

Replacement Gilt Evaluation Pocket Guide



*For the Evaluation of Structural, Feet, Leg and
Reproductive Soundness in Replacement Gilts*

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Gilt Selection

This pocket guide covers the following criteria that are critical to selection of functional females that will remain in the herd for a long, productive life:

Feet and Leg Soundness

- Feet and leg problems represent the second largest reason for sows leaving the breeding herd. This is particularly true for parity 1, 2, and 3 females.

Underline Soundness

- Underlines should be visually evaluated and scored on ALL replacement females.

External Genitalia

- Involves visually evaluating the vulva for size, shape, and injuries.

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Other Traits on Which Selection Should Occur for Replacement Gilts

Growth

- Gilts should be in the fastest growing 50-60% of the contemporary group.
- Adequate growth increases the probability of proper reproductive development.
- Slow growing females (within a group) can have delayed first estrus and may be lifelong problem breeders.

Backfat

- Backfat is important if replacement females are produced within the herd.
- Consult NSIF Guidelines for Uniform Swine Improvement to obtain proper measurement and adjustment criteria.
- Recommended levels of backfat are farm specific and may change due to genetics, environment, and end market.



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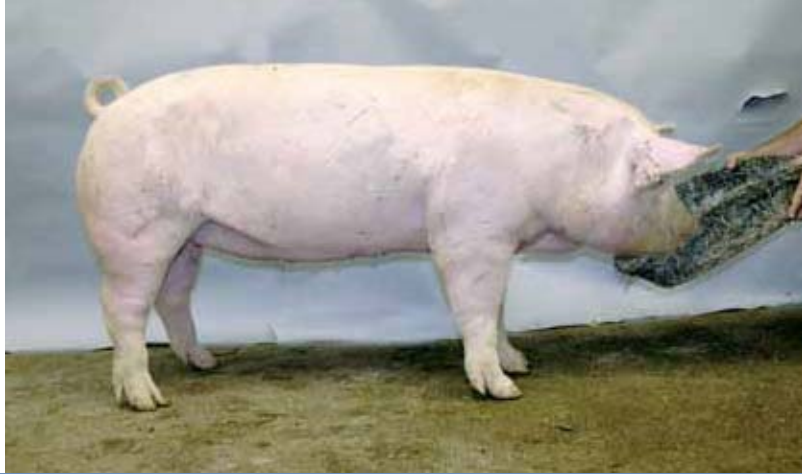


trim jowl

The “Ideal” Replacement Gilt

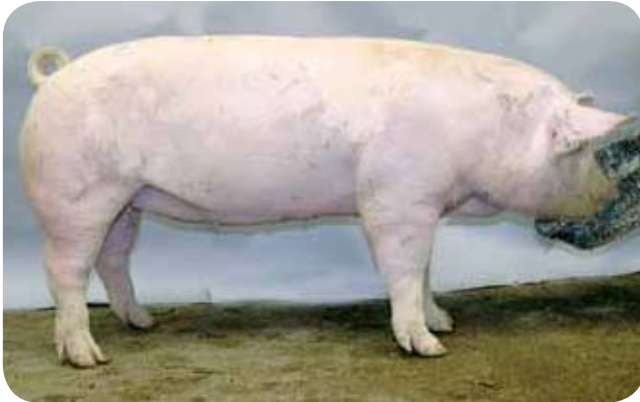
This replacement gilt is considered ideal because she has big feet, good flex to her pasterns on both her front and rear legs, and possesses adequate base width both front and rear. Additionally, she is ideal in her composition as she is long bodied, level in her top line, appears to be lean, and has the proper degree of muscling.

Also, this gilt has a high quality, evenly spaced underline, is correct in the size and placement of her vulva, and she performed in the top 50-60% of her contemporary group. Because of these attributes, this gilt is balanced and productive looking.



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Start by Evaluating the Feet of the Replacement Gilt



1. Large feet are desirable.
2. Feet should be out on all four corners with adequate width between them.
3. Individual toe size is important so pay close attention to small inside toes, especially on the rear feet.
4. Examine feet for cracked hooves, foot pad abrasions, and other injuries.

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Feet evaluation



- If a difference of ½ inch or greater in toe size exists, the gilt should be culled.
- When toes are uneven, there is a greater risk of cracked hooves and foot pad lesions as the animal becomes older.
- Toe size will affect the mobility of the animal over time.

Uneven toe size and spacing (cull)

- Small...
- If to...

Feet evaluation



cracked hoof



foot pad abrasion

- Feet and leg injuries can be an issue. Examine all gilts for these conditions:
 - *Cracked hooves*
 - *Foot pad abrasions*
 - *Other injuries*
- Injuries can be difficult to identify.
- Treat these animals and see if the injury improves. If not, use caution if these females are retained in the breeding herd.



Notice the crack on the hoof of this gilt.

Feet and a costly

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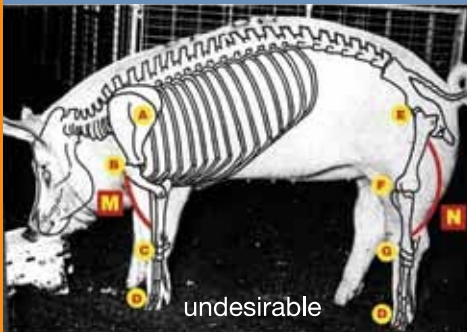
Feet evaluation



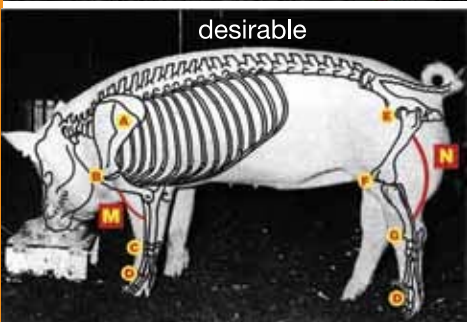
If gilts are not selected for proper feet development it can lead to problems such as excessive toe growth once they enter the breeding herd. Sows with these types of problems can lead to lameness and poor productivity and must be treated.

- Gilts with great feet
- If an animal is lame, it will spend more time resting and less time eating and producing milk.
- Injuries to the feet can lead to lameness and poor productivity.

Front Leg Evaluation – What are we looking for?



undesirable



desirable

What is desirable?

- Notice that angle "M" in the lower picture is less than 90°, providing a much more desirable angle to the front leg.
- The desirable angle provides more cushion when the animal is standing and walking.

Avoid the

- Angle "M" should be greater than 90° (from the front) to provide more cushion when the animal is standing and walking.
- The angle "N" should be less than 90° (from the side) to provide more cushion when the animal is standing and walking.

Front Leg Evaluation – What are we looking for?

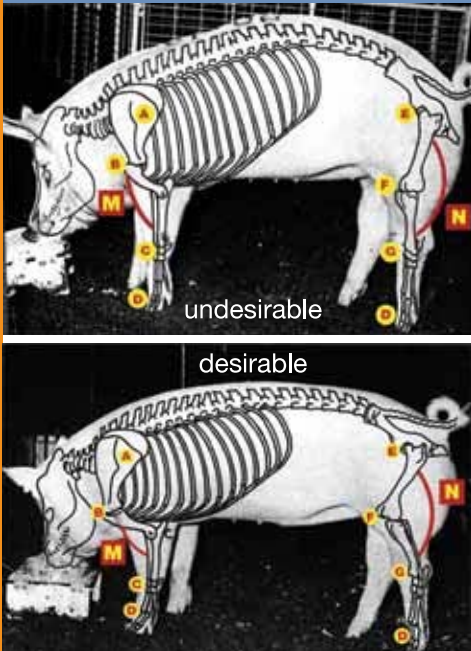


Buck-kneed front legs are a condition known to negatively impact sow longevity.

- Buck-kneed animals have a difficult time walking and getting up and down, particularly when housed in a crated environment.
- This trait is genetically influenced and a gilt retained for breeding purposes will pass the trait on to a portion of the offspring.
- Market animals with this condition will grow slower than their normal contemporaries.
- Replacement gilts that are buck-kneed should be culled.

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Rear Leg Evaluation – What are we looking for?



What is desirable

- Notice that angle “N” in the lower picture is smaller, providing a much more desirable angle to the hind leg.
- This angle more cushion when the animal is standing and walking
- This animal will be more functional in today’s production systems.

Avoid th

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Feet and Leg Evaluation



- Straight pasterns on the rear legs are a condition known to negatively impact sow longevity. They impact age at first farrowing, farrowing interval, total number born, and piglet mortality from birth to weaning.
- Sows with straight rear pasterns have a difficult time getting up and lying down in a crated environment.

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Feet and Leg Evaluation

Replacement gilts should move freely with their legs stationed soundly at the corners with adequate width between them. They should have proper set to their hock and pasterns. Their feet should be big and their toes should be spread apart.

Good base width



Good width of chest, proper set to the front leg and foot, and good foot size



Good length of body, proper set to the rear legs, and level bodied with good hip structure



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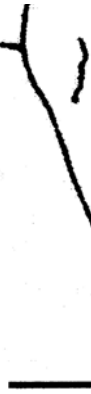
System for evaluating feet and leg structure

- Now that you have seen examples of feet and leg soundness, you understand the important role it plays in maintaining a productive breeding herd.
- You are ready to begin evaluating your replacement gilts for various traits.
- We will use a color coding system to help you make culling decisions on your replacement gilts.

Cull replacements with these conditions.

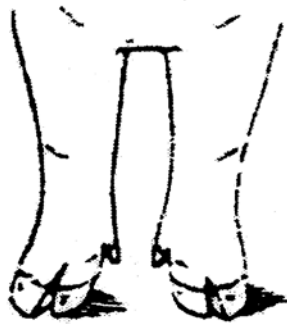
Use caution when retaining replacements with these conditions.

Keep these replacements.

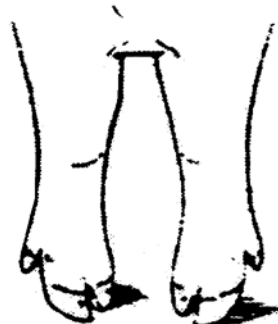


System for Evaluating Feet and Leg Structure

Front Leg – Front View Abnormalities

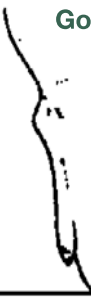


Splay footed
Toes pointed
outwards



Pigeon toed
Toes pointed
inward

Does the replacement gilt that you are evaluating have front legs that look like either diagram? If so, you should cull them if you can.



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System for evaluating feet and leg structure



Rear Leg Abnormality



Cow-Hocked

The diagram and picture illustrate a cow-hocked animal. These animals should be culled.

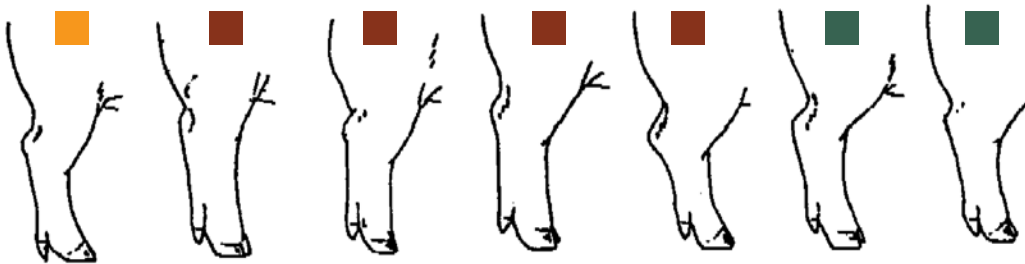


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System for Evaluating Soundness – Rear Legs



■ Cull these animals

■ Use caution when retaining these animals

■ Keep these animals

• These diagrams are a system for evaluating rear feet and leg structure (NSIF, 1996).

• Selection pressure within a given herd may vary.

Reproductive Soundness

- Underline evaluation is another critical step in the evaluation of replacement gilt candidates.
- Sows must have functional nipples to raise pigs.
- Both genetics and selection appear to play a role in determining the spacing, prominence, and location of teats.
- These traits do have a direct impact on production and it is recommended that all replacement gilts are evaluated for reproductive soundness.

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Reproductive Soundness - Underlines



Discrimination should be applied when:

- Fewer than seven functional nipples are present on each side.
- Blind or pin nipples exist.
- Poor spacing and / or placement are present.
- Inverted nipples are present.

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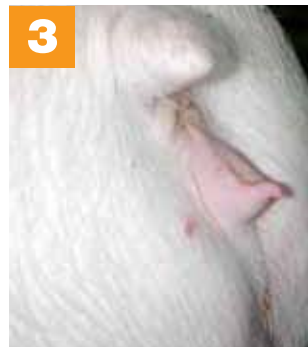
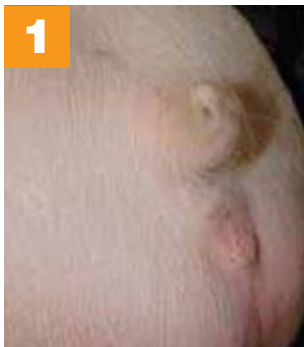
Reproductive Soundness - Underlines

Evaluation	Score	Comments
Unacceptable	1-3 points	Fewer than six functional nipples on each side or presence of inverted nipples or poor spacing and prominence.
Good	4-7 points	Six or more functional nipples on each side with adequate spacing and prominence
Excellent	8-10 points	Seven or more functional nipples on each side, well-spaced and well-developed with no pin or blind nipples.

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Reproductive Soundness – External Genitalia

- 1** Cull gilts having an infantile vulva.
 - *These animals frequently have an under-developed reproductive tract.*
- 2** Gilts having a small vulva should be avoided.
 - *These gilts could have difficulty mating (particularly in a natural mating setting).*
 - *Once mated, these animals could have farrowing difficulties.*
- 3** Tipped vulvas should be avoided.
 - *Tipped vulvas may contribute to a higher incidence of metritis and cystitis.*



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Other genetic conditions to avoid

Gilts producing offspring with these traits or that are from litters with the following conditions should not be selected as replacements

- Scrotal Hernia—commonly called a rupture.
- Atresia Ani—missing the anus.
- Cryptorchidism—has at least one testicle that has not descended.
- Hermaphrodite—has both female (vulva) and male (penis) reproductive organs.
- Tremors—uncontrolled shaking.
- Splayleg—at birth, legs are straddled to the sides and the animal cannot stand on its rear feet.
- Bent legs—pigs that have legs that have grown in an abnormal direction. Can be caused by genetics or nutrition.
- Polydactyly—pig is born with extra feet, legs, and/or dew claws.
- Syndactyly—(mule foot), pig is born with one or more of its toes fused together.
- Thickened forelegs—pig is born with one or both front legs that are unusually thick (approximately twice as thick as normal)



This gilt structure

Selection of Replacement Gilt Candidates

- Increasing the number of traits that are evaluated and used as selection criteria increases the number of potential candidates that are needed to achieve the desired number of replacements.
- If gilts are home-raised, the number of candidate females needed to supply replacement gilts to the herd determines the number of grandparent females needed in an internal multiplication system.
- Number of gilt candidates may not be a large problem if producers are purchasing their replacement females.
 - *Hopefully, most, if not all, of the culling has occurred prior to delivery of the replacement gilts to the commercial producer's farm.*
 - *However, purchased gilts should still be carefully scrutinized before a producer places them in the breeding herd.*

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Sow Body Condition Scoring



These photos present a visual reference to help train your eyes to determine differences in sow condition. Captions for each photo provide descriptions, explanations and backfat estimate ranges for each body condition score. The backfat recommendations for each BCS classification can differ slightly, depending on the genetic lines. Weight and backfat estimates, combined, should be used to estimate daily feeding requirements.

Top: Ultrasound backfat estimation



Bottom: Cloth tape measure

Flank-to-flank measurements using a cloth tape can be used to estimate body weight. The derived equation is:

$$\text{Sow weight (lb.)} = (26.85 \times \text{flank measure in inches}) - 626$$

Use weight and back-fat measurements to estimate feed intake requirements. (See Kansas State University Gestation Feeding Guidelines at www.asi.ksu.edu)



Excessive Backfat: > 0.39 in

Ribs, hips & are easily visible and palpable. Sow needs large amounts of feed and fat gain to maintain production. Significantly feed allowance for this sow.

