Is your parlour fitted with the correct filter for your herd?

Put a sock in it!

Bactoscans creeping up? Could it be a filter sock problem, which is clogging up your plate cooler and affecting milk quality? That was certainly the case on one Cumbrian unit. Read on to find out more.

text **Rachael Porter**

Edward Harrison and his correctly sized filter

Size matters – or at least it does when it comes to milk filtration. To help maintain a low Bactoscan and remove unwanted particles from milk prior to the bulk tank, it's essential to have a suitably sized and well-maintained milk filtration system.

"Milk filters are installed in the milk delivery line between the milk pump and the tank. They do not filter out bacteria or chemicals, but they do remove the small foreign particles of dirt, straw and paper towelling that would otherwise enter the milk tank and affect milk quality," explains Dairy Spares' Tim Evanson.

Generally they do an excellent job. "But where herd size or milk yields have increased, filters may now have become too small to cope, and they can split or burst. This lets foreign particles through to the plate cooler where they can cause restriction, and also into the bulk tank, leading to higher Bactoscan levels and the possibility of milk price penalties."

Filter options

Producers have two filter options – reusable or disposable filters. Reusable filters are suitable for herds from 60 up to 250 cows, unless doubled up in a twin installation. Between milkings, they should be rinsed off and washed in specialist cleaning solution. And during the washing cycle, they can either be replaced with a special washing filter or exchanged for a clean set.

"Prior to us, both the wash and milk filters should be checked for perforations, cleanliness and restriction by milk stone build up. And they should be replaced annually or at the first sign of wear," stresses Mr Evanson.

For larger herds, he says that disposable filters are needed. These are housed in a stainless steel case and supported on a spring or cage. The filter can be a sock, in other words open at one end, or a sleeve, which is open at both ends. These socks/sleeves are manufactured from cotton or bonded fibre, with the latter being available in many grades or strengths.

Milk flows from outside the filter and into the centre through the sock/sleeve. The cage supports the filter from the forces of the milk flow, preventing it from collapsing.

"Large modern parlours are usually fitted with compressed air purge systems to clear the delivery line of milk at the end of milking prior to washing. In these systems, filter socks need to be stronger – of 120g in weight rather than the standard 75g," says Mr Evanson.

"Apart from milk volume, one of the key factors affecting how soon a filter becomes full is the cleanliness of teats when the cups are applied. Weather conditions and the type of bedding used can also have an impact.

"Removal of this surface material is affected by the pre-milking routine, with a wet wipe followed by a dry wipe being the most effective technique. So this can be an area to focus on if filters appear extremely dirty."

Too small

He says that the larger the herd, the greater the volume of milk, and generally the higher the flow rate because bigger parlours have higher capacity milk pumps and larger delivery lines. "All this leads to the requirement for a larger capacity filter.

"As a rule of thumb, the filter surface area for herds of up to 130 cows needs to be around 310cm², for up to 200 cows around 450cm², and for herds of up to 500 cows, around 1,200cm².

A milk filter that was too small caused problems for Cumbrian producers Edward and Graham Harrison, of Wood House Farm near Penrith.

They are milking 320 cows, averaging 8,500 litres, through a 32-point rotary Fullwood parlour. However, the stainless steel filter was splitting the sock during milking, allowing foreign particles to partially block up the plate cooler. This not only reduced its efficiency, but it also put a strain on the milk pump.

The problem was instantly resolved by simply replacing the filter with a large Emperor stainless steel milk filter and sleeve with a surface area of 1,200cm².

Graham realised the filter had been acting as a bottleneck holding back the milk flow though the plate cooler. After fitting the larger filter he has also installed a larger plate cooler and Bactoscan levels have fallen by more than 10%.

Size matters: make sure your parlour's filter can cope if you've increased herd size or milk yield

Clean reusable filters well between milkings

Check size

"Disposable filters should be changed just after milking and before washing, and then again at the beginning of the next milking," explains Mr Evanson. In practice, however, the economic second-best option is to replace the filter at the end of milking and before the wash cycle. The filter is then left in place ready for the next milking.

"Filter capacity is not greatly reduced for the next milking.

"The milk filter is an often overlooked piece of equipment in the milking parlour, despite influencing parlour performance and having a direct impact on physical milk quality," adds Mr Evanson.

"So check that the size and quality of filter is adequate, particularly if herd size or yields have been increased since it was first installed. Always ensure a clean filter is fitted for washing. And if the filter splits or looks 'stressed' following milking, then a larger replacement must be an immediate consideration." |

Filter check: can yours cope with your herd's milk volume?