



# Length Grader for Heirloom Rice

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## WHAT IS A LENGTH GRADER?

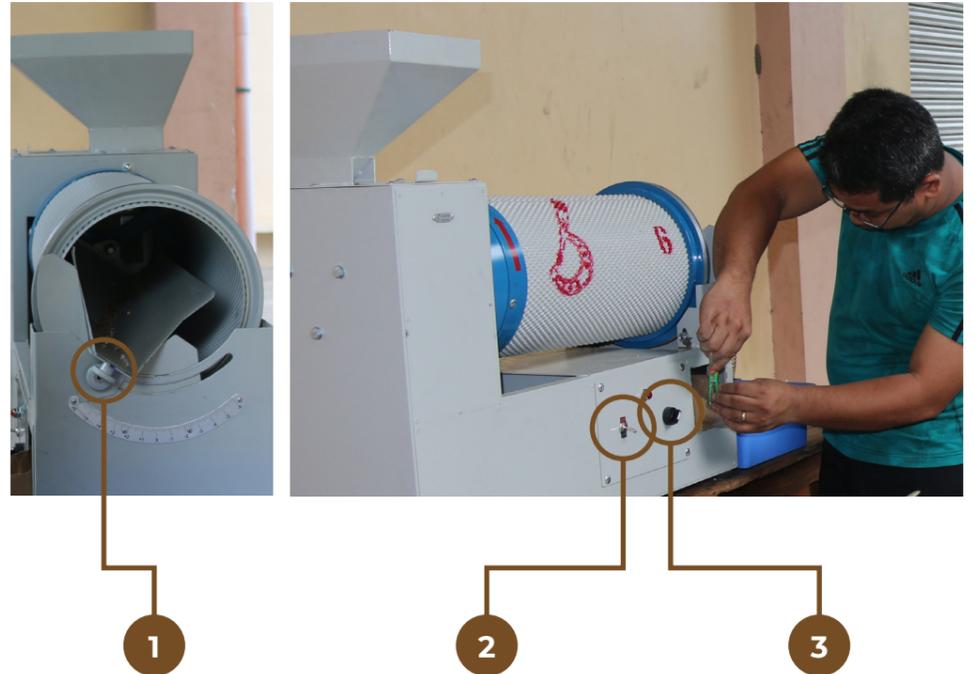
A length grader is a machine used to separate broken rice (large and small) from the whole kernel or head rice. In a high standard market where the proportion of head rice and broken rice is prescribed, length graders and blending machines are mostly used. The market of heirloom rice usually prescribes almost 100% head rice.



Prototype of redesigned rice length grader with manual option.

## WHAT ARE THE FEATURES?

- Lightweight
- Low power input (0.25 hp)
- 26 rpm cylinder speed
- Easy to adjust sieve angle
- Based on laboratory testing, the capacity of the machine is 85 kg/h and its separation efficiency is 87%



## HOW IS A LENGTH GRADER USED?

1. Prepare the length grader and make sure that all moving parts are well guarded and buckets are readied under all outlets.
2. Put the milled rice in the hopper, making sure that the bottom opening is closed.
3. Set the angle of the chute (1) to the appropriate position to get the desired percentage of whole grains. Usually, the size of the rice grain varies depending on the variety. Since the machine has only one size for the indented cylinder, the angle of the chute can be used to have a different percentage of head rice after separation. If a certain variety is to be used for the first time, several trial runs should be done to get the desired angle setting for the chute.
4. Turn on the power switch knob (2) then switch the START/STOP knob (3) to Start.
5. Slowly pull the lever at the bottom of the hopper to release the rice to the indented cylinder. The small and large broken rice will fall on the chute while the whole grains will fall at the lower end of the cylinder to be collected later on using a pan or sack.
6. Separation is finished when no more rice is falling at the end of the cylinder.
7. Turn the START/STOP knob to STOP then turn off the power switch button.

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