LETTER TO THE EDITOR

THYROID ACTIVITY IN SECOND GENERATION CROSSES OF HARIANA CATTLE WITH EXOTIC BREEDS

Sir,

(Received on July 25, 1984)

Thyroid activity has been reported to vary in different breeds of the same animal species (2,4,6,7). It has been reported to be lower in Bcs indicus in comparison to Bos taurus. The information on thyroid activity in second generation crosses of Hariana cattle having 75% exotic (Bos taurus) blood is meagre. Thyroid activity was studied in four different second generation crosses.

Twenty-one, noncycling, cross-bred heifers 6 each of $X_1$ (1/2 Holstein Friesian, 1/4 Brown Swiss, 1/4 Hariana), $X_2$ (1/2 Holstein Friesian, 1/4 Jersey, 1/4 Hariana) and $X_3$ (1/2 Brown Swiss, 1/4 Holstein Friesian, 1/4 Hariana) and 3 of $X_4$ (1/2 Jersey, 1/4 Holstein Friesian, 1/4 Hariana) were used as experimental animals. The animals were kept under standard feeding and management conditions.

The jugular vein blood samples were collected at 10.00 hr before feeding. Triiodothyronine ($T_3$) level in serum was determined by the modified in vitro technique of $T_3 125I$ uptake by using Amberlite IRA 400 ion exchange resin (3). The $125I$ Triiodothyronine was obtained from the Bhabha Atomic Research Centre, Trombay.

The percentage uptake of $T_3 125I$ by resin was not significantly different ($P>0.05$) between the genetic groups. It was maximum in $X_5$ and minimum in $X_3$ (Table I). The

<table>
<thead>
<tr>
<th>Genetic group</th>
<th>Mean</th>
<th>S.E.</th>
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<tbody>
<tr>
<td>$X_1$ (1/2 Holstein Friesian, 1/4 Brown Swiss, 1/4 Hariana)</td>
<td>20.7</td>
<td>4.35</td>
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<tr>
<td>$X_2$ (1/2 Holstein Friesian, 1/4 Jersey, 1/4 Hariana)</td>
<td>22.2</td>
<td>2.29</td>
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<tr>
<td>$X_3$ (1/2 Brown Swiss, 1/4 Holstein Friesian, 1/4 Hariana)</td>
<td>19.8</td>
<td>2.69</td>
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<tr>
<td>$X_4$ (1/2 Jersey, 1/4 Holstein Friesian, 1/4 Hariana)</td>
<td>23.1</td>
<td>4.29</td>
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values obtained in present study are comparable to those reported for F1 crosses of Hariana breed having 1/2 exotic blood of different breeds (6), but considerably lower than the values reported for exotic breeds (7).

The results indicate that thyroid activity in crosses of Hariana cattle with exotic breeds is perhaps not proportionately related to the percentage of exotic blood in these animals. The possible reason for considerably lower values may be acclimatisation of these animals to tropical climate.

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REFERENCES