



Smart irrigation for your farm



According to National Geographic, 80% of the world's fresh water is used for irrigation, and 60% of that water is wasted through evaporation, leaky channels and mismanagement. Therefore successful irrigation design is essential to know how much water should be applied to crops and how frequently.

The design of the system needs to effectively deal with soil and crop types, field size, shape and water supply, the system must be capable of delivering sufficient water during times of peak crop demand.

Planning an irrigation system for a new area requires some knowledge of soil types and the soil water reservoir. The soil is a reservoir of the water used by plants. Once it has been filled to capacity by irrigation or rainfall, the reservoir gradually becomes depleted by transpiration and evaporation, or evapotranspiration (ET). When the soil moisture reaches a predetermined minimum level (refill level), below this point the plant will wilt, irrigation should be applied in order to restore the soil moisture level to field capacity.

Irrigation scheduling is a system of working out when and how much water to apply to meet the quality and yield objectives. When to irrigate depends on the time it takes for the plant to use up the ready available water in the soil. How much irrigation to apply should not exceed the amount of water which is held in the wetted rootzone.

Scheduling can be based on soil moisture sensor's which is a very effective method to estimate when to irrigate. A second method of scheduling is based on an indirect measurement of plant water use from meteorological data, the irrigation run times used by the plant since the previous irrigation event, water use is calculated from either evaporation or evapotranspiration (ET).

Successful irrigation requires not only efficient design but also proper scheduling. The latter is dependent to a large degree on the ability of the farmer to carry out irrigation events properly. Nowadays there are many control systems available ranging from irrigation management and soil moisture systems to a manually controlled operation.

There are many types of irrigation systems available ranging from Centre Pivot, Lateral Move, Boom Irrigator, Hard and Soft hose irrigators, K Line, Bike Shift, Fixed Sprinklers, Conventional Drip, Sub Surface and Flood. Prior to making a decision to purchase and irrigation system there are many factors you should consider. This is dependent upon your goals, farm size, area under irrigation, current system, pasture type, soil type, past problems, evaporation peak, water license mega litres, water supply (Dam/Bore/River/Town), water quality and energy source.

An automated irrigation system is highly effective as it can deliver water when required and on time. Having a wireless solution means you have total control from your mobile phone or computer. You can ensure water use efficiency to reduce labour costs and improve the sustainability of your farm, vineyard or orchard.

At the end of the day, whatever system you choose for your project, it is important that you get a system designed and specified to perform and operate effectively.

Article kindly provided by Wrightcom Australia.



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- Enhanced Yield
- Cost Reduction



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