

South African farmer develops 'Tree Hog' unit for more efficient irrigation

As growers throughout South Africa continue to struggle with the ongoing drought, one farmer has developed a simple solution he says can provide huge savings on water and electricity.



Western Cape-based Louis Loubser grows peaches, citrus and wine grapes on his 55 hectares of land, but when the farm's irrigation channel broke more than two years ago, he was left without water.

After trying various solutions, he discovered that by using a plastic bag to cover the soil area he could minimize evaporation, but it was a challenge to irrigate.

"Then my mother bought a tree in a plastic pot. Without her knowledge, I started cutting and grinding. Eventually I enclosed it around irrigation sprinkler and did a test run," he told *Fresh Fruit Portal*.

"The results were insane, but the angles and distribution of the water was all wrong and uneven. So then I started with box and plastic materials, and started to get the correct angles I was looking for."

The finished product – dubbed the Tree Hog – is a unit made out of injection molded polypropylene plastic. The concept of the tree hog is to minimize evaporation, with the pipes running through ventilation holes to water a controlled area.

"It also maintains a balanced soil temperature for root development and increases micro-organisms in an environment by using less harmful weed control chemicals," he said.

“By combining all the pros from micro and drip irrigation, you are giving a higher volume of water in a shorter time, and leaving a big drip footprint.”

Testing the unit on citrus production for more than one year, Loubser said trees only needed to be irrigated for one hour per week as opposed to the six hours it would typically need in the varying conditions. He calculated a 62% saving on water and electricity.

In addition, he said the Tree Hog had proved to be beneficial for root growth and development.

While good results can be achieved using drip irrigation, with two pipes running through, he said the those using microsprinkler irrigation would see an even bigger difference.

“The microsprinkler would be inside the unit, and then you’re going to irrigate much less. My trial farm next door is irrigating without Tree Hogs six hours a week, whereas I’ve got my Tree Hog and only irrigate one hour,” he said.

Ventilation holes also ensure a good flow of air through the unit to prevent mold of fungus from growing.

Loubser said the concept of an object covering the base of the tree to avoid evaporation could be traced back to China many decades ago, but he had developed a unit that was suited to modern-day farmers’ needs and could be produced in large quantities.

“It’s a very old practice, but I needed it to work for our type of sometimes harsh conditions here in



South Africa,” he said.

“It needs to be easy to use, durable and options that the grower can use. All farmers want options. That’s why I designed the breakout rim, four ventilation holes and sprinkler hook with a two-way option to irrigate.”

His impressive results with the Tree Hog have earned the attention of major retailers and international produce companies, including U.K.-based fresh fruit supplier Primafruit.

“I already had the patent for South Africa, and then Primafruit came in and helped me get the international one. So the patency on the design and the logo has all been done,” he said.

"I'm going to start producing in February and will hit the market soon. Primafruit has set me up with some growers in areas that are struggling with new ways of irrigating."

Primafruit managing director Jamie Marskell said the company had been keeping an "interested eye" on the Tree Hog's development since it first came across the prototype.

"We work with some of the world's best growers of tree crops and we see significant potential in such an environmentally-friendly product," he said.

"Any responsible and forward-thinking fruit producer should be looking at innovations like this to aid productivity and to reduce the environmental impact of fruit production. We have remained in close contact with the Tree Hog team and look forward to seeing their plans for expansion come to life."

Loubser has also been in touch with companies from the likes of Spain, Peru, Egypt, Lebanon, and Australia, and has now teamed up with South Africa-based Barloworld Agriculture Temo Parts to help with logistics, marketing and distribution.

"I've got some big guys running beside me that can really get this product out to the world," he said.

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