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## Did you know?

*"Insanity: doing the same thing over and over again and expecting different results."*

**Albert Einstein**

75% of a crop's nutrient requirement is taken up in the top 20 cm of the soil or less depending on your soil type.

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## To spray or not to spray - your cover crops that is!

Now is the time to consider how and when your cover crops should be destroyed.

The ideal time and goal should be immediately before drilling as this allows maximum biomass production, root penetration and weed suppression. Assuming of course the crop is still alive and has not been taken out by any recent frosts!

The main driver of this decision and major concern, in my opinion, is the effective control of black grass present at this moment, in cover crops prior to spring crops. If black grass is present in a cover crop now then I think the best strategy is to spray this off at the earliest possible opportunity, ideally before the end of this month. My reasoning is this:

If we wait until the day of drilling to spray off then the growth of the black grass will be quite advanced and possibly near to stem extension – this is not the best timing for the use of glyphosate as the product is not translocated very well, to where it needs to be in the plant to be most effective, at this growth stage. The flow of sap and nutrient is upward, during this growth stage, for ear production and therefore makes movement down into the whole plant harder which could result in poorer control.

Also spraying now will allow a second bite of the cherry if control is incomplete after the first application.

Why not spray in March when we can have the best of both worlds I am often asked? When we can have goodish biomass and effective black grass control?

I would agree but for one reason – wet weather in the spring! The last few springs we have dodged a bullet particularly with spraying off cover crops in March when there is good biomass produced and/or soil coverage. When any plant is sprayed with glyphosate all transpiration of water from the soil stops 24 hrs after application. The biomass of the cover crop can then act inconveniently as a very good mulch stopping the wind and sun from drying out the soil to allow drilling. It is therefore important to keep the cover crop alive until the last possible moment (day of drilling) to allow the cover crop to dry out the soil in a wet time. When spraying off in the spring the application should be timed so that there is no rainfall between spraying and drilling in situations of high biomass/soil coverage.

The only disadvantage to this is in a wet time and maybe having to wait until mid April for the cover crop to dry the soil out enough for drilling! Depending upon your farms location this transpiration of soil water doesn't start until around the 10<sup>th</sup> April.

I would encourage you if you have any black grass or brome (prior to a cereal crop) in your cover crops at present to spray off now to make management of the spring crops and grass weeds much easier.

# SOIL FIRST FARMING



## Calcium – the overlooked nutrient

Recently, while talking to several different farmers and advisors it has become apparent that many are overlooking the importance of calcium to your soil and your crops. Calcium most often comes from the use of lime, also CAN or gypsum if used. If you are not regularly applying lime the chances are your soil is deficient in calcium, this may even be the case if you are farming some of the many calcareous soils around the country such as the Cotswolds.

### Why is Calcium Important?

Calcium plays many roles in the plant. It is not mobile in the plant so a constant supply is necessary. Some of the functions of calcium include;

- Proper cell division and elongation
- Proper cell wall development
- Nitrate uptake and metabolism
- Enzyme activity
- Starch metabolism
- Nutrient exchange

It is also necessary for those wishing to improve the health of their soil, particularly if practicing no-till. Calcium is taken up in increasing amounts by soil fauna as the biology of the soil improves. The soil biology always feeds first!

### How does this calcium deficiency occur?

Calcium is readily leached from the soil during excess winter rainfall when water is percolating through the soil profile. Lighter textured soils and high pH soils are prone to greater calcium losses. The effect is increased by the use of fertilisers such as Ammonium Nitrate, Urea, and Muriate of Potash. It is estimated that 1kg of N can remove 2kg of calcium carbonate, therefore an average winter wheat crop which receives 220kg of N will require 440kg of calcium carbonate or the equivalent of 1 tonne of aglime.

### But why doesn't this show up with a pH test?

If the soil contains excess magnesium and/or potassium these cations move from soil reserves to replace the lost calcium on the exchange sites, this buffers the soil pH. When a pH test is taken under these conditions it may reveal the acidity of the soil to be satisfactory (6.3 and above) and therefore no lime would be required, BUT, the reality is the magnesium and potassium are holding the pH higher than it should be. In no-till situations this situation may become more prevalent as calcium has a tendency to move deeper through the soil profile over time.

### So, are your crops...

- Not rooting well with excessive branching?
- Showing unexplained necrosis on young leaves?
- Show unexplained stress at any time?



*"It is common sense to take a method and try it. If it fails, admit it frankly and try another. But above all, try something."*

**Franklin D. Roosevelt**

