

Improved winter wheat crop with Calcifert Sulphur

The Booth brothers, who farm in Brotherton, South Yorkshire, were concerned about the soil structure in one of their winter wheat fields. Scans indicated that there were poorly structured and compacted areas within the fields, and this was confirmed when the profile was inspected. It was no surprise, then, for the brothers to find that when they overlayed the yield map for the field, these areas were also the poorest performing.

As well as this, soil tests showed that the clay soil was high in magnesium, a problem which commonly leads to a tight, poorly draining soil profile that can be difficult to work.

Tackling the problem

An application of Calcifert Sulphur was recommended, primarily for soil conditioning. This was applied in the spring in a single application at a rate of 500 kg/ha with a control strip retained for comparison. Calcifert Sulphur has a typical analysis of calcium as CaO: 39% and sulphur expressed as SO₃: 56%, giving an application of 170kg/ha calcium and 280kg/ha SO₃.

Results

The tissue samples below show that the treated area had an improved uptake of nearly all nutrients analysed. As would be expected the sulphur levels have increased dramatically with other noticeable improvements in manganese and zinc. However, it is quite probable that the increased amount of soil calcium has depressed the boron levels and the high level of sulphur has impacted on copper uptake.

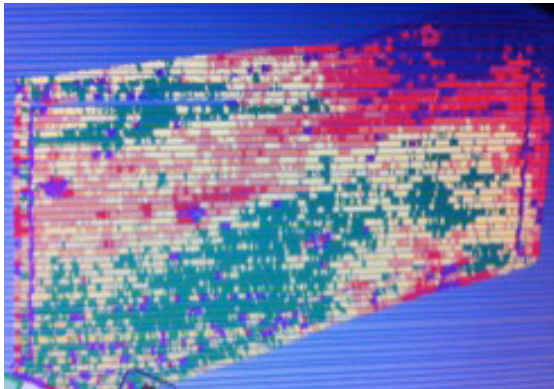
SAMPLE NAME: CONTROL		CROP: WINTER WHEAT				
ANALYSIS	RESULT	INTERPRETATION				
		Deficient	Low	Normal	High	Excessive
Nitrogen (N) [N:S Ratio]	2.26 %					
Sulphur (S) [S:S Ratio]	0.268 %					
Phosphate (P)	0.243 %					
Potassium (K)	1.77 %					
Calcium (Ca)	0.325 %					
Magnesium (Mg)	0.136 %					
Manganese (Mn)	33.9 mg/kg					
Iron (Fe)	163 mg/kg					
Copper (Cu)	3.28 mg/kg					
Zinc (Zn)	22.1 mg/kg					
Boron (B)	5.81 mg/kg					

Tissue samples before Calcifert Sulphur application

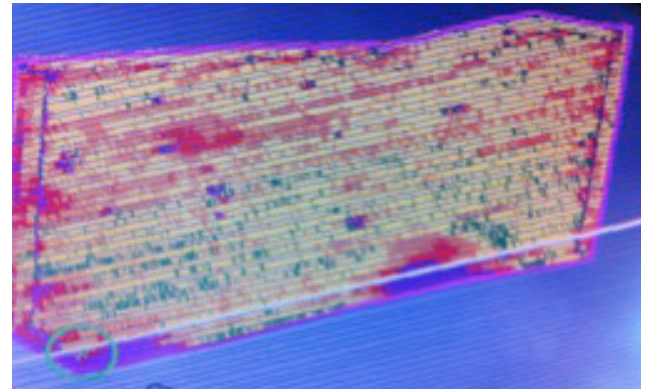
SAMPLE NAME: FULL RATE		CROP: WINTER WHEAT				
ANALYSIS	RESULT	INTERPRETATION				
		Deficient	Low	Normal	High	Excessive
Nitrogen (N) [N:S Ratio]	2.62 %					
Sulphur (S) [S:S Ratio]	0.442 %					
Phosphate (P)	0.271 %					
Potassium (K)	2.13 %					
Calcium (Ca)	0.354 %					
Magnesium (Mg)	0.195 %					
Manganese (Mn)	46.2 mg/kg					
Iron (Fe)	76.9 mg/kg					
Copper (Cu)	2.40 mg/kg					
Zinc (Zn)	31.2 mg/kg					
Boron (B)	3.16 mg/kg					

Tissue samples after Calcifert Sulphur application

The 2011 yield map below shows that the top right hand corner of the field had been a problem area for many years with a significant part of the field producing very little, as indicated by the dark purple areas. In contrast, the 2012 map shows how treatment with Calcifert Sulphur has produced a much more even crop, with the poor areas now yielding at similar levels to the rest of the field. (The poor areas along the southern boundary are a result of summer flooding.)



2011 yield map



2012 yield map

During the growing season the brothers could see that the crop was markedly different from previous seasons. "We haven't had such an even, healthy looking crop on this field in years," they reported. "What's more, harvest was much easier as the crop was even across the field allowing a constant speed."

Financial Benefits

Assuming that the poorly performing area yields, on average, 25% of the expected 8.5 t/ha, a yield of 2.2 t/ha was being achieved on about 4 ha in the 24 hectare field. At a wheat price of £180/t the brothers were losing out on £1147.50/ha in grain sales, or £4590 across the 4 hectares. The cost of the 12 tons of Calcifert Sulphur applied to the field was £2280, producing a net return of £2310 or £96/ha across 24ha.

Summary

Calcifert Sulphur has the ability to beneficially condition soil when applied at high rates, particularly in high magnesium and compacted soils. Calcifert Sulphur has the added benefits being supplied in convenient 600kg bags and can be self spread, making it ideal to target specific fields and perfect for precision farming.

About Calcifert Sulphur...

Applying Calcifert Sulphur granulated calcium sulphate is a quick and easy way to supply both calcium and sulphur to soil.

With a typical analysis of calcium as CaO: 39% and sulphur expressed as SO₃: 56%, Calcifert Sulphur is one of the purest calcium sulphate products available on the market. Calcifert Sulphur has a neutralising value of zero, meaning it won't affect the pH of your soil.

It can be easily applied using a tractor mounted fertiliser spreader, providing flexibility to farmers and growers.

