

Are high genetic merit dairy cows compatible with low input grazing systems ?

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It is increasingly difficult to feed high genetic merit (GM) dairy cows according to their requirements. Consequently, high GM dairy cows are often described as being poorly adapted to low input grazing systems. The aim of this experiment is to analyse the effect of GM on milk yield and reproductive performance of dairy cows managed to different feeding strategies within a predominantly grazed grass system.

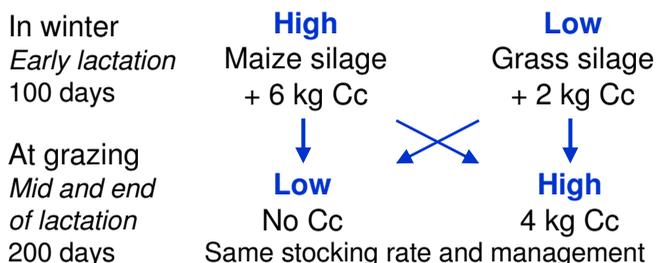
Two breeds, three genetic merit groups and four feeding strategies

167 Holstein (Ho) and 158 Normande (No) lactations were obtained across 5 years at Le Pin-au-Haras experimental farm (Normandy).

Within each breed, three milk genetic merits groups: +1437, +1939, +2444 for Ho and +980, +1367, +1733 kg of milk for No respectively named Low, Medium and High GM.

Compact winter calving pattern (Dec to March). Fertility results calculated on 295 cows bred according to the subsequent calving event.

Feeding strategies (FS)



Strategies are characterised by large differences in concentrate (Cc) and total nutrient intake.

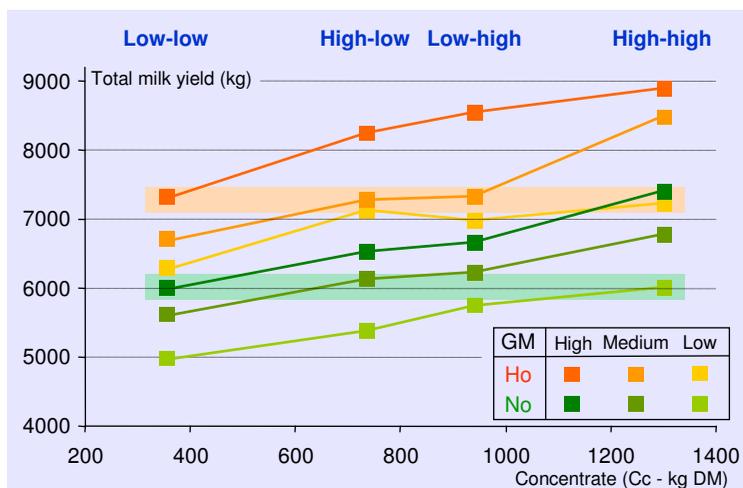
Whatever the feeding strategy, the higher genetic merit, the higher milk yield

The same milk yield was obtained in the Low-low FS with high GM cows and in the High-high FS with low GM cows.

Despite a large difference in feeding pattern, similar milk yield is achieved between High-low and Low-high feeding systems.

Within breed, high GM cows and low concentrate input systems largely based on grazing do not seem mutually exclusive. High GM cows remain a good option to optimise the use of high quality forages.

The Holstein cows always produced more milk. Between the two extreme feeding systems, the difference in response was 975 and 1,609 kg of milk for the low and high GM Holstein cows and 1,048 and 1,434 kg for the Normande. Overall pregnancy rates are solely affected by breed (respectively 74% and 85% for Ho and No).



Effect of the feeding strategy on milk yield according to the milk genetic merit

