

UTILISING VARIABLE RATE FERTILISER APPLICATION TO IMPROVE FARM PROFIT

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Profitability from using fertiliser starts with calculating what we actually need. This is done through measurement, and grid soil sampling on our dairy farm has resulted in a 45% saving of our base fertiliser and lime in the 2011/2012 season. This was done through testing in zones where the effluent had been spread under our centre pivot.

Further testing of the same area this year in a grid format will result in the application of only 23 tonnes of lime over a 70 ha area instead of the advised 100 Tonnes. This variability was mostly due to having merged multiple fields with different histories.

EM Mapping has been used to identify different soil zones on both our cropping and dairy farms. One field of interest on the cropping farm which was to be planted in autumn wheat which would traditionally had 350 kg/ha of 30% Potash Sulphur Super but by assessing the potential yields of the different zones with realistic expectations of 8,10,12 and 14 tonnes per ha. We applied 200,250, 300 and 350 kg of product in the different zones which resulted in a \$48.50/ha saving in base fertiliser which was enough to cover the cost of EM mapping of the field and has resulted in an increased profit from the crop.

Application maps are made for all fertiliser applications and proof of placement maps are sent wirelessly back from the spreader to the office which gives us total accountability for our fertiliser placement. Use of automated headland management control results in the elimination of any overlap giving up to 10% savings in fertiliser use. We are also building exclusion zones in gateways, water troughs, water ways, roadsides and the like.

The same EM zones are also currently being used for variable rate irrigation with savings of between 30 and 50% of the water being applied compared to what would have traditionally been applied to this area.

These examples help show that significant savings can be made by taking soil variability into account when considering crop or pasture needs and providing the correct technology to apply inputs.

Editor's Note: An extended manuscript for this presentation was not solicited.