

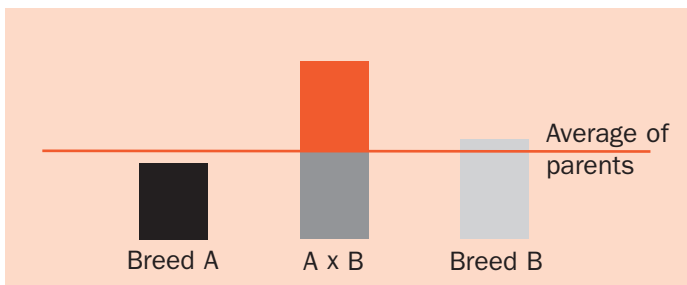
CROSSBREEDING WITH DANBRED GENETICS



The purpose of crossing is to make use of the **heterosis** effect partly to improve fertility and partly to combine the different characteristics for which the lines were previously selected. For meat production a desirable quality in the final product is to produce large numbers of rapidly growing individuals. This requires good fertility in the mother combined with good growth rate in the progeny.

The heterosis effect makes the hybrid pigs better than the average of the parents. The traits with the lower heritability show the largest heterosis effect. This is particularly true for fertility, mothering abilities and body structure, which have a low heritability.

Diagram 1. Heterosis Effect



The performance of the DanBred breeds as regards daily gain, feed conversion ratio, lean meat percentage, litter size, pH, body structure and killing out percentage (also called slaughterloss) is improved continuously and successfully by DanBred.

However, the benefits from these improvements can be maximised by crossbreeding the **DanBred** breeds.

The **DanBred** Pig Crossbreeding Programme works with 2 dam lines:

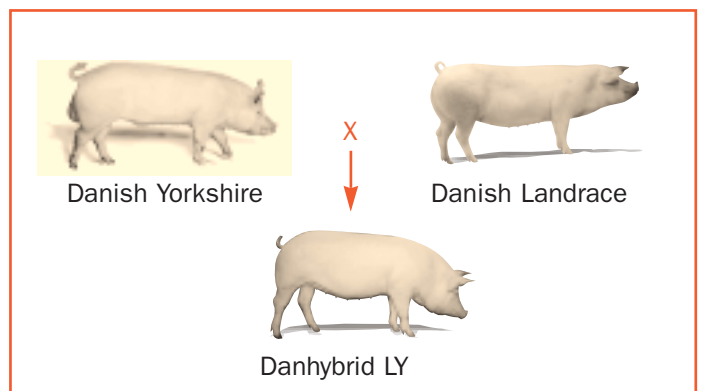
Danish Landrace and Danish Yorkshire (Large White), and 2 sire lines:

Danish Duroc and Danish Hampshire.

Danish Landrace and Danish Yorkshire (Large White) are the ideal breeds to produce females. These two breeds have a high fertility, very good mothering abilities combined with very good meat quality.

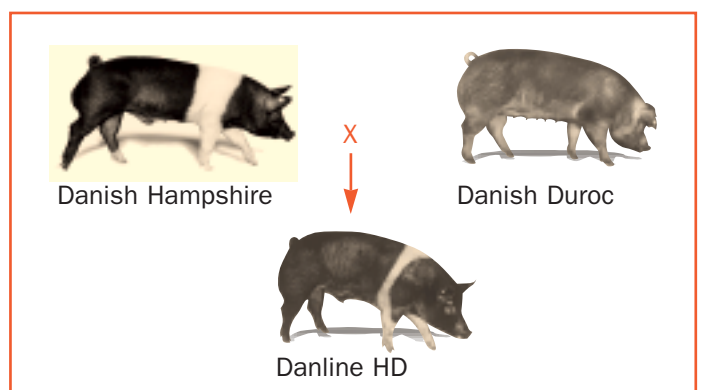
The first cross between these two breeds **Danhybrid LY/YL** is very popular for use as parent sow in the production herds. Studies have shown that Danhybrid females produce 1.5 more piglets per litter than purebred Danish Landrace and Yorkshire.

Danhybrid LY/YL



As sire line **Danish Duroc** and **Danline HD** are used. **Danline HD** is the first cross between Danish Duroc and Danish Hampshire. Both these terminal sires show very good mating abilities.

Danline HD

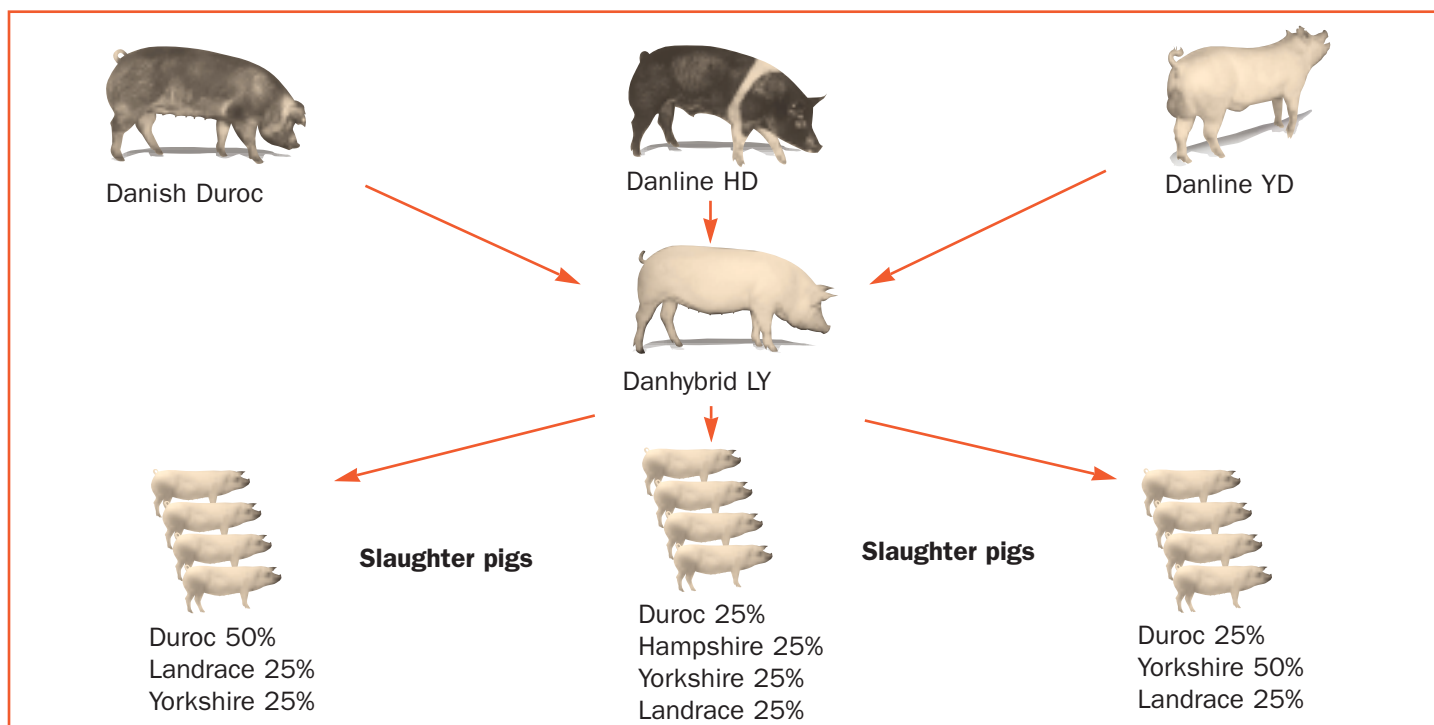


Studies carried out by the National Committee for Pig Production comparing different mating combinations have shown that pure Danish Duroc and Danline HD terminal sires ensure the best economic results.

The table below shows the results of that study.

Cross	Y(YL)	D(LY)	H(LY)	HD(LY)	YD(LY)
Live born	12.6	13.0	12.6	13.0	12.8
Piglets per sow per year	25.3	26.1	25.3	26.1	25.7
Daily gain, gramme	800	850	830	835	820
Feed conversion ratio	2.80	2.75	2.75	2.75	2.75
Lean meat content, %	58.7	58.8	59.3	59.0	58.8
Gross margin per piglet, \$	0.0	1.4	0.0	1.4	0.7
Gross margin per slaughter pig, \$	0.0	1.9	1.9	1.6	1.0
Gross margin per pig total, \$	0.0	3.3	1.9	3.0	1.7

As can be seen from the table the best results are achieved by crossing Danish Duroc and Danline HD terminal sires with Danhybrid LY sows. Consequently, these crosses are the most popular in Denmark. About 50% of the annual production of slaughter pigs produced in Denmark originate from pure Duroc sire and about 50% from Danline HD and YD sires. The DanBred crossbreeding programme is shown in the diagram below.



Using these crossbreeds Danish pig producers produce 23 mill. slaughter pigs and obtain excellent results. The performance of the top five herds in Denmark in 1999 is shown below.

Sow units

Herd number	1	2	3	4	5
Number of sows	216	384	68	217	139
Weaned pigs per sow per year	29.4	29.2	28.8	28.6	28.3
Litters per year per sow	2.43	2.38	2.29	2.49	2.36
Liveborn pigs per litter	12.9	12.6	13.7	12.3	12.4
Weaned pigs per litter	12.1	12.3	12.6	11.5	12.0
Age at weaning (days)	25.0	29.0	35.6	21.6	30.5
Weight at weaning	7.3	7.8	8.0	7.0	6.5
Daily gain (1.4-30 kg)	428	455	472	488	513
Farrowing rate	90.3	94.5	95.1	90.4	92.5

Slaughter pigs

Herd number	1	2	3	4	5
Pigs produced per year	2396	7899	811	5247	3749
Daily gain	1022	1015	1013	1012	1005
Feed conversion, kg/kg	2.46	2.48	2.21	2.56	2.36
Start weight, kg	39.8	35.0	39.1	30.0	32.5
Carcass weight, kg	76.4	77.6	78.9	74.5	76.8
Live slaughter weight, kg	100	102	103	98	101
Feed days	58.8	66.0	63.5	66.8	67.8
Meat percentage	59.9	59.8	58.7	59.7	59.3
Mortality	1.1	2.8	1.9	1.3	1.8



YOUR RELIABLE PARTNER IN PIG BREEDING

Axelborg · Axeltorv 3 · DK-1609 Copenhagen V

Telephone +45 33 73 26 88 · Telefax +45 33 91 60 15

E-mail sea@danbred.dk · Web <http://www.danbred.dk>