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后备母猪日粮代谢能和赖氨酸水平对初情期、排卵数和子宫长度的影响

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本试验的目的在于研究商业条件下不同标准回肠可消化赖氨酸（SID 赖氨酸）和代谢能水平对后备母猪生长发育的影响。试验对照组日粮 SID 赖氨酸和代谢能来源于对美国养猪行业的调查和投票。1221 头大白×长白二元母猪随机分为 6 组，试验采用 2×3 因子设计，2 个 SID 赖氨酸水平、3 个代谢能水平。母猪为群体饲养，日粮为玉米-豆粕型日粮。后备母猪生长期日粮 SID 赖氨酸水平包括 1.02%（对照组，为调查平均值）、0.86%（比对照组水平降低 15%），代谢能水平 2.94、3.25、3.57 Mcal/kg（平均值上下 10%），饲喂期为 100 日龄至约 90kg 体重。育肥期日粮中 SID 赖氨酸水平为 0.85%（对照组，为调查平均值）、0.73%（比对照组水平降低 15%），代谢能水平为 2.94、3.26、3.59 Mcal/kg（平均值上下 10%），饲喂至 260 日龄。试验开始、及每 28 天测定后备母猪体重、背膘厚和眼肌面积。后备母猪 160 日龄开始接触切除输精管的公猪，并观察发情状况。在约 260 日龄时，将后备母猪屠宰，收集生殖系统样品。每个样品检查测定是否处于发情期、发情期的哪个阶段、排卵数和子宫长度。所有数据使用正态分布和混合模型进行统计分析。初情期在 160-265 日龄，平均日龄为 193 天。若以静立反射为发情标准，试验中 160 日龄后备母猪有 91.0%已经开始发情。日粮处理对初情期日龄和生殖系统的影响不显著。在公猪从 160 日龄开始刺激母猪的情况下，后备母猪 100-160 日龄的生长速度不会影响母猪初情时的日龄。

Age at puberty, ovulation rate, and uterine length of developing gilts fed two lysine and three metabolizable energy concentrations from 100 to 260 d of age

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The objective of this study was to determine the effect of ad libitum feeding diets differing in standard ileal digestible (SID) lysine and ME concentrations that bracket those fed to developing gilts in U.S. commercial settings. Average SID lysine and ME concentrations in diets currently fed to developing gilts were obtained from a poll of the U.S. commercial swine industry. Crossbred Large White × Landrace gilts (n = 1,221), housed in groups, were randomly allotted to 6 corn-soybean diets in a 2 × 3 factorial arrangement formulated to provided 2 SID lysine and 3 ME concentrations. Gilts received grower diets formulated to provide 1.02% (control = survey average) or 0.86% (control minus 15%) SID lysine and 2.94, 3.25, or 3.57 (survey average ME ± 10%) Mcal of ME/kg from 100 d of age until approximately 90 kg BW. Then, gilts were fed finisher diet containing 0.85% (control = survey average) or 0.73% (control minus 15%) SID lysine and 2.94, 3.26, or 3.59 (control ± 10%) Mcal of ME/kg until 260 d of age. Gilts were weighed, and backfat thickness and loin muscle area were recorded at the beginning of the trial and then every 28 d. Starting at 160 d of age, gilts were exposed daily to vasectomized boars and observed for behavioral estrus. At approximately 260 d of age, gilts were slaughtered and their reproductive tract was collected. Each reproductive tract was examined to determine whether the gilt was cyclic, the stage of estrus cycle, ovulation rate, and uterine length. Data were evaluated for normality and analyzed using mixed model methods. Average age at puberty was 193 d of age with a range from 160 to 265 d. When all gilts on trial at 160 d of age were included in the analysis, 91.0% reached puberty as determine by

observation of standing estrus. Differences between dietary treatments on age at puberty or measurements of the reproductive tract were not detected. Growth rates to 160 d were not limiting for attainment of puberty in response to daily boar stimulation from 160 d.