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BRINGING HIGH TECH HORTICULTURE TO URBAN AREAS IN AUSTRALIA – ROOFTOP, UNDERGROUND AND FLOATING FARMS

Hort Innovation is working with a consortium, led by agricultural consultancy RMCG in partnership with University of Technology Sydney (UTS) and global urban agriculture consultancy Agritecture, to assess the potential of emerging production technology and its application in the Australian urban landscape as part of a six-month project. The benefits to growers and Australia by use of technology such as vertical farm systems and hydroponics is food production and delivery systems that have the potential to redefine horticulture by optimising yield, quality, and supply.

High-technology horticulture is being implemented in urban areas across the globe using vertical farm systems, hydroponics and aquaponic systems and nearly fully automated production as well as rooftop, underground and floating farms.

Hort Innovation CEO Matt Brand said, “Hort Innovation CEO Matt Brand said, “Bringing such technology to Australia will attract capital and new entrants to the sector with new ideas, approaches and mindsets. It gives us the opportunity to grow more from less and to keep demonstrating the good work that Australian growers do, day in day out, providing food to families both here and overseas.

“Urban in this context also captures regional areas and hubs. Growers will use the technology as part of the overall production mix. It’s another production system that will be part of the diversity and variety that is Aussie horticulture.

“High technology horticulture may have the potential to play a significant role in increasing Australia’s horticulture sector value and help achieve Australia’s target of a \$30 billion industry by 2030.”

The feasibility study aims to identify the opportunities and challenges for high technology horticulture in urban Australia.

It will identify a range of high technology systems and assess their applicability to urban Australia by considering:

- Regulation and planning
- Farm input and waste
- Supply chain logistics
- Social, environmental and economic aspects

The project will include a high-level literature review, modelling of the social, economic and environmental impacts and detailed analysis of how the economics of high technology urban systems compare to traditional farming systems.

The outcomes of the study will identify future priorities for research, development and extension activities and investment into Australian high technology horticulture in urban areas.

The study is being guided by an industry-led reference group including growers and emerging commercial leaders engaged in urban high technology horticulture in Brisbane and Sydney, members of local city councils, and subject-matter experts in protected cropping.

Greenhouse and hydroponic consultant Graeme Smith said, “The benefits to growers and Australia by use of technology such as vertical farm systems and hydroponics is local fresh food production and delivery systems that have the potential to redefine horticulture by optimising yield, quality, produce uniformity with reliability of supply every day of the year with little to no supply gaps. These new systems certainly are the modern face of horticulture that should complement the current supply chain in a key range of nutritious and delicious produce.”



A modular farm in Brisbane using high-tech horticulture.



High-tech horticulture rooftop farm from Lufa Farm in Montreal, Canada.

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