

COLORADO STATE BOARD
FOR
VOCATIONAL EDUCATION

RURAL WAR PRODUCTION TRAINING PROGRAM

Course No. 10

INCREASING BEEF PRODUCTION

Prepared in
cooperation with the
Colorado State College of Agriculture and Mechanic Arts
and issued by

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Teaching War Production Courses

The main purpose of the war production courses is to discuss with producers ways and means, and to assist them in outlining plans of action, by which the production goal can be reached in the shortest possible time and with the greatest efficiency.

Duration of Courses

All the production courses are to be planned to cover not less than twenty (20) hours of instruction extending over a period of not less than two weeks. Each meeting should be two hours in length. One meeting a week for ten weeks or five meetings a week for two weeks will meet these minimum requirements. Any arrangements of meetings within the above limits may be made. It may sometimes be desirable to hold a course a little longer than ten meetings. This is permissible providing the application for the course specifies the exact number of meetings. No course is to be extended beyond this specified number of meetings.

Determining the Course Content

Each course to be offered in this program must include only one of the commodities designated in the Rural War Production Program.

Before organizing a course the production situation of the critical farm commodity in the locality should be analyzed and the needs of the farmers determined.

In developing the course content emphasis should be placed on farm jobs and problems which lend themselves to an immediate increase in production! Some farmers may need to improve their feeding practices, some will need to use more sanitary measures, some will need to stress more careful management of their livestock and others will find it more desirable to improve other operations in the efficient production of the specific commodity made the basis of instruction of the course. Vegetable growers

may need to change the varieties grown; improve the fertility of their soils; plan ways and means of economizing on labor in harvesting and packaging their crops or improve other operations. Many changes are possible to bring about immediate increase of production.

By no means should a course be organized to cover all phases of the production and the marketing of one of the critical commodities in a general and informational way. On the other hand, the instructor should always have in mind the community practices which can be improved to secure greater or more efficient production. The instruction should, therefore, result in action on the part of each individual member of the class. This procedure definitely gears the instruction into meeting the present war needs.

Developing a Preliminary Outline of the Course

A preliminary outline of the course should be developed before the first meeting of the class. This outline will have to be made on a local community basis by each instructor.

In developing this outline he should confer with some of the leading producers in the community. It is possible that the advisory committee could be of assistance in this matter. In the second suggestive job of the outline on page 3, there is provided a scheme whereby the instructor can very definitely discover the problems that should be given emphasis in the course. The results of this meeting might naturally make some changes. However, it is always best to have a well developed plan before starting any undertaking.

A specific job or problem should be made the basis of instruction of each meeting. It is, also, very desirable in planning a course to finish at each meeting the subject taken up for discussion. Following this suggestion enables the instructor to start each meeting with a new job or problem. To aid an instructor in formulating a preliminary outline of a course there is presented on page 3 a suggestive outline of jobs and problems.

INCREASING BEEF PRODUCTION

Suggestive Jobs and Problems

Note: This enterprise outline has been developed from the standpoint of the farmer raising a small herd of beef cattle and fattening cattle for the market. It could be developed from the standpoint of the farmer who only fattens beef cattle in the feedlot or of the rancher producing steers for fattening. Selection of topics for meetings for the two latter situations needs very careful consideration.

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1. The need for increased beef production.
 2. Determining the important factors influencing efficient beef production.
 3. Selecting breeding stock.
 4. Managing the breeding stock.
 5. Care of cow and calf at calving time.
 6. Selecting suitable feeds for beef cattle.
 7. Feeding breeding stock and growing calves.
 8. Pasturing beef cattle.
 9. Controlling beef cattle diseases and parasites.
 10. Making labor saving equipment.
 11. Demonstrating some necessary skills.
 12. Selecting and buying feeder cattle.
 13. Fattening beef cattle in the feedlot.
 14. Marketing fat beef cattle.
 15. Determining the possibility and the advisability of increasing the enterprise.
 16. Taking a tour to observe outstanding practices in raising beef cattle.

Note: This is merely a suggestive outline, prepared to enable an instructor to select topics for ten to twelve meetings.

Making plans for each meeting

Careful planning in advance of each meeting is highly essential. The farmers attending the class will have had considerable experience in the production of the commodity under discussion. The experiences of the farmers supplemented by experiment station data presented by the instructor should furnish the basis for the farmers to determine the approved practices necessary in attaining the production goals. Unless a farmer gets something out of each meeting that will be a real help to him, it is doubtful if he will continue in the class. All of this puts a real responsibility upon the shoulders of the instructor. Most careful planning should enable him to better assume this responsibility.

This preparation for each meeting may consist of the following:

1. Listing motivating cues; that is, ways of arousing interest.
2. Writing a number of important key questions to direct the discussion.
3. Listing in condensed outline form important functioning facts or data.
4. Recording specific functioning references.
5. Deciding upon and securing worthwhile illustrative materials.
6. Determining where and how to use illustrative material most effectively.
7. Deciding upon the possibility of getting some person to give authoritative functioning data or facts that may help in clarifying discussions and in reaching decisions.

For instance, in suggestive Job 1, "The need for increasing production" of the commodity, the important questions to direct the discussion may be:

1. What are the production goals for the commodity for 1943?
(national, state and county)
2. Why is the increased production necessary?
3. What are the price prospects for 1943?
4. How efficient is our production?
5. Do we have a responsibility in trying to help more efficient production and increased production?
6. Can we or can we not increase production?

The conference procedure

The conference procedure is recognized as one of the most desirable methods of conducting classes with adult farmers who have had considerable experience in the production of the commodity made the basis of the instruction. To give farmers an opportunity to discuss their experiences and opinions when trying to solve a managerial problem is the purpose of the conference. The members of the group may want to decide upon the value of some practice; they may want to establish a standard way of doing something; they may want to agree upon some course of action; or they may want to correct some unsatisfactory practice. Whatever may be the immediate purpose, the collective judgment of the group on some problem is obtained through a general discussion. To this discussion the instructor or some authoritative person may add needed functioning facts obtained from experimental data or other reliable sources that should be considered in reaching a decision.

The conference serves only as an effective way for helping men to think straight on some problem or on deciding upon some action. It is not concerned with the development of doing abilities in which case the instruction procedure would be used. Nor is it essentially concerned with imparting information, in which case the informing procedure would be used. This latter statement does not mean, however, that the instructor or other selected person should not add important reliable functioning facts to the pool of experiences and opinions gathered from the group in reaching a decision on the problem under discussion. Decisions should come from the group, however, and not from the instructor who is essentially a leader of a discussion group and whose primary function is to guide and direct the discussions and particularly the thinking of the group.

The use of illustrative materials

At any meeting in which illustrative materials, such as strip films, pictures, charts and the like can have a functioning value, they should be used. This material may be used to present a preview, to clarify points or to confirm points developed in the discussions. These supplementary aids need careful selection and intelligent use. A list of available U. S. D. A. strip films is appended to this outline.

Demonstration

In many instances a demonstration by the instructor or by some other person may be very appropriate and helpful in clarifying some ideas developed in a discussion. Often, too, demonstrations can profitably be given while the group is on a field trip or tour to observe some approved practices.

Since emphasis of the course should be centered on practices leading to more efficient and increased production of the commodity made the basis of instruction, everything done in a class not specifically contributing to these ends should be excluded. Time consuming activities of a general nature need to be avoided if practical results are to be immediately attained in the little time given to a course.

Conducting the meeting

- Step 1. Begin the meetings on time and close them on the scheduled time. If some members wish to remain longer to further discuss some point, this is all right, but the class should be dismissed first.
- Step 2. Before starting a meeting it is an excellent idea to write on the upper part of the blackboard, in front of the group, the problem made the basis of discussion of the meeting. Doing this will greatly help in focusing and holding the attention to what was planned for the meeting. Cautiously side-track irrelevant discussion and controversial questions. Let those who raised them remain after the group has been dismissed if they wish to discuss them.

- Step 3. Start off by clearly explaining the problem or question. Motivate it as best you can.
- Step 4. Put your first key question to the group. These key questions were to be part of the instructor's preparation for the meeting as previously suggested.
- Step 5. Get from the group facts, experiences, or cases pertaining to the question. This assembling of facts is the first phase of the conference procedure.
- Step 6. Record on the blackboard, whenever practicable, in the most condensed and outlined form, the essential functioning material presented. Add what may be needed to help out. This is the selection of functioning facts and the second phase of the conference procedure.
- Step 7. In some suitable way get an evaluation of the functioning facts. This is the third phase of the procedure.
- Step 8. Get from group members suggestions as to a solution or decision; and, if essential, get majority opinion. This is the fourth phase of the procedure. The development of a plan and the execution of a plan, the fifth and sixth phases, are individual matters, and are generally done outside of the meetings of the conference.
- Step 9. In a similar way try to bring the group to a decision in the other vital questions brought up in a meeting.
- Step 10. Before closing a meeting summarize the important questions that were discussed and the things agreed upon as a basis for action.

Follow-up work

Systematic follow-up work is an essential and necessary part of the War Production Program. The improved practices actually adopted, the improvements made in enterprise, and other results of the instruction needs to be known. Then, too, there is always an opportunity during supervision of rendering farmers additional assistance in carrying out their plans.

Attendance records

A record of the names of members of a War Production Class, together with the attendance of each must be kept and reported upon.

Some things to remember

1. There is a vital need for increasing the production of the commodities made the basis of instruction in the Rural War Production Training Program; namely,

Beef
Milk
Pork
Eggs

Mutton, lamb and wool
Poultry for meat
Commercial vegetables
Home garden vegetables

2. The production of these commodities can and must be increased.
3. The 1943 production goals for these commodities are much higher than they were for 1942.
4. This special rural training program for out-of-school rural youth and adults is an emergency measure that must be and can be an important factor in increasing the production of these critical commodities.
5. Food production goals can only be met if each farm and each community produces its share.
6. Instructors and producers must fully appreciate the need for increased production of these commodities.
7. Producers must have a wholehearted desire to help out in the situation as far as economically and physically possible.
8. Producers must analyze their utmost opportunities for more efficient production and for increasing the scope of their production wherever advisable.
9. Improved or most efficient methods will in nearly every instance increase production, and often with smaller units.
10. Losses due to diseases, pests, or management can be reduced and thus increase production.
11. A better quality of the product will increase production by preventing waste.
12. Ways and means of economizing on labor in production and in marketing can and must be worked out.
13. A greater use of labor saving devices is essential.

U.S.D.A. FILM STRIPS

The following film strips can be purchased from the Photo Lab. Inc., 3825 Georgia Ave., N. W. Washington, D. C., at price indicated. When placing a purchase order, send a request to the Extension Service of the U. S. Department of Agriculture, Washington, D. C., asking for authorization of the sale and for the supplementary lecture notes. There is no charge for the latter. Authorization blanks can be secured from the local extension service if desired.

- No. 379 Marketing feeds through dairy cattle. 31 frames - 50 cents
- No. 515 Eradicating tuberculosis from livestock and poultry. 36 frames - 50 cents
- No. 413 National poultry improvement plan. 48 frames - 50 cents
- No. 126 Selecting hens for egg production. 55 frames - 55 cents
- No. 133 Standard breeds of poultry. 48 frames - 50 cents
- No. 141 Breeds of sheep. 56 frames - 55 cents
- No. 44 Breeds of swine. 33 frames - 50 cents
- No. 53 Hog houses and equipment. 30 frames - 50 cents
- No. 142 Selecting and judging breeding hogs. 31 frames - 50 cents
- No. 271 Marketing eggs in the United States. 53 frames - 55 cents
- No. 275 Preparation of wool for the market. 44 frames - 50 cents
- No. 140 Farm dairy houses. 63 frames - 55 cents
- No. 429 Production of high quality cream for butter making. 30 frames - 50 cents
- No. 503 Insect pest of garden vegetables and their control. 63 frames - 55 cents

Other Film Strips

The College Photo Shop, Colorado State College, Fort Collins, has a large assortment of strip films which it rents. If interested, write for its circular - Visual Aid and Photographic Service.

To give an idea of the variety of these strip films a few are mentioned here, together with their number:

- No. 60 Round worm and swine sanitation.
- No. 52 Poultry housing in Colorado.
- No. 39 How insects attack garden vegetables - control.
- No. 24 Farm sheep raising.
- No. 73 Swine management.
- No. 108 Poultry management in Colorado.

Kodachrome Slides

The College Photo Shop has a very complete supply of Kodachrome Slides on all agricultural subjects. A set of about 50 slides can be made and rented as desired. These slides are colored and measure 2 x 2 inches. Then, too, it is possible to add one's own local pictures to a set. Kodachrome Slides are considered the very best visual aids in instruction.

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Reference Material

Bulletins

1. Beef production on the farm. F. B. 1592
2. Beef cattle production in the range area. F. B. 1395
3. Feeding cattle for beef. F. B. 1549
4. Breeds of beef cattle. F. B. 1779
5. Colorado fattening rations for cattle. Colo. Experiment Station Bul. 422
6. Sugar beet by-products and their utilization. F. B. 1718
7. Feedlot fattening rations for cattle. Colo. Experiment Station Press Bul. 77
8. Mineral supplements for fattening steers. Colo. Experiment Station Press Bul. 88
9. Beet tops for fattening steers. Colo. Experiment Station Press Bul. 90
10. Effect of winter rations on gains of calves. Dept. Bul. 1431 U.S.D.A. 5 cents
11. Effect of different methods of wintering beef calves in the Northern Great Plains. Tech. Bul. 529. U.S.D.A. 5 cents
12. Wintering beef cows on the range with and without a supplement of cottonseed cake. Technical Bul. 603, U.S.D.A. 5 cents
13. The beef calf. Its growth and development. F. B. 1135
14. Beef from calves fed grain before and after weaning. Technical Bul. 208, U.S.D.A. 5 cents
15. More food. F. B. 1909
16. Feedlot and ranch equipment for beef cattle. F. B. 1584
17. Home-made farm equipment. Colo. Station Bul. 443
18. Plans for farm structures for Western states. Misc. Pub. 319, U.S.D.A. 60 cents. See copy in County Agent's Office.
19. Building electrical equipment for the farm. Voc. Div. Bul. 209, U. S. Office of Education, Washington, D. C.
20. Dehorning, castrating, and branding beef cattle. F. B. 1600
21. Cattle scab. F. B. 1017
22. Cattle lice. F. B. 909
23. The livestock and meat packing industry. Swift & Company

Books

1. Beef cattle. Snapp. John Wiley & Sons \$4
2. Introduction to breeding farm animals. Winters. John Wiley & Sons \$2
3. Feeds and feeding, Morrison. Morrison Publishing Co., Ithaca, N. Y. Abridged edition \$2.20 if cash accompanies order. Complete ed., \$5
4. Keeping livestock healthy. 1942 Yearbook. U. S. D. A.
5. Types & market classes of livestock. Vaughan, College Book Co., Columbia, Ohio
6. Range and pasture management. Sampson. John Wiley & Sons \$4
7. Livestock husbandry on range & pasture. Sampson. John Wiley & Sons

Note: F. B. (Farmer's Bulletins) can be secured from your County Agent, from the Bulletin Mailing Room, Extension Service, Fort Collins, and from your Senator or Representative in Washington. The 1942 U.S.D.A. Yearbook can be secured free of charge from your U. S. Senator or Representative.

INCREASING BEEF PRODUCTION

Teaching Suggestions and Aids

Arranged in order of suggestive jobs and problems as given on page 3.

1. Determining the needs for increased beef production.

- a. Since this will be the first meeting, get group acquainted.
- b. Explain purpose of the course and the nature of the meetings.
- c. Explain the "Conference Procedure." See page 5.
- d. Secure data from County Committee on the 1943 beef production goals and the estimated slaughter in 1942.
- e. Record these data on the blackboard and discuss them, bringing out the general situation.
- f. Bring out the fact that food production goals can only be met if each producer and each community does its share.
- g. See page 8 for other pertinent facts.
- h. Get opinions of group members regarding the outlook of the enterprise on their farms.

2. Determining the important factors affecting efficient beef production.

- a. This problem might be considered with the first one.
- b. Get these factors from the group and record them on the blackboard.
- c. If necessary, by means of suggestive questioning, get other factors to complete the list.
- d. In general, the factors pertain to the jobs and problems listed on page 3.
- e. On blackboard develop a chart showing extent to which these factors are operating favorably and unfavorably on the farms represented.
- f. Determine with the group the factors which should be given special attention. These should largely determine the course content.
- g. Do not enter into a discussion of any of the factors in the meeting.

3. Selecting breeding stock

- a. Develop characteristics of a good breeding cow. Consider:

Type	Prolificacy	Vigor and health
Size	Age	Breeding record
- b. Bring out important points of a good herd sire:
 1. Fertility
 2. Type
 3. Size
 4. Pedigree
 5. Age
 6. Vigor and health
 7. Prepotency
- c. Pool experiences of group on size of their herds and the number of sires.

Yearling bulls can handle 10 to 12 cows
Four year olds can handle 25 to 30 cows
Mature bulls can handle 30 to 40 cows
On pasture mating these figures are usually reduced 50%
- d. Determining with group several economic units for the community.
- e. This job lends itself to the use of visual aids.
- f. Reference:

Chapter 8, Beef Cattle by Snapp.
F. B., 1592, Beef Production on the Farm

4. Managing the breeding stock

- a. Determine the prevailing calving dates in community.
- b. Discuss the proper time of breeding.

The gestation period in cattle is 283 days.
- c. Pool experience of good and proper age to breed heifers.

A safe rule to follow is to breed heifers at the first breeding season after they are 20 months old.
- d. Get experience of group on pasture and hand mating.
- e. Determine breeding practices pertaining to:
 1. Cows to a bull
 2. Care of bull during breeding
 3. Management of cows before breeding
 4. Breeding period
- f. What is the prevailing per cent of the calf crop?

A reasonable estimation in Colorado is 70%.
A good standard to work toward is 90%.
- g. Determine the factors that influence a good calf crop.
- h. References:

Chapter 12 and 13 of Beef Cattle by Snapp.

5. Care of cow and calf at calving time.

- a. Determine the extent to which shelter is used in calving time and nature of this.
- b. Determine the things a herdsman should be looking out for in calving.
 1. Help cow in calving when necessary.
 2. Care of new born calf.
 3. Getting calves to suckle.
 4. Making special provisions in case of inclement weather.
 5. Feeding the cow.
- c. Discuss ways and means of preventing losses of new born calves.
- d. Develop practices followed in creep feeding of calves.
- e. Have members of group describe types of creeps used and feeds fed to young calves.
- f. References:
 - F. B. 1592, Beef Production on the Farm.
 - Chapter 11, Beef Cattle by Snapp.

6. Selecting suitable feeds for beef cattle.

- a. Determine feeds available for beef cattle.
- b. Classify these feeds as suggested and get specific feeds fed under each class:
 1. Roughages
 2. Cereal grains
 3. Protein supplements
 4. Minerals
- c. Discuss functions and values of these four classes of feeds for cattle.
- d. Determine how the different feeds are fed; that is, how they are prepared.
- e. Pool experiences of group in regard to the winter grain mixtures fed to beef cattle.
- f. Calculate the relative costs of a few of these mixtures on a hundred pound basis and compare the total amounts of digestible nutrients and of digestible protein in a 100 lbs. of the grain mixture.
- g. References:
 - Chapter 27 in Feeds and Feeding, Abridged
 - Chapter 12 in Beef Cattle by Snapp

7. Feeding breeding stock and growing calves.

- a. The discussion of this job is limited to the winter period when little or no pasture is available.
- b. Pool experiences of group in practices followed in feeding breeding stock and growing calves.
- c. It might be profitable to consider feeding standards for beef cattle as given in the appendix of Morrison's Feeds and Feeding, Table 3, in abridged edition.
- d. Check a typical winter ration against the appropriate Morrison feeding standard.
- e. Develop the good and the weak points of the ration.
- f. Develop practical and economical ways of improving the ration.
- g. Discuss ways and means of winter feeding to economize on labor.
- h. References:

Chapter 25 in Feeds and Feeding, Abridged.

Chapter 12 in Beef Production by Snapp.

8. Pasturing beef cattle

- a. Develop importance of good pasture in the economy of feeding beef cattle.
- b. A recent experiment at the Utah Station showed that 100 lbs. of total digestible nutrients furnished by:
 1. Irrigated pastures cost 29¢.
 2. Alfalfa hay cost 42¢.
 3. Silage cost \$1.32.
 4. Barley (grain) cost \$1.68.
- c. Discuss experiences of group on pasturing beef cattle on waste land on the farm and evaluate these.
- d. Discuss experiences and advisability of using cultivated land for beef cattle pastures.
- e. Bring out importance of pasture rotation to increase productivity of the pastures.
- f. Discuss experiences of group on pasturing beef cattle on range land.
- g. It might be profitable to discuss problems in connection with management of range pastures, such as:
 1. Over grazing
 2. Controlled grazing
 3. Reseeding
- h. References:

Feeds and Feeding, Morrison, Abridged editions, Chapter 26
Beef Cattle by Snapp, Chapter 13
Livestock Husbandry on Range and Pasture, Chapters 15 and 16

9. Controlling beef cattle diseases and parasites.

- a. Try to get a local veterinarian to handle this job.
- b. Some common cattle diseases are:
 - 1. Bang's disease 4. Lumpy jaw 7. Foot rot
 - 2. Blackleg 5. Hemorrhagic septicemia 8. Pink eye
 - 3. Bloat 6. Tuberculosis 9. Acetonemia
- c. Some common parasites are:
 - 1. Lice 4. Grubs
 - 2. Flies 5. Ringworm
 - 3. Scab
- d. Find out what diseases and parasites have occurred. Consider:
 - 1. Symptoms 3. Preventive measures
 - 2. Probable cause 4. Cures
- e. References:
 - 1942 Yearbook of Agriculture
 - Beef Cattle by Snapp, Chapter 36

10. Making labor saving equipment.

- a. Consider this job from the standpoint of developing ideas in regard to labor saving equipment.
- b. Pool experiences of the group regarding labor saving equipment they have used.
- c. Get on blackboard rough sketches on drawings of some of this equipment.
- d. Emphasize the fact that a course could be offered in the OSYA. Program entirely devoted to making labor saving equipment and devices.
- e. Visual aids might be used with this job.
- f. References:
 - Misc. Pub. 319, U.S.D.A.
 - Colo. Station Bul. 443
 - Beef Cattle by Snapp, Chapter 35

11. Demonstrating some necessary skills.

- a. This job might be taken up some Sunday afternoon on a ranch.
- b. Some suggestions along this line are:
 - 1. Selecting breeding cows and bulls
 - 2. Castrating and dehorning
 - 3. Trimming feet
 - 4. Branding and marking
- c. Make provision to have members of the group outstanding in the skills do the demonstrating.
- d. References:
 - Practical Activities in Animal Husbandry. Bray & Schmidt
 - Beef Cattle by Snapp, Chapters 15 and 35.

12. Selecting and buying feeder cattle.

- a. Pool experiences of group regarding number of cattle usually fattened.
- b. Determine sources of steers, methods of contracting and, purchasing plans.
- c. Refer again to Job 1 on the outlook situation regarding fat cattle.
- d. In buying feeder cattle consider:
 1. Age
 2. Sex
 3. Weight
 4. Type
 5. Condition
 6. When to buy
- e. Discuss "pros and cons" regarding the advisability of increasing during the present emergency, the number of cattle fattened.
- f. References.
Beef Cattle by Snapp, Chapters 17 and 18.

13. Fattening beef cattle in the feedlot.

- a. This job might be planned to cover more than one meeting.
- b. One meeting, if the group so desires, could be devoted to feedlot arrangement, equipment, labor saving devices and the like.
- c. Obtain and record on blackboard a few typical rations being fed on a 100 lb. basis. If possible secure a ration containing beet pulp and one containing silage if these are fed.
- d. Using current market prices determine the cost of these rations on a 100 lb. basis.
- e. If possible determine the average daily gains that have been secured with the rations studied.
- f. It might be profitable to compare at least one of these rations with the corresponding standard in Morrison's Feeds and Feeding.
- g. From these discussions formulate a few rations adapted to community situations. Determine their costs.
- h. Pool experience of group on feeding schedules.
- i. Determine the present (emergency) desired market weights of cattle being fattened. From this discussion determine the approximate length of the fattening period.
- j. Determine the experiences of the group in feeding protein supplements.
 1. Cottonseed cake
 2. Linseed oil meal
 3. Soybean oil meal
 4. Protein mixtures
- k. Other topics suited to this job are:
 1. Mineral supplements for fattening steers
 2. Beet tops for fattening steers
 3. Starting feeder cattle on feed
 4. Feedlot labor saving devices and practices.
- l. References:
F. B. 1718, 1592, 1584, 1549
Colo. Experiment Station publications
Beef Cattle by Snapp, Part 3

14. Marketing fat beef cattle.

- a. Start out with a discussion of present desirable market weights of fat cattle. Refer to Job 13.
- b. Develop the present market outlook for fat cattle, refer to Job 1.
- c. Have a discussion of market outlets and costs.
- d. Determine marketing methods.
 1. Direct selling in the feedlot.
 2. Consigning shipment to a commission company
 3. Selling in the open market.
- e. Discuss ways and means of reducing shrinkage in shipping fat cattle.
- f. Determine ways and means of more efficient use of labor in marketing fat cattle.
- g. It might be profitable to have a buyer discuss some of these problems with the group.
- h. References:
 - Beef Cattle by Snapp, Chapter 32.
 - Types and Market Classes of Livestock by Vaughan.

15. Determining the possibilities and the advisability of increasing the enterprise.

- a. To what extent does the present number of cattle on the ranches and in the feedlots represent their maximum capacities?
- b. Does the amount feed produced and the costs of feeds warrant an increase in the scope of the enterprise?
- c. What is the future market outlook for beef cattle? Refer to Job 1.
- d. Does the present and near future labor situation warrant an increase in the scope of the enterprise?
- e. Are there any possibilities of conserving labor in raising, in fattening, and in marketing beef cattle?
 1. Pooling labor on the range; on the farm; in the feedlot; and in marketing.
 2. Increasing use of pastures.
 3. Using more labor saving devices.
- f. References:
 - Beef Cattle by Snapp, Chapter 33

16. Taking a tour to observe outstanding practices.

- a. Plan for one or more tours in connection with the course.
- b. Perhaps one could be made during the duration of the course and one or two later.
- c. Sunday afternoons would be a good time for tours.
- d. Plan tours to conserve on use of cars and transportation.
- e. There must be many outstanding practices, labor saving devices, etc., of interest to most of the group.
