

## Abstract by Norin Mc Hugh - Calf price impacts dairy farm profit too

Up to 20% of the gross income of a dairy farm is from the sale of surplus calves and cull cows. The availability of routinely collected data of calf price from the livestock auctions, coupled with the known genetic variation in calf price, suggest that calf price should be considered for inclusion in dairy cattle breeding objectives. The objective of this study was to 1) quantify the impact of the current Irish dairy cattle breeding goal, the Economic Breeding Index (EBI), on genetic change in calf price, and 2) the impact on genetic gain in the performance traits already in the EBI from adding calf price to the EBI; when calf price was included in the EBI progeny carcass weight, conformation and fat score were removed. Selection index methodology was used. Previously estimated genetic and phenotypic parameters for the goal traits currently included in EBI and calf price were used; where not available, genetic correlations were inferred from the correlations between reliable estimated breeding values of the respective traits. The genetic correlation between calf price and the goal traits in the EBI ranged from -0.17 (milk yield) to 0.23 (carcass conformation score). The current EBI is increasing the rate of genetic gain for calf price by approximately €1.20 per annum. The inclusion of calf price increased genetic gain in calf price by a further €0.20 per annum to €1.40. The inclusion of calf price had little impact on the genetic gain of the current goal traits in the EBI. The inclusion of calf price in the EBI increased the rate of genetic gain for milk yield (-20 to -25 kg). Annual gain in fat (0.48 to 0.33 kg) and protein (0.56 to 0.42 kg) yield reduced when calf price was included in the EBI. The results for this study indicate that the inclusion of calf price into the EBI will not alter the response to selection of the current goal traits dramatically but will more accurately account for on-farm profitability in Irish dairy herds.