



## **Future Drought Fund: Have your say**

### **About Australian Organic Limited**

As peak industry body, Australian Organic Limited (AOL) strives to protect and promote the interests of the organic sector and continues to engage and consult with government and key stakeholders to understand and address our industry's needs and challenges. With over thirty-five years' experience in the organic industry, AOL is driven by a clear strategic approach to the future of organics and has positioned itself as a leader in Australian agriculture.

AOL welcomes this opportunity to contribute to the submission process regarding the Future Drought Fund Investment Strategy 2024 to 2028, aimed towards enhancing the public good by building drought resilience. Nearly 70 per cent of the world's certified organic land is in Australia. 53 million hectares are currently under certified organic management in the country, with Queensland holding the highest amount of fully certified land at nearly 18 million ha, followed by the Northern Territory and South Australia. Overall, the Australian organic industry is currently worth a conservative total of \$2.6 billion inclusive of direct and indirect contributions to the economy. Despite its significance, there remains a lack of attention and investment towards harnessing the benefits of this extensive organic land for the broader Australian agricultural industry.

### **Organic Farming and Drought Resilience**

While drought has historically been a periodic reality for Australia, its impacts are largely influenced by how land is managed. As one of the earth's most vital resources, soil lies at the core of organic agriculture, and maintaining best practice soil management is key to long-term farm sustainability both economically and environmentally. Healthy soils are fundamental for mitigating climate change effects and fostering agricultural resilience. A significant tenet of organic agriculture is to build soil fertility by increasing the levels of organic matter in the soil; as such, organic soils typically have higher soil organic matter and therefore increased moisture retention. For every 1 per cent increase in organic matter, soils can retain up to 150,000 litres more water per hectare<sup>1</sup>. This makes organic farms more drought resilient with up to 40 per cent higher yields compared to non-organic farms during times of drought and climate extremes<sup>2</sup>.

Healthy soil serves as a substantial carbon reservoir and increases drought resilience. Carbon performs many crucial functions, including maintaining soil temperature, providing a food source

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<sup>1</sup> RCS Australia. (n.d.). *Improving and Understanding Soil Health*. <https://www.rcsaustralia.com.au/improve-soil-health/>

<sup>2</sup> Moyer, J., Smith, A., Rui, Y. & Hayden, J. (2020, September). *Regenerative Agriculture and the Soil Carbon Solution*. Rodale Institute. [https://rodaleinstitute.org/wp-content/uploads/Rodale-Soil-Carbon-White-Paper\\_v11-compressed.pdf](https://rodaleinstitute.org/wp-content/uploads/Rodale-Soil-Carbon-White-Paper_v11-compressed.pdf)

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for microbes, and influencing water holding capacity and aeration<sup>3</sup>. Practices such as maintaining constant soil cover through under cropping, crimping systems rather than ploughing or harrowing, minimising or avoiding tillage, and employing correct stocking practices to prevent overgrazing all contribute to minimising the true effects of drought.

In organic systems, emphasis on soil health can lead to remarkable outcomes such as an increase of 15-20 per cent in water percolation through the soil. This increased percolation not only aids in replenishing groundwater tables but also enables organic crops to thrive in extreme weather conditions<sup>4</sup>. Most activities that are important for improving drought resilience are already integrated within organic farming practices, some of which include: livestock grazing management, livestock integration for perennial horticulture, multispecies cover, cropping rotations, irrigation practices, and soil health management. Organic farming practices offer a robust solution for enhancing drought resilience in Australia's complex agricultural landscape. By prioritising soil health, organic farms demonstrate improved resilience to the impacts of drought.

### **Leveraging Drought Resilience Adoption Hubs**

Besides the specific management activities outlined above, building drought resilience also requires helping farmers to strategically plan and manage the risk of drought. AOL acknowledges DAFF's commendable achievement of 8 Drought Resilience Adoption and Innovation Hubs across Australia. The subsequent allocation of \$10 million for their short-term extension until June 2025 reflects a positive step forward. However, concerns linger regarding return on investment should the program get discontinued post-review. There is a need for sustained improvement strategies and a long-term vision for the Hubs. For instance, repurposing or reclarifying the remit to incorporate state-based activities and partnerships beyond borders into the operating procedure is much preferred over dissolution. Given the substantial investment of resources and time in establishing these Hubs, ensuring their impactful continuity beyond the extension period is imperative to maximise their impact and sustainably build drought resilience.

Within the SEQNNSW Hub, there has been limited collective engagement given staff turnover and COVID implications, resulting in only one meeting since its announcement in 9 April 2021. The National Drought Forum in September 2023 revealed an ongoing issue: a communication gap among stakeholders, including state, national, and regional bodies, non-profits, and RDCs. This gap has mitigated collaborative opportunity and hindered the efficient use of available time, resources, and networks. While efforts are underway, the efficiency in leveraging these vital connections and resources for maximum impact is still lacking.

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<sup>3</sup> Van Bniggen, A. H. C., & Termorskuizen, A. J. (2003). Integrated approaches to root disease management in organic farming systems. *Australasian Plant Pathology*, 32, 141-156. <https://link.springer.com/article/10.1071/AP03029>

<sup>4</sup> Rodale Institute. (2022). *Farming Systems Trial*. <https://rodaleinstitute.org/science/farming-systems-trial/>  
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Moreover, while 7 out of the 8 hubs are affiliated with universities and thus emphasise research, it's crucial to acknowledge our producers' need for practical demonstration sites or extension programs to ensure the adoption of continually improving management practices. This issue needs addressing since it impacts farmers who adopt certain practices or tools only to find them discontinued shortly after implementation. At this point, there is still a gap in the Hubs' involvement of suitable Natural Resource Management (NRMs), Universities and other relevant organisations and extension networks, partly due to the competitive grant-based process of the Hub establishment. Moving forward, it's crucial to improve collaboration among Hubs and local organisations. Emphasis could extend beyond universities to incorporate a broader range of stakeholders. This shift is essential to foster continual improvement in farming practices.

The sustainability and efficacy of the Hub initiative demands a cohesive approach, where research, demonstration, and the continuous integration of technology align to serve the evolving needs of relevant stakeholders. AOL remains an organisation that represents producers on a national scale; however, we currently have no engagement with the activities of other drought hubs.

Understanding how this situation can be improved in the future for AOL and other organisations is crucial to securing the existence of the Hubs, collaborating to improve uptake and improvement of beneficial practices, and ensuring a lasting impact on drought resilience.

### **The Importance of Long-Term Trials**

Extending beyond immediate research scopes, it's important to keep in mind that harnessing the trial outcomes will require close collaboration with state based and NRM extension officers. By integrating trial findings into practical knowledge, these collaborations will bridge the gap between research and practical implementation, empowering farmers with evidence-backed strategies and knowledge tailored to the unique challenges they face.

It is also equally important for the Drought Resilience Hubs program to adopt a parallel long-term approach. The Hubs have great potential to serve as focal points of continuous learning and adaptation, integrating the outcomes of research findings and long-term trials into practical, on-ground applications. A long-term approach is essential if the Hubs are to maximise their impact.

The need for long-term trials, especially considering Australia's unique geographical context, cannot be overstated. The Australian agricultural sector faces unique challenges by way of a highly variable climate which generates substantial variation in farm output. Our producers manage risks more significant than those experienced by producers in other countries. Undertaking long-term trials thus becomes necessary to capture the nuances of evolving climatic conditions (e.g., La Niña, El Niño) and their complex interactions with cropping, grazing, and mixed farming practices.

AOL recognises FDF's ongoing Drought Resilience Long-Term Trials initiative slated to conclude in 2028. The evidence-based, long-term nature of the project will enable in-depth and more accurate investigations into innovative drought-resilient farming practices. Long-term research is particularly important for understanding gradual changes in soil properties that impact soil fertility



over time<sup>5</sup>. The value of long-term soil trials is widely recognised for understanding gradual soil change and informing decision-making towards sustainable initiatives<sup>6 7</sup>, including drought management.

### **Rewarding Proactive Management**

Another existing concern within current funding frameworks is the insufficient recognition and reward for proactive management practices, particularly around early destocking and conservative pasture management. This is especially evident within livestock production, wherein the producers making difficult yet strategic destocking decisions early on rarely receive corresponding financial benefits from drought assistance compared to those who do not adopt the same practices. It should be noted that many producers remain hesitant to engage in schemes such as carbon markets because of its non-linear nature and the ambiguity regarding long-term plans and requirements. It's therefore crucial to establish alternative frameworks that recognise and reward responsible management practices that can significantly contribute to mitigating the impacts of drought.

One potential framework involves creating a dual-tiered system that rewards proactive management while providing essential support to those in need. This model acknowledges and encourages good management decisions by offering producer incentives (potentially financial incentives found most attractive to producers, such as lower interest rates or council rates) for exhibiting proactive measures in building drought resilience. Simultaneously, the model will offer targeted assistance for those who need financial support.

For this model to thrive, leveraging farmer-to-farmer learning as the most successful information exchange model is crucial. Education and outreach can play a key role; disseminating success stories and showcasing the tangible benefits of proactive management practices can inspire and empower other producers to follow suit. Farmer-to-farmer learning is an influential yet under-utilised resource within the agricultural community. Fostering an environment where responsible management decisions are not only encouraged but also actively shared among peers is important. This recommendation represents a balanced approach, recognising and rewarding proactive producers while ensuring fair and inclusive support for all.

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<sup>5</sup> Johnston, A. E., & Poulton, P. R. (2018). The importance of long-term experiments in agriculture: their management to ensure continued crop production and soil fertility; the Rothamsted experience. *European Journal of Soil Science*, 69(1), 113-125. <https://doi.org/10.1111/ejss.12521>

<sup>6</sup> Bergh, E. L., Calderon, F. J., Clemensen, A. K., Durso, L., Eberly, J. O., Halvorson, J. J., Jin, V. L., Margenot, A. J., Stewart, C. E., Pelt, S. V., & Liebig, M. A. (2022). Time in a bottle: Use of soil archives for understanding long-term soil change. *Soil Science Society of America Journal*, 86(3), 520-527. <https://doi.org/10.1002/saj2.20372>

<sup>7</sup> Richter, D. deB, Hofmockel, M., Callahan, M. A., Powlson, D. S., & Smith, P. (2007). Long-Term Soil Experiments: Keys to Managing Earth's Rapidly Changing Ecosystems. *Soil Science Society of America Journal*, 71(2), 266-279. <https://doi.org/10.2136/sssaj2006.0181>



## Conclusion

AOL supports the vision of the Future Drought Fund and looks forward to working with the government to promote and incentivise healthy land management practices that enhance drought resilience. Organic farming practices can serve as guiding principles for building sustainable drought resilience. With vast expanses of certified organic (and in conversion) land across the country, there is ample scope for engagement with organic practices across the various Australian environments.

Recognising the long-term nature of enhancing drought resilience, programs such as the Drought Resilience Adoption Hubs require a parallel long-term approach to optimise return on investment and more importantly, maximise their impact. There is also a prevailing need to bridge communication gaps and promote collaborative efforts within the Hubs and across state, national, and regional bodies, non-profits, and RDCs. Farmer-to-farmer learning is a powerful yet under-utilised resource that needs to be leveraged to achieve sustainable progress.

Achieving lasting impact on drought resilience requires a holistic approach that integrates research, demonstration, and technology. AOL looks forward to enhanced collaboration and strategic stakeholder alignment to build Australia's environmental, economic, and social resilience against the significant challenges posed by drought.