

# New look for type merit index

'Make over' should improve herd health and cow longevity

## Type merit changes

The new changes to type merit were introduced on the January 15, 2008, and are available for all proven bulls at [www.holstein-uk.org](http://www.holstein-uk.org) or [www.theccdi.co.uk](http://www.theccdi.co.uk)

We spoke to HUK's R&D executive Lucy Andrews to find out why the UK's type merit index has been re-structured, as well as to discover how it was done and what impact this will have on producers' breeding decisions, herd health and cow longevity.

Although the launch of the new type merit formula this January may not create a major shift in bull rankings, it should make quite an impact on the health, welfare and longevity of cows and heifers in UK herds, according to HUK's Lucy Andrews.

"The changes followed consultation within a Holstein UK-led industry group where producers, geneticists and the AI industry – all voicing the needs of their customers – were represented. The Type Merit Working Group recognised that producer priorities are ease of management, getting cows back in calf, health, longevity and overall profitability, and that it is essential that type merit promotes these objectives," she explains.

At the Holstein UK Board's request, the group embarked on an 18-month intensive research project on type merit (TM) to ensure that today's, and tomorrow's, cows are robust, long-living, healthy, high welfare, and most importantly profitable. The new TM focuses on all these areas.

### Functional traits

"The new index sees a considerably reduced emphasis on stature, angularity and body depth, allowing a greater weighting to be placed on the functional traits of the cow. And this will have a positive knock-on effect on health, welfare and longevity," says Miss Andrews.

"The result, for the producer, is a TM whose emphasis will be as follows: 40% on mammary; 30% on feet and legs; and 30% on the 'goal trait' of longevity. The latter is calculated using stature,

angularity, body depth, chest width, and rump angle and rump width."

These linear traits will be combined together and weighted to take account of their impact on the longevity of the cow. It means that 70% of TM now comes from the 'business end' of the cow. In other words, if a bull is up there at the top of the TM list, he will transmit outstanding feet, legs and mammary traits. And it also ensures that selection for TM will help improve longevity.

The remaining 30% will see a reduced emphasis on stature, angularity and body depth, while still maintaining a positive emphasis on chest width and rump width. "The critics may suggest that this move will breed the milk out of the cows, but this is not the case, as the relationship between the new TM and milk yield potential remains," explains Miss Andrews.

### Reduced emphasis

The new TM replaces one whose formula was 40% mammary, 25% feet and legs, 25% dairy strength (10% dairy and 15% frame), 8% rump angle, and 2% rump width.

The type linear most strongly associated with the ability to milk is angularity. Although the emphasis has reduced, the correlation between angularity and TM is still fairly strong, as are stature and body depth. This means that the new index will not completely alter the direction of change for these traits, but simply slow down the increase over time.

So how will the change affect producers? "Type merit has always been a good predictor of longevity. But that was mainly because it included feet, leg and



Tim Gue: "Producer friendly bulls will move up the list"

udder traits. We also knew that stature, body depth and angularity – at least at the extreme end of the scale – have a negative impact on longevity," says Sussex-based producer and 2007 NMR/RABDF Gold Cup finalist Tim Gue.

He milks a 350-cow pedigree herd, averaging 10,500 litres, and is also the chairman of the Type Merit Working Group.

"In the past, if something was very tall and very 'dairy' it would probably have had a good score," he says. "Whereas an animal transmitting average angularity and dairyness with equally good feet, legs and udder would have had a lower TM. But, in fact, this animal's daughters would, on average, have lasted longer within the milking herd. And this will now be reflected in the new index."

### Proper analysis

He adds that, for some cows, the big angular bulls may be the right ones to use. "It's not for me to preach – if someone has a system that suits this kind of cow then they are perfectly at liberty to choose them.

"What is particularly important to me is that this is all based on fact. No one has turned round and said 'penalise stature', but this change has come about through

proper analysis of the national dairy herd."

The new index is positively correlated with somatic cell counts as well as now being less negative for fertility. "We had hoped this might happen but it's not what we set out to achieve so this is a welcome bonus. Every dairy producer has to be commercially minded today and we have set out to highlight the commercial cow that will last longer.

"I think it will be the producer-friendly bulls that move up the list but, for me,

the proof of the pudding will be in the eating," he adds.

The changes have also resulted in other positive knock-on effects. TM will now be more positively associated with increased lifespan, PLI, fertility index, locomotion, fore udder attachment and mammary composite, while at the same time reducing cell counts.

"These positive spin-offs coupled with the reduced emphasis of stature, angularity and body depth provide us with a balanced and longevity focused

TM, designed to suit a wide range of farming systems," says Miss Andrews.

"We won't see massive re-ranking in the TM bull listings as this change targets the 'extremes'. TM is made up of a combination of legs, feet and mammary worth a total of 70%, therefore you might still see high stature and angularity bulls up there, but they will also have outstanding functional traits."

Rachael Porter

