

Environmental Management in Viticulture – Langhorne Creek

Best Management Practice for Irrigated Viticulture: *Water Use Management*

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Activity, Product or Service	Aspect	Objective	Achieved by Best Management Practice	Indicators	Checklist	
		To meet legal responsibilities :	Research legal and regulatory obligations plus Australian Standards from established facility			
Irrigation (General)	Use of water, being a limited resource.	To irrigate in an efficient manner for the production of specified fruit, optimising available water, meeting WAP requirements and avoiding water table – salinity issue.	<ol style="list-style-type: none"> 1. System designed correctly considering soil types, topography and site flexibility. 2. System maintenance programme and procedure established and carried out including distribution uniformity. 3. A system of irrigation scheduling and monitoring established including: <ul style="list-style-type: none"> • Crop water requirements determined • Soil moisture monitoring equipment employed • Vines monitored for stress reaction • Leaching and drainage issues addressed. 4. Monitoring of source water salinity and rootzone salinity. 5. Monitoring for human health risks from source water with SOP for when risk identified. 6. Establish a process, relevant to the enterprise, to monitor irrigation research and to implement latest irrigation techniques. 	Presence of a suitably designed system (legal requirement also) Having suitable recorded procedure + record of maintenance program records of pumping hours and maintenance How many drippers are leaking Fullstops going off less than x% of time/ irrigations Water use per hectare (ML/ha) Gross return per megalitre (\$/ML) Assessment of water losses	Design plans	
Irrigation (Flood irrigation)	Removal of water from local rivers for flood irrigation.	To optimise available water and maintain environmental flows through the local river systems.	<ol style="list-style-type: none"> 1. System designed correctly to consider soil types, topography (sluice gate locations), site flexibility and downstream impacts. 2. System maintenance programme (prior to flooding) and procedure established and carried out. 3. SOPs established to meet Flood Diversion BMPs taking into account extent and duration of flooding (ha by hours). 		Design plans	
					Programme – procedure Schedule SOP	

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		To meet legal responsibilities :	Research legal and regulatory obligations plus Australian Standards from established facility			
Irrigation (From bores)	Removal of ground water from bores for irrigation.	To optimise bore water use and meet WAP requirements.	<ol style="list-style-type: none"> 1. System designed correctly to consider soil types, topography and site flexibility. 2. System maintenance programme and procedure established and carried out. 		Design plan Programme – procedure schedule	
Aquifer Storage	Sourcing water and storing water underground	Optimising use of water and meeting EPA and WAP requirements	<ol style="list-style-type: none"> 1. Recharge only with water of higher quality than native ground water in aquifer, established from required timely testing of river and ground water. 2. To improve water quality, where practicable recharge water is to be filtered or taken from settling pond with established settling period or monitoring procedure. 3. Volumes going into and being drawn from aquifer are to be monitored according to licensing requirements. 4. Ground water salinity to be monitored as water is drawn to determine when recharge water is used up and only native water remains. 5. System maintenance programme and procedure established and carried out. 		Monitoring – test results Programme Records Records Programme – procedure	
Use of dams	Storage of water	Minimise water loss	<ol style="list-style-type: none"> 1. Dam design to consider soil type, topography and lining to prevent leakage. 2. System of monitoring dam wall and lining integrity including monitoring use of water versus mass balance of water with consideration to evaporation losses. 3. SOP to avoid and manage overflows. 4. Carry out safety risk assessment and implement appropriate controls. 		Design plan Levels, vegetation growth SOP Record of risk assessment	

Reference Material

Angas Bremer Preliminary Land and Water Management Plan

Angas Bremer Code of Practice for Managing Irrigation

Water Allocation Plan for the Angas Bremer Prescribed Wells Area