

Use of IGF2 gene tests for carcass quality and sow productivity in Canadian pig populations

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The efficiency of pork production depends upon the ability of sows to produce large number of piglets with good pork quality at a lower cost. The carcass payment system favouring leanness has led to an increase in the leanness of the sows. As a result some sows have very low backfat and poorer body condition, which adversely affects their fertility and productivity. IGF2 (Insulin-like growth factor 2) gene has been shown to play an important role in mammalian growth, influencing foetal cell division and differentiation, and postnatal muscle growth. The A allele is associated with lower backfat, higher lean yield and larger loin eye area which is favourable for market hogs. New results in Canadian pig populations have suggested that sows with paternal G allele had significantly higher total number of pigs at birth useful for sow productivity. As a special case, IGF2 gene can then be used to produce leaner pigs from fatter dams. Sires homozygous for A allele and dams with G allele can be used to produce larger numbers of leaner hogs because the IGF2 allele from the dam has no effect in progeny due to its imprinting mechanism. Therefore, sows can have better body condition and produce more as well as better quality hogs. Results on different sow productivity and carcass quality traits will be presented.