

Anafij – Italian Jersey 2020

Genotypes

During the three-year period of the LattEco1 project, over 1200 females of the Jersey breed were genotyped, an important number on the entire population in Italy and which represents over 20% of the total, and now we have a breed screening available and we are able to produce the first results to offer and to open a genotyping service that still returns useful information to breeders.

At Anafij, since October 2020, for the Jersey we can detect the direct test of milk proteins:

- Beta-casein variants A1 and A2
- Beta-lactoglobulin variants A and B
- Kappa-casein variants A, B and E

Results are shown in tables 1, 2 and 3.

Table 1. Kappa Casein

Variant	Freq	%
AA	3	0
AB	211	18
BB	937	82

Table 2. Beta Casein

Variant	Freq	%
A1A1	61	5
A1A2	382	33
A2A2	727	62

Table 3. Beta Lactoglobulin

Variant	Freq	%
AA	468	40
AB	529	45
BB	177	15

We also extract the direct test for the JH1 haplotype which impacts on fertility. The JH1 Jersey Haplotype 1 haplotype, deriving from the sire Observer Chocolate Soldier, causes the mortality of the embryo within 60

days of pregnancy. The percentage of carriers in Italy is 10.4%, in line with the situation in Denmark, 9%, and decidedly lower than the situation in the USA of over 20%.

The publication of this genotype information has been authorized by the Jersey Central Technical Committee. These direct tests are available for genotyped females on the Anafij website, given here:

<http://www.anafij.it/it/servizi/jersey/aplotipi-latteproteine-genotipizzate>

where farmers will be able to consult the results of their genotyped animals: they are the variants of Kappa-casein, Beta-lactoglobulin, Beta-casein and information if the animal is a carrier of the JH1 haplotype. All very useful information to genetically understand your herd and to perform corrective matings. Below is a screen shot of the available data.

Femmine Genotipizzate Jersey: Caseine e Aplotipi

AUA O MATRICOLA

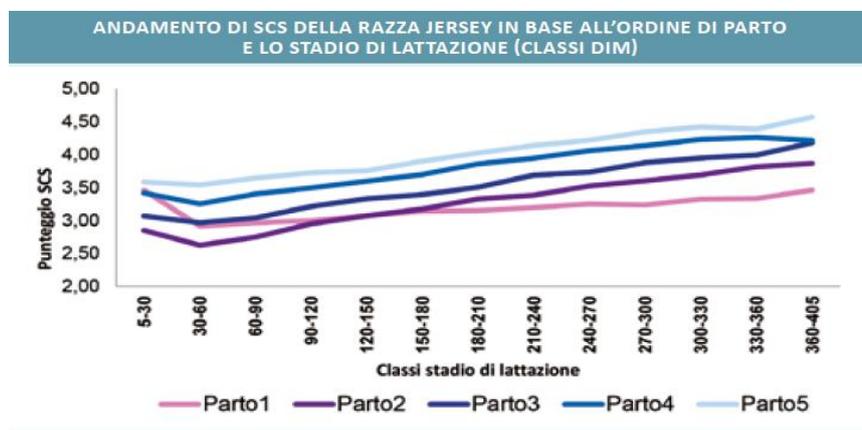
						Legenda Caratteri/Aplotipi Femmine Genotipizzate			
Razza	Matricola	Collare	Nome Padre	AUA	Ragione Sociale	B_csnA1A2	BetaLactAB	K_csnABE	JH1
15	IT033990452984	0123	JARS OF CLAY BARNABAS	3841022	MOSCHINI FAUSTO	A2A2	AB	AB	F

Locomotion

The Locomotion character shows variability and therefore to be included in the context of the morphological evaluation. A heritability of 0.04 was estimated. The insertion of new characters in the IQJ selection index must be considered.

Somatic cell count

A test-day repeatability animal model with fixed effects for Herd-Test-day, Parity, Lactation stage and Calving season was set up to derive genetic indices for somatic cells. A heritability of 0.10 was estimated. The trends for Somatic cell score in 5 lactations are presented below. Anafij will start to routinely estimate genetic indices for somatic cells.



Italian Jersey population trends