

Working principle of the Weeder: The roller helps in forward and back ward movement of the weeder. The rakes uproot the weeds and loosen the soil.

The plate cuts the soil and the weeds.

The weeder works best in upland row crops.

The weeding is achieved by to and fro movement of the handle.

Test Results:

Working width, mm : 100-150

Working Depth, mm : 50-75

Work Out put, man-hour/ha : 60-80

Unit Cost (Rs.) : 250(year 2004)

Source of availability

1. Govt. Implement Factory, Satya Nagar, Bhubaneswar.
2. Sekhar Engineering Works, Jagat Pur, Cuttack.

Weeders Developed at Central Rice Research Institute, Cuttack for Rice and Rice-based Crops

B.C. Parida and F.C. Das

Weeds are a severe menace in upland rice, they are one of the major pests in shallow lowland rice, and crops like jute and vegetables require timely weeding. According to an estimate there is a loss of 20-30 % in rice yield if weeding is not done in time. It has been estimated that the cost of manual weeding is approximately 20% of cost of production in rice. CRRI has developed a number of weeders for use in upland, shallow low land rice, jute and vegetable crops.

Star-cum-Cono Weeder

Function: For weeding rice sown or transplanted in shallow low land.

Specifications:

Type : Long handle, push and pull type.

Dimensions, mm (L,B,H) : 1700 x 200 x 880

Weight, kg: 5

Construction of the Weeder: The weeder consists of frame, handle, float, star wheels, and cone with serrated and plane blades.



The star wheels follow the float followed by conical drums.

Plane and serrated blades are welded on the drum alternately.

Working Principles: The stars and conical drums cut the weeds and churn them in to the soil.

This is achieved by for ward and back ward movement of the handle. The height o the handle can be adjusted depending on the height of the operator.

Test results:

Working Width, mm : 100 / 140 (15cm / 20cm row spacing)

Working Depth, mm : 50-75

Work Out put, man-hour / ha : 50

Unit Cost, Rs (approximate) : 475 (year 2004)

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For more details please write to,

The Director, Central Rice Research Institute, ICAR, Cuttack (Orissa) 753006, India
Phone: 91-0671-2367757; Fax: 91-0671-2367663; Email: crriictc@ori.nic.in.

Weeders Developed at CRRI for Rice and Rice-based Crops

Finger Weeder

Function: For weeding of crops like rice, jute and vegetables planted in rows in dry and wet condition.

Specifications :

Type: Long handle, push and pull type.
Dimensions, mm (L, B, H): 1530 x 85 x 120
Weight, kg (without handle): 1.8

Construction of the Weeder: The weeder consists of a M.S plate to which 4 curved M.S rod are welded and a handle is attached. The 2 out side fingers are larger than the inside fingers.

The fingers are so shaped and welded that they all touch the ground at a time.

The fingers have been suitably spaced so that there is no clogging.

Working Principles: The operator moves the handle forward and backward so that the weed get uprooted by combing action.

The fingers can work between the rows and between the plants.

It can be used for upland as well as low land rice.

Test Results:

Working Depth, mm : 50
Pull, kg : 5-6

Work Out put, man-hr / ha:

Dry : 100-120
Wet : 55-60
Unit Cost, Rs. (approximate) : 75 (year 2004)



Wheel Finger Weeder

Function: Weeding of row crops like upland rice, jute, maize, and vegetable crops.

Specifications:

Type: Manual, pull and push type
Dimensions (L, B, H) mm: 1850 x 380 x 420
Weight, kg: 7.5



Construction of Weeder: The weeder consists of a frame, a wheel, a handle and 5 numbers of curved fingers.

The wheel is made of M.S flat with 4 spokes and an axle.

The wheel is fitted at the front of the weeder.

Behind the wheel 5 fingers are fitted to the frame: 2 at the front and 3 behind.

A handle is attached to the frame.

The wheel facilitates to and fro movement of the weeder.

The fingers are positioned in staggered manner so that there is no clogging and all the area in between rows is covered.

The spacing between fingers is adjustable.

Working Principles: As the operator moves the handle to and fro the fingers push in to the soil and loosen it and the weeds get uprooted.

The uprooted weeds can be collected and thrown manually after wards.

Test Results:

Working Width, mm : 110

Working Depth, mm : 50

Out put, man-hour /ha : 40

Unit Cost, Rs. : 400 (year 2004)

Blade and Rake Weeder

Function: Weeding of upland rice in lines and other row crops in dry condition.

Specifications:

Type : Long handle, push and pull type
Dimensions, mm (L, B, H) : 1700x115x110
Weight, kg : 7

Construction of Weeder: The weeder consists of a M.S frame to which is attached a roller at the front followed by 4 numbers of pointed rods at an angle to the frame.

Behind the rods a sharp plate is attached to the frame at an angle to the horizontal.

A long handle is attached to the frame.

