A comparative study of carcass yields and quality between fattening Charolais crossbred and Holstein crossbred steers

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Current situation

Bos taurus > 50%
Beef production and consumption in Thailand

Source: OAE (2015)

![Graph showing beef production and consumption in Thailand from 2011 to 2015. The graph illustrates a steady increase in both production and consumption over the years.](image)
Current situation

Dairy farm

Milk production

Female

Male

Meat production
To compare carcass yields and quality between fattening Charolais crossbred steers and Holstein crossbred steers for high meat quality production in Thailand
Charolais crossbred
(1,350 animals)

Holstein crossbred
(704 animals)

Carcass weight
- Hot carcass weight
- Cold carcass weight
- Hot carcass dressing percentage
- Cold carcass dressing percentage

Marbling score
- Marbling score (level 1 to 5)
Statistical model

\[ y = \mu + YS + b(LW) + \text{Age} + \text{BG} + e \]

**Fixed effects**
- Slaughtering year-season (YS)
- Live weight (LW)
- Slaughtering age (Age)
- Breed group (BG)

**Random effect**
- Residual
Effect of breed group
(Carcass weight)

Charolais crossbred steers
Holstein crossbred steers

- Hot carcass weight
- Cold carcass weight

<table>
<thead>
<tr>
<th>Breed Group</th>
<th>Hot Carcass Weight</th>
<th>Cold Carcass Weight</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charolais</td>
<td>335 kg</td>
<td>325 kg</td>
<td>10.0%</td>
</tr>
<tr>
<td>Holstein</td>
<td>330 kg</td>
<td>320 kg</td>
<td>10.0%</td>
</tr>
</tbody>
</table>
Effect of breed group
(Carcass percentage)

Charolais crossbred steers
Holstein crossbred steers

Carcass percentage (%)

Hot carcass percentage
Cold carcass percentage

7.33% 7.50%
Effect of breed group
(Marbling score)

- Charolais crossbred steers: 1.9
- Holstein crossbred steers: 1.6

Difference: 0.3

16.87%
Distribution of dressing percentage

Charolais crossbred steers (n=1,350) 97.11%

Holstein crossbred steers (n=704) 35.94%
Marbling score

Charolais crossbred steers: 76.58%
Holstein crossbred steers: 23.41%
Conclusion and implication

Conclusion
Charolais crossbred steers had higher carcass quality and marbling score than Holstein crossbred steers when fattened under Thai management.

Implication
High meat quality of Holstein crossbred steers could be done by intensive fattening process.
Acknowledgement

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Thank you for your attention