

VINEYARD SPRAYING Maintenance Checklist

Did you know? Faulty sprayers can be the cause of disease and lost crop. Time spent on sprayer maintenance is time well-spent.

REGULAR PRE-START CHECKS ON A VINEYARD SPRAYER

PTO shaft	<ul style="list-style-type: none">• Universal joints, sliders and all the cross-bearings are greased <input type="checkbox"/>• Safety guard/sleeve is in good condition <input type="checkbox"/>
Oil	<ul style="list-style-type: none">• Check for leaks all around the sprayer <input type="checkbox"/>• Check all oil levels (pump, gear box, all oil reservoirs). Change oil if necessary <input type="checkbox"/>• Is the oil clear? If oil is milky or contaminated, the seals need replacing <input type="checkbox"/>
Pump	<ul style="list-style-type: none">• Flush regularly to avoid corrosion <input type="checkbox"/>
Filters*	<ul style="list-style-type: none">• Basket filter in the tank is clean <input type="checkbox"/>• Suction filter is clean <input type="checkbox"/>• Pressure (line) filters are clean (often forgotten) <input type="checkbox"/>

OTHER PRE-START CHECKS

Hydraulic hoses	<ul style="list-style-type: none">• Check for any wear or damage to hydraulic hoses <input type="checkbox"/>• Confirm that the hydraulic hoses are pressure-rated <input type="checkbox"/>• Is there any risk of damage/pinching? <input type="checkbox"/>
Pressure gauge	<ul style="list-style-type: none">• Is the pressure gauge secure? <input type="checkbox"/>
Pump	<ul style="list-style-type: none">• Pulsing in a diaphragm pump may indicate a split diaphragm <input type="checkbox"/>• Clattering suggests valve springs are broken <input type="checkbox"/>• Check condition of O-Rings on a centrifugal pump <input type="checkbox"/>
Nuts/bolts/washers	<ul style="list-style-type: none">• Everything tight? In good working order? Check nuts and bolts on wheels. <input type="checkbox"/>
Welds	<ul style="list-style-type: none">• Do any welds need repairing? <input type="checkbox"/>
Bearings	<ul style="list-style-type: none">• Check condition (have any seized?) and apply anti-seize lubricant. Also check wheel bearings. <input type="checkbox"/>
Belts	<ul style="list-style-type: none">• Check tension, alignment and wear <input type="checkbox"/>
Tyres	<ul style="list-style-type: none">• Tyre pressure: Hard tyres drive faster, soft tyres distribute weight better <input type="checkbox"/>
Hoses	<ul style="list-style-type: none">• Do hose sizes match pump capacity? (Suction hose diameter must be at least equal to diameter of the pump intake.) <input type="checkbox"/>

Checks with an asterisk* can make a big difference to the way your sprayer delivers spray to the vine canopy.

Check the manual that goes with your sprayer, because some maintenance must be done by a licenced dealer or mechanic, or you may void your warranty.



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Fans	<ul style="list-style-type: none"> • Check condition of blades (nicks or cracks cause imbalance) <input type="checkbox"/> • Bearings & moving parts: check for tightness and lubricate moving parts; check condition of brackets <input type="checkbox"/> • Blade pitch and fan gear can be adjusted easily <input type="checkbox"/>
Ducts or deflectors	<ul style="list-style-type: none"> • Clean, and can be easily adjusted <input type="checkbox"/>
Grill/leaf guard	<ul style="list-style-type: none"> • Clean? Secure? Intact? <input type="checkbox"/>
Flow monitors*	<ul style="list-style-type: none"> • Impellers must be clean or readings are incorrect <input type="checkbox"/> • Bearings wear out, so flush regularly with clean water <input type="checkbox"/>
Drain plug	<ul style="list-style-type: none"> • Easy to remove <input type="checkbox"/>

RUN-TEST – CHECKS WHEN SPRAYER IS RUNNING, WITH WATER IN THE TANK

Pressure*	<ul style="list-style-type: none"> • Check evenness of pressure across the rig (including around each fan manifold on a multi fan sprayer) <input type="checkbox"/>
Hoses	<ul style="list-style-type: none"> • Check for any cracks or leaks when under pressure <input type="checkbox"/>
Agitation	<ul style="list-style-type: none"> • Check that the agitation systems works <input type="checkbox"/>
Nozzles*	<ul style="list-style-type: none"> • Flow rates (L/min) should be accurate $\pm 10\%$ of specification, at a given pressure <input type="checkbox"/> • Spray pattern: Distortion in the spray patterns indicate wear or blockages <input type="checkbox"/> • Check that the nozzle shut-off or flip bodies work smoothly <input type="checkbox"/>
Pressure and shut off valve*	<ul style="list-style-type: none"> • Check that the ball valves or solenoids are working and in good condition <input type="checkbox"/>

KEEP MAINTENANCE RECORDS

Sprayer:	Vineyard:
Signature:	Date:

Compiled by Alison MacGregor, revised 2022

Acknowledgements

- Interlink Pumps and Sprayers: Sprayer Check List
- Southern Cross Ag Machinery – <https://www.sxm.com.au/news/the-basics-of-tractor-implement-maintenance/>
- David Manktelow, spraying consultant, Hawkes Bay, New Zealand
- Sprayers 101 – <https://sprayers101.com/>
- Department of Environment and Primary Industries calibration and preparation of boom sprayers