

Effect of IGF2 gene on sow productivity traits

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The IGF2 gene is located on porcine chromosome 2 and a single nucleotide polymorphism (SNP) in intron 3 of this gene has been reported to have large effects on certain carcass quality traits such as lean meat content. Several studies have also described the use of this paternally expressed gene to produce leaner hogs from fatter sows. Moreover, it has been reported in certain studies that the gene could have an effect on sow productivity traits and longevity. The aim of this study was to investigate the effect of IGF2 gene on several sow productivity traits such as litter size at birth, litter weight at weaning, number of piglets weaned and farrowing interval in Canadian swine populations. Daughters of heterozygous (AG) boars that inherited either the paternal A or G allele were studied. Results show that a difference between Landrace and Yorkshire breeds in the effects of the IGF2 gene on sow productivity traits exists. Yet, for both breeds, a similar tendency was shown: sows that inherited the paternal G allele weaned more piglets and heavier litters in comparison to daughters of AG sires that inherited the paternal A allele. Further research is required to investigate other potential candidate genes located in close proximity to the IGF2 gene which may affect litter size.