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VPH-OP-04 - CHANGES IN HEMATOLOGICAL, CARCASS AND MEAT QUALITY PARAMETERS ASSOCIATED WITH LIVER MILK SPOTS IN SLAUGHTER PIGS

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Background & Objectives

Liver milk spots cause significant financial losses to pig industry arising from reduced daily gain, feed conversion and growth, treatment costs, disposal of organs, lower carcass and pork quality. The aim of this study was to determine the influence of liver milk spots on hematological, carcass and meat quality parameters in slaughter pigs.

Material & Methods

A total of 120 pigs with live weight of approximately 112 kg and six months old were examined. Any signs of liver milk spots were recorded as present or absent according to Welfare Quality® protocol (2009). A complete blood picture was investigated. The following carcass quality parameters were measured: live, hot and cold carcass weights, dressing percentage, backfat thickness and meatiness. pH and temperature measurements were performed 45 minutes postmortem. Pork quality classes (PSE, normal, DFD meat) were determined according to Adzitey and Nurul (2011) using pH_{45} value.

Results

Pigs with liver milk spots had significantly higher middle-sized cell count (monocytes, eosinophils, basophils) (0.27 x 10^9/L vs. 0.12 x 10^9/L), neutrophils count (7.77 x 10^9/L vs. 6.10 x 10^9/L), red blood cell count (7.22 x 10^{12}/L vs. 7.95 x 10^{12}/L), hemoglobin concentration (132.80 g/L vs. 146.40 g/L), hematocrit (39.37% vs. 40.76%) and MCV (49.28 fl vs. 51.10 fl) than unaffected pigs ($P<0.05$). The same group of pigs had significantly lower live weight (113.50 kg vs. 115.90 kg), hot carcass weight (92.55 kg vs. 95.23 kg), cold carcass weight (89.48 kg vs. 92.95 kg), dressing percentage (81.55% vs. 82.15%) and meatiness (36.58% vs. 44.10%) than unaffected pigs ($P<0.05$). Pigs showing liver milk spots had significantly higher pH_{45} value (6.32 vs. 6.19), and incidence of DFD meat (26.09% vs. 7.84%) than unaffected pigs ($P<0.05$).

Discussion & Conclusion

Assessment of liver milk spots at slaughter-line is a valuable tool for estimating pig welfare on farm of origin, carcass and pork quality.