

DATE COMPLETED

Summer 2023

OBJECTIVE

Evaluate the impact of different stocking densities on replacement gilt growth and preproductive performance.

TRIAL OVERVIEW

- This study evaluated DNA L241 gilt performance being grown under three stocking densities (7.6, 10, and 13.4 ft², referred to herein as high, medium, and low stocking densities).
- Gilts were evaluated for growth rate, feed conversion, backfat and loin depth, structure scores, and expression of estrus.
- Estrus detection with boar exposure began at 20 weeks of age.
- Progesterone assays determined the accuracy of visual estrus detection and served as a validation for gilts not detected visually.

KEY TAKEAWAYS

- At 20 weeks of age, gilts grown at the high stocking density were significantly lighter (198.4 lbs.) compared with females at medium (207.4 lbs.) or low (207.1 lbs.) stocking densities.
- At 28 weeks of age, weight differed significantly among stocking density treatments, with gilts housed at high, medium, and low stocking densities weighing 280.0 lbs., 301.9 lbs., and 312.9 lbs., respectively.
- At 26 weeks of age, 48% of the high, 49% of the medium, and 62% of the low stocking densities were detected in heat by visual heat detection.
- At 28 weeks of age, females stocked at low stocking density had a 6% higher rate of accuracy in determining gilts truly in heat, compared with those stocked at high and medium stocking densities.
- Structure scores and mortality rates did not differ between treatments.

PRODUCER IMPLICATIONS

- Providing gilts with a minimum of 10 ft² from 16 to 20 weeks of age did not impede growth rates.
- At 24 weeks of age, producers should move to low stocking density to maximize the number of females cycling.
- Pen heat detection becomes easier to execute when gilts are maintained at lower stocking densities, resulting in a higher accuracy of heat detection and fewer females with missed heats.
- Producers should evaluate their gilt development system to determine the appropriate starting age for estrus detection. In this study, estrus detection began at 20 weeks of age, resulting in gilts being mated in a second cycle at 25 weeks of age, with a minimum body weight of 300 lb.
- Maximizing the DNA 241 reproductive potential and longevity results from mating gilts weighing 300-320 lbs. with at least 1 heat-no serve.

For more information on this study, please contact your National Account Leader.