

## The National Breed Society of Belgian Blues in Denmark

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### Belgian Blue sires fire-up dairy cows

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***According to results from Danish experiments and practice Belgian Blues should be used much more to breed dairy cows to increase profitability of the production of young bulls for slaughter***

Belgian Blues have been included in Danish experiments where scientists have evaluated the quality of a number of beef breeds when bred to dairy cows. All results emphasize the ability of Belgian Blues to produce crossbreds that result in the highest profit because of high daily gain and high score of slaughter quality (EUROP classification of the shape of carcass).

#### **Extensive studies emphasize the quality of Belgian Blues**

The Danish Institute of Agricultural Sciences conducted from 1988 to 1993 extensive experiments to investigate the economy of producing young bulls for slaughter. Dams of the crossbreds were Holstein and Jersey cows. Sires were Aberdeen Angus, Hereford, Piemontese, Blonde d'Aquitaine, Charolais, Limousine and Belgian Blues. Results see table 1.

Table 1. Results from Danish crossbreeding experiment. Effect on production traits

<b>Breed / combination</b>	<b>No.</b>	<b>Daily gain, grams</b>	<b>Feed conversion *)</b>	<b>Killing out %</b>
<i>Pure Holstein</i>	135	1,307	5.8	52.6
Simmental X Holstein	19	1,441	5.2	54.6
Aberdeen Angus X Holstein	33	1,293	5.6	53.9
Hereford X Holstein	20	1,339	5.6	54.1
Piemontese X Holstein	24	1,252	5.4	57.2
Blonde d'Aquitaine X Holstein	22	1,336	5.2	55.9
Charolais X Holstein	41	1,393	5.3	54.8
Limousine X Holstein	23	1,286	5.4	55.9
<b>Belgian Blues X Holstein</b>	<b>32</b>	<b>1,364</b>	<b>5.1</b>	<b>56.1</b>
<i>Pure Jersey</i>	58	961	5.6	48.6
Piemontese X Jersey	32	1,150	5.6	55.6
Blonde d'Aquitaine X Jersey	18	1,218	5.0	54.0
Charolais X Jersey	36	1,331	4.5	52.9
<b>Belgian Blues X Jersey</b>	<b>36</b>	<b>1,236</b>	<b>5.2</b>	<b>54.7</b>

\*) Scandinavian feed units per kg. gain

The Danish Institute of Agricultural Sciences concluded that crossbreds were better than purebred dairy bulls re. feed conversion, killing out percentage and score of the carcass. The experiment also stated that crossbreds sired by Belgian Blues were economical superior to purebred Holstein and Jersey young bulls.

## **Results from practice**

Crossbreds, Belgian Blues X dairy breeds, are highly effective. There is a nice increase of the daily net gain (daily gain of the carcass), 10-13 per cent when dams were Danish Red cows, over 15 per cent when dams were Holstein cows and 27 percent for Jersey crossbreds over 12 months old at slaughter and 42 percent for Jersey crossbreds under 12 months old at slaughter (table 2).

The increase of the score of the shape of the carcass (EUROP) is impressive for all three combinations (table 2):

- 3.5 units for Danish Red crossbreds
- Approx. 4.5 units for Holstein crossbreds
- Approx. 3.8 units for Jersey crossbreds.

In table 3 and 4 you find the results of breeding various beef breeds and dairy cows. Some breeds have as high daily net gains as Belgian Blues, but when it comes to the score of the carcasses – and economy from the production of young bulls for slaughter – the Belgian Blue breed is second to none.

In Denmark Limousine is the most popular beef breed for crossbreeding dairy cows followed by Simmental and Belgian Blues. Judging from the results from practice Belgian Blues should “wear the yellow jersey”!

Table 2. Slaughter results, score of the shape of the carcass (EUROP) and daily net gain, grams. Crossbred young bulls, Belgian Blues X Danish Red (RDM), Belgian Blues X Holstein and Belgian Blues X Jersey. Average of bulls slaughtered 1999/2003. Data from the national Danish Cattle Database.

	<b>BBxRDM</b>	<b>RDM</b>	<b>Difference</b>	<b>BBxHOL</b>	<b>Holstein</b>	<b>Difference</b>	<b>BBxJER</b>	<b>Jersey</b>	<b>Difference</b>
<i>Young bulls slaughtered 8-12 months old</i>									
Age, mo.	10.8	10.4	0.4	10.8	10.3	0.5	10.7	10.4	0.3
Carcass, kg.	250	214	36	247	206	41	213	147	66
Score, carcass shape, EUROP	8.2	4.7	3.5	8.3	3.9	4.4	6.7	2.9	3.8
Net gain, g/day	693	613	80	680	591	89	593	418	175
<i>Young bulls slaughtered older than 12 months</i>									
Age, mo.	14.4	14.1	0.3	14.4	14.0	0.4	14.3	14.9	-0.6
Carcass, kg.	283	251	32	288	244	44	248	189	59
Score, carcass shape, EUROP	8.2	4.7	3.5	8.4	3.9	4.5	6.8	3.1	3.7
Net gain, g/day	594	542	52	608	526	82	524	384	140

Table 3. Slaughter results, score of the shape of the carcass (EUROP) and daily net gain, grams of bulls slaughtered younger than 12 months. Crossbred bulls, Danish Red (RDM), Holstein or Jersey cows as dams and various beef breeds as sires. Average of at least 25 animals per group slaughtered 1999/2003. Data from the national Danish Cattle Database.

Dams' breed: <i>Danish Red</i>	RDM	BBxRDM	SIMxRDM	LIMxRDM	CHAxRDM	HERxRDM	BAQxRDM	ANGxRDM
Score, carcass shape, EUROP	4.7	8.2	6.9	7.5	-	5.4	-	-
Net gain, g/day	613	693	726	705	-	677	-	-

Dams' breed: <i>Holstein</i>	Holstein	BBxHOL	SIMxHOL	LIMxHOL	CHAxHOL	HERxHOL	BAQxHOL	ANGxHOL
Score, carcass shape, EUROP	3.9	8.3	6.3	7.0	7.3	5.7	6.9	-
Net gain, g/day	591	680	680	666	717	679	696	-

Dams' breed: <i>Jersey</i>	Jersey	BBxJER	SIMxJER	LIMxJER	CHAxJER	HERxJER	BAQxJER	ANGxJER
Score, carcass shape, EUROP	2.9	6.7	5.5	5.9	6.1	4.3	-	4.8
Net gain, g/day	418	593	589	577	647	554	-	566

Table 4. Slaughter results, score of the shape of the carcass (EUROP) and daily net gain, grams of bulls slaughtered older than 12 months. Crossbred bulls, Danish Red (RDM), Holstein or Jersey cows as dams and various beef breeds as sires. Average of at least 25 animals per group slaughtered 1999/2003. Data from the national Danish Cattle Database.

Dams' breed: <i>Danish Red</i>	RDM	BBxRDM	SIMxRDM	LIMxRDM	CHAxRDM	HERxRDM	BAQxRDM	ANGxRDM
Score, carcass shape, EUROP	4.7	8.2	6.4	7.2	7.6	5.1	-	6.0
Net gain, g/day	542	594	585	569	645	558	-	601

Dams' breed: <i>Holstein</i>	Holstein	BBxHOL	SIMxHOL	LIMxHOL	CHAxHOL	HERxHOL	BAQxHOL	ANGxHOL
Score, carcass shape, EUROP	3.9	8.4	6.4	7.1	7.3	5.4	6.7	5.7
Net gain, g/day	526	608	595	579	611	568	607	557

Dams' breed: <i>Jersey</i>	Jersey	BBxJER	SIMxJER	LIMxJER	CHAxJER	HERxJER	BAQxJER	ANGxJER
Score, carcass shape, EUROP	3.1	6.8	5.5	6.2	5.9	4.5	-	5.0
Net gain, g/day	384	524	522	517	523	495	.	535