



Influence of *FecB* gene in greasy fleece yield in Malpura, Garole and their crossbreeds

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The present investigation was made to study the influence of *FecB* gene in greasy fleece yield of Malpura, Garole and their crossbreeds. Greasy fleece yields records of Malpura, Garole and GM were obtained from mutton and carpet wool projects of the Central Sheep and Wool Research Institute (CCSWRI), Avikanagar. Flocks were kept under similar grazing, feeding and housing management. The washed sheep are shorn by hand shearing twice a year (at 6 months interval). The wool yield was recorded immediately after shearing. Greasy fleece yield data for Malpura, Garole and GM were collected from carpet wool projects of CCSWRI, Avikanagar. The data were classified according to presence of *FecB* gene, i.e. homozygous, heterozygous and non-carriers and sex of animal male and female. The least-squares analysis procedures were adopted using LSMLMW programme (Harvey 1990).

Malpura

The overall least squares mean was 0.573±0.056 kg for GFY1 in Malpura (Table 1). Sex did not significantly affect GFY1 in Malpura, but type of birth significantly ($P<0.01$)

Table 1. Least squares means for GFY1 (kg) as affected by sex and type of birth in Malpura

	GFY 1
Overall mean	0.573±0.056 (55)
Sex	NS
Male	0.561±0.058 (40)
Female	0.586±0.059 (15)
Type of Birth	**
Single	0.693±0.017 (51) ^a
Multiple	0.453±0.110 (4) ^b
Age at shearing	**

**, $P<0.01$, NS, nonsignificant, figures in parentheses indicate number of animals.

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affected GFY1 in Malpura. The least squares means for GFY1 were 0.693±0.017 and 0.453±0.110 in single and multiple births, in Malpura, respectively (Table 1). Sharma *et al.* (2003) reported similar findings in Malpura. Age at shearing showed significant ($P<0.01$) effect on GFY1, it might be due to the fact, as age advances during growing stages the body surface area also increases resulting into higher GFY1.

Garole

The overall least squares means for GFY1 was 0.20±0.014 in Garole. The analysis of variance indicated significant ($P<0.01$) influence of *FecB* gene on GFY1 (Table 2) Least square means for GFY1 were 0.15±0.02, 0.10±0.02 and

Table 2. Least squares means for GFY1 (kg) as affected by *FecB* in Garole

	GFY 1
Overall mean	0.200±0.014 (31)
Fec B	**
Fec BB	0.153±0.021 (13)a
Fec B+	0.106±0.029 (15)a
Fec++	0.342±0.037 (3)b
Age at shearing	**

**, $P<0.01$, NS, nonsignificant, figures in parentheses indicate number of animals.

Table 3. Least squares means for GFY1 (kg) as affected by *FecB* in GM

	GFY 1
Overall mean	0.435±0.025 (71)
Fec B	NS
Fec BB	0.445±0.061 (8)
Fec B+	0.408±0.027 (42)
Fec++	0.452±0.036 (21)
Age at shearing	NS

NS, nonsignificant, figures in parentheses indicate number of animals.

0.34±0.03 kg in homozygous, heterozygous and non-carrier, respectively, in Garole. Age at shearing was significant ($P<0.01$) in Garole.

Garole × Malpura

Overall least squares means for GFY1 (Table 3) were 0.435±0.025 kg in GM crosses with nonsignificant influence of *FecB*. Result showed that least squares means for GFY1 of GM were higher as compared to Garole as 0.445±0.061, 0.408±0.027 and 0.452±0.036 in homozygous, heterozygous and non carrier condition respectively. Literatures on this aspect were very scanty.

SUMMARY

FecB gene played important role in GFY1. However improvement in GM crosses with regards to growth traits

was very slow as compared to the Malpura. Therefore back-crossing of GM crosses with Malpura ram or ewe might be useful for improving production and reproduction traits.

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