AWSA Protocol E16

Standard Operating Procedure – Operations

1. Transfer of Seed Treatment (from container to seed treatment equipment):

   Objective: to ensure the safe handling of seed treatment. The procedure is applied to all personnel and any seed treatment used by K3 Seeds.

   Responsibilities:
   Seed operation team: will follow all directions and procedures to ensue the safe handling of seed treatment as to preserve quality and purity of the chem and reduce possibilities of spills.

   Procedure:
   1. Wear/use proper PPE.
   2. Connect suction hose from pump to container.
   3. Connect discharge hose from pump to treatment equipment.
   4. Turn pump on and transfer desired amount of seed treatment.
   5. Turn off pump.
   6. Disconnect hoses.
   7. Ensure all contaminated materials is disposed of properly.

2. Operation of Seed treater:

   Objective: to ensure that seed is treated at the correct rate and mix, this procedure should be followed to treat seed. The procedure is applied to any application of treatment by all seed treatment suppliers at K3 Seeds.

   Responsibilities:
   Seed operation team: will follow all directions and procedures to ensure that seed is treated and distributed and/or delivered in such a manner as to preserve quality and purity.
   Office team: Records delivery information for a permanent record of seed inventory/treatment and transaction history.

   Procedure:
   1. Wear/use proper PPE.

2. Check ROSM for the seed product requested.
3. Check to be sure that all valves for seed treatment are shut on the treater.
4. Check ROSM for the treatment requested.
5. Make necessary connections to appropriate seed treatment.
6. Open the valve marked with the requested.
7. Connect drip-less coupler to the treater and prime the line.
8. Engage the treatment auger and the mixing auger.
9. Turn on the treater pump (for mobile treating) or the PLC (for the treater circle.)
10. Set pressure gauge to desired pressure (for mobile treating) or monitor pressure (for the treater circle.)
11. When treating is complete, clean augers, and treaters according to SOP – Care and Use of Seed Treatment Equipment.
12. Ensure all contaminated materials is disposed of properly.

3. Clean-Out of Seed treater:

Objective: to ensure no cross contamination when using the treater. This procedure should be followed before a new variety or lot is treated. The procedure is applied to any cleanout of treaters at K3 Seeds.

Responsibilities:
Seed operation team: will follow all directions and procedures to ensure that seed treaters are properly cleaned out to prevent contamination and distributed and/or delivered in such a manner as to preserve quality and purity.

Procedure:
Clean the G40 treater according to the following:
1. Wear/use proper PPE.
2. Disconnect all hoses.
3. Place clean-out pail under treater.
4. Open latches on outside of treater.
5. Lower the cone onto the bucket.
6. Scrape/scrub the inside of the cone, ensuring all seed contaminants are removed.
7. Replace cone and latch.
8. Ensure all contaminated materials is disposed of properly.

Clean the treater circle according to the following:

1. Wear/use proper PPE.
2. Close ball valve and remove hose from pump.
3. Open bottom of incline auger and reverse for 20 seconds.
4. Open bottom of treat auger.
5. Open latched on outside of treater.
6. Scrape/scrub the inside of the cone/tube, ensuring all seed contaminants are removed.
7. Replace cone and latch.
8. Ensure all contaminated materials is disposed of properly.

4. Calibration of Seed Treaters:

Objective: to ensure that seed is treated at the correct rate and mix, this procedure should be followed prior to treating seed each season. The procedure is applied to any application of treatment by all seed treatment suppliers at K3 Seeds.

Responsibilities:
Seed operation team: will follow all directions and procedures to ensure that seed is treated and distributed and/or delivered in such a manner as to preserve quality and purity.
Office team: Records calibration information for a permanent record and transaction history.

Procedure:

1. Wear/use proper PPE.
2. Remove cone from G40 treater.
3. Install calibrating tube to nozzle.
4. Place catch basin under treater.
5. Run each chem for 20 seconds three times at all PSI settings into measuring cup and record weight of each on calibration sheet.
6. Return all chem back to proper container.
7. Remove calibration tube and reinstall cone on treater.
8. Ensure all contaminated materials is disposed of properly.

5. Production & Product Tracking:

Objective: to ensure all seed and seed treatment is accounted for and the correct storage location for each. The procedure is applied to crop seed and seed treatment stored and used at K3 Seeds.

Responsibilities:
Seed operation team: will follow all directions and procedures to ensure the correct handling and recording of crop seed and treatment movements.
Office team: Records movement information for a permanent record of seed inventory/treatment and transaction history.

Procedure:
1. Wear/use proper PPE.
2. Ensure all seed is weighed in/out on ROSM.
3. Remove or update placards on bins as needed.
4. Update seed treatment inventory as needed.
5. Ensure all contaminated materials is disposed of properly.

6. Safe Work (hot work, confined space, elevated work, lock out, working alone):

Objective: to ensure the safety of all workers, contractors, and visitors at K3 Seeds while performing work that may expose them to hazardous energy, fire, explosion, engulfment, falls, atmospheric hazards, or other workplace hazards.

Responsibilities:
Seed operation team: will follow all directions, procedures, training requirements, and safe work practices to ensure work is carried out safely and does not endanger themselves or others.

Procedure:
Hot Work
1. Wear/use proper PPE and inspect hot work equipment before use.
2. Inspect the work area and remove grain dust, seed, flammable products, and other combustible materials. Protect materials that cannot be removed.
3. Shut down and lock out/tag out equipment where unexpected operation or movement could create a hazard.

4. Ensure adequate ventilation is provided and do not perform hot work where combustible dust, flammable vapours, or other uncontrolled fire or explosion hazards are present.
5. Ensure an appropriate fire extinguisher is readily available and assign a fire watch when required by the hazards of the work.
6. Perform the hot work while monitoring the surrounding area for sparks, fire, smoke, or other unsafe conditions. Stop work immediately if unsafe conditions develop.
7. When work is complete, shut down equipment and inspect the work area and surrounding areas for fire, sparks, or smouldering materials.
8. Continue monitoring the area after completion of hot work for a period appropriate to the hazards of the work performed.

Confined Space

1. Do not enter a grain bin unless entry is necessary.
2. Shut down, isolate, lock out, and tag out all augers, conveyors, gates, and other equipment that could move grain or endanger a worker. Do not enter while grain is flowing into or out of the bin.
3. Inspect grain conditions from outside the bin. Do not enter onto or below bridged, crusted, hung-up, or unstable grain.
4. Identify atmospheric hazards and complete atmospheric testing and ventilation when required by the hazard assessment and entry procedure.
5. Ensure safe access and exit, required PPE, communication equipment, and fall protection or retrieval equipment are in place before entry.
6. Ensure a designated worker remains outside the bin and maintains communication with the worker inside during entry.
7. Monitor conditions throughout the work and exit immediately if grain begins to move, communication is lost, equipment isolation is compromised, atmospheric conditions become unsafe, or other hazards develop.
8. When work is complete, ensure all workers, tools, and equipment are removed before closing the bin and returning equipment to service.

Elevated Work

1. Wear/use proper PPE before beginning elevated work.
2. Inspect ladders, work platforms, fall protection equipment, anchor points, and the work area before use. Remove damaged or defective equipment from service.

3. Use guardrails, work platforms, travel restraint, fall arrest systems, or other appropriate controls where workers may be exposed to a fall hazard.
4. Place ladders on firm, stable surfaces, secure them where required, maintain three-point contact, and do not stand on prohibited steps or overreach.
5. Workers using fall protection equipment must be trained and must connect equipment only to suitable anchor points.
6. Keep elevated work areas clear of debris and secure tools and materials where they could fall onto workers below.
7. Do not perform elevated work during high winds, lightning, ice, or other conditions that make the work unsafe.
8. Stop work immediately if equipment is damaged or conditions change and create an uncontrolled hazard.

Lock Out

1. Shut down equipment using the normal stopping procedure.
2. Identify all energy sources and isolate the equipment from electrical, mechanical, hydraulic, pneumatic, or other hazardous energy.
3. Apply locks and tags to all required energy-isolating devices.
4. Release or secure any stored energy and verify the equipment is at a zero-energy state before work begins.
5. Complete the required work.
6. Ensure all workers, tools, and materials are clear of the equipment before removing locks and tags.
7. Remove locks/tags and return equipment to service according to normal operating procedures.

Working alone

1. If expected to be working alone for more than 1 hour, ensure you are logged in on the safety line.
2. Ensure a reliable method of communication is available before beginning work alone.
3. Check-in intervals are every 60 minutes or more frequently.
4. Do not perform work alone when the hazard assessment or another K3 Seeds procedure requires a second worker, attendant, or supervisor.
5. If a worker misses a scheduled check-in, safety line will notify the supervisor.

7. Labeling of Treated Seed:

   Objective: to ensure treated seed is correctly identified and safely handled. The procedure is applied to all treated seed stored at K3 Seeds.

   Responsibilities:
   Seed operation team: will follow all directions and procedures to ensure all stored treated seed is clearly marked.
   Office team: Records stored treated seed information for a permanent record of seed inventory/treatment and transaction history.

   Procedure:
   1. Create/find the appropriate seed treatment label/placard for treatment used on seed.
   2. Attach label/placard to seed storage container.
   3. Ensure all contaminated materials is disposed of properly.

8. Review and revision:
   a. These procedures shall be reviewed annually or whenever operational changes occur.
   b. Seek feedback from employees, first aid attendants, supervisors, and safety personnel shall be considered during procedure reviews.

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