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## Technological suitability of milk from three breeds of cows fed with TMR system

### S u m m a r y

The aim of this study was to assess the chemical composition and technological suitability of milk obtained from three breeds of cows fed with TMR system. The study included 176 milk samples collected from following breeds: Polish Holstein-Friesian Red-White variety – 41, Montbéliarde – 72 and Jersey – 63. The samples were collected in winter months from cows between 120 and 200 day of lactation. Examination of each milk sample included the following parameters: content of fat, protein, casein, lactose and dry matter, somatic cell count (SCC), active (pH) and potential (<sup>o</sup>SH) acidity, thermostability, rennet coagulation time and calcium content. It was demonstrated that the milk of Jersey cows was characterized by the highest concentration of dry matter compounds, while the fat protein ratio (0.76) was the least advantageous. The lowest fat content was found in the milk of Montbéliarde cows (4.08%), with protein content 3.58% and 2.73% of casein, which resulted in the best protein to fat ratio (0.88). It was stated that milk from PHF cows differed significantly ( $P \leq 0.01$ ) in parameters such as rennet coagulation time and thermostability from milk obtained from two other evaluated breeds. PHF milk was the most resistant to heat treatment (2:55 min), it had the longest time of rennet coagulation time (5:22 min).

Milk from Jersey cows was characterized by the shortest thermostability time (1:27 min) and the shortest rennet coagulation time (3:45 min). Milk from Jersey cows contained significantly ( $P \leq 0.01$ ) more calcium as compared to the two other examined cattle breeds. The obtained results suggest that milk from Holstein-Friesian cows is more useful for the production of milk and milk concentrates while milk from Jersey cows is more suitable for cheesemaking. Montbeliarde cows' daily milk yield is similar to the Holstein-Friesian's productivity whereas their milk is a beneficial raw material for cheese production.