Animal and Bioscience Department

Title

Using the 'Next Generation Herd' to proof the future direction of the national breeding program

Abstract

Analysis of commercial farm data has shown that each €1 increase in herd EBI results in a €2 increase in profit/cow/lactation. The rate of increase in EBI has risen from €5/cow/year in the mid 2000's to €11/cow/year in 2011, with a potential to increase to €25/cow/year with advances in breeding and genomic technology. Given this potential it is proposed to establish the "Next Generation Herd", comprising elite females (Holstein-Friesian) representing the top 5% in EBI. Observations regarding the phenotypic direction of the EBI will be made continually, guarding against potential negative associations. Having established the herd the objectives of the research are to: 1) develop and validate guidelines for sourcing animals of high health status and a bio-security and bio-containment protocol to maintain high health status, 2) verify/monitor the relationship between EBI and phenotypic performance (profit) across a range of production systems, 3) quantify the long-term impact of selection on EBI on novel phenotypic traits of future importance, and 4) evaluate the role of a modern nucleus herd to enhance the national breeding programme through the use of available and emerging technologies; genomic pre-selection of donors and embryos etc to supply young bulls to the national breeding programme.

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