

PPSA - Product handling protocols

Item	Protea		Leucospermum		Leucadendron	
	Air freight	Sea freight	Air freight	Sea freight	Air freight	Sea freight
Spray program - pre harvest & post harvest	Botrytis: High Risk Areas = Grabouw region and eastwards including Overberg, Southern Cape, Eastern Cape & KZN (Suggested post-harvest protocol - see note 1 below) High Risk Cultivars = Lcs Veldfire, Lcs Rigoletto/Soleil, Lcs Tango (for seafreight all broad leaf Lcs in general), All Leucadendron in cone stage Insects: All areas					
Pack House sanitation	Very important for all freight scenarios. Cold rooms should also be disinfected on regular basis. (Suggested protocol - see note 2 below)					
Problem cultivars	Leaf blackening - Sylvia	Leaf blackening - Sylvia / Barbigeria / Lady Di / Others	None	Botrytis - Veldfire (area specific) Leaf Dessication - High Gold / Others Chilling Injury	None	Botrytis - All cultivars (area specific) Chilling Injury Ensure all Lcd hardened off
Harvesting stage	Soft tip / Open	Soft tip	1 full ring open Early part of season ensure centre also properly coloured	1/3 to 1/2 ring open	Any (as per order)	Hardened off
Harvesting time of day	Any, with pulsing. Afternoon if no pulsing		Any		Any	
Harvesting conditions	Dry conditions. No ceiling temperature, but hydrate/chill a.s.a.p. in warmer conditions Pre-cool to between +15°C to +20°C a.s.a.p. after harvesting					
Harvesting window	General statement: Late-season flowers of some varieties higher risk for Quality issues				Any	Hardened off
Hidration - post harvest	Full hidration a.s.a.p. if no pulsing or timeous chilling will follow. If pulsing intended, no hidration until pulsing commences.					
Pulsing - post harvest	Recommended methodology attached (see note 3 below)					
Carton type	"Superstack" type carton recommended for all varieties and freight types to prevent collapsing of bottom layers of palletised product.					
Palletising	White block type pallet only, with 4 x cardboard corner pieces plus minum 2 x (6m container) or 3 x (12m container) horizontal straps to stabilise pallet.					

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	Air freight	Sea freight	Air freight	Sea freight	Air freight	Sea freight
Post Packaging cooling	<p>If cold chain will be maintained from farm to depot, then start cold chain on farm. If not (no chilled transport etc) then pre-cool on farm to 15°C (for same night delivery only) to prevent condensation. All product to be cooled on farm, or at depot within 6 hours after packing, via forced air cooling or vacuum cooling. Static cooling inside cold room not effective. Delivery air temp minimum +1°C and pre-cooling time based on product temperature.</p> <p>Discontinue forced cooling when product temperature reach 2°C-3°C and allow static cooling thereafter. Mandatory for product destined for sea freight to be cooled down to within 2°C of pre-determined carrier temp within 1 day after packing.</p> <p>This temperature to be maintained until palletising and loading of container. Relative Humidity throughout cold chain minimum 85%, but preferably closer to 95%.</p>					
Cold chain maintained at	<p>Between +1°C to +4°C (spot checks at local receiver). Once the cold chain is started, it should be maintained to prevent condensation inside carton.</p>					
Shipping temperature	<p>Air freight temperature regulation not practical at present. Sea freight set point max +3°C (when chilling sensitive Lcs/Lcd are bulk of load). If shipped with Proteas at +1°C, stack sensitive Lcs/Lcd closest to door (warmest area in container).</p>					
Import Handling	<p>Receivers to have dedicated cold rooms and set at +4°C plus/minus 1°C. This may not be feasible when other ornamentals like chilling sensitive tropical/subtropical flowers are handled in the same facility.</p> <p>Ethylene appears not to be a major factor in fynbos vase life. Product stems should be recut and rehydrated a.s.a.p. after removal from cold chain.</p>					
1. Post harvest Botrytis treatment:	<p>Immerse flower head in Scala 12ml or Rovral 20 ml, plus Teldor 7.5ml per 10 litre water. Allow to dry off completely before packing. NB: Products not necessarily registered for use on Fynbos. Use at own risk.</p>					
2. Pack House sanitation:	<p>Wash/spray tables, walls and floors with Terminator 8ml per 10 litre water.</p>					
3. Pulsing:	<p>i) Do not hydrate (pick into water) stems destined for pulsing.</p> <p>ii) Move stems from field heat into pack shed or shaded area a.s.a.p.</p> <p>iii) Pulse stems in 10% glucose solution (1kg per 10 litre water) for 2 to 3 hours.</p> <p>iv) Remove from solution, grade and pack/chill.</p>					