The objectives of this study were to 1) compare delayed uterine clearance (DUC) after insemination with age and endometrial biopsy score (Kenney scale), and 2) compare susceptibility to DUC over subsequent breeding seasons. Fifty five mares were inseminated with $10^7$ freeze-killed spermatozoa during estrus and evaluated for DUC by transrectal ultrasonography. Delayed uterine clearance was defined as $>2$ cm intrauterine fluid at 48 h and the presence of fluid at 96 h after insemination. Mares with no fluid retention 48 h after insemination were considered resistant to DUC, and mares with $>2$ cm of fluid at 48 h, but no fluid at 96 h were classified as “intermediate”. A subset of 14 mares was classified for susceptibility to DUC in two subsequent breeding seasons. Comparisons were made using a Chi-square test comparing biopsy score, fluid retention after insemination, and age. Significance was set at $p < 0.05$.

Biopsy score and age were correlated to DUC ($p < 0.001$). In addition, age was correlated to biopsy score ($p < 0.001$) as previously reported. Of the mares examined for susceptibility, 36% (5/14) changed status during subsequent seasons. Three mares changed to a more severe classification (intermediate to susceptible, or resistant to intermediate), while two mares changed to a less severe classification (susceptible to intermediate).

These results suggest that a uterine biopsy may be used in predicting DUC, although some mares may fall into an intermediate classification. In addition, mares may increase or decrease the degree of susceptibility to DUC over subsequent breeding seasons.

**Keywords:** Endometrial biopsy, intrauterine fluid, equine