Knowledge grows

Yara Analytical Services
Technical Bulletin

Potato Petiole Analysis

Interpretation Prediction Programmes

Interpretation of potato petiole analysis

Independent research has demonstrated the particular importance of phosphorus for tuber bulking. The longer the phosphorus level in the crop is maintained at a high level the greater the yield potential. Yield potential is increased by around 0.5 t/ha for each extra day that the phosphorus level in the petiole is kept above 0.22%. However the level of phosphorus in the petiole peaks at tuber initiation and then declines as the season progresses.
In northern European conditions the phosphorus level normally arrives at 0.22% around 100 to 110 days after planting. Any "premature deficiency" incurs a yield penalty of 0.5 tonne per hectare per day.

Predicting the P2O5tato requirement

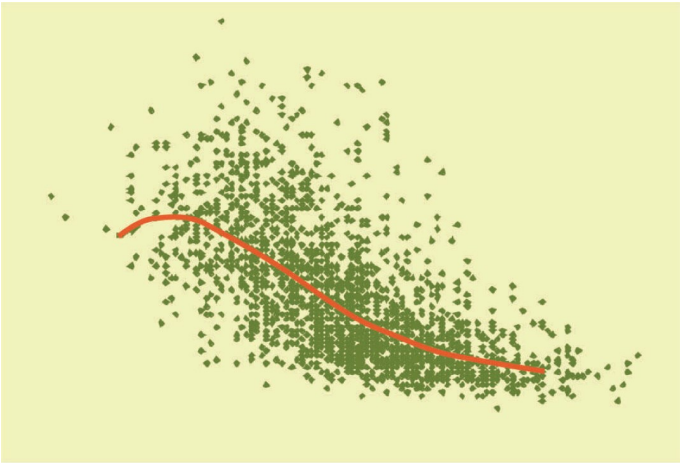
If prediction of the P_2O_5 requirement can be made early in the season then the 0.5 tonnes per hectare per day through the bulking phase can be saved - or gained. Yara has the answer in its petiole analysis databank and range of effective foliar phosphates.

Megalab potato petiole programme

Since 1993 we have been analysing petiole samples from UK potato crops and our database currently stands at over 5,000 samples and continues to rise. Biometric analysis of results allows us to establish phosphorus values early in the season which are equivalent to the critical figure of 0.22% at 100 days after planting (shown by the red line on the graph).

The Yara petiole Megalab system is therefore much more PROACTIVE because when a petiole sample is analysed we are asking the question "Will this crop make it to 100 days after planting before the phosphorus level drops below 0.22%?".
Another benefit is that normally only one sample per season is needed, however, if extremes of weather occur, a further petiole sample 3-4 weeks later will highlight any adverse trends.

Decline in petiole phosphorus level. Target level is shown in red.



Other nutrients

Similar trends exist for the other important nutrients for the potato crop. So using Megalab means that yield potential is not limited by reduced levels of major, secondary or micro nutrients.

Yara Analytical Services
Wellington Road, The Industrial Estate
Pocklington, York. YO42 1DN
Tel: 01759 305116 Fax: 01759 306955
Email: ypl.laboratory@yara.com
www.yara.com/analysis

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