



New Tech for farming in arid environments - almost to market?

Tue, 12/20/2011 - 00:57 -- FlaCracker66

Happy Tuesday. Here is a link and text for an interesting new technology, stated as a "low tech" solution for gardening/farming in environments with slight rainfall. <http://www.smartplanet.com/blog/global-observer/airdrop-extracts-water-f...> [1] MELBOURNE ? The invention of ?Airdrop?, a low-tech, atmospheric water-harvesting device, was inspired by a study of the Namibian beetle, an indigenous species that can be found in one of the driest places on earth. Living in the Namib Desert, an environment with only half an inch of rainfall per year, the beetle can only survive by consuming the dew it collects on the hydrophilic skin of its back in the early morning. Edward Linacre?s creation of Airdrop borrows from this concept, working on the hypothesis that water molecules can be extracted by lowering the temperature of the air to the point where condensation occurs. ?Even arid areas like the Negev desert in Israel, have average relative air humidities of 64 percent ? in every cubic meter of air there are 11.5 milliliters of water that can be harvested,? the industrial designer said. Designed for both large-scale agricultural use or backyard domestic application, Airdrop pumps air through a network of underground pipes; this cools the air until it condenses, delivering water to the roots of plants. ?The system is low-tech, using simple static parts and no complex mechanisms except for certain elements like the solar power unit and the sub-surface drip irrigation integration ? technologies that are already in widespread use by the rural farming communities of Australia,? Linacre said. Numerous prototypes were constructed in Linacre?s mom?s backyard. He also consulted a physicist in the final stages to find the most effective means of inducing condensation ?- this resulted in the addition of material within the subterranean piping. ?Airdrop has been designed to be easily installed by rural farmers, similar to installing an underground rainwater tank, not requiring any specialist for integration into the farming system,? he said. Australia has some of the worst droughts on record and many areas, including Melbourne, often have to enforce tight water restrictions to deal with the water shortages. Linacre designed Airdrop in 2009 as a drought-relief solution, responding to the devastating 12-year-drought which was affecting South-East Australia at the time. Last week the Swinburne University of Technology graduate received (GBP)10,000, as the winner of the James Dyson Award, with an additional (GBP)10,000 going to his design department. Linacre will use the money to build more Airdrop prototypes, with a view to commercializing the device in future.

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Links:

[1] <http://www.smartplanet.com/blog/global-observer/airdrop-extracts-water-from-air-inspired-by-beetle/1304?tag=nl.e550>