

## Effect of Minamil on the Growth Performance and Age at Maturity of Ghungroo Pigs in Field Condition in Zunheboto District

RAKESH KUMAR CHAURASIA

Received November 19, 2013; Revised December 26, 2013, Accepted December 30, 2013

### ABSTRACT

Vitamin and minerals plays an important role in the growth performances in Pigs reared in traditional system. Pig farmers depend mainly on the kitchen waste mixed with wheat bran and maize as well as locally available fodder crops to feed their piglets. Considering the importance of vitamin and mineral in pig diet an experiment was conducted to find out the effect of minamil on the performance of Pigs. The result obtained showed that minamil had a significant effect on the age at onset of heat but no effect on body weight gain.

**Key words:** Ghungroo, body weight, age at first onset of heat

### INTRODUCTION

In Northeastern region of India, Nagaland in particular pig rearing has significant role in improving the socio-economic status, livelihood and nutritional security of the people. By and large, the pig husbandry in the region is a smallholder traditional backyard production system. Farmers raise their pigs on almost zero input production system where they feed their pigs with locally available materials like vegetable, plants, left out of rice and kitchen waste. Moreover, availability of concentrate feeds in this zone is very limited. Farmers feed locally available feed materials without any information on their composition, nutritional availability and their effect on growth rate. Due to improper feeding and low nutrient availability in the feed, pigs do not attain an average body weight of 80-100kg in a year as well as does not attain sexual maturity within 8-10 months.

Study conducted by Kumaresan et al. (2006) revealed that around 80-90% of the of pigs in Mizoram were deficient in Manganese and Zinc. Cline and Mahan (1992) reported that deficiency of minerals and vitamins caused low growth rates when compared with various vitamin and mineral levels in diet for growing finishing pigs.

Considering the importance of mineral and vitamin, the study was conducted to determine the effect of supplementation of Minamil (feed supplement containing mineral and Vitamins recommended for pets) on growth performance and age at maturity in Ghungroo pigs in the traditional low input system.

### MATERIALS AND METHODS

A total of twenty Ghungroo piglets of eight weeks of age obtained from ICAR, Jharnapani pig breeding centre were selected for the present study. The pigs were divided into two groups i.e. 10 piglets were on Minamil (Brihans Laboratories Pvt. Ltd. - detailed composition available at [www.brihans.in](http://www.brihans.in)) supplementation (Treatment) @15 gms /day and rest 10 piglets without Minamil supplementation (control). The piglets were given to the selected farmers in Akuluto block of Zunheboto district of Nagaland. Each farmer was given a pair of pigs, one male and one female. The animals were kept in the pig sties, which is made of locally available wooden plank and bamboo with either tin or thatched roof. The pigs were kept at an altitude of 600 m above msl having subtropical climatic

condition. Locally available fodder along with kitchen waste mixed with broken rice were fed to the pigs. Deworming was done regularly and proper health care management was taken. During the experimental period data pertaining to growth rate was calculated based on the formula provided at [www.thepigsite.com/article/541](http://www.thepigsite.com/article/541), age at first sexual maturity was calculated based on the day when the pigs came into first heat and mortality rate was collected at monthly interval. Statistical analysis was done using SPSS software. (SPSS 10.0.1, 1999).

## RESULT AND DISCUSSION

Vitamins are complex organic compounds that function as parts of enzyme systems essential for the transformation of energy and regulation of body

can perform better in low input system) to feed supplementation.

Age at first onset of heat was significantly ( $P>0.01$ ) lower in treated groups as compared to control. It is mainly due to essential minerals and vitamins in the minimal, since the minerals and vitamins are essentially required for sexual maturity and onset of estrus as suggested by Smith and Akinbamijo (2000). It is clear from the present experiment where non supplemented group could not attained the maturity on similar days which clearly explain the role of mineral and vitamins in pigs diet. The result obtained in the present study is well corroborated with the findings of Chae et al. (2009) who suggested that both vitamins and trace minerals may affect growth performance of pigs. No mortality was reported during the entire period of study. Hence, it is concluded that pigs supplemented with Minamil (vitamin and mineral

**Table.1:** Effect of Minamil on growth performance and age at first sexual maturity

Parameters	Treatment		Control	
	Male	Female	Male	Female
Initial body weight (weaning)	6.02±0.24	6.73±0.33	6.24±0.23	6.79±0.25
Final body weight at 12 months of age	59.59±1.63	74.72±4.77	57.02±0.90	69.25±1.185
Body weight gain (kg per day)	0.17±0.04	0.22±0.11	0.17±0.02	0.21±0.03
Age at first one set of heat		220±3.538*		247±3.74*
Mortality	Nil			

Means bearing superscripts in a column differ significantly ( $P>0.01$ )

metabolism. Vitamins are required in minute amounts for normal growth, production, reproduction and normal health. Mineral deficiencies cause metabolic disturbances and can produce specific deficiency diseases and infertility. Smith and Akinbamijo (2000) suggested that reproductive well-being and performance of farm animals is largely dependent on their nutritional status, which is often less than optimum in developing tropical countries. More often than not, they are malnourished, particularly with regards to micronutrients. Result obtained in the present study as presented in Table 1 shows that there was no significant difference in the initial body weight, final body weight and body weight gain in Ghungroo pigs between Minamil supplemented group and control group. The non-significant effect of minimal on body weight gain may be attributed to inherent low response of Ghungroo pigs (which

supplement) performed better than non-supplemented group in terms of age at onset of heat.

## REFERENCE

- Chae BJ, Choi SC, Cho NT, In K Han, Sohn KS (2009). Effects of inclusion levels of dietary vitamins and trace minerals on growth performance and nutrient digestibility in growing pigs. *Asian-Aus J Animal Sci* 13:1440-1444.
- Cline JH, Mahan DC (1992). Effects of nutrition deletion in practical swine diets. *J Animal Sci* 35:1109 (Abstr.)
- Kumaresan A, Pathak KA, Bujarbaruah KM, Das Anubrata (2006). *Pig Production in Mizoram*. Research Bulletin No.50. Published by ICAR Research Complex for NEH Region, Barapani.
- Smith OB, Akinbamijo OO (2000). Micronutrients and reproduction in farm animals. *Animal Rep Sci* 60 : 549-560.
- SPSS. (1999). *SPSS ® user's guide*, release 10.0.1. Edition. SPSS Inc. USA.