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„Value-chain based bio-economy 2“

Culling reasons for AI boars

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From an economic point of view, it is preferred that boars stay in the herd for as long as possible. The improvement in a pig's performance is fast due to the short generation interval, large litter sizes, and the application of genomic selection. Therefore, AI stations must find a balance between the economic side and the opportunity to provide farmers' boars with superior performance characteristics. The dataset contained culling reasons for the 133 boars culled from the AI station of the Estonian Pig Breeding Association between March 2019 and May 2022. Most of them were Duroc (D) boars (85), followed by the Landrace (L; 30) and Large White (Y; 18). Boars stayed in the AI station for an average of 14.7 months. However, age was the second highest culling reason for Landrace (L) boars (20%), fifth highest for Large White (Y; 10%) and sixth highest for Duroc (D; 4%). The intense muscle growth on the D boars has a negative impact on the health of their legs, especially the cartilage of the joints. The main culling reason recorded for D boars was problems with legs (39%) and for Y 28%. Only 7% of the L boars were culled due for this reason. One of the most common culling reasons of boars was aspermia (L 23, Y 17, D 32%). Boars can refuse to mount a dummy sow due to leg problems, which can cause pain or poor libido. It was found that 11% of the Y, and 13% of the L, boars refused to mount after providing at least one ejaculate and, respectively 6 and 10%, refused to mount at all. Mounting issues for D appeared with 4% of boars in both cases (with ejaculates or without). The third culling reason for D boars was sudden death (7%), caused by problems with internal organs, anaphylactic shock, or suffocation. L boars had issues with low sperm quality (motility, abnormalities *etc.*) (10%) or a low number of sperm in the ejaculate (7%). Y boars had higher cases of unspecified diseases (11%). The challenge for the AI station is to find a solution to the leg problems of the boars and to determine the causes of poor sperm quality.