

Sprayer Maintenance Checklist ✓

✉ Questions? Contact jovany@intelliculture.com

Time spent on sprayer maintenance is well spent! Faulty sprayers can lead to disease and lost crops. Do regular checks, **marked in bold**, like cleaning filters, checking oil, lubricating parts, and flushing pumps to maintain sprayer performance. Additional periodic maintenance (**marked with an asterisk (*)**), such as inspecting nozzles, hoses, and calibrating spray output, makes a big difference in coverage and delivery. Preventive care prevents uneven spraying, clogged nozzles, pump failures, and inaccurate chemical mixing that allows diseases to spread. Don't wait to service your sprayer until something breaks. Staying on top of maintenance saves you time and protects your yields in the long run.

Pre-run checks on a sprayer:

PTO shaft*:

- Grease universal joints, sliders, and all cross-bearings.**
 - Ensure the safety guard/sleeve is in good condition.**
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Hydraulic hoses:

- Check for wear or damage.
 - Confirm that the hydraulic hoses are pressure-rated.
 - Is there any risk of damage or pinching?
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Oil*:

- Check for leaks all around the sprayer.**
 - Check all oil levels (pump, gear box, all oil reservoirs). Change oil if necessary!**
 - Is the oil clear? If the oil is milky or contaminated, the seals need replacing.**
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Pressure gauge:

- Is the pressure gauge secure?
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Pump*:

- Flush regularly to avoid corrosion.**
 - Pulsing in a diaphragm pump may indicate a split diaphragm.
 - Clattering suggests broken valve springs.
 - Check the condition of O-Rings on a centrifugal pump.
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Filters*:

- Ensure the basket filter in the tank is clean.
 - Clean the suction filter.
 - Clean the pressure (line) filters (often forgotten).
 - Ensure nozzle filters are clean.
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Nuts/bolts/washers:

- Are all components tight and in good working order? Check bolts on wheels.
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Welds:

- Are any welds in need of repair?
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Bearings:

- Check the condition (any seized?) and apply anti-seize lubricant. Also, check wheel bearings
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Belts:

- Check tension, alignment, and wear.
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Wheels:

- Check tire pressure: hard tires drive faster — soft tires distribute weight better.
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Hoses:

- Do hose sizes match pump capacity? (suction hose diameter must be at least equal to the diameter of the pump intake).
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Fans*:

- Check the condition of blades (nicks or cracks cause imbalance).
 - Check bearings and moving parts for tightness and lubricate moving parts; check the condition of brackets.**
 - Blade pitch and fan gear can be easily adjusted.
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Ducts or deflectors:

- Clean and ensure they can be easily adjusted.
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Grill/Leaf guard:

- Is it clean? Secure? Intact?
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Flow monitors*:

- Impellers must be clean, or readings are incorrect.
 - Bearings wear out, so flush regularly with clean water.
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Drain plug:

- Ensure it is easy to remove.
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Run-Test - Checks when the sprayer is running, with water in the tank:

Pressure*:

- Check evenness of pressure across the rig (including around each fan manifold on a multi-fan sprayer).
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Hoses:

- Check for any cracks or leaks when under pressure.
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Agitation:

- Check that the agitation system works.
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Nozzles*:

- Flow rates (L/min) should be accurate to $\pm 10\%$ of the specification, at a given pressure.
 - Spray pattern: Distortion in the spray patterns indicates wear or blockages.
 - Check that the nozzle shut-off or flip bodies work smoothly.
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Pressure and shut-off valves*:

- Check that the ball valves or solenoids are working and in good condition.
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GPS Unit:

- Make sure you see blue, green, and red lights on GPS Units.
- Red LED indicates: Ignition is ON.
- Green LED indicates: The device has established a cellular connection.
- Blue LED indicates: The device has established GPS latch.