

# Norwegian White Sheep breeders steadily improve their production



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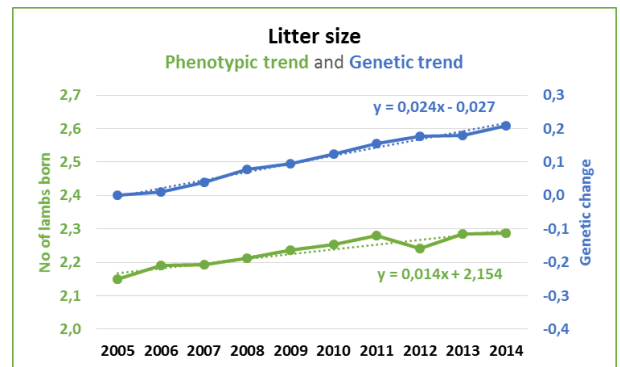
## Improving genetics contribute to improved productivity

During the past 10 years, the 950 breeding flocks (90,000 ewes) in the Norwegian White Sheep (NWS) ram circles have improved their genetic levels for most traits. At the same time, their production results have increased. Although not proven, we strongly believe that improving genetics is an important productivity tool.

Phenotypic means	2005	2014
Number of lambs born	2.15	2.29
Carcass weight, kg	19.8	21.1
Carcass conformation	R (7.6)	R+ (9.3)

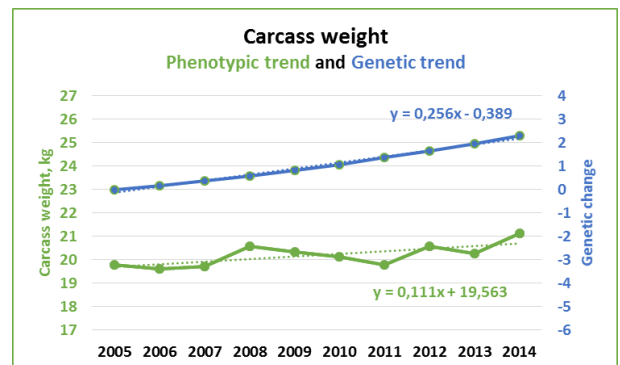
## Increase in litter size at birth

Number of lambs born per ewe has been emphasised in NWS breeding for more than 40 years, resulting in a substantial increase in litter size at birth. Phenotypic results have increased by 60% of total increase in EBVs for the previous decade. The mean litter size of all ewes lambing in the breeding flocks is now 2.3 (2014), whereas the most prolific flocks average at 2.7. The increase in total number of lambs born has resulted in higher losses, and more lambs are now bottle-fed. No further increase in number of lambs born is desirable.



## Increase in carcass weight

Genetic improvement of carcass weight is the sum of direct effects of growth and maternal ability. Genetically, we expect lambs to increase their carcass weight with more than 250 grams per year. Phenotypically, carcass weight has increased by 40% of total increase in EBVs for the previous decade. Age at slaughter has been fairly constant in the same period (155-157 days). Most summer pastures do not have the quality to fulfil the potential for growth in the lambs, and may explain the flatter phenotypic trend.



## Increase in EUROP conformation score

The EUROP conformation score has improved substantially over the past 10 years. The average for 150,000-slaughtered lambs from the NWS breeding flocks is now between R and U. Carcass grading is the only trait in our breeding programme where phenotypic improvement is much higher than the estimated genetic change. EBVs for EUROP score are pre-adjusted to a constant weight (20 kg). Phenotypic increase in carcass weight the past decade explains 30% of the phenotypic increase in EUROP conformation score.

