RURAL WAR PRODUCTION TRAINING PROGRAM

Course No. 11
INCREASING MUTTON, LAMB, AND WOOL PRODUCTION

Prepared in
cooperation with the
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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 MUTTON, LAMB AND WOOL PRODUCTION

Suggestive Jobs and Problems

Note: This enterprise outline has been developed from the standpoint of the farmer raising and fattening lambs. It could be developed from the standpoint of the farmer who only fattens lambs, or of the rancher producing lambs for fattening. Selection of teaching jobs for the latter situations needs careful consideration.

1. The need for increasing mutton, lamb and wool production.
2. Determining the important factors influencing the raising and the fattening of sheep on the farm.
3. Selecting breeding stock for a farm flock.
4. Managing the breeding stock.
5. Care of ewes and lambs at lambing time.
6. Selecting suitable feeds for sheep.
7. Feeding breeding stock and growing lambs.
8. Pasturing sheep.
10. Controlling internal and external parasites of sheep.
11. Shearing sheep, care of the fleece and marketing wool.
12. Making labor saving equipment.
13. Demonstrating some necessary skills.
14. Selecting and buying feeder lambs.
15. Fattening lambs in the feed-lot.
17. Determining possibilities of increasing the enterprise in the community.
18. Taking a tour to observe outstanding practices in raising or fattening lambs.

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 pests 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 worms and swine sanitation.
No. 52 Poultry housing in Colorado.
No. 39 How insects attach 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.
INCREASING MUTTON, LAMB AND WOOL PRODUCTION

Reference Material

**Bulletins**

1. Breeds of sheep for the farm. F. B. 576
2. Equipment for farm sheep raising. F. B. 810
3. Farm sheep raising for beginners. F. B. 840
4. Castrating and docking lambs. F. B. 1134
5. Range sheep production. F. B. 1710
6. Comparison of Rambouillet, Corridale and Columbia sheep under intermountain range conditions. Cir. 308, U.S.D.A. 5¢
7. Flushing and other means of increasing lamb yields.
   Dept. Bul. 996, U.S.D.A. 5¢
8. Parasites and parasitic diseases of sheep. F. B. 1330
10. Raising sheep on temporary pastures. F. B. 1181
11. Diseases of sheep. F. B. 1155
13. Lamb and mutton on the farm. F. B. 1807
   Cir. 538, U.S.D.A. 5¢
15. Plans for farm buildings for Western States. Misc. Pub. 319,
   U.S.D.A., 60¢. See copy in County Agent's office. Can purchase from Agric. Extension Service, Fort Collins, blue-prints for the structures. Send for list of available blue-prints. There is one on sheep sheds and one on lambing sheds.

**Books**

1. Productive sheep husbandry. Coffey and Kammlade. J. B. Lippincott Co., $3.50. (Considered an excellent, complete, and up-to-date book.)
5. Keeping livestock healthy. 1942 Yearbook, U.S.D.A. Secure a free copy from your Senator or Representative in Congress.
6. Farm enterprise mechanics. Davis, J. B. Lippincott Co., $2.00.
   This volume is full of suggestions on making equipment for all farm enterprises.

**Note:** F. B. (Farmer's Bulletin) 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 MUTTON, LAMB AND WOOL PRODUCTION

Teaching Suggestions and Aids

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

1. The need for increased mutton, lamb and wool production.
   a. Since this will be the first meeting, get group acquainted.
   b. Explain purpose of course and nature of the meetings.
   d. Secure data from County Committee on 1943 production goals
      and estimated production in 1942.
   e. Record these data on blackboard and discuss them.
   f. Emphasize the fact that increased production can be secured
      only if each producer and each community does its share.
   g. Bring out some of the facts mentioned on page 8.
   h. Get a general opinion from members of the group regarding the
      outlook of the enterprise on their farms.

2. Determining the important factors influencing the raising and the
   fattening of sheep on the farm.
   a. There might be time to take this job up with the first one.
   b. Get these factors from the group and record them on the
      blackboard.
   c. If necessary, suggest others to complete the list.
   d. In general, these factors pertain to the jobs and problems
      listed on page 3.
   e. On blackboard develop a chart showing extent to which the factors
      are operating favorably and unfavorably.
   f. Determine with 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 at this
      stage.
   a. Gather information from group members on the breeding of
      ewes in the flocks.
   b. Gather information from the group on the breed of rams. Get
      reasons for the selection.
   c. Develop characteristics of a good breeding ewe. Consider
      following points:
         1. Type       3. Prolificacy       5. Vigor and health
         7. Adaptability to local situation
   d. Bring out important points of a good ram.
      1. Fertility  3. Size             5. Vigor and health
      2. Type       4. Age              6. Wool
   e. Determine the number of rams needed in a flock.
      The recommended practice is one mature ram to 50 ewes;
      and one lamb ram to 35 ewes.
   f. This job lends itself to the use of visual aids.
   g. See
      Ch. 24, "Productive Sheep Husbandry."

4. Managing the breeding flock.
   a. Determine the prevailing lambing dates in the community.
   b. Discuss the proper time of breeding.
      The gestation period in sheep is 146 - 152 days.
   c. Determine common breeding methods and discuss advantages and
      disadvantages of each. (Mass, pen and hand breeding.)
   d. Determine breeding practices pertaining to:
      1. Number of ewes to a ram
      2. Care of ram during breeding
      3. Flushing of ewes
      4. Breeding period
   e. Determine specific breeding problems group has and discuss
      these if not included in other later jobs.
   f. See Ch. 30, "Productive Sheep Husbandry."
5. Care of ewes and lambs at lambing time.
   b. Determining the things the shepherd should be looking out for during lambing.
      1. Help ewe in lambing when necessary
      2. Care of new-born lambs
      3. Getting lambs to suckle
      4. Making special provision in case of inclement weather
      5. Feeding the ewe
   c. Discuss ways and means of preventing losses in lambing.
   d. Discuss creep feeding of lambs.
   e. Have members of group describe types of creeps used and feeds fed to young lambs.
   f. See Ch. 31 and 32, "Productive Sheep Husbandry."

6. Selecting suitable feeds for sheep.
   a. See Ch. 29, "Feeds and Feeding," Abridged.
   b. Determine feeds available in community.
   c. Classify these feeds into:
      1. Roughages  3. Protein supplements
   d. Discuss functions and values of these four classes of feeds for sheep.
   e. Determine how the different feeds are fed; that is, how they are prepared.
   f. Discuss grain mixtures fed in creeps.
7. Feeding breeding stock and growing lambs.
   a. This job could be handled with Job 6.
   b. See Ch. 28, "Feeds and Feeding," Abridged, on feeding sheep.
   c. Job 15 pertains to fattening lambs in the feed lot. Do not enter into this here.
   d. Have a discussion on feeding breeding stock during winter when not on pasture.
   e. It might be profitable to briefly discuss feeding standards for sheep as given in appendix of Morrison's "Feeds and Feeding." Pages 465 and 466, in the abridged edition.
   f. Check a typical ration against one of the "Morrison Feeding Standards."
   g. Bring out the weak and good points of this ration.
   h. Discuss ways and means used in winter feeding to economize on labor.
   i. See, also, Ch. 38 in "Productive Sheep Husbandry."

8. Pasturing sheep.
   a. This job does not pertain to pasturing sheep on the range.
   b. Develop the importance of good pasture in the economy of sheep feeding.
      A recent experiment at the Utah Station showed that 100 pounds of total digestible nutrients furnished by:
      1. Irrigated pastures cost 29 cents
      2. Alfalfa hay costs 42 cents
      3. Silage costs $1.32
      4. Barley (grain) costs $1.68
   c. Discuss experiences of group on pasturing sheep on waste land on the farm and evaluate these.
   d. Discuss experiences and advisability of using cultivated land for sheep pastures.
   e. Bring out importance of pasture rotation to increase productivity of the pastures.
   f. See Ch. 33 in "Productive Sheep Husbandry."

a. See:
   Diseases of Sheep, F. B. 1155.
   Keeping Livestock Healthy, 1942 Yearbook, U.S.D.A.

b. Some common sheep diseases in Colorado are:
   1. Coccidiosis
   2. Sore mouth
   3. Shipping fever (hemorrhagic septicemia)
   4. Over-eating (enterotoxemia) of feeder lambs
   5. Pregnancy disease of ewes

c. Try to get a local veterinarian to handle this job.
d. Determine the extent of losses of sheep due to diseases.
e. Get from group symptoms of sheep diseases they have observed.
   Try to identify the disease and develop causes, preventive,
   and control measures.
f. For particular information regarding diseases of sheep, symptoms,
   causes and preventive measures see your local veterinarian or
   write to the Division of Veterinary Medicine, Colorado State
   College, Fort Collins.

10. Controlling internal and external parasites of sheep.

a. It may be possible to handle this job with Job 9.
b. Some common internal parasites of sheep are:
   1. Common stomach worm
   2. Broad tape worm
   3. Fringed tape worm
   4. Flukes

c. Develop sources of infection, preventive, and control measures
   of internal parasites.
d. Some common external parasites are:
   1. Sheep tick
   2. Scab mite (now under good control)
e. Develop sources of infection; preventive and control measures
   of external parasites.
f. See: Keeping Livestock Healthy. 1942 Yearbook, U.S.D.A.
   F. B. 1330, Parasites and Parasitic Diseases of Sheep.
g. For particular information regarding parasites of sheep; their
   identification; their sources; and preventive measures, see
   your local veterinarian or write to the Division of Veterinary
   Medicine, Colorado State College, Fort Collins.
11. Shearing sheep, care of the fleece and marketing wool.
   a. Determine the best time to shear sheep in community.
   b. Determine community practice in shearing and develop possibilities of conserving labor in shearing.
   c. Discuss advisability of a central shearing point for the community.
   d. Develop correct method of rolling and tying the fleece. Stress use of paper twine in tying the fleece. See Minnesota Extension Folder 109 entitled "Wool Production." See, also, Ch. 35 in "Productive Sheep Husbandry."
   e. Discuss bagging of wool and advantages of keeping together the different types of wool. See Ch. 35 in "Productive Sheep Husbandry."
   f. Discuss care of ewe after shearing.

12. Making labor saving equipment.
   a. Get from group ideas regarding labor saving equipment they have used in sheep raising.
      1. Hay bunk or manager  4. Dipping vat
      2. Watering devices      5. Creeps
      3. Grain trough
   b. Have some of the equipment described.
   c. This job lends itself to the use of visual aids.
13. Demonstration of skills.
   a. Some suggestions along this line are:
      1. Selecting breeding ewes
      2. Selecting breeding rams
      3. Docking and castrating
      4. Trimming feet
      5. Trimming eyes and crutching
      6. Drenching sheep
      7. Tying fleeces and bagging wool
      8. Making special equipment
   b. The demonstrations might be given on field trips or taken up individually.
   c. If advisable, discover the skills members of the group are interested in acquiring and make arrangements for the instruction.

14. Selecting and buying feeder lambs.
   a. Pool experiences of group on contracting for feeder lambs.
   b. Pool experiences of group on kinds of lambs best suited for the feed lot.
      Age  Weight
      Breeding  Condition
   c. See Ch. 27 in "Productive Sheep Husbandry."
   d. It might be profitable to take up here market outlook for fat lambs. Refer back, also, to Job 1.

15. Fattening lambs in feed lot.
   a. Pool experiences of group on methods of handling lambs on arrival.
   b. Have a discussion of fattening rations.
   c. Develop some feeding practices followed.
      Getting lambs on full feed
      Routine feeding schedules
   d. Determine extent of feed lot losses in the previous season.
   e. Pool experiences of the group on preventing feed lot losses.
   f. See:
      Colorado Station Bul. 448, "Lamb Diseases in Colorado Feedlots."  Ch. 38 in "Productive Sheep Husbandry."

a. Have a discussion on desirable market weights of fat lambs.
b. Discuss experiences of group in staggering the marketing of fat lambs.
c. Have a discussion of market outlets and costs.
d. Have a discussion on selecting lambs ready for the market.
e. Pool experiences of group on care of lambs in transit.
f. It may be worthwhile to have a buyer discuss some of these problems.

17. Determining possibilities of increasing the enterprise in the community.

a. Determine number of ewes on farms represented. To what extent does this represent maximum capacity of the farm?
b. Some factors to consider are:
   1. Available labor
   2. Market outlook
   3. Available land
   4. Equipment
   5. Capital on hand
   6. Interest rates
c. Determine the factors the group wishes to discuss and take them up.
d. Determine ways and means of conserving labor in sheep raising.
   1. Pooling small flock on the semi-range
   2. Increased use of pastures
   3. Using more labor saving devices
   4. Reducing the lambing period

18. Taking one or more tours to observe outstanding practices in sheep raising.

a. If possible, make plans to take the group on one or more tours in connection with the course.
b. Sunday afternoons would be a good time.
c. Plan tours to conserve use of cars and transportation.
d. Do not neglect to plan thoroughly each tour. Consider the important things to observe on each farm visited; and, also, the possibility of a demonstration on something of interest to the group.

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