



# Leading by example

## SMART WATERING CASE STUDY: STEVE WRATTEN

As Professor of Ecology at Lincoln University and Principal Investigator in the Bio-Protection Research Centre, Steve Wratten is a gardener who holds his surrounding environment in the very highest regard.

Steve feels strongly about growing food sustainably – from cabbages in his backyard to vast tracts of New Zealand crops. And water use is a big part of this.

“Yes, I take very special care about how I use water in my garden,” says Steve, “but isn’t it a drop in the ocean when compared to the water used in commercial agriculture?”

But despite his comparison, Steve remains committed to leading by example and explains how he does this.

Steve grows his vegetables in three different spots around his property. A 6 x 4 metre clear plastic tunnel house, which captures the sun but keeps out the wind; a traditional glasshouse; and an uncovered veggie patch.

In the two covered spaces, Steve has trickle irrigation. A tube weaves through the tunnel and at about every 60cms it has a small hole releasing water precisely onto where the plant goes into the ground. Steve has a timer on the tap where the irrigation hose is attached. He turns it on during cool times of the day and sets the timer for about twenty minutes. He has the same system through his smaller glasshouse. Because the tunnel and glasshouse are enclosed, he does not lose water through evaporation.

“This is so much more efficient than standing with my hose and spraying water where it is not needed,” he says. “Or a sprinkler system which has the same problem. This way I know each plant is getting the water it needs almost directly to its roots.”

Steve’s approach to conserving water in his outside garden is through pea straw. Steve is a big fan of this material. He gets half a truck load delivered as bales (which second as a great source of play for the local kids) and he peels slabs as he needs them. He places a thick layer over the ground making holes for the plants to peek through.

“Pea straw is wonderful,” says Steve. “As it breaks down this material it feeds nitrogen into the soil improving the quality, making it rich and peaty. It also prevents water from evaporating. In the hot sun carbon in the soil would otherwise oxidise, releasing carbon dioxide.”

Once the straw has done its work in his vegetable patch, Steve moves it to under his fruit trees or other planted areas where as a mulch it again improves soil quality and prevents water evaporation. “I use it twice,” he says. “And there is never a shortage of pea straw because of all the McCains and Wattie’s crops in the area. It’s about \$6 a bale and negates the need for me to buy expensive fertiliser and helps me conserve water. It also makes a wonderful base for compost because it holds the nutrients.”

Steve is proud of what he produces without making too much of an impact on the environment – he grows vegetables for his family table and loves sharing them with the wider community too. “I never attend a hui without a basket of what’s in season,” he says.



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