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Other Genetic parameters for androstenone, skatole, indole of boar taint and their relationship with performance and reproductive traits

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The purpose of this study was to evaluate degree of taint compounds i.e., androstenone, skatole and indole of boars and their relationship of traits so that to find possibility to breed low level taint compounds boars. Genetic parameters of Boar taint compounds were estimated for 310 boars constitute of three breeds and one crossbred, include their genetic correlation with performance and reproductive traits. The chemical analysis of three boar taint compounds were assessed by GC/MS/MS facilities using 3~5 g of fat tissue collected by biopsies. The average of three compounds, androstenone (1.193 ± 1.114 $\mu\text{g/g}$), skatole (0.092 ± 0.096 $\mu\text{g/g}$) and indole (0.062 ± 0.082 $\mu\text{g/g}$) were obtained. Duroc showed the highest level of androstenone as 1.684 ± 1.334 $\mu\text{g/g}$ and those of native breed was 1.287 ± 0.673 $\mu\text{g/g}$, crossbred (Duroc X native bred) was 1.286 ± 0.673 $\mu\text{g/g}$, Landrace was 0.086 ± 1.077 $\mu\text{g/g}$ and Yorkshire was 0.823 ± 0.763 $\mu\text{g/g}$. Native breed showed the highest level of skatole as 0.118 ± 0.171 $\mu\text{g/g}$ and Landrace showed the lowest level of skatole 0.086 ± 0.071 $\mu\text{g/g}$. Native breed also showed the highest level of indole of 0.237 ± 0.023 $\mu\text{g/g}$ and Yorkshire showed the lowest as 0.041 ± 0.043 $\mu\text{g/g}$. The heritabilities of androstenone was 0.40, skatole was 0.17 and indole was 0.001. The genetic correlations of boar taint compounds and performance traits were not significant ($p > 0.05$). The genetic correlations of boar taint compounds and the dam of boars reproductive traits were also not significant ($p > 0.05$). It is concluded that it is possible to breed the low taint boars, since the heritabilities of major taint compounds were moderate and their correlation with economic traits were not significant.

Biography

DooWan Kim has been working in National Institute of Animal Science for 6 years now. He received MS in Animal Science from Chonbuk National University, Chonbuk, Korea in 2016.

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