

Grassland Alliance – a unique breeding initiative geared towards grass-based farming systems

Best for fertility and grazing

Pasture-based dairying systems are growing in popularity. The most popular areas are New Zealand, Ireland, and South Africa, with Europe and North America rapidly increasing. A new joint venture in breeding genetics supports pasture-based producers.

text **Marieke de Weerd**

Producer cooperative CRV Holland and NCBC, Ireland's biggest herd improvement organisation, have launched a joint venture called Grassland Alliance to support pasture-based producers.

Pasture systems are based on seasonal milk production, with cows milked during the grass growing season and dried off in the winter. Peak milk production coincides with the best grass quality, so grassland management has to be a top priority.

There are several different pasture systems, such as continuous grazing, season long grazing, deferred rotation and rest rotation. In continuous grazing a particular pasture or area is grazed the entire year, including the dormant season. In season-long grazing the area or pasture is grazed for the entire growing season. In these two systems there is no attempt to leave a portion of the range ungrazed by livestock for at least part of the growing season. In deferred rotation and rest rotation parts

of the area are rested from grazing. In deferred rotation, each pasture receives deferment every two to four years, depending on the number of pastures. Under rest rotation one or two pastures are rested for the entire year, while the remaining pastures are grazed seasonally, depending on the number of pastures and herds.

'Pasture' cow

The perfect cow for grazing systems is dependent upon a variety of circumstances, such as climate, feeding quality and farm system. For producers who run their cows on a grass-based system, fertility and efficient production, based on low input rations, are universal points of importance. Fertility is very important due to the seasonal nature of this system. For optimal use of the grass, it is important that cows get in calf each year at the same time. So, the desired calving interval is 365 days. In Ireland for example, more than 85% of all cows calve down in the spring.

Table 1: CRV and NCBC breeding goals

selection in	CRV Western Europe The Netherlands, Belgium, Germany, France	CRV AmBreed New Zealand	NCBC Ireland
weight breeding goal (%)			
- production	40	43	42
- type	30	21	0
- health/management	30	36	58
male candidates			
- genomic selection	1,000	250	400
- test sires	200	65	80



Bernard Eivers: "The Irish breeding goals focus on grass-based milk production"

To help producers breed their perfect pasture cow, CRV and NCBC have launched the Grassland Alliance (see box). The genomic breeding values of young bulls from the CRV programme in Western Europe and New Zealand and the NCBC programme are shared to give producers access to the best bulls for their particular circumstances.

In table 1 the breeding goals of CRV's Holstein breeding programme in Western Europe, CRV AmBreed in New Zealand and NCBC in Ireland are displayed. Due to different circumstances and farm systems in each part of the world, the breeding goals differ. Type is, in general, of less importance than management and production traits in the breeding goals for cows and bulls in pasture systems.

It can be seen that type is included in 21% in the New Zealand breeding goal, compared to 30% in Western Europe, where grass-based farms are less common. Type is not included in the NCBC breeding goal.

Genomic selection

By sharing the genomic breeding values of the young bulls of all three breeding programmes, a wide range of high genetic potential becomes available to producers worldwide. To be able to select the best bulls for the local circumstances the bulls will be ranked on the local breeding goal.

So, NCBC's bulls will be ranked for New Zealand according to CRV AmBreed's breeding goal. This way the bulls that best suit the objectives of the programme and therefore best fit the local situation will be selected.

"The number of test bulls would be higher were it not for genomic selection, which has made its mark here in Ireland," says NCBC vet Bernard Eivers. "In 2009, 35% of our inseminations were with genomically selected sires. The use of genomics here is very well established. The Irish breeding goal was previously

What is the Grassland Alliance?

CRV and NCBC, Ireland's biggest herd improvement organisation, have launched a joint venture called Grassland Alliance. This alliance aims to help producers who manage their herds on grazing systems. Joint work between NCBC and CRV will include their breeding programmes, research and development,

and marketing and sales. So this co-operation enables both partners to select and sell the bulls whose genetics best suit the local grazing conditions in different countries.

It also means that both partners have access to a wider gene pool to improve and expand the products for the grazing



market. This makes Grassland Alliance the largest and most specialised supplier of dairy semen fitting the breeding goals of grass based and seasonal systems in the world.

focused mainly on production levels and litres, but it now focuses on grass-based milk production and fertility. Production

Table 2: Dairy statistics from Ireland and New Zealand

	Ireland	New Zealand
number of dairy cows	1.9 million	4.3 million
number of dairy farms	17,060	11,618
average herd size	122	366
total milk production (kg)	13.3 million	16.0 million
milk production/cow (kg)	6,885	3,710

now accounts for just 42% of the Irish total EBI index, and fertility 34%." Mr Eivers describes the new Irish true type – a compact cow, a cow that needs low maintenance and is robust. Ireland introduced genomic breeding values in February 2009.

The EBI ranking has bulls with both daughter information and breeding bulls with a genomic value. "The confidence in genomic data is high among Irish producers and they are choosing to use GS bulls where their index is superior," says Mr Eivers.

NCBC has already had 400 young bulls genotyped.

Fertility and efficient low-input milk production systems are the cornerstones of the grass milk production system in Ireland.

Maintaining diversity in breeding programmes is also important. So what will the joint venture Grassland Alliance offer producers? Mr Eivers leaves no room for doubt: "Fertility. Fertility is a universal given in livestock farming. And that must just be our core business. We can definitely help with fertility." |

Cows grazing in New Zealand

