

Conducting Irrigation System Evaluations & How It Can Save You Money

All irrigation systems regardless of what type of system it is or how old it is have the potential to slowly eat into your profits.

Some of the key reasons are Pumps not matched to the application system or to the required duty use more energy when operated out of their best efficiency point, when this is the case more often than not the application system will suffer from a lack of pressure and flow.

All irrigation application systems have an optimum design pressure and flow to give best Distribution Uniformity and this can be compromised when Pumps are not matched to the required duty.

The effects are high pumping cost, higher water use and lower yields due to low Distribution Uniformity also higher water losses through filtration system back flushing more often due to the increased volume of water being pumped. Higher losses of nutrients through poor Distribution Uniformity. This causes water quality problems that cost money to adjust and is not good for the environment. It accelerates the losses in profits when nutrients are injected into these irrigation systems.

The type of irrigation system used requires a high level of design to match your crop management, crop type, peak climate losses, the plant available water in soils or potting Medias and your irrigation scheduling techniques' (How Much How Often). It is very hard to make scheduling decisions using poor irrigation systems.

To identify the weakness in any system will require some test to be carried out on the complete system. This is an area that is best done by experienced people that have training in collecting the correct data.



FACT SHEET

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Generally when I look at this data with a view to improve profits and losses I consider what the most cost effective ways are to improve the irrigation hardware, is there any labour restraints, is there Soil/Media restraints, what improvements can be made to the irrigation scheduling and is there a good enough return on the investment of water, electricity/diesel, equipment and labour?

This article is based on information supplied by Pat Daley, of Daley's Water Services Pty Ltd. Pat has over 30 years experience in irrigation and now provides specialist services to the industry. Pumping and energy efficiency solutions for the irrigation industry are his specialty. Pat has identified that the most common issues affecting the performance of Irrigation Systems are the issues of inadequate flow rates and low system operating pressures, especially when the water supply is sourced from underground.



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