

GRASSLAND & MUCK PREVIEW

The correct application of fertiliser can triple grass yields for second cut silage. But unless the product is applied accurately much of the benefit could be lost. **Mick Roberts** reports.

Making every granule count

Every £1 spent on fertiliser can return as much as £2.50 in higher grass yields. But only if nutrients are evenly applied by a machine which has been set to produce the correct spread pattern.

Poorly maintained, incorrectly adjusted and damaged spreaders can cause huge losses through inaccurate application. Mark Tucker, head of agronomy with Yara, says inaccurate spreading will typically cost about 0.16t/ha of yield per cut, or £54/ha (£21/acre) in equivalent milk yield potential.

"With 22-4-14 second cut fertilisers now costing about £310/t, it's absolutely crucial spreaders are serviced and calibrated using a full width spread pattern test," he says.

Tray test

A tray test assesses the spread pattern and shows how evenly the material is distributed across the working width. The results are recorded as a Coefficient of Variation (CoV) percentage, with a 5-10 per cent CoV considered a 'good' pattern which is achievable in the field. A worn or incorrectly set machine can, however produce a CoV of up to 25-30 per cent.

"This, unfortunately is quite a typical result we often find on



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ROB FOXALL

farm and one which will result in grass yield losses equivalent to £54/ha in milk returns," says Mr Tucker.

"Striping" in fields is likely to occur with a CoV of anywhere from 10-15 per cent and by then the damage will have been done. As well as losing grass yield, the greener areas – high in nitrogen – will cause further problems because of 'free nitrogen' which will affect the silage quality and further increase losses.

Rob Foxall of Spreader and Sprayer Testing, the UK's largest spreader specialist, says: "At today's prices a normal application rate of about 500kg/ha

will cost £160/ha, which is about the same price you will pay for a test to ensure it is used most effectively. A standard calibration test may show the spreader is applying the correct amount in kg/ha, but without a full-width tray test you have no idea where, or how, the product is being applied across the spreading width."

SCS provides a nationwide service, which costs £195 plus VAT and involves a thorough 'MoT' of the machine followed by tray testing with two different types of fertiliser. "It's important to test the spreader with every product you intend to use and its different batches," says Mr Foxall.

Vary widely

Even new spreaders will need checking, particularly those claimed to work at 24m widths and more. This is because the physical characteristics of fertilisers can vary widely, which affects how it will spread.

"We don't just test the machines, we also check the fertiliser's bulk density, size and strength. Lighter materials don't travel as far as heavier ones and soft granules can break up on impact with spinning discs and turn to dust. It is also important to check the size of the particles, especially with blends, because again the larger,

heavier ones will travel the furthest," he adds.

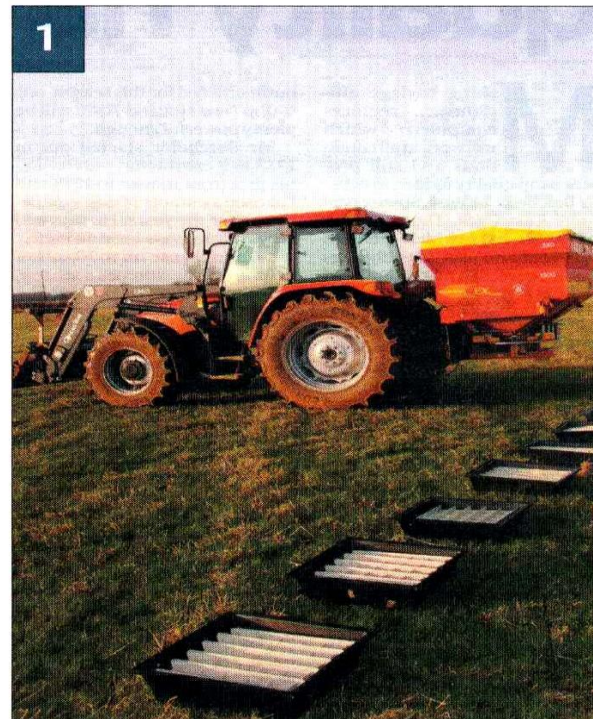
Machine inspection

During the initial machine inspection, engineers often find worn and damaged parts. While a full service is not included in the price, the testers do carry a large stock of parts, which they will fit at an extra cost.

"It is important to note there is no qualification required to test spreaders, anybody could buy trays and set themselves up as an 'engineer,'" says Mr Foxall. "But at SCS we have created our own in-depth training course and all of our 25 engineers have to pass this qualification.

"We also have regular training updates and every year the main manufacturers and suppliers come to us to provide further specialist training," he says.

Every test is accompanied by comprehensive paperwork detailing the checks carried out and includes the results of the tray test, including the CoV, which are presented in an easy to read graphical format. This is often required by many assurance schemes and will be an important part of complying with the forthcoming NVZ regulations, which state: 'You must apply manufactured nitrogen fertiliser and organic manure in as accurate a manner as possible'.



A full-width tray test is the only way to determine the spread pattern, and hence application accuracy, of a fertiliser spreader.