Improve early spring grass growth with aeration

After significantly improving grass growth by easing soil compaction in 2010, Cumbrian producer Jim Maudsley intends to aerate more fields across his 142-hectare all-grassland farm this spring.

Jim concentrated on removing the surface compaction on pastures nearest to Raw End Farm at Endmoor, near Kendal, caused by the 150-cow milking herd, which he milks with his brother John.

Compaction was causing temporary waterlogging, which meant wet soils that stay colder for longer and so reducing the number of available grazing days.

It was the first time the land had been aerated and responded well to the single pass by a 3-metre OPICO sward slitter, penetrating down to 125mm, to relieve surface compaction, get more air to grass roots and help water drainage. He reports that grass, particularly in poached areas, recovered well.

"It was the first time we've ever used an aerator. I admit we were sceptical at first, but the sward slitter definitely improved surface water drainage of the land and improved grass growth in early spring," says Mr Maudsley.

The 72 knife blades on the three-metre OPICO slitter relieved the solid, impermeable layer created by cows' feet and machine travel.

This shallow layer or 'pan' restricts the movement of air, water and nutrients down through the soil profile.

This type of damage also leads to poor root growth, which stresses the plant and reduces its response to nitrogen.

A lack of oxygen means the availability of mineralised nitrogen from organic material in the soil is diminished.

Faced with rising prices for feed and fertiliser, Jim says aerating the soil will help grass swards achieve the maximum benefit from the nutrients supplied through slurry and bought-in fertiliser to help boost forage yields.

They aim to take two good silage cuts a year, and a third when conditions allow.

The majority of soils are shallow at Raw End Farm and classed as medium being clay loam over a variable, rock base.

Due to the soil type and rocky subsoil, Jim Maudsley, says the sward slitter is ideal for their ground working down to 125mm and it also requires very little tractor power to pull it, saving on fuel.

To help aeration in drier years, their sward slitter also has a weight carrying rack so that extra weight can be added to the machine in hard conditions by disc weights.