



AWSA Protocol E7

Standard Operating Procedure – Maintenance for Bagging and/or Bulk Handling Equipment

Objective: to ensure the safe and efficient operation of bagging and/or bulk handling equipment at K3 Seeds by implementing regular maintenance procedures.

Equipment/topics covered: bulk handling conveyors, weighing scales, and packaging equipment.

Procedure:

1. Shut down procedure:
 - a. Turn off power to the equipment and isolate it from any energy source.
 - b. Lock out/tag out procedures should be followed to prevent accidental start-up.
2. Cleaning and inspection:
 - a. Clear the equipment of any debris, dust or residue.
 - b. Inspect all components for signs of wear, damage, or misalignment.
 - c. Clean and lubricate moving parts as necessary.
3. Component inspection and replacement:
 - a. Inspect belts, chains, and sprockets for wear and tension.
 - b. Check bearings and rollers for proper alignment and lubrication.
 - c. Inspect electrical connections, switches, and sensors for damages or corrosion.
 - d. Replace any worn or damaged parts with new ones according to manufacturers specifications.
4. Calibration and adjustment:
 - a. Calibrate weighing scales and sensors to ensure accuracy.
 - b. Adjust conveyor speeds, bagging parameters, and other settings as needed for optimal performance.
5. Electrical and safety checks:
 - a. Inspect electrical wiring and connections for signs of damage or wear.
 - b. Test emergency stop buttons and safety interlocks for proper function.
 - c. Verify that safety guards and barriers are in place and secure.



6. Testing and review:

- a. Provide training to operators and maintenance personnel on the SOP and associated safety procedure.
- b. Conduct regular reviews of the SOP to incorporate any updates or lessons learned from maintenance activities.

Note: any deviations from this SOP or unexpected issues encountered during maintenance should be reported to the supervisor or maintenance manager for further evaluation and resolution. Safety should always be the top priority during maintenance activities.



AWSA Protocol E7

Standard Operating Procedure – Care and Use of Seed Treatment

Equipment

Objective: to ensure the proper maintenance and care of seed treatment equipment at K3 Seeds by all operators and maintenance personnel.

Equipment/topics covered: seed treatment tanks, mixers, pumps, conveyors, applicators, and associated components.

Procedure:

1. Daily Inspection:
 - a. Before each use, visually inspect all seed treatment equipment for any signs of damage, wear, or abnormalities.
 - b. Check for leaks, loose fittings, or any other potential safety hazards.
 - c. Ensure all safety guards and shields are in place and functioning correctly.
2. Cleaning:
 - a. Clean seed treatment equipment thoroughly after each use to prevent cross-contamination and buildup of residues.
 - b. Use appropriate cleaning agents and procedures recommended by the equipment manufacturer.
 - c. Pay special attention to areas prone to residue buildups, such as tanks, pipes, and applicator nozzles.
3. Fluid management:
 - a. Monitor fluid levels in treatment tanks regularly and refill as needed with the appropriate treatment solution.
 - b. Ensure the quality and consistency of treatment solutions by regularly testing and adjusting chemical concentrations.
 - c. Store treatment chemicals in a secure location, following all safety guidelines and regulations
4. Calibration:
 - a. Calibrate seed treatment equipment regularly to ensure accurate application rates and uniform seed coverage.
 - b. Follow manufacturer guidelines for calibration procedures and frequency.
 - c. Document calibration activities and results for record-keeping purposes.



5. Training:

- a. Provide comprehensive training to all personnel involved in the operation and maintenance of seed treatment equipment.
- b. Ensure operators understand proper operating procedures, safety protocols, and emergency response measures.
- c. Regularly review and update training materials to incorporate any changes in equipment and procedures.

Note: any deviations from this SOP or unexpected issues encountered during maintenance should be reported to the supervisor or maintenance manager for further evaluation and resolution. Safety should always be the top priority during maintenance activities.



AWSA Protocol E7

Standard Operating Procedure – Containment Inspection and Maintenance for Seed Treatment

Objective: to ensure the proper inspection and maintenance of containment systems at K3 Seeds by all operators and maintenance personnel.

Equipment/topics covered: containment trays, tanks, basins, curtains, and associated components.

Procedure:

1. Regular Inspection:
 - a. Inspect containment trays, tanks, basins, and curtains for cracks, holes, or other defects that could compromise containment.
2. Fluid management:
 - a. Monitor fluid levels in containment systems to prevent overflows or spills
 - b. Ensure that containment systems have adequate capacity to handle the volume of treatment fluids used in seed treatment processes.
 - c. Promptly address any issues with fluid containment to prevent environmental contamination.
3. Repair and maintenance:
 - a. Promptly repair any damage or defects identified during inspections to maintain the integrity of containment systems.
 - b. Replace worn or damaged components such as seals, gaskets and curtains as needed.
 - c. Follow manufacturer guidelines for maintenance and repair procedures.
4. Spill response procedures:
 - a. Follow spill response procedures for containing and cleaning up spills that occur during seed treatment processes.
 - b. Train personnel on spill response protocols, including the use of spill kits and personal protective equipment.
 - c. Ensure that spill response equipment is readily accessible and maintained in good working condition.



Note: any deviations from this SOP or unexpected issues encountered during maintenance should be reported to the supervisor or maintenance manager for further evaluation and resolution. Safety should always be the top priority during maintenance activities.