



USER MANUAL • ORIGINAL INSTRUCTIONS

Independent Hopper Seeder

Machine Conveyor-mount seeder
Control Grayhill Touch Encoder



BEFORE YOU START

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Introduction

Thank you for choosing the Rooted Robotics Independent Hopper Seeder. Designed with the small grower in mind yet robust enough for farms of any size, this machine brings precision, consistency, and ease to your microgreen and leafy green planting. This custom machine is designed for 10x20 trays. Accurate seed distribution leads to uniform planting across every tray, increasing yields while reducing labor costs and staff training time. Built with durable materials and customizable settings, it's a versatile solution for controlled environment agriculture at any scale.

The seeder arrives fully assembled — simply open the electrical box, remove any packing materials, and plug it in to start planting. Our manual will guide you through setup, seed weight calibration, roller selection, and tray calibration.

Key benefits

Using the Independent Hopper Seeder brings a host of advantages to your operation, allowing for a quick return on investment and lasting improvements in planting efficiency and yield.

- **Fast ROI:** With labor-saving automation and minimal need for training, the Independent Hopper Seeder enables growers to quickly recover their investment while freeing up valuable time for other tasks.
- **Increased Yield:** Consistent, precise seed placement leads to uniform crop growth across trays, boosting yields and enhancing overall quality.
- **Reduced Training Requirements:** The seeder's intuitive controls mean that even new team members can get up to speed quickly, reducing the time and resources spent on staff training.

- **Durability for Long-Term Use:** Built with durable materials to withstand controlled environment agriculture, the Independent Hopper Seeder ensures reliability and longevity for a variety of farm setups.

About Us

Our skilled team of engineers, designers, and industry veterans is the Swiss-army knife of the indoor farming industry. With backgrounds in small to large scale farm operations, machine design, software, computer vision, and machine learning, we're able to tackle the key problems that controlled environment agriculture farms face. Rooted in robotic automation, we provide affordable tools, technology, and insights that allow farm operators to strategically plan for a more profitable future enabled by intelligent and interfacing machines.

The production line

Every tray passes five stations in this order.

TRAY TRAVEL →

1

ROOTED

Watering bar

Waters the media before the seed goes down.

Timed from the main laser gate

↓

2

ROOTED

Seeder

The hopper and roller dispense seed onto the tray.

Timed from the main laser gate

↓

3

ROOTED

Mister

Mists the tray after seeding.

Timed from the main laser gate



4

NOT ROOTED

Top coater

The big red hopper lays a dirt/soil layer over the seed.

Runs on its own controls



5

ROOTED

Second watering bar

Waters the tray again after the soil layer.

Its own laser gate. No settings

Third-party components

The big red top coater (hopper), the conveyor belt, and the purple speed-control box are not Rooted-built. **Anything that doesn't look like Rooted hardware isn't ours.**

Top coater

The big red hopper.

Conveyor belt

Carries trays along the whole line.

Purple speed-control box

At the bottom. Holds the conveyor speed dial.

Intended use

The Independent Hopper Seeder is designed for seeding leafy greens, microgreens, and baby greens in standard 1020 grow trays (up to 3 inches

tall) in controlled environment agriculture facilities.

Intended Operators	Trained Adult operators in commercial agriculture settings.
Intended Environment	Indoor, dry, temperature-controlled facility with appropriate electrical supply.
Operating Limits	110V AC (US), 230V AC (EU).

- Do NOT operate with guards removed or safety devices disabled.
- Do NOT use outdoors or in wet conditions.
- Do NOT use with trays exceeding 3 inches in height or non-1020 format trays.
- Do NOT operate the machine without reading this manual and watching setup videos.
- Do NOT allow untrained or unsupervised persons to operate the machine.

Safety information

Signal Words and Symbols

- | | |
|----------------|---|
| DANGER | Indicates a hazardous situation that, if not avoided, will result in death or serious injury. |
| WARNING | Indicates a hazardous situation that, if not avoided, could result in death or serious injury. |
| CAUTION | Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury. |

Residual Risk Warnings

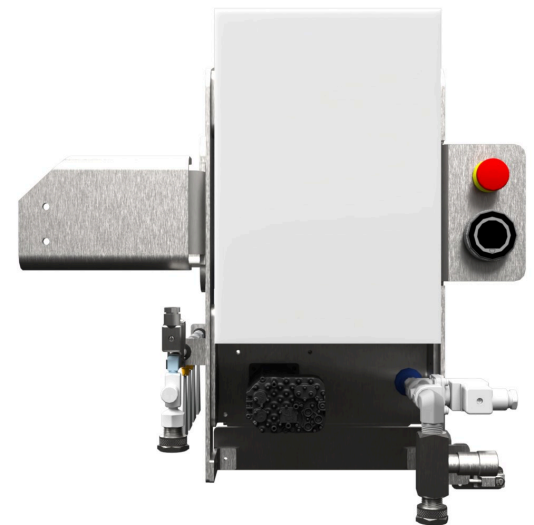
- Pinch points exist at the conveyor belt and rollers. Keep hands, hair and loose clothing clear of the belt feed area during operation.
- The machine contains voltages up to 110V AC (US) or 230V AC (EU) internally. Do not open the control panel enclosure.

Recommended Personal Protective Equipment (PPE)

- Safety Glasses for normal operation, cleaning with compressed air, cleaning with sanitizers.
- Hearing protection for compressed air use.
- Closed toed shoes for all stages of machine life cycle.

Emergency Stop

- The E-stop button is located in the middle of the control panel, between the soft kill switch and the control dial. The e-stop has a bright red mushroom head with a yellow background making it easily identifiable.
- To activate the E-stop, press it in firmly. Upon this press all motor power is cut from the machine. To reset the machine, twist the E-stop button clockwise to release. The machine will NOT restart automatically, the operator must initiate a deliberate restart sequence.
- The E-stop should be used any time an unsafe condition is observed, when any injuries occur, or at any point the operator feels unsure about the machine behavior. The E-stop must also be activated for routine cleaning and maintenance.



Front view. The E-stop sits above the control dial.

Use the E-stop for emergencies only

The E-stop just cuts power, and cutting power to the seeder's computer while it is running can corrupt it. For everyday stopping, use [Shut Down](#) on the screen. Before cleaning and maintenance, shut down first, then engage the E-stop.

WARNING

HEAVY EQUIPMENT — RISK OF SERIOUS INJURY

MINIMUM TWO-PERSON LIFT REQUIRED. Do not attempt to lift, move, or reposition this machine alone. A minimum of two (2) persons is required for all lifting and handling operations.

USE MECHANICAL TRANSPORT WHERE POSSIBLE. Use an appropriately rated hand truck, cart, or dolly whenever transporting this machine. Verify that the transport device is rated for the weight of the machine before use.

USE PROPER LIFTING TECHNIQUE. Bend at the knees, keep your back straight, and grip the machine at designated lift points only. Do not twist while lifting. Ensure firm footing and a clear path before moving.

CHECK WEIGHT BEFORE HANDLING. Machine weight is clearly marked on the equipment nameplate and on the exterior of the shipping packaging. Refer to the weight marking before any lifting or transport operation to ensure adequate personnel and equipment are available.

Failure to follow these instructions may result in serious musculoskeletal injury, crushing hazards, or damage to equipment.



ROOTED ROBOTICS — SEEDER

ELECTRICAL HAZARD — DO NOT OPERATE MACHINE WITH ENCLOSURE OPEN

RISK OF ELECTRIC SHOCK OR ELECTROCUTION. This enclosure contains energized electrical components carrying hazardous voltage. Contact with live conductors or terminals may cause electric shock, severe burns, or death.

CLOSE ENCLOSURE BEFORE OPERATING MACHINE. The electrical enclosure must be fully closed and secured before starting or operating the machine. Do not run the seeder, conveyor, or any machine function while the enclosure is open.

QUALIFIED PERSONNEL ONLY. Only qualified electrical or service personnel authorized by Rooted Robotics may open this enclosure for troubleshooting, inspection, or repair. Refer to the instruction manual for the required lockout procedure before opening.

This label must remain affixed to the electrical enclosure and legible at all times. Do not obscure or remove. Failure to comply may result in electric shock, electrocution, or death.



ROOTED ROBOTICS — SEEDER

LIVE TROUBLESHOOTING SAFETY REQUIREMENTS

If live troubleshooting of the electrical enclosure is required by qualified service personnel, the following conditions must be met at all times while the enclosure is open:

DO NOT OPERATE ROLLER OR CONVEYOR. Do not run the seed roller, conveyor belt, or any mechanical function of the machine while the electrical enclosure is open. Live troubleshooting is limited to electrical diagnostics only. Operating moving components with the enclosure open creates simultaneous electrical and mechanical hazards that may result in serious injury or death.

QUALIFIED PERSONNEL ONLY. Live troubleshooting must be performed only by personnel qualified to work on energized electrical equipment and authorized by Rooted Robotics. The technician must use appropriate personal protective equipment (PPE) including insulated tools and, where applicable, voltage-rated gloves.

KEEP UNQUALIFIED PERSONS CLEAR. All other personnel must remain clear of the machine and the open enclosure during live troubleshooting. Establish a safe perimeter and ensure no untrained persons can inadvertently contact exposed conductors or operate machine controls.

CLOSE ENCLOSURE BEFORE RESUMING OPERATION. Upon completion of troubleshooting, fully close and secure the electrical enclosure before returning the machine to normal operation. Verify that all covers, fasteners, and cable entry seals are properly reinstalled.

Failure to follow these requirements may result in electric shock, electrocution, entanglement, or death.

Workstation

- The Operator(s) for the Independent Hopper Seeder should place the seeder at a comfortable working height, with the tray intake belt located around waist level. Ensure the seeder is located on a stable surface.
- The operator(s) should be located at the infeed side of the machine when loading trays into the seeder and the outfeed side when collecting the seeded trays.
- When placing 1020 trays onto infeed belt, operator should NOT manually push trays towards the hopper, instead allowing the conveyor to catch trays and direct them towards hopper.

- Allow multiple feet of space between the machine and all walls or other machinery to allow for smooth operation, maintenance and cleaning.
- Before operation of the machine, ensure no untrained bystanders are in the operating zone of the machine.

Powering on

The top coater/conveyor system and the Rooted seeder are completely independent and must each be powered on separately. **Neither turns the other on or off.**

Top coater and conveyor

NOT ROOTED

- POWER** Turn on from the third-party top box.
- SPEED** Set by a dial inside the purple box at the bottom, behind a protective cover.

Seeder

ROOTED

- POWER** Powers on via its own controls.
- OFF** With [Shut Down](#) on the screen.

Changed the conveyor speed? Recalibrate

The screen doesn't detect speed changes at the purple box dial, so all delays will be wrong until you [recalibrate](#).

Setup and calibration

Before running your first batch, it's important to calibrate your machine for your specific seed type and production needs. The Seeder uses a control dial that lets you fine-tune key settings such as roller speed and the watering features. While some variation in seed weight is normal—**typically within $\pm 5\%$ of your target**—our testing shows that even distribution and consistent spacing often lead to better germination and higher yields than hand-seeding. Some seed loss is expected with any automation system, but it's typically very minimal compared to the amount of seeds that actually land on the tray. Once you're dialed in, the

Seeder will provide reliable, repeatable performance with minimal adjustment.

Seed Weight Calibration

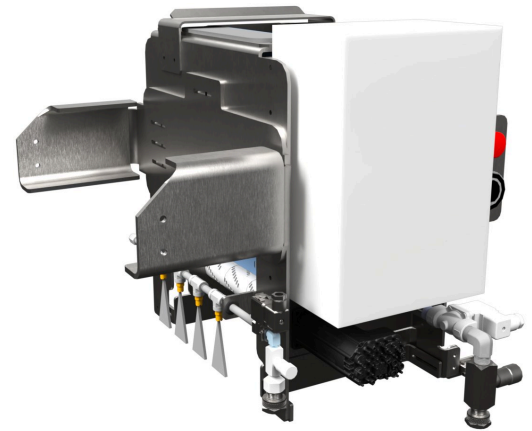
1. Choose and insert the correct roller based on your seed type.
2. Load seeds into the hopper, ensuring the roller is fully covered. Some seed spillage at this stage is normal.
3. Place an empty tray on the scale and tare it to zero. You can use a paper towel to help prevent seeds from bouncing out.
4. Turn on the machine and use the dial to select the seed variety you are testing.
5. Run the tray through the machine, collect the seeded tray, and weigh it.
6. Using the “Edit” feature, adjust the speed until you achieve the target weight three times in a row for accuracy.

Top coater and conveyor

For a clean seed weight, turn off the top coater so no soil lands in the test tray. A faster conveyor puts fewer seeds on each tray at the same roller speed; if you change the conveyor speed, recalibrate and re-check your seed weight.

Watering Feature Calibration

1. Connect your water source. Do not load seeds into the hopper during this test.
2. If using the Booster Pump Add-On, ensure the intake line is fully submerged. Run the machine and check for smooth, continuous flow—if the pump sputters, increase the flow using the dial on the pump body.
3. Place a tray with media (or towels/absorbent material) on the belt.
4. Select the seed variety you plan to run, and start the machine. The watering bar will turn on and off automatically based on belt speed.
5. Observe water coverage. Use the dial to fine-tune the watering bar's start and stop time if needed.
6. For precise water amounts per tray, weigh the tray before and after watering. Adjust the needle valves until you achieve the desired weight consistently.
7. Once flow is consistent and water volume is dialed in, you're ready to begin seeding.

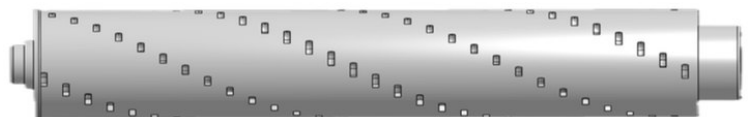


Left view. The spray nozzles and water valves sit below the hopper.

Roller types and seed compatibility

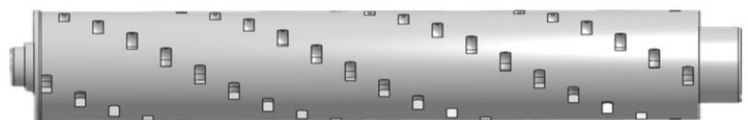
XS seeds

use for: arugula, broccoli, basil, mustard, amaranth



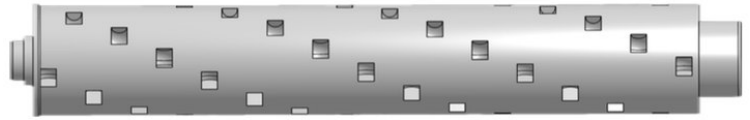
Small seeds

use for: brassicas, broccoli, kale, arugula, mustard



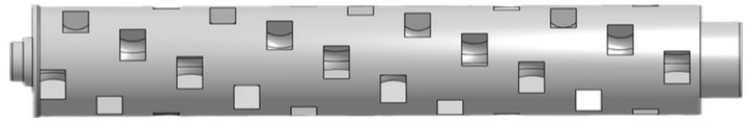
Medium seeds

use for: larger brassicas, cabbage



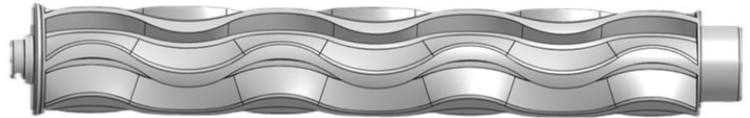
Large roller

use for: radish, cilantro



Wavy roller

use for: beets, bull's blood and chard



Soft roller

use for: peas and other odd-shaped large seeds

NO IMAGE

ADJUSTING

Roller speed



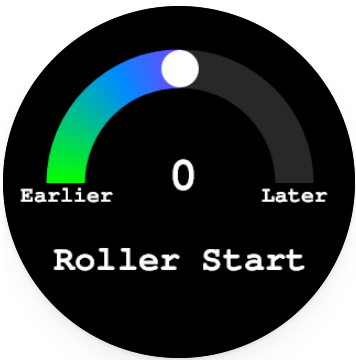
Sets how fast the seed roller turns, from **0 to 250**. It does not change when the roller runs — only how quickly it turns while it does.

Higher numbers dispense more seed over the same tray. Change it a little at a time and watch a tray before changing it again.

ADJUSTING

The six timing dials

The machine already works out its own timings from the belt speed it measured. These six dials nudge that timing **earlier** or **later** — they do not set it from scratch.



Every one of the six looks like this. Turn left toward **Earlier**, right toward **Later**.

One step is a tenth of a second. The dial runs from -20 to +20, so the furthest you can shift anything is two seconds either way.

Start and Stop are separate. Move Start on its own and the whole run shifts; move Stop on its own and the run gets longer or shorter.

SCREEN	DIAL	MOVES
15	Roller Start	Seed roller switches on
16	Roller Stop	Seed roller switches off
11	Watering Start	Watering solenoid opens
12	Watering Stop	Watering solenoid closes
13	Misting Start	Misting solenoid opens
14	Misting Stop	Misting solenoid closes

None of the six affect the [second watering bar](#).

 A dial that stops moving has hit a real limit

If a setting would ask the machine to do something it cannot — switch something off before it switched on, or seed a tray before watering it — the machine holds the value at the nearest setting that works. Nothing is broken; that is as far as it goes.

1 Change what you need

Set each dial on its own screen. The values shown always belong to the variety highlighted on Variety Preset.

2 Press Save Settings

Nothing is stored until you do.

3 Look for Variety Preset Saved

That confirmation is how you know it was written to the machine.



Variety Preset
Saved!

Second watering bar

A second watering bar sits downstream of the top coater. It is Rooted-built.

- **Not configurable.** It has its own laser gate and solenoid. Tray present, water on; no tray, off. It is independent of conveyor speed, calibration, and the six timing dials.
 - **It only waters while the seeder is running a variety.** While the seeder is paused, calibrating, or shut down, it stays off.
 - **To disable it, disconnect the water supply.** There is no switch.
-

Connect to Wi-Fi

You put the seeder on your Wi-Fi from the Rooted web app at app.rootedrobotics.com. The first time, your browser connects to the seeder over Bluetooth to send it your Wi-Fi details. Once it's online, everything else happens over the internet.

1 Power on the seeder

Keep the computer or device you are using close to it, ideally in the same room.

2 Start adding the machine

Sign in to the web app, click **Add Machine**, and let your browser scan for nearby Bluetooth devices.

Use Google Chrome or Microsoft Edge on a computer, or Chrome on an Android phone or tablet. Safari, Firefox, and every browser on iPhone and iPad (including Chrome) can't add machines. [See the browser warning](#).

3 Pick your seeder

Choose it from the list of nearby machines that your browser shows.

4 Send your Wi-Fi name and password

The web app sends them to the seeder over Bluetooth.

5 Check it's online

The seeder shows on your dashboard as Online, with a recent last-seen time. If it doesn't within a few minutes, reload the page.

Use Google Chrome or Microsoft Edge, not an iPhone or iPad

Adding a machine needs a browser that can connect to Bluetooth devices.

Use Chrome or Edge on a computer, or Chrome on an Android phone or tablet. Safari, Firefox, and every browser on iPhone and iPad (including Chrome) can't do this.

For screenshots and Wi-Fi troubleshooting, see the full guide: [Web App and Wi-Fi Setup \(rootedrobotics.com/manuals/web-app\)](https://rootedrobotics.com/manuals/web-app).

THE CONTROL

One dial does everything

The round screen is also the dial. There is nothing else to press.

- Turn the dial to move through varieties or change the number on a settings screen.
- Press a button drawn on the screen to choose it.
- Swipe to move between screens in the menu.

REFERENCE

Every screen

The number beside a name is the screen number, which is worth quoting if you ever ring for support.

**Start-up**

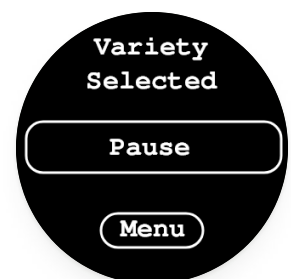
Shown while the machine boots

**10 Variety Preset**

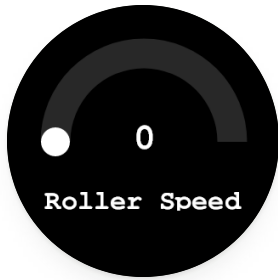
Choose a variety, then Edit or Select

**17 Loading Variety**

Confirming your choice

**18 Variety Selected**

Running. Pause stops seeding



6 Roller Speed

How fast the seed roller turns



11 Watering Start

When watering switches on



12 Watering Stop

When watering switches off



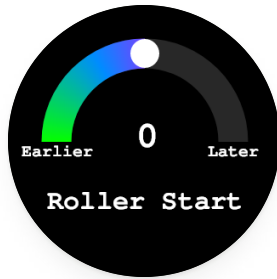
13 Misting Start

When misting switches on



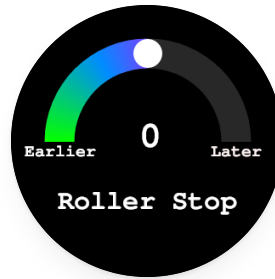
14 Misting Stop

When misting switches off



15 Roller Start

When the seed roller starts



16 Roller Stop

When the seed roller stops



Save Settings

Stores your changes to the variety



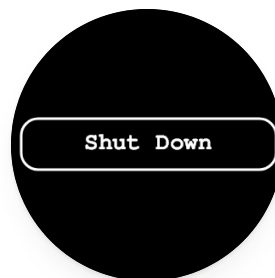
9 Preset Saved

Confirmation that it stored



19 Measure Belt Speed

Teaches the machine your belt speed



2 Shut Down

Halts the computer before unplugging

ROUTINE

Running a variety

The machine holds 20 variety presets, numbered 1 to 20. The conveyor must be running — the seeder only acts on trays the conveyor brings to it.

1 Open Variety Preset

Turn the dial until the variety you want is showing.

2 Press Select

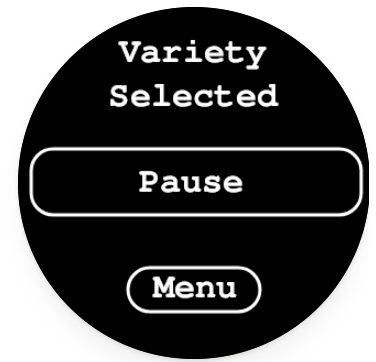
The screen reads **Loading Variety** while the machine picks up that variety's stored settings.

3 Check it says Variety Selected

The machine is now running. The name of the variety is shown above the button.

4 Press Pause to stop

Press it again to start. Pause is always one press away while this screen is showing. The conveyor and top coater keep running.



Edit shows you the settings without running the machine

Press **Edit** instead of **Select** to look at or change a variety's settings. The machine stays stopped until you **Select**.

CALIBRATION

Measuring the belt speed



The machine times a tray through the sensor to learn how fast the belt is moving, and works out every actuator's timing from that. Do this after changing the conveyor speed dial, and any time the seeding lands in the wrong place on the tray.

1 Swipe up and choose Calibrate

The Measure Belt Speed screen opens.

2

Press Calibrate

The screen changes to **Run Tray** .

3

Send one blank tray through

A standard 10x20 tray. Nothing is seeded or watered on this pass.

4

Watch it measure

Measuring while the tray is in the beam, then **Calibrated** .

5

It returns on its own

After a couple of seconds you are back at the variety screen. If the machine was paused before, it pauses again.

When to calibrate

- Any time the conveyor speed is changed at the purple box dial. The screen doesn't detect speed changes, so all delays will be wrong until you recalibrate.
- Always use a standard 10x20 tray. The machine works out the belt speed from the length of the tray.
- Not needed after a shutdown. The machine remembers the last measurement.



Measure before you trim

Set the timing dials only after a successful measurement. Trim values set against a wrong belt speed are partly correcting for it, and there is no way to tell how much.

END OF DAY

Shutting down

The machine runs a small computer. Pulling the plug while it is running can corrupt it, so shut it down first — it takes about ten seconds.

1 Swipe up and choose Shutdown

The Shut Down screen opens.

2 Press Shut Down to confirm

The screen changes to `Shutting down...` with moving dots, so you can see it is working.

3 Wait for the screen to go dark

That is the signal. It is not instant.

4 Now unplug

Once the screen is black it is safe.

5 Turn off the conveyor and top coater at the top box

Shutting down the seeder does not stop them.



If it says HALT FAILED

The machine could not shut itself down and is **still running**. Do not unplug it. Press the button again, and if it fails a second time, call for support.

Cleaning procedures



ROOTED ROBOTICS — SEEDER

UNPLUG BEFORE CLEANING

RISK OF ELECTRIC SHOCK OR ELECTROCUTION. This machine must be completely disconnected from the power source before any cleaning, washdown, or sanitation procedure. Cleaning a machine that is connected to power creates a risk of electric shock, electrocution, or death.

NEVER USE WATER NEAR THIS MACHINE WHILE PLUGGED IN. Do not spray, splash, wipe with wet cloths, or allow any water or liquid to contact any part of this machine while the power cord is connected to an outlet. Water contact with an energized machine may cause electric shock, short circuit, fire, or death.

VERIFY POWER IS OFF. After unplugging the machine, confirm that the control dial display is completely dark and shows no illumination. If the display remains lit after unplugging, stop immediately and do not proceed with cleaning. Contact Rooted Robotics service.

*This label must be placed in the operator's direct sightline
and remain legible at all times. Do not obscure or remove.
Failure to comply may result in electric shock, electrocution, fire, or death.*



ROOTED ROBOTICS — SEEDER

MANDATORY LOCKOUT PROCEDURE BEFORE CLEANING

Complete all steps in order before beginning any cleaning, washdown, or sanitation procedure:

Step 1 — Shut down the seeder from the screen (swipe up, choose Shutdown, confirm) and wait for the control dial display to go dark.

Step 2 — Press the Emergency Stop (E-Stop) button to immediately de-energize the machine.

Step 3 — Unplug the machine. Disconnect the power cord from the wall outlet or supply receptacle. Do not rely on the E-Stop alone.

Step 4 — Verify power is off. Check that the control dial display is completely dark and shows no illumination. A dark display confirms the machine is fully de-energized. If the display remains lit, stop and do not proceed — contact Rooted Robotics service.

Step 5 — Turn off the conveyor and top coater at the top box.

Step 6 — Wait for all moving components (conveyor, rollers) to come to a complete stop.

Step 7 — Proceed with cleaning only after confirming: (a) the power cord is disconnected, (b) the control dial display is dark, and (c) all moving components are stationary.

NEVER USE WATER NEAR THIS MACHINE WHILE PLUGGED IN. Water contact with an energized machine creates an immediate risk of electric shock, electrocution, short circuit, or fire. If water has contacted the machine while it was plugged in, do not touch the machine. Disconnect power at the breaker panel and contact Rooted Robotics service before resuming use.

*Failure to complete this lockout procedure before cleaning
may result in electric shock, electrocution, fire, or death.*

Purpose

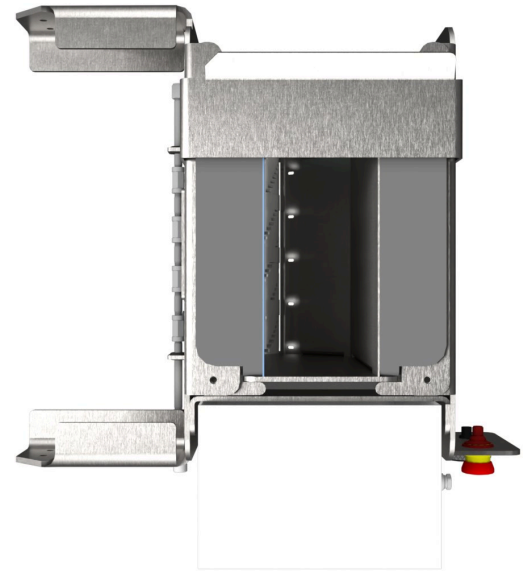
Keep all seed-contact and tray-contact surfaces visibly clean during use and thoroughly cleaned after use to protect product quality and consistent metering.

Approved agents and methods

- Use potable water, food grade detergents, peroxide or peracetic acid based sanitizers per label.
- Do not use chlorinated cleaners.
- Wipe or hose with a handheld nozzle. Do not use a pressure washer.

Routine cleaning during operation (every 250 trays)

- Keep the hopper rim and roller cavity free of seed dust and fragments.
- Wipe the selector dial and tray sensor window as needed to maintain reliable detection.
- Avoid getting water into the hopper, roller cavities, or onto dry seed. Resume seeding only after all these components are dry.



Top view, looking down into the hopper.

Caution

Always be sure that the e-stop is engaged and the power is unplugged before attempting to perform inspection and maintenance.

End of day cleaning

1. Disconnect power.
2. Empty seed from the hopper. Store seed in labeled containers.
3. Remove seed rollers and the roller quiver. Wipe all parts; if washing, rinse, sanitize if desired, and dry completely before reassembly.
4. Avoid direct spray into motor housings and the electronics box.
5. Wipe exterior panels, touch points, and the selector dial.
6. If using additives/chemicals with watering add-ons, flush lines with clean water for at least 60 seconds, then relieve pressure and allow residual water to purge.
7. Allow components to air dry fully before loading seed.

Deep cleaning (as needed)

1. Hose the machine with potable water using a handheld nozzle, then use compressed air to dislodge trapped debris and speed drying. Avoid directing water or airflow into motors, bearings, or the electronics box. Do not use a pressure washer.
2. Remove and individually clean seed rollers; ensure they are fully dry before reinstalling.
3. Inspect and clean drain paths so water cannot pool.

Do and do not

- Do keep food contact parts clean before, during, and after operation.
- Do avoid direct spray at bearings, motors, and the electronics box.
- Do not use chlorinated cleaners.
- Do not use a pressure washer.

Maintenance and replacement intervals

Before each use	• Verify emergency stop and controls function. • Check tray sensor alignment and operation; if misreads persist check cable connections, realign or replace the sensor. • Inspect seed rollers for surface wear, nicks, swelling, or end-cap looseness; replace rollers that affect metering consistency. • Check fasteners on hopper, guards, and sensor brackets for looseness. • Inspect electrical connectors and at the selector dial, e-stop and motor.
Every 5,000 trays	• Re-validate seed weight calibration on a representative variety; update presets if drift is observed. • Inspect shafts and drive engagement features for polishing, flats, or play; replace worn shafts.

	• Inspect the roller connection point where it mates with the motor shaft coupler for rounding, slop, or wear; replace the roller if wear is present.
Every 25,000 trays	• Verify all enclosure and guard fasteners torque; replace damaged hardware.
As needed	• Replace seed rollers that no longer meter consistently after cleaning and recalibration. • Replace the tray sensor if detection is erratic after cleaning, alignment, and cable checks. • Replace damaged wiring and connectors.
Notes	• All bearings are sealed and are not to be greased. • Do not use chlorinated cleaners. • Do not use a pressure washer.

TROUBLESHOOTING

If something looks wrong

The screen says No Link	The Touch Encoder is not hearing from the motor controller.	Call for support. The motor controller is inside the electrical enclosure, which only qualified personnel may open.
A variety's numbers look wrong	You may be looking at a different variety than you think.	The settings screens always show the variety highlighted on screen 10. Go back, confirm the right one is selected, then return.

A change you made did not stick	Changes are only stored when you press Save Settings.	Leaving a settings screen without saving discards the change on purpose, so a stray turn of the dial cannot alter a preset.
The roller does not turn	Roller Speed may be at zero, or the tray cleared the sensor too early.	Check Roller Speed on screen 6. If a short object or debris trips the sensor, the machine suppresses the roller for that pass rather than dispensing onto bare belt.
A dial will not go any further	You have reached the limit of what the machine can do.	Roller Speed stops at 250; the six timing dials stop at ± 20 . Values beyond that would ask for something physically impossible, so the machine holds them at the limit.
Seeding lands late or early on the tray	The machine may not have measured your belt speed, or the conveyor speed has changed since it did.	Run Measure Belt Speed on screen 19. Only adjust the timing dials afterwards.
The second watering bar is not watering	It only waters while the seeder is running a variety.	Check that a variety is selected and not paused, and that its water supply is connected.
The conveyor keeps running after shutdown	The conveyor and top coater are powered separately.	Turn them off at the top box.

Customer support

For additional assistance, troubleshooting or questions about your Independent Hopper Seeder, our team is here to help. Please contact us at:

EMAIL customer-support@rootedrobotics.com	PHONE +1 (720) 999-9927	WEBSITE www.rootedrobotics.com
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