Effect of spontaneously elongated calving intervals on the yield and composition of milk in subsequent lactations of cows from the active population in the Olsztyn region

**Summary**

Investigations were carried out on 24,934 cows of the active population evaluated in the years 1996-2006 by the Olsztyn Division of the National Centre of Animal Breeding. The cows were divided into 3 experimental groups depending on the length of the calving interval (CI), i.e. 365 days, from 365.1 to 445 days and from 445.1 to 525 days, as well as depending on the consecutive lactation. Analyses demonstrated that the percentage of cows with the standard length of CI reached: 37.22% (I lactation), 35.73% (II lactation), 23.71% (III lactation) and 10.56% (lactations >III). The highest numbers of cows were reported in the CI interval of 365.1-445 days and accounted for, respectively: 43.26%, 22.22%, 9.54% and 5.18%. The lowest number of cows was observed in the group with the longest CI, i.e. from 445.1 to 525 days, and reached 13.76% in the I lactation and as little as 2.59% in the group of lactations >III. The study demonstrated that cows performance in 305-day lactation was the highest in lactation III and at the shortest CI reached, respectively: 6723 kg of milk and 7797 kg of milk converted into VCM content and 518 kg of protein + fat. The highest values of those parameters were reported at the longest CI (445.1-525 days), i.e. 7111 kg and 8251 kg as well as 536 kg (at P<0.01 and P<0.05). Milk yield and of milk and protein + fat were recorded at the longest CI and reached: 9332 kg and 11 224 kg (VCM yield) and 721 kg, respectively. Significant differences were observed at P<0.01. It was demonstrated that elongating the CI by 80 days, as compared to the standard CI length, enabled increasing the milk yield by 23.14% (I lactation), 10.98% (II lactation), 7.20% (III lactation) and 9.82% (lactations >III). In turn, elongating the CI by another 80 days did not yield such good results, since the increase in milk yield accounted for only: 12.76%, 6.19%, 5.51% and 6.95%.