. K. No need to plant in a protected area. Go to question 20.

20. Have you used Atrazine on this field in the past?

a.____ Yes. Be careful. Sunflowers are susceptible to Atrazine and should not be planted in this soil until you are sure there is no carry over. There could be carry over up to six years depending on the rate used. Go to question 21.

b.____ No. Good. You should not have had any problems. Go to question 21.

21. Did you take a soil test? Table 10 Lines 11-12.

a.____ Yes. Good. You should know what you are doing. Go to question 22.

b.____ No. Sunflowers yield best on fertile soil. Their requirement for fertilizer is about the same as for small grains. Go to question 22.

22. Were you satisfied with your seed bed preparation and weed control?

a.____ Yes. Go to question 23.

b.____ No. Go to question 27.

23. Did you till the soil for a loose seedbed?

a.____ Yes. Stop. Sunflowers like a firm and shallow seedbed. Go to question 24.

b.____ No. O.K. Go to question 24.

24. Did you use a post emergence herbicide to control weeds? Table 10 Line 9.

a.____ Yes. Did it work? If it didn't, why not? Poor timing of application or incorrect rates could be a reason. Go to question 25.

b.____ No. You did not expect a weed problem you could not control by cultivation. Go to question 25.

25. Did you use a pre-emergence herbicide to control weeds in the row? Table 10 Line 9.

a.____ Yes. O.K. Did you have good results? Did you apply the herbicide as recommended? Go to question 26.

b.____ No. Did you have a weed problem? Go to question 26.

26. Was there ample moisture to activate the chemicals used on weed control?

a.____ Yes. O.K. Did plants show any chemical damage? Go to question 27.

b.____ No. Do the best you can with cultivation. Go to question 27.

27. Were you satisfied with fertility? Were planting procedure and planting rate adequate?

a.____ Yes. Go to question 23.

b.____ No. Go to question 28.

28. Did you place fertilizer in the row with the seed?

a.____ Yes. Did you get germination damage? Go to question 29.

b.____ No. 15 to 20 pounds of nitrogen/acre put down with the seed may help production. Go to question 29.

29. Were your sunflowers planted in the month of May?

a.____ Yes. O.K., if you had a good seed bed. Go to question 30.

b.____ No. Did you then change to an earlier maturing variety? Go to question 30.

30. Do you know the planting rate?

a.____ Yes. Good. What was the rate you ended up with? Go to question 31.

b.____ No. Stop and find out. Current recommendations from the U of M are sandy soil, 15-20,000 plants/acre, silt loam with sandy subsoil, 20-25,000 plants/acre, silt loam and clays in western Minnesota, 15-30,00 plants/acre, and silt loam and clays in eastern Minnesota, 20-35,000 plants/acre. Go to question 31.

31. Do you overplant so you can harrow the field more than twice?

a.____ Yes. Good. Go to question 32.

b.____ No. An extra 1/4 lb. of seed should be planted for each harrowing over two. Go to question 32.

32. Did you plant to a depth of 1 to 2 inches?

a.____ Yes. O.K. Did you have good moisture? Go to question 33.

b.____ No. Deeper planting can reduce the initial stand. Be careful when you plant. Go to question 33.

33. Did you get good emergence?

a.____ Yes. O.K. Answer question 34.

b.____ No. Did you plant too deep? Was the seed bed too dry? Go to question 34.

34. Do the seedlings look healthy?

a.____ Yes. Good. You now have something to work with. Go to question 36.

b.____ No. Is it due to crusted ground or frost after the plant reached the 4-6 leaf stage? Go to question 35.

35. Did you observe any insect damage?

a.____ Yes. Go to question 36.

b.____ No. O. K., but keep looking. Go to question 37.

36. Did you use any insecticides to control the insects? Table 10 Lines 9 and 2.

a.____ Yes. What do you think about the possibility that you could have killed the pollinating insects needed, like bees? Go to question 37.

b.____ No. O. K. But what kind of insect damage did you have? Go to question 37.

37. Did you have any bird problems?

a.____ Yes. Did you plant close to a body of water? Go to question 38.

b.____ No. Birds can be a real problem. Go to question 38.

38. Did the sunflowers have a good standability for harvest?

a.____ Yes. Good. This will reduce field losses greatly. Go to question 39.

b.____ No. Check for insect damage to stem, plus high winds, without some kind of wind breaks in the field. Go to question 39.

39. Did the harvest go O. K.?

a.____ Yes. Good. Nice to get the crop after it is ripe. Go to question 43.

b.____ No. Go to question 40.

40. You made a test run and checked moisture percent before combining?

a.____ Yes. Good. Go to question 41.

b.____ No. You should have. Moisture can be a critical factor in storage. Go to question 41.

41. Did you set up the combine for sunflowers?

a.____ Yes. O. K. How did it work? Go to question 42.

b.____ No. You should set the cylinder speed and concaves plus the proper reel and metal pans on the pickup. Check the operater's manual for adjustments. Go to question 42.

42. Can you live with the dockage you are getting?

a.____ Yes. Go to question 43.

b.____ No. Are the sunflowers too wet to combine? Check settings on combine. Go to question 43.

43. Moisture content was less than 9 percent on all sunflowers put in storage?

a.____ Yes. You should have a very little storage problem, but check. Go to question 44.

b.____ No. Are you looking for a fire? Be careful with high moisture sunflowers. Go to question 44.

44. Sunflowers are easy to dry in a corn batch dryer?

a.____ Yes. But there is a fire hazard because of the very fine hairs and fibers from the seeds. Go to question 45.

b.____ No. Stop and consult your instructor. Go to question 45.

45. Are you satisfied with your machine costs?

a.____ Yes. Is everything included? Check for accuracy. Go to question 46.

b.____ No. What is causing the problem? Excess repairs means high costs and lots of down time if it happens during harvest. Discuss alternative measures for controlling this cost with your farm management instructor. Go to question 46.

46. Review this study guide for any questions you may have. Write them down on this study guide and discuss them with your farm management instructor when he comes to visit.

FARM BUSINESS MANAGEMENT

Farm Management Enterprise Analysis and Evaluation 1975

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AN ADULT EDUCATIONAL PROGRAM