



DIETARY RESIN ACID SUPPLEMENTATION IMPROVES THE PERFORMANCE OF SOWS AND PIGLETS

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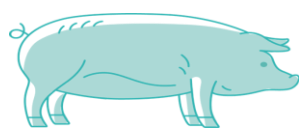
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INTRODUCTION

Dietary inclusion of coniferous resin acids improves the reproductive performance of sows and increases the production and immunoglobulin G -content of colostrum^{REF}. Here we studied the effect of a tall oil - based resin acid composition (RAC; Progres[®]; Hankkija Ltd) with 8.5% resin acids to the performance sows and their offspring (Figure 1).

PHASE 1: Sows

CONTROL, C



PHASE 2: Piglets

CC



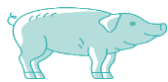
CT



TREATED, T



TC



TT



FIGURE 1. Trial setup

PHASE 2: Piglets

MATERIALS AND METHODS

From both sow diet groups, 80 female + 80 castrated male weanlings were housed in groups of eight and allocated to C and T dietary treatments: CC, CT, TC, TT. The piglets were weighed at 0, 2 and 6 wk after weaning, and recorded for daily feed intake (FI), feed conversion ratio (FCR) and mortality. Data was evaluated using ANOVA.

RESULTS, see Table 2

Other results

- Average daily feed intake was higher in piglets of the CT group than in TC group ($p < 0.05$)
- FCR was better in piglets of TT group than in piglets of the TC group

TABLE 2. Piglet performance

Parameter	Piglet feeding group				p-value
	CC	TC	CT	TT	
BW at weaning, kg	7.33 ^A	7.11 ^A	7.68 ^B	7.62 ^B	<0.001
<i>Post-weaning</i>					
BW d14, kg	9.05 ^A	9.57 ^B	9.50 ^B	9.48 ^B	0.008
Final BW, age 70 days, kg	23.19 ^a	23.67 ^{ab}	24.57 ^b	23.87 ^{ab}	0.095
ADG d0-14, g	115 ^A	152 ^B	147 ^B	146 ^B	0.008
ADG d0-42, g	375 ^a	387 ^{ab}	408 ^b	391 ^{ab}	0.095

Significancies expressed as: a, b: $p < 0.05$ A, B: $p < 0.01$

CONCLUSIONS

The performance of both sows and piglets was improved by dietary RAC supplementation.

PHASE 1: Sows

MATERIALS AND METHODS

The standard lactation feed of 56 Polish synthetic line 990 sows was amended with 0 kg/tn (Control; C) and 1.0 kg/tn (Treated; T) of RAC from 3 wk before to 4 wk after farrowing. The parity number, backfat thickness at start and end of lactation, course and length of parturition, number of total born, born alive and stillbirth piglets, number and weight of piglets and weight of litter at weaning were recorded for the sows.

RESULTS

Dietary amendment with RAC improved sow performance (Table 1), resulting in an average of 0.96 more piglets per sow than in control group ($p < 0.05$)

TABLE 1. Sow performance

Parameter	Sow feeding group		p-value
	C	T	
Gestation length, days	115	114	0.055
Parturition time, min	307	279	0.033
No. of piglets	274	292	NS
Weight, 1 st day, kg	1.54	1.59	0.038
Weight at weaning, kg	6.89	6.69	0.084
Stillborn piglets/litter	0.77	0.27	0.020
Percentage of losses	10.22	6.51	NS

^{REF} Hasan et al., Animal. 2018 Dec 27:1-8