

A high index for milking speed shortens milking time

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Daughters of sires with high indices for milking speed milk faster than an average cow. But how much shorter milking time can you expect when using a sire with an index of 110 for milking speed compared to an average sire (for an average sire the index for milking speed is 100)?

Breeding values for milking speed comprises of farmer evaluation and data from automatic milk meters (only included from True Test from Denmark so far).

Milking speed from farmer evaluation

In Denmark, Sweden and Finland milking speed is judged by the farmer. The farmer has to evaluate if the individual cow is slower or faster than an average cow in the herd on a scale from 1 to 9 (Denmark and Sweden) or 1 to 5 (Finland).

Collection of milking time from automatic milk meters

In Denmark data from automatic milk meters (True Test) have been collected in larger scale since 2004. In fact most information on milking speed in Denmark is from these devices. The measure used for genetic evaluation is gram of fat + protein per minute. Data from AMS has started to be collected for Lely and other systems will follow in the future.

In Sweden it is possible, since a couple of years ago, to register milk flow from some milking systems, including certain AMS systems. Data is mainly collected from DeLaval and GEA. Development of registering data from more systems is going on.

In Finland information about the flow rate is collected from automatic milk meters (TruTest). This has been a development project in one part of the country. Possibility to get information about milking speed from AMS is also investigated in Finland.

More milk flow information will be included in the genetic evaluation for milking speed in the future and combined with the evaluation from the farmers. The new information will be mainly milk flow data from AMS systems, which will be added from all three countries, and also data from automatic milk meters (True Test) from Finland.

Effect of +10 index units for milking speed

Farmer's registrations to the database and information from automatic milk meters are assumed to describe the same trait and the values from the linear scales can therefore be translated to the same scale as the automatic registrations – how fast the cow is being milked. It is not possible to quantify from the farmers registrations how much faster a cow, which the farmer estimates as 7, is being milked compared to a cow estimated as 6. Therefore the effect of +10 index units for milking speed is showed as grams of fat and protein per minute.

For all breeds the effect of difference of +10 index units for milking speed between sires (which correspond to a difference of +5 index units between their daughter groups) is +10 grams of fat and protein in total per minute.

Average flow of grams of fat and protein per minute in Denmark is 165 grams/minute for RDC, 170 grams/minute for Holstein and 205 grams/minute for Jersey.

For standard milk in which fat percent is 4.2 and protein percent is 3.4 (thus 76 grams of fat and protein / liter of milk), this difference of +10 units corresponds to 0.13 kilograms more milk per minute For Holstein average flow of 170 grams of fat and protein / min equals about 2.24 liters of milk / min. This means that for Holstein +10 index units (170 grams +10 grams / min equals about 2.37 liters of milk / min.

For a cow with daily yield of 30 kg of standard milk, milking time is 45 seconds or 5% shorter than for an average cow (index for milking speed is 100).