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COLORADO STATE BOARD
FOR
VOCATIONAL EDUCATION

RURAL WAR PRODUCTION TRAINING PROGRAM

Course No. 9

INCREASING PORK 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 PORK PRODUCTION

Suggestive Jobs and Problems

1. The need for increased pork production.
2. Determining the important factors in pork production.
3. Managing the breeding herd.
4. Making a tour to observe good practices.
5. Providing suitable housing and equipment.
6. Giving proper care to sow and pigs at farrowing and to weaning time.
7. Selecting suitable feeds for hogs.
8. Efficiently feeding breeding animals, pigs, and fattening swine.
9. Providing ample, clean pastures.
10. Practicing rigid sanitary measures.
11. Providing comfort for animals out on pastures.
12. Starting out with good stock.
13. Demonstrating some good swine practicums.
14. Making labor saving equipment.
15. Determining efficient marketing practices.

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	Mutton, lamb and wool
Milk	Poultry for meat
Pork	Commercial vegetables
Eggs	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.

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Reference Material

Bulletins

1. Hog lot equipment. F. B. 1490
2. Practical hog houses. F. B. 1487
3. Swine production. F. B. 1437
4. Castration of hogs. F. B. 1357
5. Breeds of swine. F. B. 1263
6. The McLean swine sanitation system. Technical Bul. 44, U.S.D.A. 5¢
7. Diseases, ailments and abnormal conditions of swine. F. B. 1244
U.S.D.A. 5¢
8. Hog lice and hog mange. F. B. 1085
9. Hog production in Colorado. Colo. Ext. Bul. 356-A
10. Methods of lowering pork production costs. Colo. Ext. Bul. 324-A
11. Hog cholera, F. B. 834
12. Internal parasites of swine. F. B. 1787, U.S.D.A.
13. Self-feeding vs. hand-feeding of sows and litters. F. B. 1504
14. More food. F. B. 1909
15. Concrete on the hog farm. Portland Cement Assoc.
16. Building electrical equipment for the farm. Bul. 209, Voc. Div.
U. S. Office of Education. Contains plans for an electric pig brooder.

Books

1. Pork production. Smith, Macmillan Co. \$3.00.
(An excellent up-to-date book, you need a copy.)
2. Animal sanitation and disease control. Dykstra.
The Interstate Printers and Publishers; Danville, Ill. \$2.85
3. Productive swine husbandry. Day, J. B. Lippincott Co. \$3.50
4. Feeds and feeding, Morrison. Morrison Pub. Co., Ithaca, N. Y.
Abridged edition \$2.20 if cash accompanies order. Complete edition \$5.00
5. Keeping livestock healthy. 1942 Yearbook of Agriculture. U.S.D.A.
Secure a free copy from your U. S. Senator or Representative.

Illustrative Material

Pig projects make profits. 16 MM film, Duroc Record Association; Peoria, Ill.

F. B. (Farmers' Bulletins) are obtainable from County Agents, Bulletin Mailing Room, Colorado Extension Service, Fort Collins; and from your Senator or Representative, in Washington, D. C.

INCREASING PORK PRODUCTION

Teaching Suggestions and Aids

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

1. The need for increased pork production.

- a. Get group acquainted.
- b. Explain purpose of course and nature of meetings.
- c. Explain the "Conference Procedure."
See page 5.
- d. Secure and write on blackboard the 1943 national, state, and county hog quotas. This information can be secured from the County Committee or the A. A. A. Office.
- e. Compare 1943 quotas with the 1942 and with the estimated slaughter in 1942.
- f. Emphasize fact that quotas can only be met if each producer and community does its share.
- g. From group get data on average number of pigs farrowed per sow and hogs raised per sow.
- h. Have you read the article on "Seven Points to More Hogs" in November 1942, Country Gentlemen?
- i. Read this quotation from the above article to the group:
"More than 100 Iowa farmers, candidates for special honors in pork production, saved 1 $\frac{1}{2}$ more pigs per sow than the average Iowa farmer. If all had done as well 2,250,000 more pigs would have been produced in 1942 without another sow."
- j. The quota surely suggests one important way of increasing pork production.

2. Determining the important factors affecting efficient pork production.

- a. This job might be combined with Job 1.
- b. Get factors from group and record on blackboard. Suggest others to complete list.
- c. In general the factors are in line with the jobs listed on page 3.
- d. On blackboard develop a table showing extent to which these factors are operating favorably and unfavorably on farms represented.
- e. Determine the important factors to consider in the course. These should largely determine the course content.
- f. The article referred to above also states:
"Possibly 20,000,000 baby pigs died last spring (1942). Perhaps 10,000,000 will die in farrowing this fall. Millions of others, born sound and healthy, will become runts because of improper care in the first eight weeks."
- g. Does not the above quotation suggest the important factor?

3. Managing the breeding herd.

- a. What are advantages of early spring and early fall farrowing?
Farmer has more time; fits into two litter schemes. Hogs ready for market in August and September, and March and April, time of high prices.
- b. What is the best ages to breed gilts?
- c. Emphasize need for two litters per year, per sow, during emergency.
- d. Determine breeding practice pertaining to:
Number of sows to boar; services of boar per day; best time in heat period; method; breeding crate.
- e. Pool experiences on flushing gilts and sows.
- f. Refer to Ch. II, Pork Production by Smith.

4. Taking a tour to observe good practices.

- a. It might be advisable early in course to plan a tour to observe some approved swine practices.
- b. Consider advisability of a Sunday afternoon tour.
- c. Plan tour to economize on use of cars.
- d. Consider also possibility of a tour at end of course and later.

5. Providing suitable housing and equipment.

- a. Pool experiences to determine housing practices.
Central unit type; movable colony type.
- b. Determine advantages and disadvantages of each type.
- c. Discuss need for and types of guard rails.
- d. Discuss advantages of and kinds of pig brooders for early spring litters.
See Vocational Div. Bul. 209, U. S. Office of Education entitled: Building Electrical Equipment for the Farm.
- e. Pool experience of group on different types of feeding devices and evaluate these. Feeding troughs; self-feeders; watering devices; creeps.
- f. Bring out characteristics of efficient devices.
- g. Discuss arrangement of pens and fencing to economize on labor.

6. Giving proper care to sow and pigs at farrowing and to weaning time.
 - a. This is the most important job in producing more pork.
The statement has been made that "possibly 20,000,000 baby pigs died in the spring of 1942 because of improper care during the first eight weeks."
 - b. Some important points:
 1. Provide absolutely clean and comfortable farrowing pens.
 2. Clean litter not over one inch deep.
 3. Follow the McLean County Sanitation System.
 4. Guard rails in place and pig brooder ready.
 5. Be on job when sows farrow to help sow and take care of pigs.
 6. Spring pigs need dry, warm quarters.
 7. Fall pigs need cool, ventilated quarters.
 8. Remove needle teeth when pigs are born.
 9. See sow is properly fed before and after farrowing.
 10. Move sow and litter, one week after farrowing, to clean pasture.
 11. Castrate pigs when 4 to 8 week old.
 12. Vaccinate when 8 to 10 weeks old.

7. Selecting suitable feeds for hogs.
 - a. Refer to Ch. 31, Feeds and Feeding, Abridged, 7th edition, Morrison.
 - b. Determine feeds available in community.
 - c. Classify feeds into:
 - Cereal grains
 - Protein supplements
 - Mineral mixtures
 - d. Discuss functions and values of each of these feeds for hogs.
 - e. Take up a discussion of preparation of feeds for greatest efficiency.
 - f. Secure experiences of group with mineral mixtures.
 - g. Discuss available commercial feeds.
 - h. Have samples of available feeds and minerals on hand.
 - i. Bring out importance of protein supplements.
 - Dairy by-products
 - Packing house by-products
 - Other high protein feeds
 - Commercial protein mixtures
 - Flour mill by-products

8. Efficiently feeding breeding animals, pigs, and fattening swine.

- a. Draw from group experiences in feeding sows and gilts to get thrifty pigs.
- b. From these experiences, and supplementary data if necessary, develop an approved practice.
- c. Let pigs, when 7 to 10 days old, have access to grain feed in a self-feeder in a creep.
- d. Discuss creep rations.
- e. Don't get into Job 9 here on pastures for swine.
- f. Assemble on blackboard several rations for growing out and fattening hogs.
- g. Make an analysis of these rations and develop the idea of a balanced ration.
See page 481, Feeds and Feeding, Abridged, 7th edition.
- h. Have a discussion on hand-feeding vs. self-feeding.
- i. Discuss advantages and disadvantages of hogging-off corn.
- j. Discuss mineral mixtures; vitamin deficiency of cereal grains; garbage; following steers in feed lots.

9. Providing ample, clean pastures.

- a. Develop the advantages of raising hogs on good pastures, such as:
 1. Reduces cost of producing pork
 2. Faster gains
 3. Thriftier and healthier pigs
 4. Pigs do better on dry lot after having been on pasture
 5. Can cut on grain feeding when grains are high in price
 6. Reduces need for protein supplements
 7. Increases soil fertility
- b. Get from group kinds of pastures used. Supplement list with other practicable pastures.
See Ch. 9, Pork Production by Smith. It is excellent on pasturing hogs. See also Ch. 31, Feeds and Feeding, Abridged, Morrison.
- c. Develop a pasture rotation for hogs.

10. Practicing rigid sanitary measures.

- a. Some important points:
 1. Thorough scrubbing of farrowing pens or houses
 2. Cleaning sow just prior to farrowing
 3. Prompt vaccination of pigs
 4. Raising pigs on clean pastures
 5. McLean County Sanitation System
 6. Concrete feeding floors
 7. Sanitary watering devices
 8. Facilities for control of external and internal parasites
- b. Get from group cases illustrating good sanitary measures followed.
- c. Discuss, and if possible, display common farm disinfectants.

14. Making labor saving equipment.

- a. Have on hand for observation and study labor saving, swine lot equipment made in the shop or brought in by farmers.
- b. Suggested equipment to have on hand:
 - Troughs for young pigs and mature animals
 - Creep self-feeders
 - Self-feeders for fattening swine
 - Practical oilers
 - Pig brooders
 - Watering devices
 - Electric fence control units
 - "A" type hog house
 - Practical farm gates
 - Worming guns
 - Emasculators
 - Syringes
- c. The job also offers opportunity to make use of visual aids.

15. Determining effective market practices.

- a. Develop community marketing practices:
 - Direct marketing
 - Local auction
 - Through commission firms
 - Local butchers
- b. Evaluate advantages and disadvantages of the different market outlets.
- c. Have a discussion of, and supplement facts when necessary, on:
 - Market cycles
 - Market receipts
 - Normal peak price months
- d. Determine ways and means of conserving labor and transportation in marketing hogs.
- e. Determine advantages and disadvantages of shipping by truck and rail.
- f. Develop list of precautions in shipping: avoiding injury, shrinkage in transit, overheating.
- g. Discuss shipping and terminal costs:
 - Insurance
 - Yardage
 - Feed
 - Commission charges
 - Transportation rates

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