



IRRIGATION SYSTEM	FEATURES AND BENEFITS	CONSIDERATIONS WHEN DESIGNING AND SPECIFYING A SYSTEM
<p>Centre Pivot</p> 	<ul style="list-style-type: none"> • Extremely low labour input and can operate 24/7 • Very high uniformity – optimises water use, uniform crop growth • Low pressure operation – minimising running costs • Short rotation time applying low application – minimising water losses, resulting in optimum crop growth • Precise control of application amount – optimising water use, can apply light amounts with sensitive crops • Highly automated – enabling remote control from central location, including collection of data and/or fault reporting • Can irrigate tall crops such as maize, in fact straddling shelter belts, buildings, dairy sheds and small homes – optimising areas irrigated. • Sections of sprinklers can be turned on/off keeping dry, stockyards, buildings, tracks, silage etc • Low cost in annual servicing – low maintenance. • Low application rates on suitably sized machines allows efficient water uptake by the soil without run off – optimising water use. • Variable Rate Irrigation (VRI) technology can be incorporated to reduce or increase the application depending on soil or crop requirements. • Nozzles can easily be removed for checking, unblocking, etc. • Can handle undulating ground and gentle slopes • Can add “precision corner arm” to capture a larger amount of missed corners 	<ul style="list-style-type: none"> • Some corner areas will be missed on a standard pivot resulting in secondary irrigation (more labour) or corner arm, raising the cost per hectare • If tall shelter is a strong priority then it is more difficult and expensive to work a pivot system around • Power poles/lines pose similar considerations • Often a pivot will irrigate existing farm tracks/races resulting in increased track maintenance • Wheel rutting can be a problem but there are successful ways to mitigate this • If the pivot has a fault, 100% of the irrigation under this machine ceases, however with remote fault alerts this usually is not a major consideration • Pivots are more prone to wind damage than smaller guns or pod type systems. Ensure winter position is with the predominant wind, anchor down if necessary, or keep irrigating if a wind risk is expected as this increases machine weight
<p>Linear Irrigation</p> 	<ul style="list-style-type: none"> • Low labour input and can operate 24/7 • Very high uniformity optimises water use and provides for uniform crop growth • Irrigates rectangular shapes with high uniformity – ideal for cropping • Can irrigate very long runs (2000m plus, normally requires the shifting of a hose once every 24-48hrs) • Low to medium pressure operation – minimising running costs • Can offer short rotation times, applying lower application – minimising water losses - resulting in optimum crop growth • Precise control of application amount – optimising water use, can apply fine droplets to sensitive crops • Can irrigate tall crops such as maize • Controller allows collection of data and/or fault reporting • Sections of sprinklers can be turned on/off keeping dry, stock yards, buildings, tracks, silage etc • Low application rates on suitably sized machines allowing efficient water uptake by the soil without run off, optimising water use • Nozzles can easily be removed for checking, unblocking, etc 	<ul style="list-style-type: none"> • Not suitable for odd shaped layouts, areas must be rectangular, end gun can allow for some extra area watering • Generally diesel driven generator requiring maintenance, regular fuel and oil • Requires a guidance system to keep it walking straight. • The drag hose needs to be shifted from hydrant to hydrant • Because each linear generally irrigates a large area, if a fault stops the machine a large area will not get irrigated again until the fault is fixed (ie down time during peak season) • Wheel rutting can occur. This can be mitigated by: <ul style="list-style-type: none"> – boom-backs and sprinkler switching to place water behind the wheels – reducing the instantaneous application around the wheels – reducing the tire loading – placing “hard fill” in the ruts • Whilst linear irrigators can be towed between locations, this process must not be underestimated in terms of time and effort