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COLLEGE OF AGRICULTURE

Extension Division

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CIRCULAR NO. 193

(REVISED)

PIG PROJECTS FOR 4-H CLUBS

Lexington, Ky.

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THE PIG PROJECTS

Two pig projects are outlined in this circular; one for fitting the pig for the breeding herd and the other for fattening the pig for market.

OBJECT

The object of these projects is to teach farm boys and girls the proper method of feeding, care and management, in raising pigs. The work tends to create and maintain interest in farm animals.

REQUIREMENTS

1. The latest date for enrollment is June 1.

2. Each member shall raise at least one pig from about weaning age to six or seven months old. Pigs should have been farrowed on or after March 1.

3. Each member shall act independently in the feeding, care and management of the pig. Help may be used for hauling and weighing.

4. Each member shall keep a record of all expenses incurred in connection with the project. These records shall be used in judging the contest.

5. As soon as the project is closed the member shall complete his record and send it to the County Agent or local club leader.

CIRCULAR NO. 193

(Revised)

Pig Projects for 4-H Clubs

By E. J. WILFORD

Breeding-Pig Project

The pig should be a well-grown purebred weanling farrowed on or after March 1. This farrowing date is important if the pig is to be shown in the open classes at the fairs, because most show-ring classifications have March 1 as one of the base dates. It is unfortunate that the pigs must be selected at such an early age, because some inherent defect may not be apparent at that time.

A pig bought from another farm should be quarantined for three weeks in order to prevent the spread of certain contagious diseases. It is also recommended that the pig, when first brought home, be dipped or hand-scrubbed with a good disinfectant such as a two-percent solution of creolin.

SELECTING THE PIG

The pig should be selected from the breed the club member likes best, but it is well to choose a breed which has a large number of representatives in the neighborhood. This and the individuality of the pig are important, for the sale of the produce depends upon the character of the pig and upon the num-

ber of breeders interested in the breed selected; therefore, great care should be taken in making the selection. The club member would handicap himself by starting with an inferior animal even if it is registered.

In the selection of the pig the following qualifications should be adhered to as closely as possible.

Symmetry. The pig should be well balanced in its general make-up. It should be smooth, have a uniform width and depth, and stand on straight legs that are well placed. The head and neck should be neat and smoothly joined.

Vitality is indicated by bright, expressive eyes, a broad, deep chest, and activity or alertness. A pig with a narrow, shallow chest, open shoulders, a sway back and too small or too large bones, is not desirable.

Feet and Legs. The characteristics of the feet and legs are very important. The legs should be of medium length, straight, of medium size, and placed wide apart. The pasterns should be strong and short. See fig. 1.

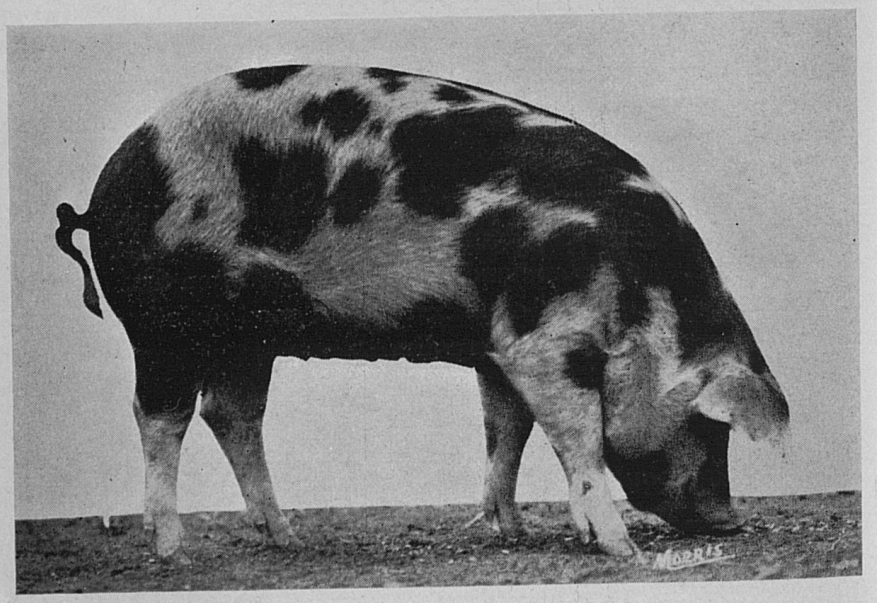

Fig. 1. A good type.

Quality. The general appearance of the pig should be smooth and refined. Fine, soft, glossy hair; smooth, pliable skin, free from wrinkles, and medium-sized, strong bones are indications of quality. A swirl (sometimes misnamed roach) is a tuft of hair, usually along the top line, where the hairs grow in all directions in a twisted formation. This is considered an indication of a lack of quality and is objectionable in all breeds and a disqualification in some.

Breed Characteristics. While all breeds of lard and bacon type have the same general characteristics, each breed has its own specific characteristics. These appear in color marking, set of ear, shape and dish of face and general physical conformation. The selection of the breeding animals (the gilt and the boar) should be based on trueness to type.

Femininity and Masculinity. In weanling pigs these characteristics are not pronounced. The character of the sire of the boar pig probably is the best guide as to its masculinity. The gilt should have not less than ten well-developed teats uniformly placed on a neat, nearly straight underline.

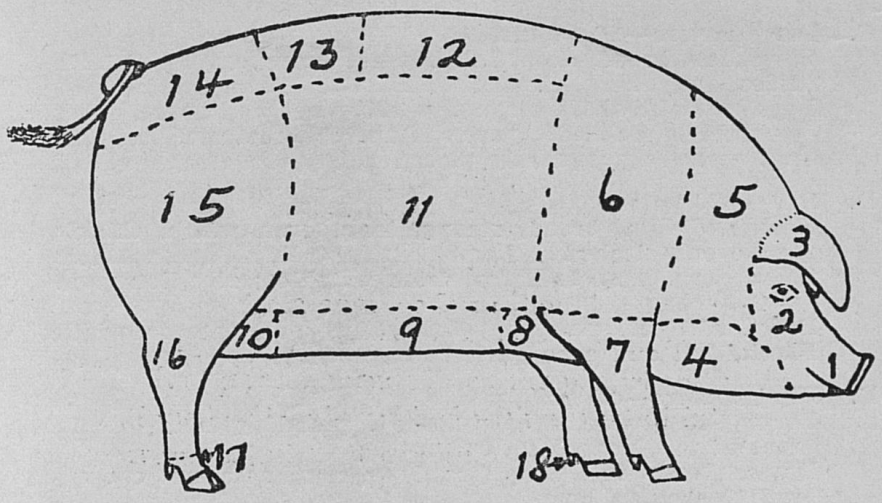

Fig. 2. Parts of the hog.

1. Snout. 2. Face. 3. Ear.. 4. Jowl. 5. Neck. 6. Shoulder. 7. Fore Leg 8. Fore Flank. 9. Belly. 10. Flank. 11. Side. 12. Back. 13. Loin. 14. Rump. 15. Ham. 16. Hock. 17. Pastern. 18. Dew Claw.

The following score card used by the University of Kentucky shows the standards for scoring the breeding lard type of hogs.

SCORE CARD FOR LARD TYPE HOGS

	Standard of Excellence.	Perfect Score
A.	**General Appearance—41 points**	
	Weight, 6 months, 200 lbs.; 1 year, 400 lbs.; 2 years, 700 lbs.	8
	Form, deep, broad, long, symmetrical, compact, standing squarely on legs	7
	Quality, hair fine; bone straight not coarse, skin smooth, even covering of flesh, free from lumps and wrinkles, features refined but not delicate	6
	Condition thrifty, well fleshed, but not excessively fat	4
	Constitution, chest capacious; brisket advanced and low; flanks full and well let down	8
	Disposition, quiet, gentle	1
	Breed type having all characteristics of breed	5
	Coat, fine, straight, bright, smooth, evenly distributed, lying close to body, no swirls	2
B.	**Head and Neck—10 points**	
	Eyes, full, mild, bright, not obscured by wrinkles	2
	Face, short, broad between eyes, dished according to breed, cheeks smooth	2
	Ears, fine texture, medium size, neatly but firmly attached, carriage according to breed	2
	Jowl, smooth, firm, medium size	2
	Neck, short, deep, thick, narrow at nape, thickening toward and joining smoothly to shoulder	2
C.	**Forequarters—10 points**	
	Shoulders, broad, deep, full but not heavy, on a line with sides	5
	Legs, straight, short, strong, tapering, set well apart, bones smooth, joints clean, pasterns upright, feet medium size, not sprawling, squarely placed	5
D.	**Body—20 points**	
	Back and loin, broad, strong, long, even width, thickly and evenly fleshed	9
	Sides, deep, long, full, free from wrinkles; ribs, long and well sprung	7
	Belly, straight, even, not flabby, proportionate in width	2
	Flank, full and even with body, not cut up	2
E.	**Hindquarters—19 points**	
	Rump, long, wide, evenly fleshed, rounding from loin to root of tail, neat, high tail setting	3
	Hams, plump, full, deep, broad, no roughness, not cut up, well fleshed to hock	10
	Legs, straight, short, strong, tapering, set well apart, bones smooth, joints clean, pasterns upright, feet medium size not sprawling, squarely placed	5
	Tail, medium size and length, smooth and tapering	1
	Total	100

A careful study of the score card aids the club member in selecting pigs and also helps the members of judging teams.

SHELTER FOR THE PIG

Several kinds of shelter may be constructed by the club member. Some of the more practical are the A-type house, the box-type house, the straw shade or a large box. The A-type and box-type houses probably are the most satisfactory. The club member can easily build them with the aid of some simple plans.* If neither kind of house is available a very practical shade and shelter may be built by using some old boards or straw supported by poles. Perhaps a large box may be obtained more easily than any of the shelters mentioned. Care must be taken, however, that the box meets the requirements of a good hog house. A good hog house must be (1) dry, (2) well lighted, (3) well ventilated, (4) cheap in construction, (5) free from dust, (6) of suitable size, (7) warm in winter, and (8) cool in summer.

SANITATION

Parasites and many diseases can be controlled by keeping the pig and his surroundings clean. This means that the house should be kept as clean as possible, without dust or dampness. The immediate surroundings should be kept free of boards, cobs and trash, as these afford excellent places for the development of disease germs. If the pig does not have plenty of clean range the ground around the house ought to be cultivated once or twice during the summer.

Lice. If lice are present, treat with crude oil which is usually sprinkled on the pig's back. Oil from crank cases should be used with care as this oil is usually saturated with gasoline which has a tendency to cause the hair to fall out and the skin to become irritated and often cracked. The pig should not be turned out into the hot sun immediately after being oiled, because the skin irritation just mentioned is more apt to develop.

Round Worms. Adequately to protect the pig against round worms, strict sanitation must be practiced. (See Ky. Extension Circulars Nos. 211 and 84.)

FEEDING

Proper selection of the pig is only a start toward success. One of the most important factors lies in the continuous growth of the pig. Improper feeding limits the development of any animal no matter how well it is bred for growth. To make rapid and economical gains, the pig should be fed regularly and have a liberal allowance of a variety of feeds. The kind of grain to feed depends upon availability and cheapness. The lowest priced

*Blueprints may be had from the College of Agriculture, University of Kentucky, Lexington, Ky., for 10 cents each sheet. No. C-6-28-1 is the 8'x8', A-type house and No. C-6-39-1, is the 8'x8' shed-roof house. No. C-6-74-1 is double pen shed-roof house. No. C-6-94-1 is sunlight movable house 8'x8'. Or, write to the Division of Publications, Washington, D. C., for Department of Agriculture Circular No. 102.

grains are not always the most economical, as the weights per bushel and the relative merits of the grains, as feed for hogs, should be considered.

Feeding Value of Grains. By feeding tests made at different experiment stations, it has been shown that the different grains have approximately the following relative values, compared with corn, when fed to growing and fattening pigs.[1]

100 pounds of ground corn produced as much pork as:

110-112 pounds of ground barley.
120-125 pounds of ground oats.
102 pounds of ground rye.
90 pounds of ground wheat.
105 pounds of hominy meal.

Pounds of grain to the bushel; shelled corn 56, barley 48, oats 32, rye 56, and wheat 60.

The weight per quart of the following feeds is given, for they are not always fed in a mixture: shelled corn 1.7 lbs., tankage 1.55 lbs., skim-milk 2.15 lbs.

Knowing the number of pounds to the bushel of each grain, it is possible to calculate the approximate relative cost of each. For example, when a bushel of corn can be bought for 56 cents, it is as cheap as barley at 44 cents, oats at 27 cents, rye at 55 cents or wheat at 67 cents a bushel. On the basis of 100 pounds, when corn is worth $1.00, barley is worth 90 cents, oats 82 cents, rye 98 cents and wheat $1.11. Deducting the grinding charges (which differ in different localities) gives the relative value for these grains in comparison with corn which does not have to be ground. For example, if it cost 10 cents a hundred to grind grain, wheat would be worth $1.01 per hundred pounds, in comparison with corn at $1.00.

1 Smith's Pork Production.

MIXTURES FOR THE GROWING PIG UP TO 100 POUNDS AND FOR BREEDING STOCK OVER 100 POUNDS

	Parts by Weight	Parts by Measure	Weight of Mixture Per Quart[2]
No. 1			
Shelled corn	9	9	1.68 lbs.
Tankage	1	1	
No. 2			
Shelled corn	6	6	
Middlings	3	6	1.26 lbs.
Tankage	1	1	
No. 3			
Shelled corn	8	8	1.70 lbs.
Ground soybeans	1	1	
No. 4			
Cornmeal	5	5	
Middlings	1	2	1.09 lbs.
Ground oats	3	6	
Tankage	1	1	
No. 5			
Corn	1	1	
Skim-milk	3	3	

2 These weights were taken with the quart measure level full without shaking, tamping or pressing the feed down in the measure.

These mixtures may be used as such or as guides to make up other mixtures. If corn is not available, rye, wheat, barley or hominy meal may be substituted with good results. Three or four pounds of skim-milk or buttermilk or two pounds of linseed oil meal may replace one pound of tankage. If the linseed oil meal substitution is made, a mineral mixture should be fed to furnish the mineral elements which this meal lacks. The protein content in these mixtures may be cut to one-half of these recommendations if the pigs are on good pasture.

Selecting a Protein Feed. Having decided upon the cheapest and best grain feed or feeds to use as a source of carbohydrates, the second step in the choice of a proper mixture is to select the feed or feeds to supply the necessary protein in the cheapest and most palatable form. Feeding experiments with growing and fattening pigs have shown that the standard protein supplements have the approximate relative values given in the following table, when fed with corn valued at one cent a pound.[3]

100 pounds of tankage (60%) was equal in value to
- 160 pounds of linseed oil meal.
- 160 pounds of ground soybeans.
- 250 pounds of wheat shorts or middlings.
- 1,134 pounds of skim-milk or buttermilk (142 gallons).

Based on these figures, tankage at $60 a ton is as cheap as skim-milk or buttermilk at 26.45 cents a hundred pounds (2.27 cents a gallon), or linseed oil meal or ground soybeans at $37.50 a ton, or wheat middlings at $24 a ton.

3 Smith's Pork Production

The Amount to Feed. All pigs are not alike; therefore the capacity of the pig for feed cannot be stated definitely. The best plan is to give the pig all it will eat, twice daily. Do not feed more than the pig will consume in about thirty minutes.

WATER

Usually pigs suffer more from lack of water than from the lack of feed. Plenty of fresh, clean water should be kept within easy reach of the pig.

PASTURE

The cost of production is decreased if the pig has access to abundant pasture or a good forage crop. Not only are these crops a source of nutrients but they help to keep the digestive tract in good condition and to make the pig more resistant to disease. Weeds, clover or grass should be cut and given to the pig, if it is kept in a dry lot. A movable pen for the pig is convenient. Several kinds of pasture and forage should be available, such as young rye (not over 12 inches high), clover, rape, alfalfa, bluegrass, Sudan grass and sweet clover.

MINERAL MIXTURES

Feed a simple homemade mineral mixture because it is cheap and gives good results. The following are good:

	No. 1 Lbs.	No. 2 Lbs.
Steamed bone meal	2	2
Ground limestone	2	–
Salt	1	1
Wood ashes	–	10

Get on good terms with your pig early by treating it kindly. The best time to do this is while it is eating. Teach it to drive so that you can handle it easily.

Study its characteristics and discover how to handle the pig so that it will show at its best. If faults in conformation develop, try to discover a means of showing the pig so that it will appear at its best in the show ring.

Trimming the Ears and the Tail. About two weeks before the show the ears and tail should be trimmed. All the hair on the inside and outside of the ears should be clipped close. Live stock clippers or a small pair of scissors may be used. Do a good, smooth job as it adds to the appearance of the pig and enhances its quality. The hair on the upper part of the tail

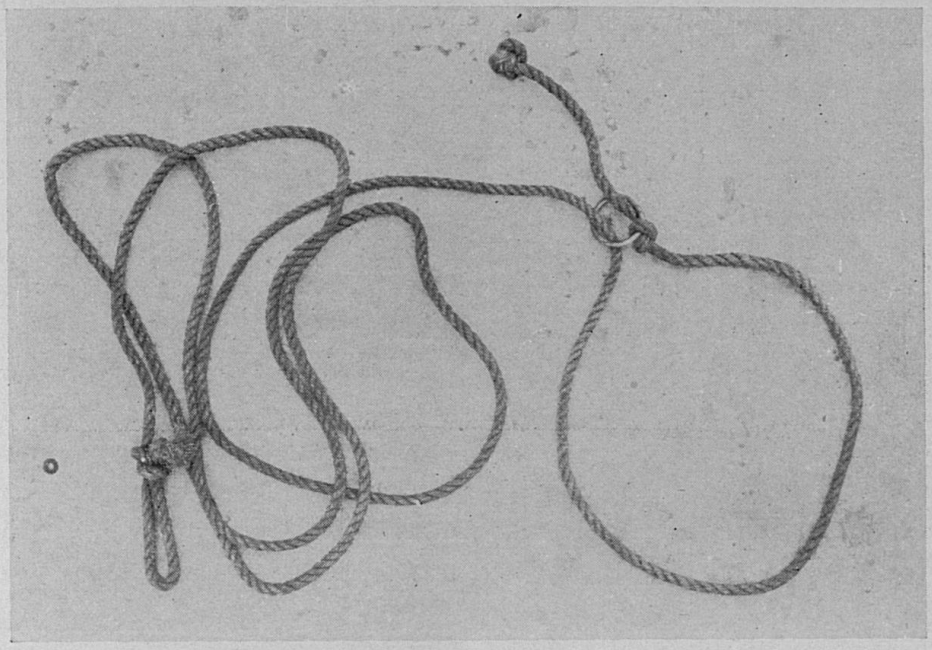

Fig. 3. A rope noose used for holding pigs.

should be clipped close leaving a large bush on the end. Careful clipping at the base of the tail blends the hair at this place with that on the rump. Try to do a neat, clean-cut job in trimming both the ears and the tail. If the pig has been handled correctly from the start, there should be no trouble in doing the work.

Trimming the Feet. The feet should be trimmed about three weeks before showing because if the toes happen to be trimmed too close the pig may be lame for a short time. A lame pig never shows well. Often this work can be done while the pig is lying down. A good way to enable the operator to work is to put the pig into a crate which has had the bottom slat re-

moved. See Fig. 4. Place a piece of two-by-four under the pig's foot so that one can use the rasp or pruning shears to cut off the surplus hoof. Trim as close as possible all the way around the outer edge of the foot, but do not trim either between the toes next to the foot, or the bottom inner wall of each toe. If this wall is trimmed too close, the foot will become sore because the

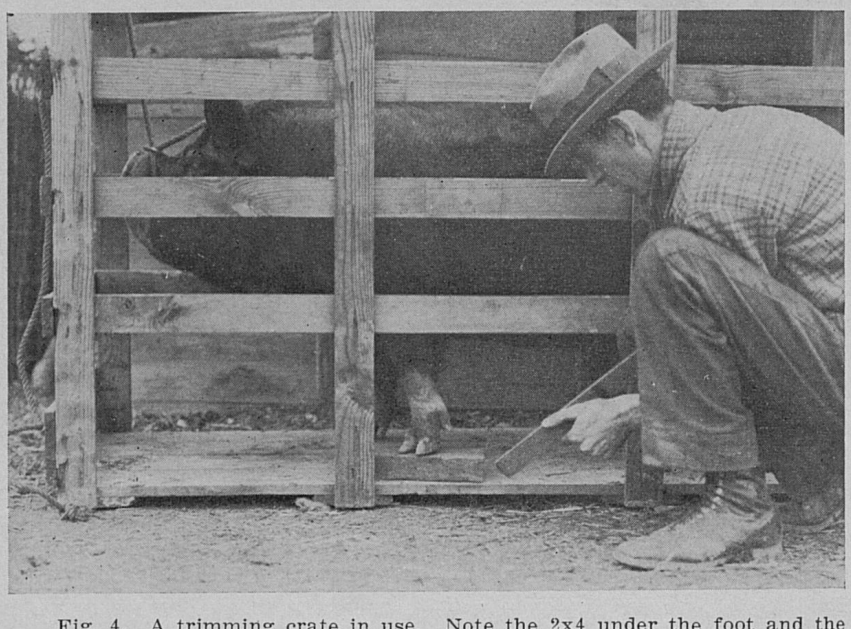

Fig. 4. A trimming crate in use. Note the 2x4 under the foot and the snubbing rope in use.

weight of the pig is then supported mainly by the cushions. If a little blood is drawn by too close trimming at the point of the toes, one need not worry if temporary soreness occurs. The object of this trimming is to level the foot by shortening and evening the toes. The shortening of the toes not only improves the appearance of the foot but it also makes the pig stand straighter upon its pasterns. Fine sandpaper may be used to polish the hoofs, the day of the show.

Washing. The pig should be thoroly washed at least twice before, and once after arrival at the show grounds. A clean pig has a better chance of winning than one that is dirty and ill-kept. Tar soap and lukewarm water give the best results. Wet

the pig thoroly, rub soap into its hair, then, using a brush and water, wash the pig clean. Care should be taken not to rub too hard as it may cause the skin to become tender and sore. Remove all soap by thoro rinsing.

Oiling. After the hair is thoroly dry, a light application of oil may be used with all breeds except those that have white hair. White pigs should be powdered with talc powder. Powdered soapstone, alone or with a little ultramarine added, is good. It may be sifted on with a can having a sifter top, or by using a muslin bag. For black hogs ordinary crude petroleum oil may be used but it has the objection of leaving the white markings rather dark and discolored. For black or red pigs, the following dressing oils are good:

1. Two-thirds linseed oil, one-third gasoline.
2. Two-thirds light mineral oil, one-third gasoline or kerosene (or one-sixth of each).

Sometimes one pint of linseed oil added to about one gallon of water gives good results. The oil and water do not mix, but the water serves as a means of preventing too much oil being applied. Never put on too much oil as it causes the hair to become sticky and gummy. Some showmen never use oil, but sprinkle the hogs with water just before they enter the show ring. Pigs treated in this way, however, do not make as good a showing as those that have been treated with oil.

SHOWING

Having learned your pig's faults, show him at his best. A pig with a sway back shows better with its head down. One with a very steep rump shows better with its head up. Most pigs show at their best if kept moving. Show your pig all the time for the judge will try to catch you and the pig napping and a slight let up on your part may be costly. Instead of using a stick or cane, many breeders show with a buggy whip. If one has trouble in keeping the pig under control using either of

these, a small hurdle will solve the problem. (See figure 5.)

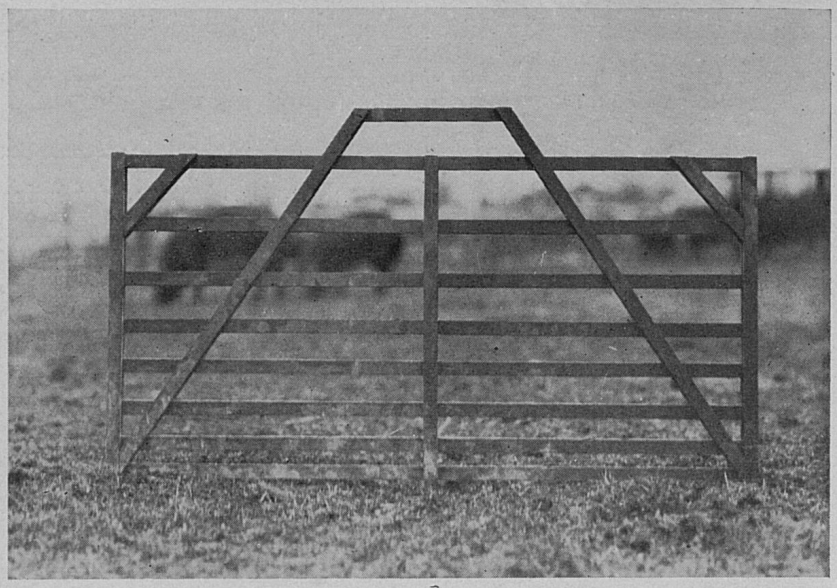

Fig. 5.. A light, well-constructed hurdle.

The Fattening-Pig Project

The foregoing recommendations for the breeding pig are applicable to the fattening-pig project, except that one need not put so much emphasis on femininity, masculinity and breed characteristics. Any well-formed pig of good quality will do.

Castration. Male pigs selected for fattening should be castrated before weaning or soon after. At this age there is less shock and possibly less check in growth. The pig also develops into a smoother barrow with more quality than if castrated later. (See Ky. Extension Circular No. 84, Page 11.)

When the pig reaches the weight of 90 pounds it is advisable to change the feed to a more fattening ration. The following grain mixtures are good:

		Parts by Weight	Parts by Measure	Weight of Mixture Per Quart
No. 1	Corn	12	12	1.45 lbs.
	Tankage	1	1	
No. 2	Corn	20	20	
	Middlings	6	12	1.45 lbs.
	Oats	3	6	
	Tankage	1	1	
No. 3	Corn			
	Tankage	Self-fed Separately		
	Minerals			

SCORE CARD FOR LARD TYPE HOGS—MARKET

	Standard of Excellence	Perfect Score
A.	**General Appearance—40 points**	
	Weight, _____lbs., according to age _____	8
	Form, deep, long, symmetrical, compact, standing squarely on legs _____	10
	Condition, thrifty, well fleshed, fat but firm _____	10
	Quality, hair fine; bone strong but not coarse, skin smooth, even covering of firm flesh, free from lumps and wrinkles	10
	Style, attractive _____	1
	Action, spirited, straightforward, regular, free and easy	1
B.	**Head and Neck—7 points**	
	Snout, medium length, not coarse _____	1
	Eyes, full, bright, not obscured by wrinkles _____	1
	Face, broad between eyes and ears, smooth _____	1
	Ears, fine texture, medium size, neatly attached _____	1
	Jowl, smooth, firm medium size, not pendulous_____	1
	Neck, short, deep, thick, joining head to shoulder smoothly	2
C.	**Forequarters—7 points**	
	Shoulders, deep, full, compact, smooth, not too heavy ___	4
	Legs, straight, strong, tapering, medium length, set well apart, bones smooth, joints clean, pasterns upright, feet medium size, not sprawling, squarely placed _____	2
	Breast, full, smooth, neat _____	1
D.	**Body—29 points**	
	Chest, deep, wide, large girth _____	2
	Back and loin, long, broad, strong, even width, thickly and evenly fleshed _____	15
	Sides, long, deep, full, even width, free from wrinkles and flabbiness; ribs long, carrying fullness well down _____	10
	Belly, straight, even, not flabbly, proportionate in width	2
E.	**Hindquarters—17 points**	
	Rump, long, wide, even in width, thickly and evenly fleshed, rounding from loin to root of tail, not too drooping _____	3
	Hams, broad, especially at upper end, deep, full, well fleshed and plump, not flabby _____	12
	Legs, straight, strong, tapering, medium length, set well apart; bones smooth; joints clean, pasterns upright; feet medium size, not sprawling, squarely placed _____	2
	Total _____	100

RECORD OF PROJECT

Name of Club Member _____ Age_____

Post office _____ R. F. D._____

County _____ Project _____

Years in Club Work_____ Years in this project_____

Name of Leader _____

Approved _____ _____
County Agent Date

Date project began_____ Age of pig or pigs at that time____

Number of pigs_____ Breed_____

Grade or purebred _____.

If registered give name_____

Registry number_____

Are you growing your pig or pigs for breeding or to be fattened for meat? _____

Cost or value of pig or pigs when project began _____

Weight of pig or pigs when project began _____

The following questions should be answered when project is completed:

1. Date project closed_____ Age of pig_____
2. Weight of pig or pigs_____ Value_____
3. Number days fed_____
4. Total gain_____ Average daily gain_____
5. Did you exhibit your pig at any fairs or shows?_____
6. What premiums did you win?_____

FEED RECORD

Weigh a supply of the different kinds of feeds to be used, mix them together and keep in a tight box. Enter the date, and weights of each feed. When this supply has been used, mix another supply keeping careful record of kinds of feed and weights, as before. Continue in this manner until the close of the project. When your project closes, weigh all unused feed and subtract from the total. Use prices given on page 19 in computing costs. Write the name of each feed at the top of a column and the weights and values below.

Date Feed Was Weighed	Kind, Amount and Value of Feed									
		Value		Value		Value		Value		Value
Totals										

Total value of feed consumed_____

MISCELLANEOUS FEEDS FED

Kitchen waste, vegetable parings, lawn cuttings and all green crops cut and fed, not entered elsewhere, should be recorded below. Write name of each feed at top of column and the quantity and value below. Ask County Agent for value of these feeds.

Date Feed Was Weighed	Kind, Amount, and Value of Feed									
		Value		Value		Value		Value		Value
Totals										

Total value of miscellaneous feeds fed _____

PASTURE RECORD

Cost of pasture at ½ cent a day per pig.

Kind of Pasture	Date Turned on Pasture	Date Removed	No. Days on Pasture	Dollars	Cts.

Total cost or value of pasture _____

PRICE LIST FOR COMPUTING COST OF FEEDS

Ask your County Agent to insert the price of each feed.

Corn meal _____ $ _____ per cwt.

Corn _____ _____ per bushel

Oats _____ _____ per bushel

Barley _____ _____ per bushel

Rye _____ _____ per bushel

Shipstuff (mixed wheat feed) __ _____ per cwt.

Shorts _____ _____ per cwt.

Middlings _____ _____ per cwt.

Tankage (meat meal 60%) ____ _____ per cwt.

Linseed oil meal _____ _____ per cwt.

Hominy meal _____ _____ per cwt.

Buttermilk _____ __(2½c per gallon)

Skim-milk _____ __(2½c per gallon)

Table slop _____ __(2½c per gallon)

Whole milk _____ __(14 c per gallon)

Financial Record

EXPENSES

1. Value of pig or pigs at beginning of project _____
2. Value or cost of grain feeds - - - - - - - _____
3. Value or cost of milk fed - - - - - - - - _____
4. Value or cost of pasture - - - - - - - - _____
5. Value or cost of miscellaneous feeds - - - _____
6. Other expenses (veterinary, registration, etc.) _____

Total expenses - - - - - - - - _____

RECEIPTS

1. Value of pig or pigs at close of project - - _____

Total expenses _____ _____

Net income _____ _____

NOTE: No charge is made for labor or credit given for manure produced. It is assumed that one will offset the other.

This is to certify that this project has been carried on to the best of my ability.

_____ Club Member

_____ Local Club Leader

Approved

STORY OF THE PROJECT

"How I Raised My Pig."

The story must be in the club member's own handwriting. Accuracy, completeness and clearness are most important, but neatness also should be considered.

STORY—Continued

STORY—Continued