Efficient pig production largely depends on the preweaning weight of the piglets. The preweaning weight gain is an important economic trait of pig which has a greater impact on the growth rate and productivity. Amongst the exotic breed of pigs introduced in our country Large White Yorkshire is more popular in the southern region. Hence an attempt was made to study the preweaning body weights in Large White Yorkshire crosses. (50% LWY and 75% LWY).

Body weight of 292 Large White Yorkshire (LWY) crossbred piglets belonging to two genetic groups viz. 50 % LWY (LWY x Desi, n = 105) and 75 % LWY (50% LWY x LWY, n = 187) were recorded from birth to weaning at weekly intervals. All the piglets were raised under intensive system of rearing at the AICRP unit of Livestock Research Station, Tamilnadu Veterinary and Animal Sciences University, Kattupakkam. The data were classified according to the genetic group and sex in order to ascertain the effect of them on the pre-weaning growth rate by applying method of least-squares and the heritability of the body weights were estimated by Restricted Maximum Likelihood Method (Harvey 1990).

The least-squares mean pre weaning body weights of Large White Yorkshire crosses are presented in the Table 1. The overall mean birth weight was 1.16 ± 0.01 kg. The mean birth weight in 75% LWY and 50% LWY crosses were 1.23 ± 0.02 kg and 1.09 ± 0.02 kg respectively. The 75% LWY crosses had significantly (P < 0.01) higher birth weight than 50% LWY crosses.

The average birth weight for males was 1.18 ± 0.02 kg and females were 1.13 ± 0.02 kg respectively. The effect of sex was not significant on live weight at birth. Sharma et.al. (1998) studied the performance in LWY, Danish Landrace and their cross-bred piglets up to 30 weeks of age showed the best performance was by Landrace followed by Large White Yorkshire and Large White Yorkshire crossbreds. The birth weight recorded in 75% LWY was higher than that reported for Large Black pig of Assam (1.12 ± 0.07 kg) by Nath and Deka (2003) and indigenous pigs (0.77 ± 0.04 kg) by Punyakumari et al. (2007). The birth weight of half-breds was comparable with the Large Black pig of Assam and higher than that reported in indigenous pigs. At first week, males showed an average body weight of 1.85 ± 0.04 kg which was significantly (P < 0.05) higher than that of the average female body weight (1.74 ± 0.04 kg).

Fourth week body weight : The overall mean body weights at second, third and fourth week of age were 2.50 ± 0.04, 3.37 ± 0.06 and 4.08 ± 0.08 kg respectively. The mean live weight of males and females...
<table>
<thead>
<tr>
<th>Main Effect / Subclass</th>
<th>Body weight (kg)</th>
<th>Birth</th>
<th>First week</th>
<th>Second week</th>
<th>Third week</th>
<th>Fourth week</th>
<th>Fifth week</th>
<th>Sixth week</th>
<th>Seventh week</th>
<th>Eighth week</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall</strong></td>
<td></td>
<td>1.16 ± 0.01 (292)</td>
<td>1.79 ± 0.03 (292)</td>
<td>2.50 ± 0.04 (292)</td>
<td>3.37 ± 0.06 (290)</td>
<td>4.08 ± 0.08 (287)</td>
<td>5.02 ± 0.09 (281)</td>
<td>5.65 ± 0.11 (274)</td>
<td>6.61 ± 0.14 (256)</td>
<td>7.82 ± 0.20 (206)</td>
</tr>
<tr>
<td><strong>Genetic group</strong></td>
<td><strong>N.S</strong></td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
</tr>
<tr>
<td>75 % LWY</td>
<td>1.23 ± 0.02 (187)</td>
<td>1.79 ± 0.03 (187)</td>
<td>2.48 ± 0.05 (187)</td>
<td>3.38 ± 0.08 (185)</td>
<td>4.14 ± 0.09 (183)</td>
<td>5.07 ± 0.11 (180)</td>
<td>5.71 ± 0.13 (179)</td>
<td>6.78 ± 0.16 (174)</td>
<td>8.22 ± 0.20 (156)</td>
<td></td>
</tr>
<tr>
<td>50 % LWY</td>
<td>1.09 ± 0.02 (105)</td>
<td>1.80 ± 0.04 (105)</td>
<td>2.51 ± 0.07 (105)</td>
<td>3.37 ± 0.10 (105)</td>
<td>4.02 ± 0.12 (104)</td>
<td>4.97 ± 0.15 (101)</td>
<td>5.59 ± 0.17 (95)</td>
<td>6.45 ± 0.23 (82)</td>
<td>7.42 ± 0.36 (50)</td>
<td></td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td><strong>N.S</strong></td>
<td>* N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
<td>N.S</td>
</tr>
<tr>
<td>Males</td>
<td>1.18 ± 0.02 (157)</td>
<td>1.85 ± 0.04 (157)</td>
<td>2.54 ± 0.06 (157)</td>
<td>3.42 ± 0.08 (156)</td>
<td>4.13 ± 0.10 (154)</td>
<td>5.03 ± 0.13 (150)</td>
<td>5.67 ± 0.15 (144)</td>
<td>6.55 ± 0.19 (138)</td>
<td>7.76 ± 0.27 (109)</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>1.13 ± 0.02 (135)</td>
<td>1.74 ± 0.04 (135)</td>
<td>2.46 ± 0.06 (135)</td>
<td>3.33 ± 0.09 (134)</td>
<td>4.04 ± 0.11 (133)</td>
<td>5.01 ± 0.13 (131)</td>
<td>5.63 ± 0.15 (130)</td>
<td>6.68 ± 0.20 (118)</td>
<td>7.88 ± 0.27 (98)</td>
<td></td>
</tr>
</tbody>
</table>

Figures in parentheses are the number of observations.

**Significant at P < 0.01; * Significant at P < 0.05; N.S - Non significant.
at 4 weeks age were 4.13 ± 0.10 and 4.04 ± 0.11 kg respectively. The body weights recorded in the present study was less than that reported in Hampshire pigs in both sexes (Deka et al., 2002).

**Weaning weight**: The pooled weaning weight (eighth week) was 7.82 ± 0.20 kg. The weaning weights for 75% LWY and 50% LWY crosses were 8.22 ± 0.20 and 7.42 ± 0.36 kg respectively. The 75% LWY performed much better than the 50% LWY. Chatterjee et al. (1988) reported that the preweaning weight of 50% LWY crosses was 6.47 kg in intensive management system. In the present study, the males and females showed weaning weight of 7.76 ± 0.27 and 7.88 ± 0.27 kg respectively. The females which showed a significantly lower weight at first week had a higher body weight than males at weaning indicating a better growth rate. The possible reason for higher body weight in females might be due to better maternal environment in the early ages.

The body weight during the other weeks of age showed no significant difference between the genetic groups as well as sexes.

The heritability estimates of birth, first week, fourth week and weaning weights in 75% LWY crosses were 0.09, 0.21, 0.44 and 0.45 respectively. The corresponding values in 50% LWY crosses were 0.08, 0.20, 0.50 and 0.56. The heritability value observed for birth weight in the present study was less than that reported in Large White Yorkshire pigs. (Lakhani and Nema, 1989). The low heritability estimate for birth weight might be due to the large influence of non-genetic factors. The heritability value estimated for weaning weight in the present study was lower than that reported earlier in Large White Yorkshire pigs (Vasundhradevi et al., 1996). The medium to high heritability values for body weights suggest that these traits can be improved by selection.

**ACKNOWLEDGEMENT.**

The authors are highly thankful to the Indian Council for Agriculture and Research, New Delhi for providing necessary funding to carry out the study.

**REFERENCES**


