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## Precision farming to tackle climate change

Managing the effects of climate change is likely to be an ongoing priority for Australian farmers, with adaption and resilience being key. Precision Agriculture has welcomed a commitment by the Australian Government to boost funding to the Climate Change Fund which is designed to help meet the challenges, but also notes the need for farmers to have access to appropriate tools, technologies and advice for it to be truly valuable.

“We are keen to ensure farmers can access this fund to benefit the environment and their own bottom line, because being financially viable is essential to true sustainability,” said Mike Chaseling, Executive Chairman of Precision Agriculture Pty Ltd (PA). We find that farmers are quick to see the potential for precision farming techniques which deliver production and environmental benefits.”

Dr Steven Crimp, a climate applications scientist with the Climate Change Institute (CCI) at the Australian National University, recently noted that current climate trends indicated that a warming pattern was likely to continue, with record-breaking hot summers and changes in rainfall patterns presenting challenges for Australian grain growers with the potential for significant impacts on crop yields.

Speaking at a recent Grains Research Development Corporation (GRDC) Grain Research Update, held in Goondiwindi Qld on the impact of climate change on northern farming systems, Dr Crimp noted: “When it comes to adapting to the projected climate changes, the initial actions grain growers could take are really extensions of what they are currently doing to manage climate variability.”

PA is one of Australia’s most experienced providers of precision agriculture technology and strategies to farmers and is seeing first-hand how precision tools can reduce the impact of agriculture on the environment. An example of this is their work with Gippsland dairy farmers, consultants and researchers to demonstrate the agronomic, economic and environmental benefits of using Variable Rate Application to match fertiliser application with soil and plant needs.

By using tools such as grid soil sampling, electromagnetic induction (EM38) soil mapping and elevation surveys, the project has built a detailed picture of soil health. The project has already identified substantial variability in pH, nitrogen, phosphorus and potassium, both between and within paddocks on each farm. These spatial soil maps will allow farmers to fine tune their fertiliser application, spreading only the amount required in each part of the paddock.

This approach has the potential to deliver economic benefits, with a more efficient use of fertiliser, and significant environmental benefits, through a reduction in the nitrous oxide emissions that are a major contributor to greenhouse gas emissions.

In a separate project, PA worked with the Little River catchment near Geelong (Victoria) which supports approximately 20,000 ha of broadacre cropping that is regularly fertilised with specifically nitrogen-based fertiliser. The project demonstrated how accurate calculation of nitrogen rates to match crop needs, minimised the potential for over-fertilisation and reduced the impact of excess nutrients leaving the farms as runoff into major waterways and into Port Philip Bay.

“Farmers are, by default, tackling climate change issues, not just because of our connection to the land but also because optimising the inputs of production aligns with our long-term sustainability goals, said Mike Chaseling.

The need to adapt and manage for climate change will continue and, for its part, PA is keen to continue to work with growers, industry and government to deliver applied research and on-farm services to enable agriculture to beat the climate change challenge.”

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### ABOUT PRECISION AGRICULTURE

As a leading provider of precision agriculture services, we aim to improve our customers' yields, reduce their costs and improve their environmental sustainability through better, more informed management decisions.

It's all about data, insight and action. Whether it's on-farm, for industry or government we collect, measure and interpret data to find opportunities for technology to deliver savings and unlock potential. We provide practical assistance and support to apply our findings to the real world.