

Phosphate deficiencies highlighted through grain nutrient analysis

A crop's potential will always be limited by the most deficient nutrient and undertaking grain nutrient analysis from each field this harvest, combined with a detailed soil analysis, will reveal how much of the available nutrients were taken up by the plant.

The advice from Toby Ward, nutrition agronomist for Origin Fertilisers covering the eastern regions, is that grain nutrient analysis can offer a greater insight to crop nutrition requirements next season, which he says should include a protected phosphate, such as Origin Enhanced Phosphate (OEP), to support plant development.

“A detailed soil analysis will indicate what should be available to the plant, while a leaf analysis shows the status of the crop at a given point, but a grain nutrient analysis is the final puzzle piece. It measures nutrient offtake and indicates where previously hidden deficiencies could lie, while providing a cross reference for soil analysis.”

Data revealed by ADAS in 2020 found that 86% of grain samples analysed showed nutrient deficiencies. By far the most deficient of all nutrients was phosphate, with over 50% of samples revealing a lower level than the target, Index 2.

Toby continues: “Grain nutrient analysis can be used by growers to target nutrition inputs for the new season. The data shows that phosphate availability is limited, and growers should be exploring alternative options for nutrition applications to support early crop development and maximise investment.”

Protected enhancer

Phosphate is a very immobile nutrient, often referred to as lazy, so plants must search for it. A major cause of phosphate deficiency is through nutrient lock up in the soil, which happens when soil pH is either too high or low and other nutrients reduce phosphate availability.

Preventing lock up is essential this autumn to promote strong rooting, and one way this can be achieved is through a coating applied to phosphate granules on OEP.

The unique water-soluble carboxylic carbohydrate contained within OEP is designed to prevent phosphorous being fixed in unavailable plant forms. The coating allows a higher percentage of the applied fertiliser to be plant available, which could reduce phosphorus fixation by 10-15%.

“The OEP coating is applied to standard phosphate fertiliser, such as TSP and DAP and P and K blends. It is activated when the granules contact water and attracts nutrients to allow phosphate to become available to the crop. It then releases these nutrients back to the plant as the coating dissolves.”

Toby also advises that purchasing from a trusted and reliable source will help ensure nutrition is on farm at the time it is required. “Timing of fertiliser application is essential for new crops, so using a trusted supplier to ensure bags are on farm, and ready to be spread, should be one less worry at a busy time of year.”

Captions

Image: Toby Ward

Toby advises that a protected phosphate can offer crops immediate and prolonged access to phosphate to support early development this drilling season.

Image: Spreading

Origin Enhanced Phosphate is designed to prevent phosphorous being fixed in unavailable plant forms, reducing fixation by up to 15%.