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| <p style="text-align: center;">Better Management Practice</p> | <p>Operation and Monitoring</p> <ul style="list-style-type: none"> Irrigation systems are operated according to design specifications by regularly checking pressure and discharge (flow) | <p>Measuring pressure and flow rates</p> <p>The design report would indicate what the required pressures and/or flow rates should be at critical points. These critical points would typically occur at the inlet to the irrigation system (at the pump station), or at the inlet to an irrigation block, lateral or furrow.</p> <p>At this location, the pressure in the system should be monitored and compared against the design inlet pressure provided in the design report. A system operating at the correct pressure should supply the correct amount of water. Deviation from the design inlet pressure provides a warning of pump or in-field problems, such as leakages or pipe bursts (low pressure), worn nozzles (low pressure), blocked emitters (high pressure), etc. Care should also be taken to ensure that pressure gauges are calibrated every two years. The discharge from emitters can also be measured regularly and compared to the design application rate.</p> <p>Monitoring is a continuous process, consisting of activities undertaken on a daily basis by the system operator, and should therefore be simple and easy to do.</p> |
| <p style="text-align: center;">Better Management Practice</p> | <p>Irrigation scheduling</p> <ul style="list-style-type: none"> Irrigation scheduling is practiced using an appropriate method to prevent over and under irrigation | <p>Irrigation Scheduling</p> <p>Knowing when to irrigate and how much water to apply requires knowledge of the amount of water in the soil and/or the crop water status. Knowledge can be gained through direct measurement or indirect estimation.</p> <p>Direct measurement usually involves the use of soil water sensors. These include, for example, continuous logging capacitance probes, neutron meters, tensiometers and the wetting front detector.</p> <p>Indirect methods typically include the use of a weather based crop model. Crop models calculate the soil water content by solving the soil water balance on a daily basis. When the soil water content in the model reaches a predetermined depletion level, an irrigation event is recommended. The My Canesim, SASched and CanePro models are available for irrigation scheduling in the SA sugarcane industry.</p> <p>A farmer may also compute their own soil water budget to schedule irrigation. Daily evapotranspiration values for a full canopied sugarcane crop (ETCref) and rainfall (amongst others) can be obtained from the SASRI weather web – http://portal.sasa.org.za/weatherweb/</p> |