

The effect of rearing houses, genotype, age and intensity of sexual service of bulls on quantity and quality of their semen

Summary

Polish Black-and-White bulls ($n = 113$) with a high Holstein-Friesian gene participation and 40 purebred Holstein-Friesian bulls from the Animal Breeding and Insemination Station in Bydgoszcz, were used. Bulls were allocated into three groups due to rearing houses, into three groups due to Holstein-Friesian gene share in genotype, into three groups due to age and into three groups due to intensity of sexual service – groups differed significantly regarding the results of semen traits. Depending on ejaculative volume the best were bulls from rearing house at Osieciny – 5.04 ml, while the worst the ones from Lisnowo – 4.19 ml. The bulls of the first group (from rearing house in Gajewo) were characterized by the highest sperm concentration, while the bulls from Osieciny had the lowest sperm concentration. Bulls with the high Holstein-Friesian gene share (90.1-99.9%) indicated the highest ejaculative volume – 4.79 ml, the sperm concentration – 1226.90 thousands/mm³, the mass motion (by Bloom scale) – 2.21, the sperm with progressive motion – 72.23% and also the number of insemination doses from one ejaculate – 419.82. The highest sperm concentration – 1235.05 thousands/mm³ was obtained by the youngest bulls (≤ 4 years) while the smallest sperm concentration – 1142.54 thousands/mm³ by the oldest ones (> 8 years). The oldest bulls were characterized by the largest number of insemination doses from one ejaculate – 555.93 while the youngest bulls had the smallest number of insemination doses from one ejaculate – 187.99. Bulls with more intensity of sexual service (> 4 services/week) obtained the largest ejaculative volume – 3.79 ml and significantly exceeded all the remaining groups of bulls. Semen collected from bulls – with lower intensity of sexual service (< 2 services/week – ≥ 4 services/week), had the highest sperm concentration – 1284.58 thousands/mm³.