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Development of a breeding objective for Estonian Holstein cattle

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### Abstract

Economic weights for milk carrier (water plus lactose), fat and protein yields, calving interval, age at first service, interval between the first service and conception of heifers and length of productive life of Estonian Holsteins were estimated under assumed milk production quota and for non-quota conditions. A bio-economic model of an integrated production system of a closed herd was used. Economic values of milk carrier yield and length of productive life differed between quota and non-quota conditions, but there were only minor differences between those marketing systems in economic values for functional traits. The standardised economic values of the most important traits varied in magnitude between 18 to 81% of the economic value for milk yield. Discounting had a substantial impact on the economic value of length of productive life. When defining the breeding objective for Estonian Holstein, the interval between the first service and conception of heifers, and the length of productive life should be included in the breeding goal along with the traits with the highest economic value, milk, fat and protein yield. In the optimum breeding objective, relative weights of production vs. functional traits were 79 and 21%, respectively.

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