

Environmental Management in Viticulture – Langhorne Creek

Best Management Practice for Irrigated Viticulture: *Soil and Fertiliser Management*

August 2004

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			
Storage of fertiliser	Runoff, leaching, greenhouse gases, sodicity, acidity	Minimise runoff, spills, and their impact on water, land and local biodiversity	1. Storage of fertiliser should not be in a flood zone, however, should that not be possible, a flood action plan is to be developed and in place. 2. SOPs are developed for spills and runoffs. 3. Spill kits are in place. 4. Storage facilities are separate from fuel and oil storage. 5. For bagged fertiliser, storage facilities will: <ul style="list-style-type: none"> • Be weatherproof with impervious floor) • Be well ventilated, lockable and well lit. • Have provision for segregation of fertilisers from chemicals. • Liquid fertilisers to be kept in bunded area. • Shed signposted, labels intact. 6. For bulk, storage will be on impervious pad, covered where practical. 7. System to monitor nitrogen and phosphorous levels in land and waterways adjacent storage area.	The level of nutrient losses. Fertiliser use.	Flood action plan	
					SOP	
					Spill kit	
					Facility	
					Facility	
					Results	
Transport of fertiliser	Spills at the time of transport	Minimise spills and reduce their impact on water, land and biodiversity	1. SOP for the transport of fertilisers, manures and compost addressing legal requirements, security, stowage and route to be taken 2. Ensure transport equipment maintained.		SOP	
					Maintenance schedule	
Cultivation of vineyards	Over cultivation, creation of dust	To maintain or improve soil quality, reduce soil erosion and water runoff by minimising cultivation and reducing impacts on environment and society.	1. Develop and implement soil management plan including timing of cultivation with minimal cultivation for carbon content conservation, structural management and the utilisation of permanent swards, mulching and other soil conservation techniques. 2. Monitor for carbon content. 3. Monitor and maintain record of erosion events.		Plan	
					Records	
					Records	

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Application of fertiliser, manures and compost	Runoff, leaching, greenhouse gases, sodicity, acidity	Minimise off target application	<ol style="list-style-type: none"> 1. SOP for the assessment of fertiliser requirements based of required outcomes, visual assessment, petiole and soil analysis, soil type and chemistry, irrigation systems, climatic conditions. 2. Measure monitor and record composition of compost, assess chemical analysis of compost (impurities), 3. SOP for calibration and use of equipment 		SOP	
					Records	
	Backflow to contaminate stock water.	Minimise possibility of contamination of livestock stock water.	<ol style="list-style-type: none"> 1. System to provide for the provision and maintenance to prevent back flow including the use of non-return valve. 		SOP	
Grape marc handling	Incorrect storage and disposal, contamination when applying post composting.	Minimise contamination of land, surface water and groundwater and limit soil acidification.	<ol style="list-style-type: none"> 1. Use of grape marc to be included in soil management plan where reference is made to soil pH and marc pH and soil and water potassium levels. Suitably composted materials to be used as a first preference. 2. Uncomposted grape marc to be stored on impervious pad where any run or leachates can be contained. Consideration to be given to possibility of flooding. 		Plan.	
					ph and potassium monitoring records	
					Facility	