

WHOLE FARM TESTING: A FURTHER REVIEW OF DATA

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Abstract

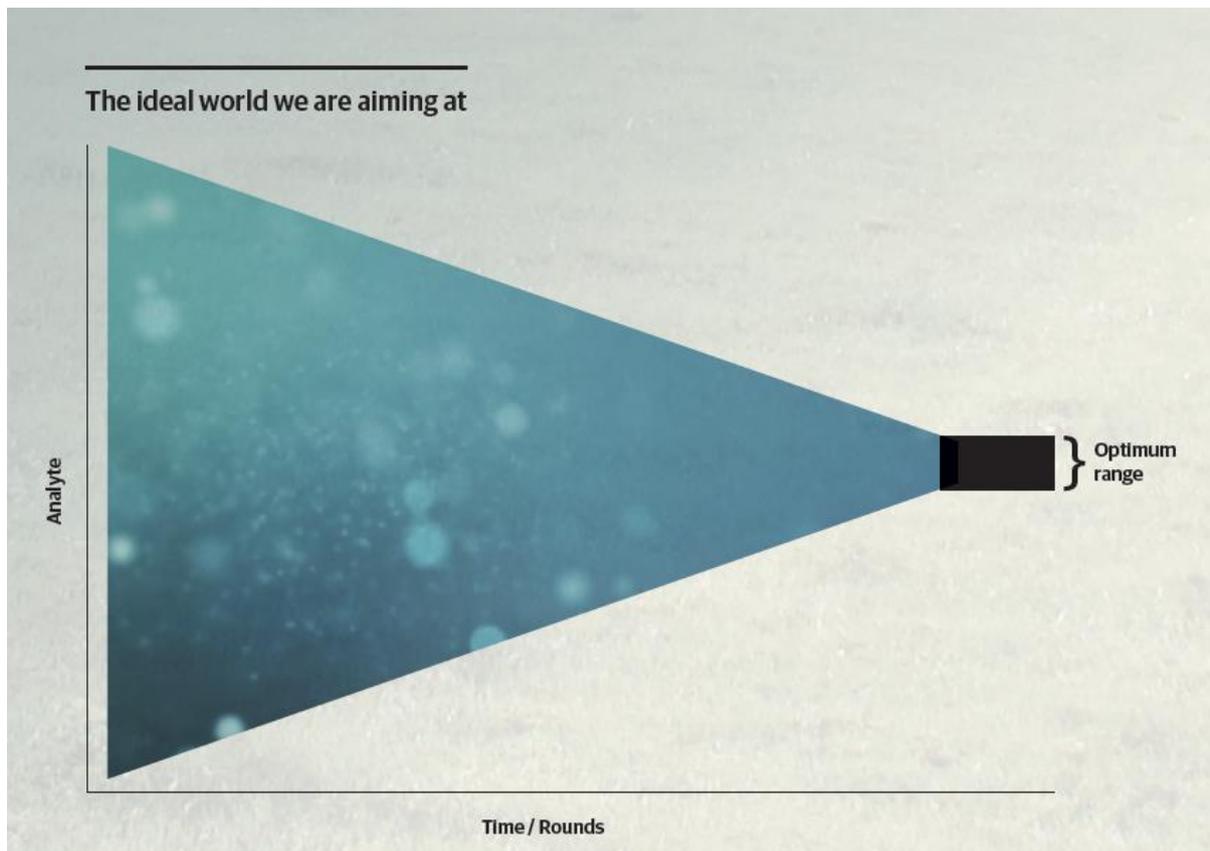
Whole farm testing, when combined with variable rate application is about applying the right nutrients in the right amount in the right place. Ravensdown has been offering whole farm testing since 2011 allowing farmers to get a clearer picture of the variability of nutrients between paddocks. Intensive soil testing across the whole farm, coupled with the use of technology to develop nutrient management plans and the integration with proof of placement tools will help farmers reduce the variability of nutrient levels between paddocks. ARL provides the soil analysis component of this offering.

A review of the data collated by ARL conducted in 2014 identified over 300 farms that had participated in whole farm testing. Approximately 15% of these farms completing a second round of whole farm soil testing. Current data has seen that figure increase to over 1,000 farms with approximately 27% of these farms completing two or more rounds of testing. This report will review data collated by ARL to determine if the trend identified in 2014 has continued to show a reduction in the variance of fertility as farmers apply their fertiliser at the variable rates as advised in their nutrient management plans.

For this report we have identified a subset of dairy farms that have completed up to four rounds of whole farm testing. The data has been aggregated across pH, Olsen P, potassium, calcium and magnesium. The overall data set shows promising trends with the spread of results decreasing across all of the components. This suggests that areas lower in fertility have had more fertiliser applied and areas higher in fertility have had less fertiliser applied. As with the data set evaluated in 2014, it is still difficult to draw conclusions due to the small number of farms identified. With just over 850 farms having completed only two rounds of testing to date we can continue to evaluate this data as further testing rounds are completed.

Introduction

Ravensdown has been offering whole farm testing since 2011 allowing farmers to get a clearer picture of the variability of nutrients between paddocks. Intensive soil testing across the whole farm, coupled with the use of technology to develop nutrient management plans and the integration with proof of placement tools will help farmers reduce the variability of nutrient levels between paddocks. ARL provides the soil analysis component of this offering.



Data Set

A review of the data collated by ARL conducted in 2014 identified over 300 farms that had participated in whole farm testing. Approximately 15% of these farms completing a second round of whole farm soil testing. Current data has seen that figure increase to over 1,000 farms with approximately 27% of these farms completing two or more rounds of testing. For this poster a subset of 28 dairy farms that have completed up to four rounds of whole farm testing have been used. The data has been aggregated across these farms for pH, Olsen P, Calcium, Magnesium and Potassium.

Data set for Round 1 includes 28 farms and 1,700 samples.

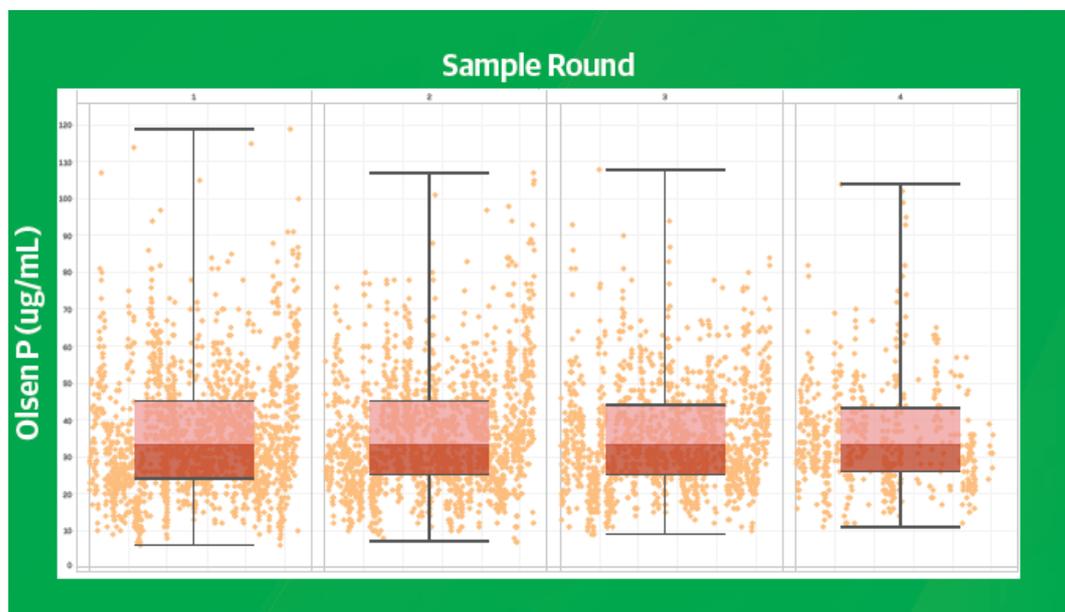
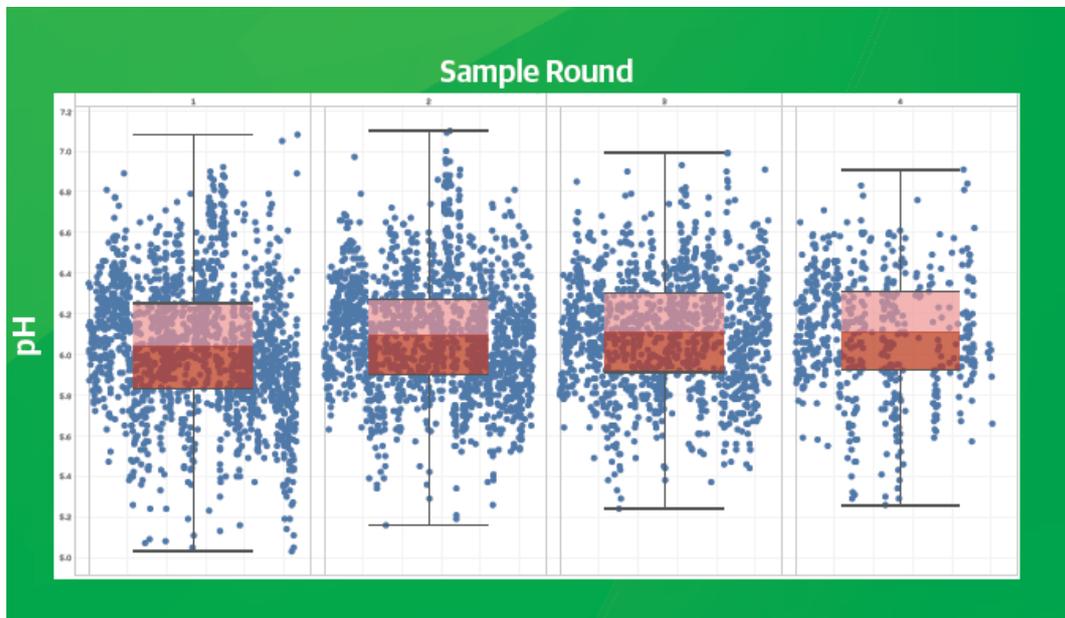
Data set for Round 2 includes 28 farms and 1,608 samples.

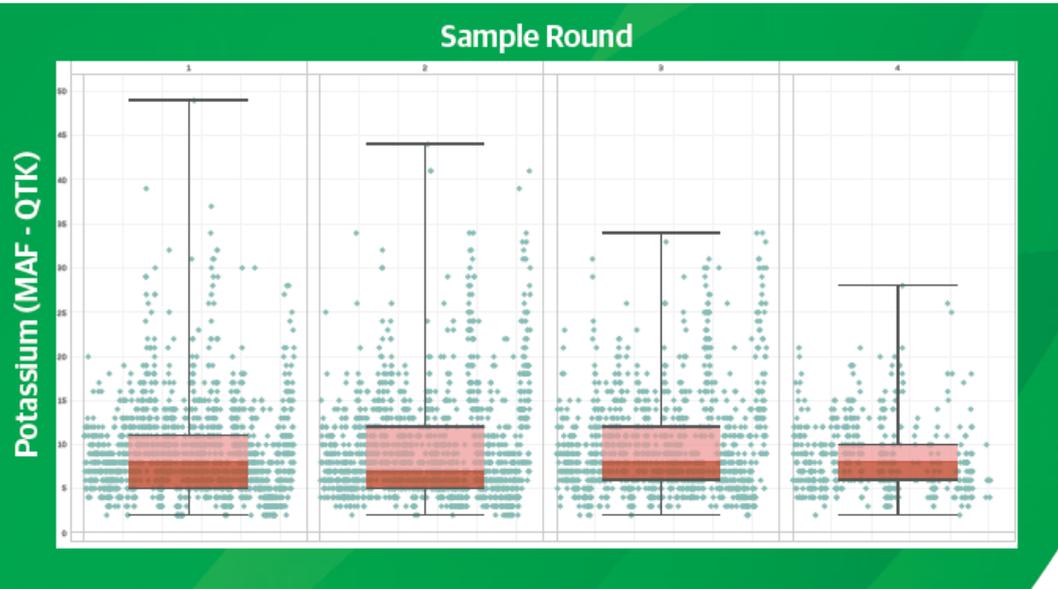
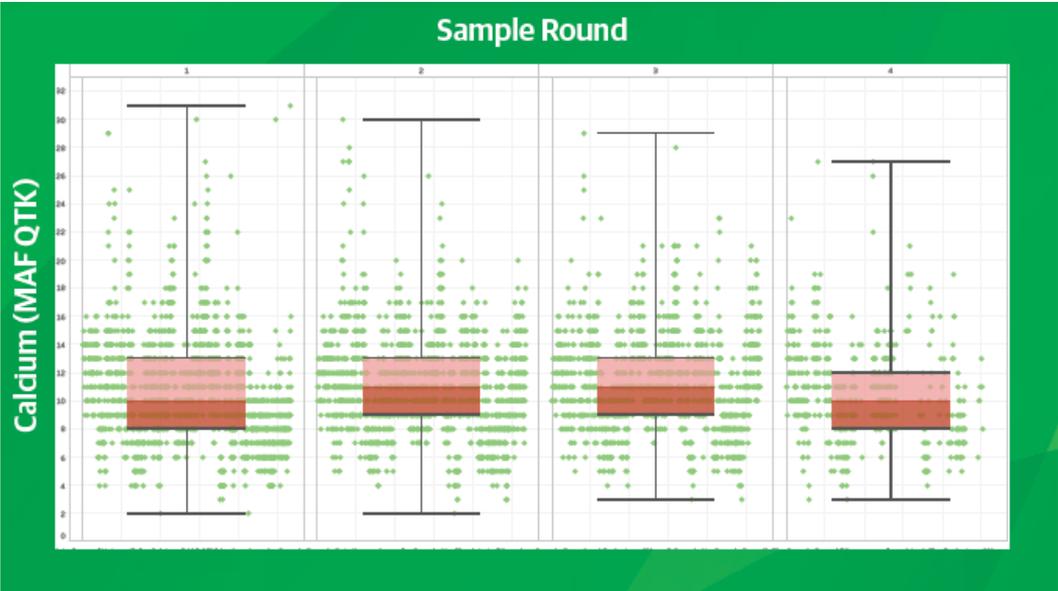
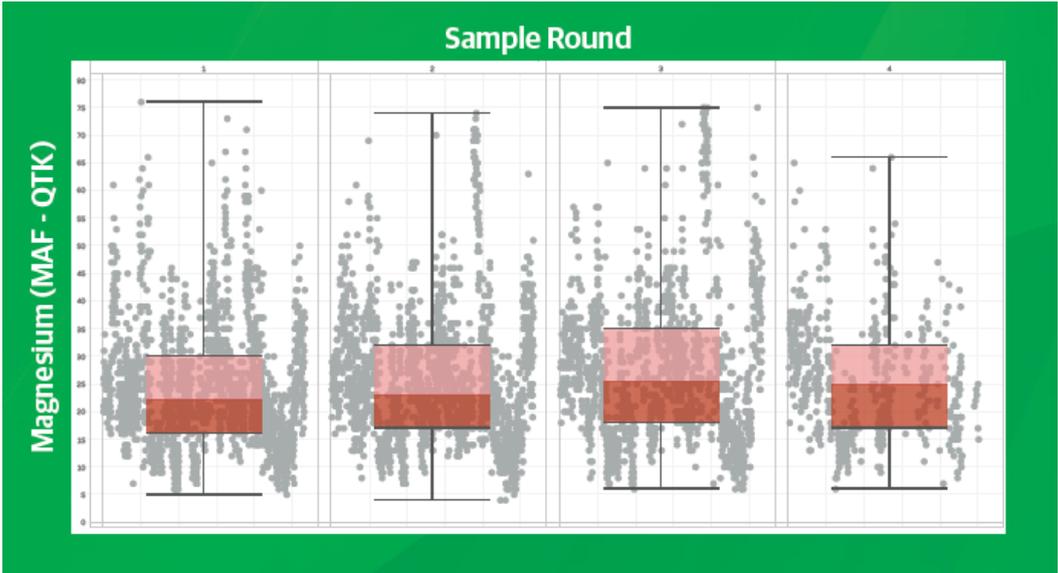
Data set for Round 3 includes 28 farms and 1,290 samples.

Data set for Round 4 includes 23 farms and 557 samples.

Results

Variability in data for the five parameters presented decreased over time as a result of fertiliser withheld from paddocks above optimum levels. On the flipside fertiliser and lime applied to paddocks at the lower end of the fertility scale decreased the proportion of paddocks sitting below the optimal ranges.





Conclusions

The overall data set shows promising trends with the spread of results decreasing across all of the components. This suggests that areas lower in fertility have had more fertiliser applied and areas higher in fertility have had less fertiliser applied. As with the data set evaluated in 2014, it is still difficult to draw conclusions due to the small number of farms identified.

Further work

With just over 850 farms having completed only two rounds of testing to date we can continue to evaluate this data as further testing rounds are completed. This will give the opportunity to break the data sets down by soil types and evaluate the trends with respect to the optimum levels for the soil and farm types.