

FOLLICULAR AND LUTEAL CHANGES DURING EARLY PREGNANCY IN THREE BREEDS OF SWINE

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Follicular and luteal changes during the first half of pregnancy were studied using 47 Yorkshire (Y), 52 Landrace (Ld) and 44 Lacombe (Lc) sows examined at 23, 42 and 63 days of pregnancy. Follicular fluid weight was greater in Lc than in Y (20%) and Ld (8%) sows. The mean follicular weight for all breeds increased by 22.6% ($P < 0.05$) from day 23 to day 42 of pregnancy. Yorkshire sows had significantly more small (1-2 mm) follicles than Lc and Ld sows. The average number of small follicles for all breeds was 117 at day 23 and remained unchanged at day 42, but was 20.5% higher ($P < 0.01$) at day 63. The number of medium (3-5 mm) follicles was similar in the three breeds, whereas that of large follicles (6-10 mm) was greater in Lc than in Y and Ld sows. The number of medium and large follicles increased with the advance in pregnancy. The ovulation rate as measured by the number of corpora lutea was 15.1 in Ld and 14.1 in Y and Lc. Luteal tissue weight was less in Y than in Ld and Lc sows. The weight of luteal tissue increased with advancing pregnancy.

On a étudié l'influence du stade de la gestation (23, 42 et 63 jours) sur le développement des follicules ovariens et le poids des corps jaunes de la truie. Pour ce faire, on s'est servi de 47 truies de race Yorkshire (Y), 52 truies de race Landrace (Ld) et 44 truies de race Lacombe (Lc). Le poids du liquide folliculaire était 20% et 8% plus lourd ($P < 0.05$) chez les truies de race Lc que chez les truies de races Y et Ld. Indépendamment des races de truies, le poids moyen du liquide folliculaire augmentait de 22.6% ($P < 0.05$) entre le 23^e et le 42^e jour de la gestation. Les truies de race Y avaient un plus grand nombre de petits follicules (1-2 mm) que les truies de races Lc et Ld. Le nombre moyen de petits follicules, indépendamment des races de truies, demeurait stable entre le 23^e et 42^e jour de la gestation; cependant il augmentait de 20.5% ($P < 0.01$) entre le 42^e et le 63^e jour. Le nombre de follicules de grosseur moyenne (3-5 mm) ne différait pas entre les races de truies, mais il changeait à mesure que la gestation avançait. Le nombre de gros follicules (6-10 mm) augmentait à mesure que la gestation progressait. Ils étaient plus nombreux ($P < 0.05$) chez la race Lc que chez les races Y et Ld. La race Ld avait un plus haut taux d'ovulation que les races Lc et Y. Le poids des corps jaunes des truies Y était plus léger que celui des truies de races Ld et Lc. Il augmentait progressivement ($P < 0.05$) à mesure que la gestation avançait.

Follicular development during pregnancy was observed in species with relatively short gestation periods such as the rat (Greenwald 1966) and mouse (Greenwald and Chaudary 1969). The follicles observed in pregnant rats and mice were found to be physiologically responsive to ovulating doses of gonadotrophic hormones (Ying et al. 1973; Greenwald and Chaudary 1969). In the guinea pig, a medium gestation-length ani-

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mal, Labhsetwar and Diamond (1970) showed that certain follicles continued their growth during pregnancy, whereas other follicles regressed. Information is lacking on follicular development during pregnancy in species with relatively long gestation periods. Greenwald (1966), working on rats, measured the increase in size of corpora lutea of pregnancy both histologically and by increased weights of ovarian tissue; Corner (1915), working on pigs, measured the maxi-