

# Ravensdown PGP Programme Quarterly Progress Report

Contract reporting period: Oct-Dec 2018

PSG Meeting Date: 14/2/19

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## Summary of progress during this quarter

The second season of spring validation surveys were completed during this quarter. The purpose of validation surveys are to test the robustness of remote sensing soil fertility predictions against physical soil tests. Three of four planned surveys were completed. This brings the number of validation surveys completed within the programme to 10 representing a robust and broad geographic test of the soil fertility predictions from remote sensing.

The programmes' Science advisory group met in December to review the overall progress of the programme. The group concluded, based on experimental results to date, that hyperspectral surveys of hill country pastures will provide information that correlates very well with Olsen P values derived from high quality on the ground soil sampling. Some methodological challenges remain, in terms of algorithm development, but there is confidence these will be satisfactorily resolved by the conclusion of the programme.

Additional nutrients to phosphorus have now been included in more detail in the analysis with some of these also looking promising. As planned robustness of calibrations need to be evaluated not only across seasons but also years which continues to be the focus of the programme over the next quarter. Planning of the autumn 2019 validation remote sensing survey programme is now underway. Three further farms are planned to be surveyed during autumn 2019.

Fertiliser applications using leading edge variable rate equipped aircraft (Intellispread™) continues to increase with fertiliser applied using this technology applied to over 80,710 hectares of NZ hill country. This includes 3 variable rate nutrient applications using variable rate equipped aircraft based on fertiliser plans developed directly from hyperspectral remote sensing information.

## Key highlights and achievements

- Completion of the spring 2018 validation remote sensing surveys.

## Upcoming

- Comprehensive analysis of the spring 2018 validation remote sensing surveys.
- Completion of planning for the autumn 19 validation remote sensing survey programmes.
- Completion of fertiliser planning for applicable focus farms based on remote sensing outcomes and cutting edge decision support software.

## Investment

<i>Investment period</i>	<i>Industry contribution</i>	<i>MPI contribution</i>	<i>Total investment</i>
<i>During this Quarter</i>	\$0.22m	\$0.2m	\$0.42m
<i>Programme To Date</i>	\$4.52m	\$4.5m	\$9.02m

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