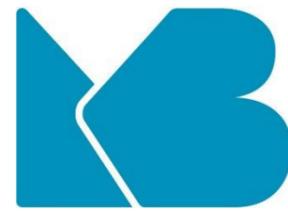




EIPWALES

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menter a busnes

Genomic Testing in the Dairy Herd

Assessing the potential of genomic testing dairy heifers to increase genetic gains and financial returns



The Project – Genomic DNA testing can increase the accuracy of breeding values from 35% to between 60 – 70%. Genomic testing females is yet to become common practice and is a new cost to factor for many farmers. The purpose of this project is to produce a cost benefit analysis on genomic testing within different farm scenarios and also gain a better understanding of how genomics can impact breeding decisions.

The farmers - Nine dairy farmers from north Wales with Holstein/Friesian herds.

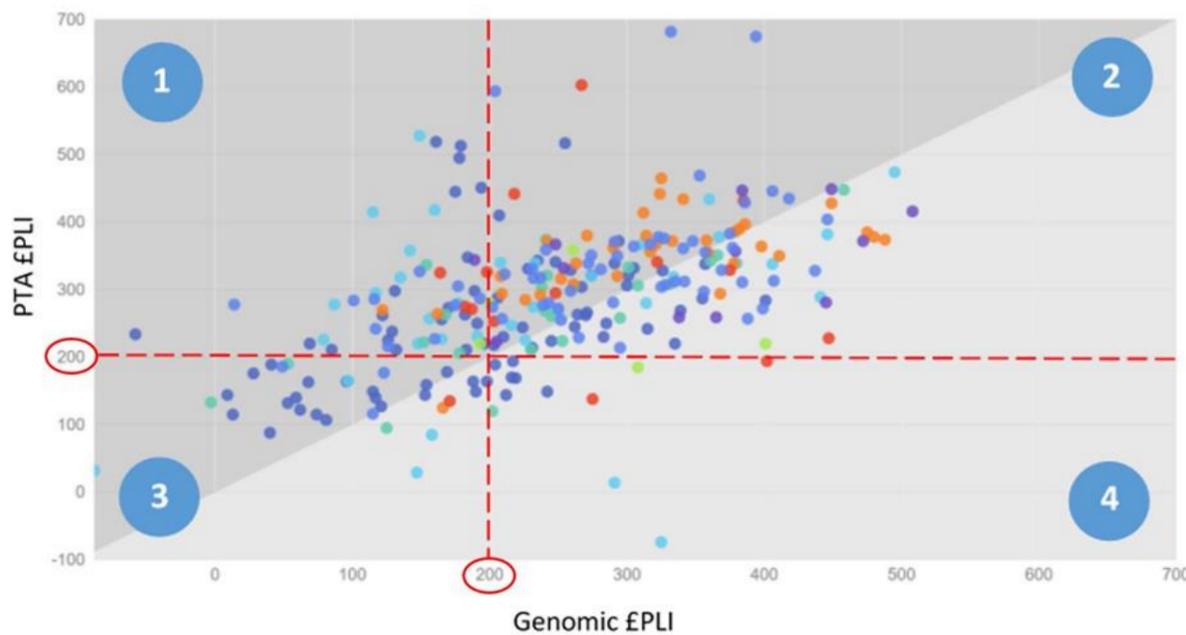
Project timescale – December 2017 to November 2020



Key project finding to date

- If using the parent average £PLI figures, **46 (21.3%)** of the heifers would have been incorrectly bred to dairy because of over estimating their actual (genomic) £PLI value. **5.2%** of heifers would have been incorrectly bred to beef. This would slow down the herd's genetic progression and have a knock on impact on the quality of future generations.
- These breeding mistakes would last for two crops of calves as an animal would not receive their own breeding value until they had at least five milk recordings in their first lactation, by which time they are likely to be in calf again.
- The genomic test and £PLI evaluation for this project cost **£25 + VAT**.
- The average heifer rearing cost for the group was calculated at **£1,420/head**. This cost is often not recouped until the animal reaches her third lactation therefore genomics can help ensure you spend time, resource and money on the most profitable animals.
- By the end of the project the farmers will have collected additional information through their milk recording on calving date, milk yield & quality, mastitis & SCC level, number of heats, services and any PD's as well as lameness incidence.

Genomic Profitable Lifetime Index (PLI) VS Parent Averages (PTA)



Hypothetical breeding scenarios based on £200 PLI as a cut off

£PLI Origin/Scenario	Bred to Beef	Bred to Dairy
Parent Average £PLI	52	235
Genomic £PLI	98	189

N.B. To understand how the change in £PLI would impact herd improvements, a hypothetical breeding situation was used where everything below £200 PLI would be bred to beef and not used to breed replacements from. The current data set represents 287 heifers out of a total of 432 that have been genomically tested across all farms.