

Don't risk curtailed yield by providing ineffective magnesium application

Magnesium has a vital role to play not only in photosynthesis, but alongside potash in water regulation, says crop nutrition specialist

Just because it says magnesium on the bag doesn't mean it will meet your magnesium needs, crop nutrition specialist Jerry McHoul warns growers.

Last year, when soils remained dry for almost two months during the spring, many cereal and oilseed rape crops struggled to secure the nutrients they needed for productive growth.

"Much of this – visible as pale green leaves – appeared to be down to magnesium deficiency as the nutrient is at the heart of the chlorophyll molecule, and drives photosynthesis," explains Mr McHoul.

PHOTOSYNTHESIS CURTAILED

"Without adequate supplies, photosynthesis was curtailed and plant growth slowed. In addition, with magnesium also having a role to play alongside potash in terms of water regulation, many crops probably suffered from a double drought whammy."

While the effects could have in part been mitigated by application of in-season magnesium, once the effects had already been seen, plant potential and yield had already been curtailed.

For this reason, Mr McHoul is recommending that growers plan ahead this year and ensure that crop supply of magnesium is not limiting and that what is applied is fully effective.

Magnesian lime, calcined magnesite and magnesium hydroxide forms are barely soluble – less than 1g of these forms of magnesium is soluble in water, and as a result they are not as active.

"However, by switching to ESTA Kieserite

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(magnesium sulphate), 400 times this amount of magnesium is water soluble and plant available and should be the preferred choice," he suggests.

Mr McHoul points out that the most recent edition of DEFRA's Fertiliser Manual, RB209, also highlights the need for more magnesium across a range of crops UK-wide and suggests that growers need to revisit the use of this important nutrient.

RECOMMENDED APPLICATION

RB209 now recommends an application of magnesium on rape grown on soils at soil indices of 1 and below, whereas only soils at index 0 were deemed to require the nutrient in the past. And on potatoes there's a new recom-



Magnesium deficiency in OSR

mendation for 40kg/ha MgO on soils at Mg index 2.

In order to ensure supplies are not limiting in cereals, the advice is to use 50-100kg/ha magnesium every three to four years on soils at index 0. However, Mr McHoul reckons that growers should also be applying the nutrient on soil indices 1.

"We are seeing increasing evidence that crops are running short, particularly during dry seasons, and if just one macronutrient is not available, the whole plant simply doesn't utilise all the others it has been supplied with. Growers need to assess soils and react accordingly," he concludes.

