





Use of Spreader for Precision Broadcasting of Seed and Fertilizer



Spreader (example, EarthWay) is a manually operated precision broadcasting device used for broadcasting of granular fertilizer or seeds in the field. It has a waterproof zippered nylon bag with capacity of around 9kg and adjustable shoulder strap.

BENEFITS OF USING PRECISION BROADCASTER

- It covers more area in lesser time than manual broadcasting.
- It can regulate the exact amount of fertilizers/seed required precisely which helps to increase fertilizer use efficiency and better crop establishment than manual broadcasting.
- The same unit can be used for precision broadcasting of multiple crop seeds (eg. rice, wheat, lentil, mustard) and granular fertilizers.
- It can be comfortably operated by all ages (old men, women and youths).
- There is no direct skin contact with seed or fertilizer during application minimizing the health hazard of using chemical fertilizer or treated seed.

OPERATING PROCEDURE FOR PRECISION BROADCASTER

- Set the unit according to amount required for broadcasting (seed/fertilizer) per unit area from the rate setting. For rate setting, adjust the wing nut located at the base of the bag (Fig. 1).
- Tighten the wing nut after adjustment.
- Fill the nylon bag with seed/fertilizer. It should be 1/2 to 2/3 full and make sure slide opening is in closed position while filling the bag. To close the opening, the slide lever has to be placed in front of the wing nut (Fig. 2).
- Start walking and turn handle crank before opening the feed slide.
- To open the feed slide, pull slide lever back and place behind the wing nut (Fig. 3).
- Hand crank should make one revolution for each step. To ensure proper synchronization of walking speed and hand crank revolution, take a practice walk of at least 50m. The feed slide has to be closed during practice walk.
- With good handling, it can cover around 4m from the center in both sides with total swatch width of 8m in a single pass. Therefore, operator needs to move straight forward leaving around 4m area from the bund while starting. The operator needs to turn after every 6m from the previous walking point for uniform distribution. The distribution needs to be stopped 2–3m before reaching the end point of the plot area (Fig. 4).



Fig. 1: Wing nut setting.

Fig. 2: Shifting slide lever ahead of wing nut to close the opening. Fig. 3: Shifting slide lever back to wing nut to open up for broadcasting.

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- After every first seed/fertilizer broadcasted spot, a gap of 6m to the right should be maintained for second broadcasting.
- For urea top dressing: Set the device in number '1,' '2' and '3' to deliver around 1kg , 2kg and 3kg urea per kattha (0.033ha) respectively.
- For lentil seeding: Set the device in number '2.5' to deliver around 1kg seed per kattha.
- For wheat seeding: Set the device in number '4.5' to deliver around 4kg seed per kattha.
- However, the amount delivered per unit area depends on:
 - * opening of the feed slide
 - * walking speed
 - rotation of the handle

Therefore, it is recommended to calibrate the individual unit for each operator for precision application.



Fig. 4: Illustration of use of spreader for precision broadcasting.

GENERAL TIPS

- Keep holding the slide lever while operating the machine.
- Fertilizer should be free of pellet. If there are pellets in the fertilizer, they have to be broken before being put into bag.
- Do not use soaked or wet fertilizer as it disturbs the delivery of material from the spreader.
- Use apron and gloves for safety while operating the spreader.
- Check the broadcast of seed/fertilizer on both sides. Adjust the bag to either side to ensure uniform broadcast.
- The machine should be cleaned and kept in dry place after use.