WELFARE & NUTRITION

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HERBAL VITAMIN D METABOLITE FACILITATES PARTURITION IN SOWS

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Introduction

Modern pig farming is associated with high piglet mortality. The duration of farrowing is critical and has an impact on survival and subsequent thriving of the piglets. Since tedious labour caused by weak muscle tonus is linked to blood calcium level, it was thought that increasing Ca in the sows´ diet might improve the reproductive performance. However, previous experiments showed that neither Ca-supplementation nor a supplementation with Vitamin D or 25-hydroxyvitamin-D had any effect.

Solanum glaucophyllum, a South American plant, contains the metabolic active form of Vitamin-D in form of 1,25-dihydroxyvitamin-D3-glycosides. Since a water-soluble extract of this plant (SGE) was effective in preventing hypocalcaemia in calving cows, a possible effect of this extract on serum Ca, 1,25-dihydroxyvitamin-D3 and, as a consequence, on farrowing time in sows was examined.

Materials & Methods

In an organic piglet producing farm five sows (German Large White x German Land race) were mated with a Pietrain boar. One day before the calculated parturition date the animals were moved into individual farrowing pens with installed video cameras, allowing continuous monitoring. SGE was given daily, starting 7 days before the expected farrowing. The sows were randomly assigned to control or treatment. In a second, third and fourth round (6, 12 and 18 months later) a crossover was performed. So, over four consecutive parturitions, each animal acted twice as control and as treated, respectively.

Results

SGE treatment showed higher serum Ca and 1,25(OH)2D3 than control and parturition time was significantly reduced from 370 minutes to 256 minutes. Regarding farrowing time of each sow in the four consecutive rounds, the crossover from control to SGE was always associated with reduction of the farrowing time and vice versa.

Discussion & Conclusion

An extract of *Solanum glaucophyllum*, containing 1,25-dihydroxyvitamin-D3-glycosides was able to reduce farrowing time significantly by 24%.