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## **SUBMISSION – AGRICULTURAL COMPETITIVENESS WHITE PAPER**

Soils underlie the productivity and sustainability of Australian agriculture (and forestry). As such Soil Science Australia welcomes the development of the Agricultural Competitiveness White Paper. The Society has close to a thousand active members of which approximately 200 are accredited professional soil scientists (CPSS). Our members work in the private sector, universities, governments and NGOs; they are all passionate about understanding, developing and securing healthy soils for Australia's future.

Soil Science Australia would like to see more specific reference to the nation's soil resources in the White Paper and their role in the development and productivity of the agricultural sector. To this affect we point to the recently released National Soil RD&E Strategy – "Securing Australia's Soil – for profitable industries and healthy landscapes". This soils strategy was a collaborative effort bringing many soils active people from across Australia to collectively examine the future of soils research, development and extension. We also note that FAO have declared 2015 the "International Year of Soils".

While the "Agricultural Competitiveness White Paper" does make mention of the need for better drought and flood management, the roles of land resources and fertilisers, the demand for good environmental management, the role of technology, the development of irrigation and so forth we believe it ought to explicitly state and consider the role of better soil use and management to achieving these needs.

We believe there is a dire need in Australia for a better national approach to soil information collection, storage and dissemination (extension); in line with that of the Bureau of Meteorology or Geosciences Australia. Soils are vital to productive and sustainable agricultural output along with their role in urban, mining, environmental and construction sectors. However, soils data and reporting are often client, project or institution focused and so become siloed and inaccessible to broader groups of potential users and indeed the national perspective. We need better national soil databases, mapping and interactive digital outputs and soil sensing tools for farmers and all land users and managers.

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We believe Australian farmers would benefit from better soil related technology in terms of digital soil mapping, web assessable soil databases, rapid hi-tech in-field soil sensing, precision irrigation which matches water application to soil type using moisture sensing technologies, precision fertilisation to soil type and further developments in minimum and no-till cultivation, improved soil drainage and better pest management and control (pesticides). These technologies will allow more precise and optimal input placement and so help reduce input costs while improving environmental outcomes.

There is also a need for further improvement in fertiliser efficacy, pesticide behaviour and to improve our understanding of the very complex soil biology, particularly microbiology, and its potential benefits to health plants and foods. While soil carbon has been on the national focus it has largely been due to the issues around carbon sequestration rather than the critical role soil carbon plays in productive, fertility, healthy and resilience in soils. Thus the soil carbon and soil health research and extension needs to continue and develop.

One way Australian farmers might better become “price setters” rather than only “price takers” (and low prices at that) is by demonstrating they are sustainable and environmentally friendly food producers. The market will pay more for regionally, healthy and nutritious foods which protect the environment and keep our Australian soils and environment in a healthy state. The “Healthy soils = Healthy foods” message needs to be highlighted to urban based Australians.

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