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Oklahoma Cooperative Extension Service • Division of Agricultural Sciences and Natural Resources

Selection of Swine Breeding Stock

Selecting productive, performance-oriented breeding stock is the first step in a successful swine project. Purchase price, ribbons won, and popular pedigrees are of little importance if boars fail to serve and settle females and they do not farrow and raise large, healthy litters. Mistakes in early selection do not automatically mean failure of the project, but many 4-Hers have become discouraged because of selection practices.

Productive breeding stock is sound, fast growing, muscular, lean, and reproductively efficient. A good 4-H swine project produces breeding stock of the same caliber. Many of the most successful purebred breeders started out in 4-H swine breeding projects.

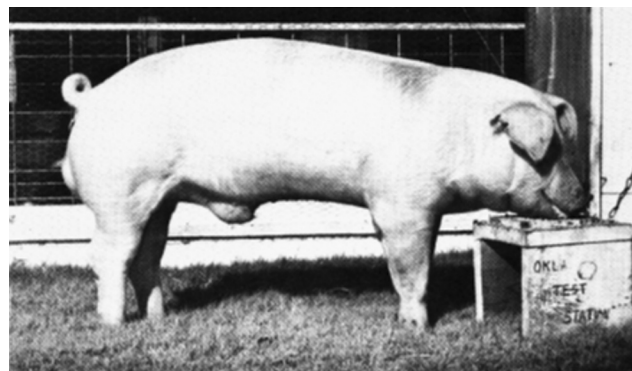
When selecting gilts and boars, visit producers who raise their hogs in an environment similar to yours. Breeding stock must be able to adapt to your kind of facilities and methods of raising pigs. Take the advice of successful hog farmers, Extension agents, agricultural education teachers, and livestock specialists when deciding on replacement stock. They are interested in you and your project and want you to be successful, so take advantage of their years of experience.

Breed choice depends on your personal preference and availability in your area. There are high performing, money-making hogs in every breed, so select the breed or breeds you like best.

Soundness

Desirable breeding stock must be structurally sound. They need a sloping shoulder, forearm, and pastern to serve as front shock absorbers. A level rump, high tail setting, and hock angulation are also important, and there also must be a spring, or flexion (proper set to hock joint) for rear leg soundness. In addition, a level top, moderate length of neck, and large, even-sized toes aid structural soundness. Breeding swine need to move soundly and freely on pasture, or in confinement. Sows must be able to get up and down in farrowing crates. Boars must be sound to service sows.

Compare the structure of the sound and unsound gilts in Figures 1 and 2. The gilt labeled unsound is straight in her shoulder, bucked over on her front legs, and steep and straight on her pasterns. She is also extremely high in her rump and post legged. Hogs of this type cannot stand the stress of breeding and farrowing, and also lack longevity (a long, productive life).



Breeding stock should be sound, fast growing, muscular, lean, and reproductively efficient.

Growth Rate

Fast growing breeding stock is a must. Since hogs that grow fast are usually more efficient (less feed per pound of gain), growth rate is very important. Records such as days to 230 pound or daily gain on test are tools used to measure growth rate. Do not be misled into thinking you can measure growth rate by visual appraisal alone. Good performance comes in varied types of hogs so if growth records are available, use them. If records are not available, select breeding stock that are large for their age, moderate in frame size, and adequate in depth and capacity.

Muscle

Desirable muscle type and pattern have changed over the years. Extremely thick, bunchy-muscled pigs were once selected. While these hogs produced lean and heavy muscled carcasses, their productivity (litter size, farrowing ease, soundness, mating ability, pork quality, lack of stress, and maturity pattern) was not so desirable. Modern producers now select breeding stock that is longer and flatter muscled with a bigger skeleton. However, muscle is still our saleable product and thickness of muscle is important. Ideally, we want the greatest amount of total muscle mass (length, depth, and thickness) possible without interfering with overall productivity.

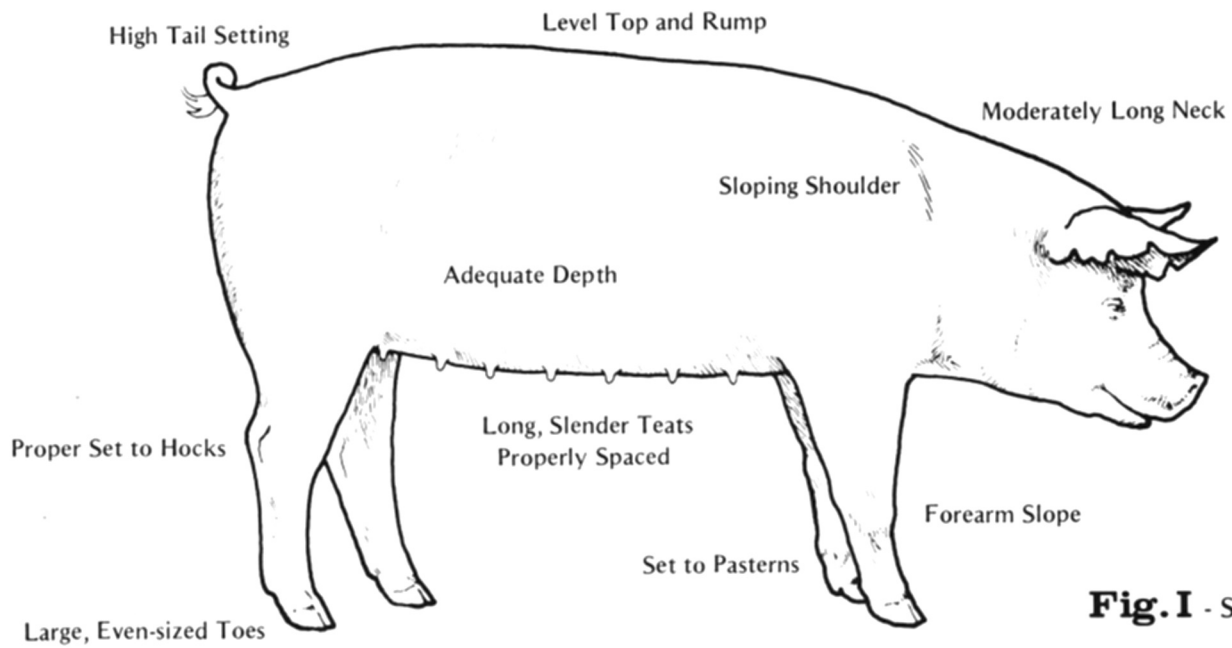


Fig. I - Sound Gilt

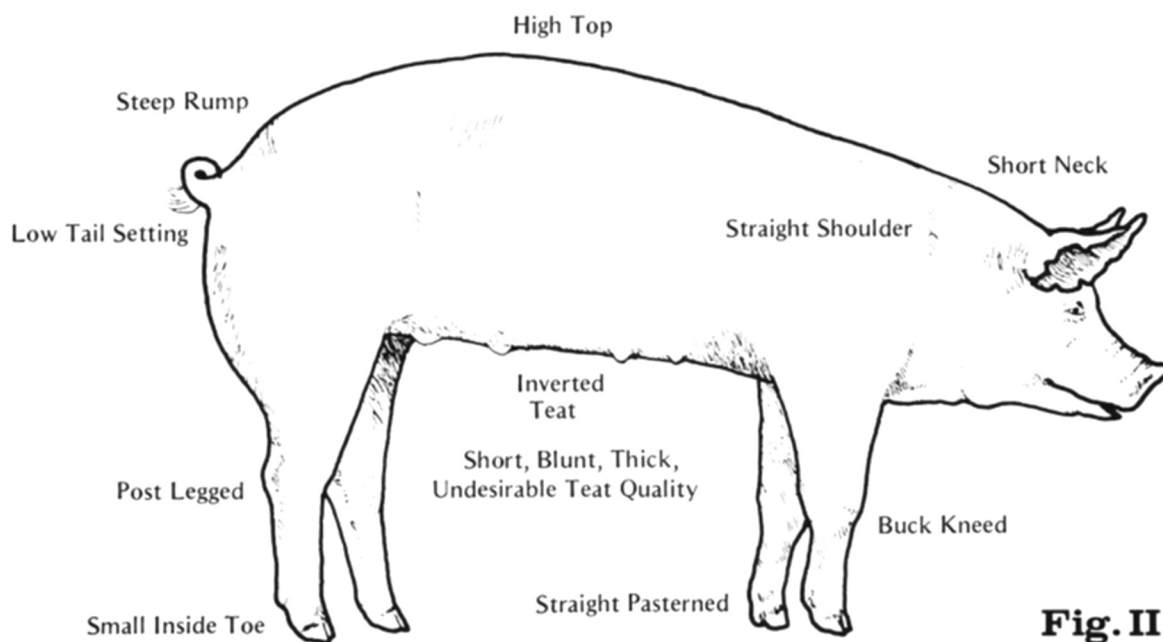


Fig. II - Unsound Gilt

Trimness

Since fat is neither economical to produce nor trim off the carcass, the selection of lean breeding stock is important. Boars and gilts should be clean over their loin edge; their shoulder blades should be easily seen; and they should be free from excessive waste in the cushion of their hams. Backfat probes and ultrasonic instruments are useful tools in determine fat. Figures 3 and 4 compare a trim, lean topped boar with a fat, wasty one. Notice the clean-patterned boar has evidence of muscle and skeletal expression, while the wasty one is smooth and lacks expression.



Select breeding stock that are moderate in frame size and adequate in depth and capacity.

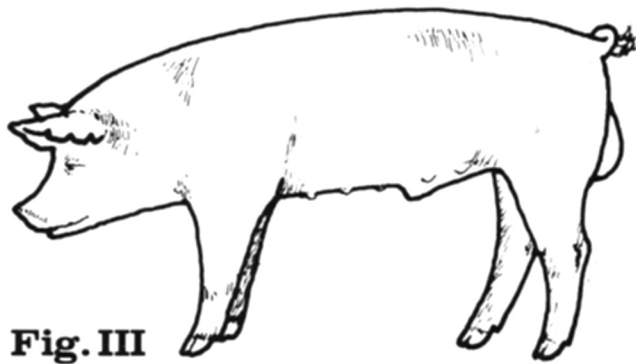


Fig. III
Trim, lean-topped boar

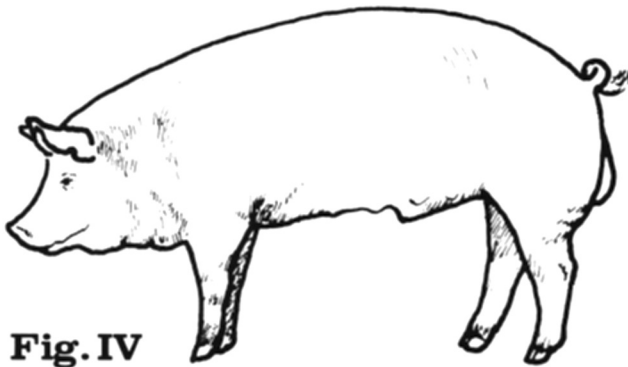


Fig. IV
Fat, round, wasty boar

Underlines

Check underlines for both teat quality and number. Desirable nipples are long, narrow, and well defined. Problems such as poor spacing, blind, and inverted teats should be avoided.

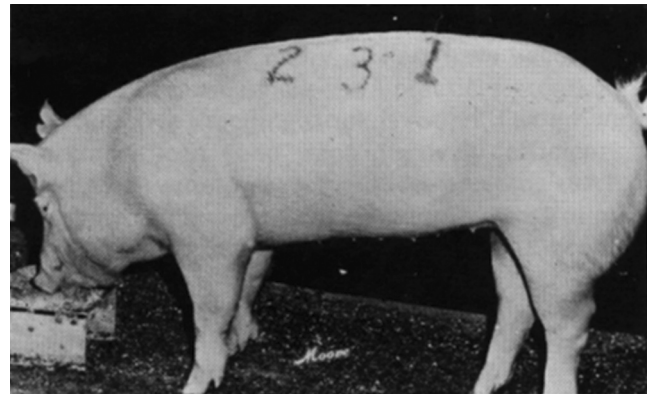
Reproductive Efficiency

The heritability (that which is passed from one generation to the next) of reproductive traits is low. However, number of pigs born, number farrowed alive, birth weight, and 21-day litter weight are so important to profitable swine production they must be considered in selection. Select boars and gilts from large (8 or more weaned), healthy, problem-free litters.

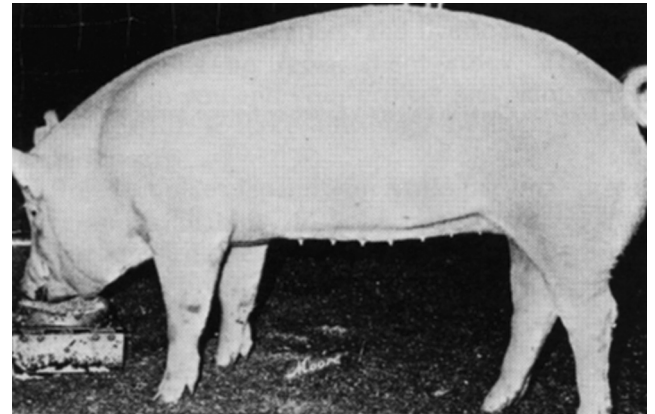
Also behavioral patterns are important in selecting reproductive efficiency. You should select breeding stock sired by sexually aggressive, masculine boars, and raised by gentle, easy farrowing, docile sows with mothering ability.

The success of a swine breeding project is due to both genetics and environment. In other words, high performing hogs and good management and husbandry practices are needed for production.

Keep the basic production, profit-oriented traits foremost in your selection process. Avoid fads. Use hogs in your breeding program that work for you, and sell those that do not. There are no super secrets or magic formulas involved in selection, so use sound, fast growing, lean, meaty, reproductively efficient breeding stock in your swine breeding project.



Undesirable underlines



Desirable underlines

Activities

1. Join a national breed association, subscribe to their breed magazine, and become acquainted with their fieldmen.
2. Attend breed type conferences and field days.
3. Attend local, area, and state swine shows.
4. Visit local purebred producers and commercial operations.
5. Visit auction barns and buying stations to study type and kind of market hogs.
6. Visit slaughter plants to study carcass variation.
7. Join 4-H or FFA Livestock Judging Teams where you can practice the selection of breeding stock.
8. Visit the supermarket to learn pork cuts and prices.



Select breeding stock from large, healthy litters.

9. Participate in local, area, state, and national shows and sales.
10. Give demonstrations on swine selection at your county contest.

Questions

1. Why should you select breeding stock raised in environments similar to yours?
2. Explain the relationship of soundness of breeding hogs and longevity.
3. How would you go about measuring growth rate and using this in selection of your breeding stock?
4. What type of muscle do you want in breeding stock? Why?
5. How would you go about determining fat in breeding stock?
6. What underline problems should be avoided?

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