Submission for Agricultural Innovation Enquiry

Tim Neale, Precision Agriculture Pty Ltd

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To whom it may concern. I wish to raise the following issues in relation to Agricultural innovation in Australia, and look forward to the opportunity to speak at the Armidale hearing. We believe the following issues are critical to adoption of new technology and innovation in agriculture.

1. **Methods to rapidly adopt new technology that actually work**. We have recently completed a project with the Queensland governments Department of Agriculture and Fisheries on adoption of variable rate technology in horticulture. Three years ago, at the beginning of the project, there were no yield monitors in horticulture in Queensland, and the most advanced precision ag technology/innovation was auto-steering that had originated in the grains industry. At the end of the project there are now several monitors and there has been over 6,000ha of on-farm adoption of variable rate – a huge success. We believe the key was to have a **public:private partnership project** to kickstart new ideas in areas not adopting new technology. This involved us being a true partner in the project, with commercial companies being involved, rather than a typical project where we get small amounts of funding and the project creates market failure by giving away research outcomes for free.
2. **Why is there is a such a massive gap between university research and on-farm commercial adoption?** This largely comes down to the fact that many universities have no real desire to understand or solve real world problems. They have other drivers. There needs to be a massive change in thinking to 'turn the ship around'. We work with many universities, and they consistently see us, 'the industry', as a funding source for leverage government funding to support their researchers; not a true partnership model.
3. **What drives farmers to adopt new technology**? There are 5 key drivers of on-farm technology adoption from my 15 years of advisory experience, being:
    a. **Cost** – any technology that reduces growers' costs, will be adopted swiftly;
    b. **Convenience** – does it make farmers lives easier; if not, then adoption will be lower;
    c. **Compliance** – if farmers have to do something, and the technology helps, then that's a win;
    d. **Capacity** – will it enable the farmer to do more with less?;
    e. **Complexity** – even if a piece of technology can deliver; and
    f. **Champions** – if there are local farmer champions (this is where government intervention helps) then other growers are more than likely to adopt this technology.
4. **Where is our new technology is coming from**? In almost all cases, innovative technology we adopt in our business comes from the North America/USA. Why aren't we able to source these kinds of innovative products from Australia? Some examples of USA equipment we import to use includes:
    a. VERIS soil testing equipment
    b. Geoincs EM soil sensor
    c. Greenseeker plant sensors
    d. Famobile machine tracking devices
    e. Planetlabs satellite imagery
    f. Landsat satellite imagery
    g. Wintex soil samplers

   h. Amity soil samplers
5. **What limits our business from bringing more new technology in from overseas**? At the moment, as most of our equipment comes from the US, the low Australian dollar is making it very costly to bring the latest technology into the country. Support for delegations to head to the North America and Europe would certainly help us find and source the most innovative products from overseas and utilise these for the benefit of Australian agriculture. Even better, would be for government to support start-up business in Australia to build our own capacity here. We have many new ideas but have real trouble in developing these ideas into commercial reality. Recent focus has been on the digital economy; however, we must not forget that much of the services we offer in Australia are relating to field work with field sensors.

About Precision Agriculture

Precision Agriculture is Australia's foremost on-farm spatial data analytics company, which has been operating since 2009. We offer advice, training and services associated with precision farming industries. With a strong understanding of the complexities associated with farming systems we foster partnerships with key stakeholders in order to deliver targeted solutions.

We consist of a team of people who have a passion for integrating spatial technologies with the management processes of cropping systems. We value the concept of **'measure to manage'** as being critical for continual farm improvement and provide the products and services to enable farmers to strategically respond to the challenges of crop production relative to space and time.

About Tim Neale

Tim obtained his degree in Rural Technology at the University of Queensland, Australia in 1995. During the seven years working with the Queensland Primary Industries Department, Tim researched the impact of tractor and harvester wheels on grain yield. This drove Tim to start his own business consulting to farmers and completing projects on developing ways to a more productive farming future based on **Precision Agriculture**. Tim works all over the world delivering Precision Ag products and services. His work has helped change over five million hectares to more profitable and sustainable farming systems, and kick started the revolution in auto-steer tractor guidance technology. Tim has been consulting for 15 years.

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