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PERFORMANCE OF T&D AND CROSS-BRED PIGS UNDER FIELD CONDITION

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ABSTRACT

A study was undertaken to record the productive and reproductive performance of T&D and cross-bred (T&D X Assam Local) pigs under field condition of Assam. A total of 5 numbers of farmers were selected randomly and purposively on the basis of their experience in pig farming and who must possessed at least 3 numbers of T&D and 3 numbers of cross-bred pigs with one male and two females of each genetic groups of pig. The pigs were reared under free range scavenging system of rearing. The piglets were monitored regularly for their health status and their monthly body weight was recorded up to 9 months of age. Some of the important reproductive traits such as age at puberty (days), body weight at puberty (kg.), age at first farrowing, gestation period (days), litter size, body weight of piglets at birth (kg.), pre-weaned litter survivability (%), farrowing intervals (days) and body weight at 12 months of age (kg.) were also recorded. From the above study it may be inferred that T&D pigs are significantly better in terms of productive and reproductive performance than cross-bred under field condition of Assam.

Key words : Body weight, cross-bred, gestation period, litter size, T&D.

In India, 70% of the total pig is reared under traditional system with a simple pig sty, feeding of locally available grains, vegetables, kitchen wastes and agricultural byproducts. Further most of the pigs reared are local indigenous pigs whose productive and reproductive performances are much more inferior to the improved one. Hence importing superior varieties of pigs like Hampshire, T&D, Large White Yorkshire and Duroc etc. is the need of the hour to meet the increasing demand of pork among the select population of the country. There is very scanty information on productive and reproductive performances of such improved pigs in Assam. Therefore the present study was planned to record the productive and reproductive performances of improved T&D and crossbred (T&D X Assam local) under Agro-climatic condition of Assam.

A total of 5 numbers of farmers were selected randomly and purposively on the basis of their experience in pig farming and who must possessed at least 3 numbers of T&D and 3 numbers of cross-bred with one male and two females of each genetic groups of pig. Thus altogether 30 numbers of piglets were considered for the present study. The pigs were reared under scavenging system with supplementation of cooked rice, *Colacasia*, rice polish, rice bran and other domestic wastes as per availability. Farmers made their pig sty with locally available materials like thatch, bamboo, wooden plank with *Kutcha* floor nearby their house. Routine deworming and vaccination against swine fever etc. was done as per standard practice under supervision of KVK, Sivasagar personnels. The piglets were monitored regularly for their health status and their monthly

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body weight was recorded up to 9 months of age. Reproductive traits such as age at puberty (days), body weight at puberty (kg.), age at first farrowing, gestation period (days), litter size, body weight of piglets at birth (kg.), pre-weaned litter survivability (%), farrowing intervals (days) and body weight at 12 months of age (kg.) were recorded. The data recorded were tabulated and analyzed as per[8].

The mean body weight of T&D and cross-bred pigs from 2 to 9 months of age under field condition of Assam revealed that there was significant (P<0.05) difference in body weight between the two verities of pigs throughout the study period. Similar results also reported by earlier workers[4]. At 9 months of age, the mean body weights recorded as 42.07±0.19 and 52.17±0.31 Kg in cross-bred and T&D pigs respectively. There was no significant (P<0.05) difference in the mean body weights between male and female pigs of same variety at different age. The lower body weight in cross-bred pigs as compared with T&D at different age might be due to the inferior genetic makeup. [7] reported almost similar mean body weight at slaughter age (8 months) for cross-bred Large White Yorkshire pig under intensive system of rearing. The results of the present study were also in agreement with earlier workers[3].

The mean daily weight gain found for T&D and cross-bred were 0.193±0.07 and 0.159±0.08 Kg respectively. On contrast to the present findings[9], reported much higher body weight from 0.772 to 0.774 Kg in case of Landrace and Hampshire cross-bred pigs under standard managemental conditions. There was also significant (P<0.05) difference in the mean daily weight gain among two genetic groups of pigs.

The mean age at puberty recorded in T&D and cross-bred pigs recorded as 271.13±1.41, and 292.05±2.53 days respectively in the present study (Table1). It took longer time to achieve sexual maturity as compared to the observation of[5] in Large White Yorkshire gilt. The higher age at sexual maturity in the present study mainly might be due poor nutrition.

Table 1: Various reproductive traits of T&D, cross-bred and Assam local pigs under field condition

Traits	T&D	Cross-bred
Age at puberty (days)	271.13±1.41 [a]	292.05±2.53 [b]
Body weight at puberty (kg)	54.03±0.09 [a]	49.64±0.12 [b]
Age at first farrowing (days)	407.04±0.52 [a]	437.32±0.39 [b]
Gestation period (days)	114.22 ± 0.30 [a]	113.98±0.26 [a]
Litter size at birth (nos.)	7.97±0.36 [a]	6.01±0.52 [b]
Birth weight of piglet (kg)	0.98±0.02 [a]	0.81±0.02 [b]
Pre-weaned piglet survivability (%)	76.26±0.12 [a]	82.07±0.08 [b]
Farrowing intervals (days)	205.42±2.03 [a]	213.09±1.97 [b]
Body weight at 12 months of age (kg)	76.43±0.34 [a]	65.72±0.27 [b]

Means with different superscript in a row differ significantly (P<0.05)

The mean body weights at puberty recorded as 54.03±0.09 and 49.64±0.12 Kg respectively in T&D and cross-bred pigs. On the other hand[1], recorded higher body weight at puberty in Large White Yorkshire pigs under scavenging system. The mean age at first farrowing in case of cross-bred and T&D pigs were found to be 437.32±0.39 and 407.04±0.52 days respectively (Table 1). Other workers[5] also reported similar values in White Large Yorkshire pigs under traditional system of rearing.

Mean gestation period of T&D and cross-bred pigs were found to be 114.22±0.30 and 113.98±0.26 days respectively (Table 1) which were similar to earlier reports[5,6]. There was no significant (P<0.05) difference in mean gestation periods between two verities of pigs under field condition. The mean litter size at birth for T&D and cross-bred pigs were recorded as 7.97±0.36 and 6.01±0.52[5], also found almost similar litter size at birth in case of Large White Yorkshire pigs under field condition. The average birth weight of piglets recorded in T&D and cross-bred pigs as 0.98±0.02 and 0.81±0.02 Kg respectively. On contrast to the present findings, higher birth weight in pure and cross-bred piglets under organized farm condition in Assam was recorded by earlier workers[2]. The mean pre-weaned piglet survivability was found to be better in case of cross-bred than T&D pigs. The shorter farrowing interval was recorded in case of improved T&D pigs followed by cross-bred, while similar farrowing interval in case of Large White Yorkshire pigs under field condition was reported by other workers[5]. The mean body weight at 12 months of age was 16.30 % higher in improved T&D than cross-bred pigs. There is also significant (P<0.05) difference in body weight at 12 months of age between two genetic groups of pigs which was supported by earlier workers[5].

From the above study it can be concluded that the T&D pigs was found to be comparatively better than the cross-bred pigs maintained under field condition of Assam. Therefore, T&D pigs have great scope to improve the socio-economic status of rural farming community.

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