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Submission to the Murray Darling Basin Plan Parliamentary Inquiry

*Submission by Netafim Australia
21 January 2010*



We accept that water entitlements may be taken from the catchments in the Murray Darling Basin.

We submit that water buybacks are extremely detrimental to the communities of the basin.

Water entitlement is lost along with all the associated employment and value created by this water entitlement.

A well structured on-farm infrastructure upgrade is win-win, because it enables water to be taken by the Commonwealth for environmental purposes, and funds given to farmers to assist upgrade irrigation infrastructure. There is still much water to be saved by improving farmer's irrigation techniques.

There is an opportunity here to assist farmers to convert to more highly efficient forms of irrigation – and in return water can be taken for environmental flows with no loss of production, as the farmer now has the means to grow more with less.

It has been shown in other countries that investment by Government in efficient irrigation on farm has yielded significant water savings, at the same time as improving the productivity of the farmers and the agricultural sector in general.

After 10 years of drought, farmers lack the capital to wholly fund the infrastructure upgrades required, and need some Commonwealth assistance.

Attached is some information on how drip irrigation may be able to help solve the issues of the Murray Darling Basin.

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Agronomist
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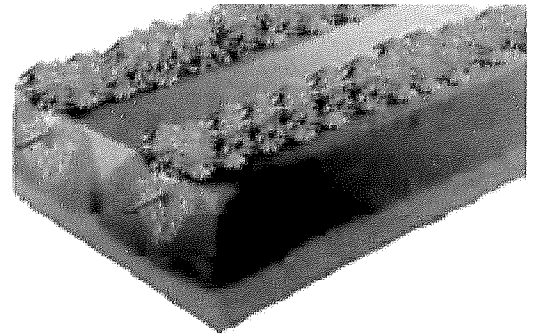


DRIP IRRIGATION – A SOLUTION FOR THE MURRAY DARLING BASIN

NOVEMBER 2010

INTRODUCTION

Drip Irrigation is the application of droplets of water to a crop through emitters which are located in a pipe, or dripperline. In the case of sub-surface drip irrigation, the dripperlines are located underground, (see image right) at a depth dependent on the root zone of the crop and characteristics of the soil.



As the water is applied in a controlled method directly to the root zone, there are very few losses due to run off, leakage and evaporation. There are some key environmental benefits gained by using drip irrigation. Fertiliser is applied through the dripperline in frequent small doses, reducing fertiliser contamination of the ground water and the atmosphere.

WATER SAVINGS / YIELD INCREASES ACHIEVED



In almost every situation, drip irrigation requires less water and leads to yield increases. In some cases, drip irrigation can lead to both compared to flood irrigation of a similar crop in a similar climate.

In an analysis of 112 studies of drip irrigation vs. flood irrigation in comparable situations, water savings have been reported to be between **15 - 55%**. Yield increases in the same studies have been reported between **18 - 50%**.

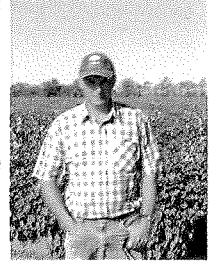


CASE STUDIES

NEIL MILL

Neil lives and farms the 'Westwood' aggregation approximately 20km north west of Narromine in Central West NSW.

"My experiences with the drip blocks compared to flood irrigation blocks are in terms of water use. I found a significant difference was documented. The difference is attributed to the ability of the drip system to take advantage of summer storms, and light rain fall. The crop utilised these falls due to 50-60% of the growing area under drip remaining dry allowing rainfall to be stored in the ground."



Neil Mill Yield Water Use 2009 Cotton season:

	Water ML/Ha	Yield Bales/Ha
Flood Irrigation	10	10
Drip Irrigation	3	9

MOXEYS

The Moxeys are dairy farmers at Gooloogong, near Cowra in NSW. They grow lucerne with both flood irrigation and sub-surface drip irrigation.

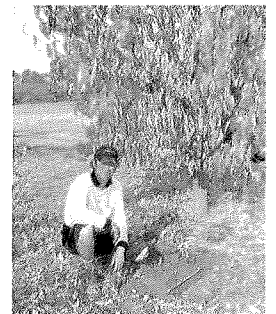
Glenn Moxey say they have achieved 30% more production from the sub-surface irrigation blocks and it provided a lot more flexibility than the flood paddocks. "We can program it out a week in advance or more," he said. "It's not weather dependent and we can give the crop water and fertiliser when it needs it."



ANDREW ROUTLEY

Andrew Routley grows peaches and cherries in Katunga, VIC.

"We have a property growing peaches and cherries using drip irrigation, and a property with existing sprinklers. We estimate that we use 8 megalitres per ha using sprinklers, and 5 megalitres per ha using drip irrigation, on comparable crops."



CITRUS INDUSTRY

Citrus orchards have historically been furrow or sprinkler irrigated, but there has been a move toward drip irrigation, particularly in new plantations. The ability to apply fertiliser through the irrigation system has huge benefits for citrus production. The NSW DPI published 'Drip Irrigation – A Citrus Growers Guide' in which they use case studies to make a number of assumptions for financial analysis of drip irrigation.

Assumptions: Water Use (ML/Ha)

Irrigation Method	Furrow	Overhead Sprinkler	Low Level Sprinkler	Drip Irrigation
Total Water Use/ Season (ML/Ha)	12	12	10	8

Source: Drip Irrigation – A Citrus Growers Guide NSW DPI (2005)



WINE INDUSTRY

The Federal Government National Land and Water audit in 2008 identified drip irrigation as the best management practice for wine grape irrigation, and that 62% of all wine grape growers use drip irrigation.

BROADER ISSUES OF IRRIGATION EFFICIENCY

ENERGY

Whilst drip irrigation is a pressurised system, and does rely on some form of energy to drive the pump, the pressure required is significantly lower than that of overhead systems, such as a centre pivot or lateral move. Some research has also found that over wetting of soil and inefficient application of fertiliser in flood irrigation systems can cause greenhouse gases such as nitrous oxide to be released into the atmosphere.

ECONOMIC PROSPERITY

The Murray Darling Basin faces the necessary measure of having irrigation water taken from the community and returned to the environment. This will have a devastating effect on the economic and social viability of those communities unless a way can be found to take the water and keep the production. Assistance to convert a significant amount of the flood irrigated agriculture to drip irrigation enables water to be taken for the environment without the loss of production.

WATER TECHNOLOGY AS AN INDUSTRY

Countries that have been at the forefront of the development of water saving technology, most notably Israel, have nurtured a highly profitable industry exporting this technology and expertise to the world. Two of the world's major issues to be acted upon over the next 50 years are water scarcity and food security. There would appear to be a strong industry in advancing water saving technology on a large scale and exporting it to the rest of the world.

For further information please contact Peter Durand

or Sam Birrell

