

# Crossbreeding

## Why is there so much interest in crossbreeding?

- Fertility of cows is declining
- Health problems of cows are increasing
- Increasing problems with difficult calvings, especially first calf heifers
- Cows are calving fewer times in their lives
- Cows are often too large for cubicles
- Inbreeding is a growing problem, causing reduced fertility, health problems and reduced survival (Blackstar accounts for 15.8% Holstein blood in US)

## Crossbreeding results from California

Trials involving seven big dairies in California have provided interesting results:

Breed	Number	Milk kg	Fat %	Prot %
Holstein x Holstein	380	9757	3.55	3.13
Normande x Holstein	245	8530	3.74	3.24
Montbeliarde x Holstein	494	9161	3.64	3.20
Scandinavian Red x Holstein	328	9281	3.66	3.20

### Calving Difficulty:

Mating	1st calf heifers	2nd-5th calvings
Holstein x Holstein	16.4%	8.4%
Montbeliarde x Holstein	11.6%	5.4%
Scandinavian Red x Holstein	5.5%	2.1%

The trials also showed that crossbreds had better **survival** than purebreds.

## Hybrid Vigour

Hybrid vigour from crossbreeding is a “bonus” on top of the average of the parent breeds. You will get at least 5% hybrid vigour for production and 10% for fertility, health and survival.

## How many breeds and which ones should be used?

Crossbreeding systems should use **three breeds** to capitalise on hybrid vigour.

Using four breeds doesn’t allow each breed to make enough impact and can cause confusion, whilst using two breeds doesn’t give enough hybrid vigour.

Dr Les Hansen, the World’s leading expert on crossbreeding, says you should use a three breed rotational mating system using the following breeds:

**Hostein x Swedish Red x Montbeliarde** x Hols x S.Red x Mont ...

On a very low input system, Dr Hansen says you could try Holstein x Jersey x Normande. But don’t use crossbred sires. If you use a 50/50 Holstein/Jersey on a 50/50 cow, you can end up with a wide range of progeny as it depends which genes are selected from each parent.