

What is Mechanical Weeding?

Weeds are controlled using a rotating hoe (rotary or conical weeder) to cultivate, uproot and bury emerging young weeds between rows of rice plants. Mechanical weeding is a part of integrated weed management that refers to the integrated use of cultural, manual, mechanical and/or chemical control methods.

Why Control Weeds?

- Prevent yield loss due to weed competition
- Maintain purity and/or quality and market price of harvested grain.
- Prevent build-up of weed seeds in soil.
- Prevent weeds that may attract insects or rodents (rats) or act as a host for diseases.
- Prevent clogging of field irrigation channels and facilitate water flow.
- Reduce time and cost of land preparation and weeding operations.

Why Mechanically Weed?

- Non-chemical and ecologically sound.
- Less labor needed and costs less than hand weeding.
- Less drudgery and stress than in hand weeding.
- Soil stirring seems to increase root and shoot growth, tillering and grain yield.

Limitations of Mechanical Weeding

- Only suitable for row-planted crops.
- Difficult in hardened soil or where water is limited.
- Difficult to remove weeds within crop rows.
- Only effective with young weeds (2- to 4-leaf stage).
- Needs more labor (6-8 person-days per ha per weeding) than chemical weed control.
- Still some drudgery and stress on labor (if rotating hoe is motorized, it will help).

**More Weeds
equals
Less PROFIT!**

For more information:

For an overall view of crop management practices, visit <http://www.knowledgebank.irri.org/tropRice>.
To diagnose problems in the field visit <http://www.knowledgebank.irri.org/ricedoctor>.

Developed with input from M Bell, V Balasubramanian, and J Rickman

How to Mechanically Weed?

1. Weeds need to be controlled within the first 20-40 days to avoid yield loss.
2. With 2-3 cm of water in the field, start using a rotating hoe at 10-12 DAT or 20-22 DAS when emerged weeds are young (2- to 4-leaf stage).
3. Repeat the hoeing one to two more times at 20-22 and 30-32 DAT or 30-32 and 40-42 DAS.
4. Remove the weeds near the plants by hand.
5. Generally hoeing follows the row direction up the field and back. If the field is uniformly transplanted on a regular square pattern, it may be possible to hoe in perpendicular directions.
6. Use good land leveling and standing water to reduce weeds.



Plant in straight rows for mechanical weeding.



Early control of weeds is important.