

SOP No: SOP-MILL-001	SOP Description: Cleaning Rough Rice Samples
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SOP-MILL-001: Cleaning Rough Rice Samples

Scope:

This 2-step process removes dirt, debris, weeds, seeds, rocks and other extraneous matter from just-harvested rough rice.

Principle:

During harvest, foreign material, such as straw, weeds, weed seeds, and dirt, accompanies rough rice. Cleaning to remove this material is an important step in producing high quality rice. Foreign matter is separated by size, shape and weight/density. Large particles are screened out, while light-weight particulates are removed through screening and aspiration. In commercial operations, magnets may also be incorporated to remove ferrous material.

Equipment:

Dockage Tester XT4, Carter-Day, Minneapolis, MN
MCI Kicker Laboratory Grain Cleaner, Mid-Continent Industries, Inc., Newton, KS

Materials:

Collection pans
Bins, buckets or bags for large sample collection, as necessary

Procedure A – Dockage Tester, to remove large/bulky extraneous material:

1. Select the appropriate screens and make sure that they are clean.
 - a. Long Grain Screen sizes: #28, #25, #22
 - b. Medium Grain Screen sizes: #28, #25, #4
2. Place the proper screens in the machine, with the largest screen size at the top.
 - a. For safe operating conditions, unplug the machine and wear safety glasses.
 - b. Open the door on the side of the machine.
 - c. Unscrew the nut on the bolt that will hold the screen in place.
 - d. Insert the screen, with the open end going in first.
 - e. Tighten the nut hand-tight back on the bolt.
 - f. Close and secure the door; plug in the machine.
3. Place collection pans on each of the shelves at the front of the machine.
4. Plug in the machine and set the speed at 30.
5. Turn the blower power switch (lower right) and the shaker power switch (upper left) to ON.
6. Pour a small quantity of rough rice (enough to fit into the collection pan) through the spout and allow the kernels to separate from the debris that is caught on the screens. Large particulates will be caught in the upper pans. The clean sample will collect in the bottom pan.

7. If sample size is large, have a bin or bag available to accommodate multiple passes through the machine.
8. Continue to Procedure B with the clean sample.

Procedure B – MCI Kicker, to remove smaller particulates, dirt and dust:

1. Check to ensure that screens are free of sample contamination from a previous use. If the screens are dirty, refer to step #7 for cleaning.
 - a. To remove a screen, first unplug the machine, then push up on the red lever holding the screen in place, and pull the screen out.
 - b. Attn: When removing screens, be very careful not to lose the rubber balls under the screens.
2. Plug in the machine, turn power switch ON, and place a blue collection pan on the second shelf. The other shelves should be loaded with round, silver collection pans.
3. Load sample through opening at the top of the machine and allow it to pass through the series of screens.
4. The clean sample will be collected on the second shelf. The top shelf catches larger particulates and the two lower shelves catch very small particulates and dust.
5. When the collection pan on the second shelf is full, turn the machine OFF before emptying. At this time, it is useful to open and empty the trap near the top of the screen cabinet, to prevent dust from backing up into the motor.
6. When the entire sample has been processed, clean debris and rice kernels from the screens before proceeding with the next sample.
7. After all samples have been processed, clean screens by running the machine for 10 minutes without loading a sample.