NUTRITIONAL INTERVENTION FOR ENHANCING THE REPRODUCTIVE PERFORMANCE OF CROSSBRED PIGS

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ABSTRACT

The study was carried out to assess the effect of nutritional intervention in the feeding regimen of crossbred pigs (N=21) on the reproductive performances such as litter size at birth and at weaning, litter weight at birth and at weaning, birth and weaning weight and pre-weaning mortality. Twenty one crossbred sows aged more than one year and farrowed once, were taken for the study in Pig Breeding Unit functioning at Livestock Research Station, Kattuapkkam. The standard feeding protocol was designed taking into consideration of dewormers, vitamins and minerals mixture and calcium supplementation along with normal concentrate feeding. The results showed highly significant differences ($P<0.01$) in litter weight at birth and at weaning, while litter size at birth and at weaning and birth weight differed significantly ($P<0.05$). Thus, nutritional intervention used as a standard protocol in the feeding regimen of pigs would be helpful to augment the reproductive performance in field conditions.

Key words: Litter traits, Reproductive performance, Nutritional supplementation

Reproductive performance of crossbred pigs using commercially available nutritional supplementation is not available to the rural pig farmers about their use along with concentrate feed for improvement of reproductive performance. Hence, the present study was undertaken with the supplementation of minerals, essential amino acids and vitamins on the reproductive performance in 75 per cent crossbred (LWY X Desi) pigs.

A total of 21 crossbred sows, aged more than one year and farrowed once, was taken for the study in Pig Breeding Unit functioning at Livestock Research Station, Kattuapkkam – 603 203 during the year 2008-09. In first pregnancy and farrowing period, the gilts were not supplemented with any nutritional supplementation and their performances were considered as control group. The breeding sows were subjected to the following nutritional regimen as given below;

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Particulars	Before and after breeding	After conception to farrowing	Dose
No. of breedable females	21		
Albendazole and Rafaxanide suspension	Immediately after weaning	90th day	1ml per 3kg body weight
Inj. Vitamin AD_3E	1st week	-	5ml/pig; i/m
Combination of calcium and phosphorus with vitamin B_{12}	2nd week	Fortnightly	30 ml/pig with feed
Vitamin B-complex liquid with lysine and choline chloride supplements	3rd week	Monthly	50 ml/pig with feed

The breeding sows were allowed for pen mating in the sex ratio of 1:3 during the subsequent estrum. Eighty six percentages of sows (18 out of 21) were bred successfully within 10 days of pen mating. The reproductive characteristics such as litter traits, birth and weaning weights and pre-weaning mortality were collected. The collected data were analysed by using least squares analysis (Harvey, 1986)

The litter traits such as litter size at birth, litter size at weaning, litter weight at birth and litter weight at weaning averaged 10.00, 9.28, 11.81 kg and 76.55 kg in the crossbred pigs as against their earlier performance (control group) of 8.76, 7.60, 9.51 kg and 61.77 kg, respectively. The per cent improvements of these traits were found to be 14.15, 22.10, 24.19 and 23.92, respectively. The mean birth and weaning weights between first and second crop piglets were 1.12 Vs 1.18 and 8.13 Vs 8.21 kg, respectively. The analyses revealed that the litter weight at birth and at weaning differed highly significantly ($P<0.01$), while litter size at birth and at weaning and birth weight differed significantly ($P<0.05$). The results were in agreement with the findings of Ruda *et al.* (1991) who observed that the treatment with vitamins, minerals and combination of vitamins and minerals significantly increased the litter size at birth and body weight of piglets compared with control groups. Akomas *et al.* (2009) concluded that the number of piglets and their birth weight were influenced by the vitamin E supplementation in Large White Yorkshire X Landrace gilts. The pre-weaning mortality was also reduced to the tune of 28.67 per cent (8.65 Vs 6.17 per cent).

This kind of nutritional intervention using vitamins, minerals and essential amino acids was found to be useful as a standard protocol in the feeding regimen of pigs to augment the reproductive performance in field based pig breeding units.

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