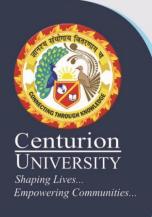


INTERCULTURE TOOLS



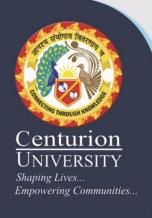
Disadvantages of weeds

Weeds are menace to crops

Harbour insects

Compete with crops for water, light, and nutrients

reduce yield and quality

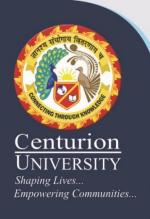


Loss of yield due to weed

46 % in direct seeded rice

20 % in transplanted rice

Man hour requirement in manual weeding= 400 man - hour/ha



Classification of weeds

Complete life cycle in one year

Propagates through seeds

Found in dry hot and dry summer

Maintain their existence through seeds

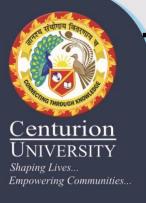
Mechanical weed control is less difficult

Eliminate the seeds before they reach seeding stage

Effective control: mechanical and chemical

Biennial: neither important nor common

Perennial: Common in tropical climate, difficult to control, propagate through seeds and vegetation



Type of weeding methods

MANUAL WEEDING

Removing weeds manually by hand or khurpi.

It is time consuming and requires intensive labour (400 man hours/ha).

MECHANICAL WEEDING

The process of removal of weeds by mechanical means either by

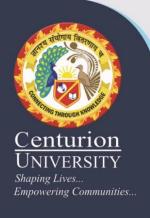
Manually operated weeders.

Power operated weeders.

CHEMICAL WEEDING

Chemical herbicides for control of weeds

The chemical used is selective in nature.



Chemical weedicide

Paddy

Butaclor for paddy (After emergence i.e After transplanting)

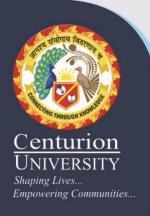
Groundnut:

Pendimethyline (Pre-emergence)

Imazathapyr (do)

Oxygold (do)

Pargasuper (Post Emergence)



TYPES OF WEEDING TOOLS

Small hand tools

Chopping hoes

Pull type weeders

Push type weeders

Push pull type weeders

Animal drawn weeders

Power tiller operated weeders

Tractor operated weeders

Small engine operated self – propelled weeder



Specifications

The *khurpi* is a small and a very popular hand tool and is available in various shapes and sizes. Most of the design specifications fall in the following ranges.

Overall length (mm) : up to 350 Length of blade with tang (mm) : 150-250 Width of the cutting edge (mm) : 65-150

Weight (kg) : 0.3-0.70

Uses

The *khurpi* is used for removing weeds and unwanted plants from the crop. The tool is also used for breaking the surface layer, aeration and mulching of the soil.

Specifications

Raw materials used

Blade Mild steel angle and flat

Handle Wood/bamboo

Dimensions of blade

Length × Width × Thickness (mm) $115-135\times70-85\times2-4$

Handle diameter (mm) 20-30
Handle length (mm) 450-600
Angle between blade and handle (degrees) 40-50
Weight (kg) 0.30-0.40

Uses

Used for weeding, loosening of soil and harvesting of tuberous crops like ginger, garlic, onion etc.





Specifications

Raw materials used

Prongs

: Mild steel bar or tor steel.

Ferrule

Mild steel tube

Handle

Bamboo/wood

Dimensions of whole fork

Length × Width (mm)

: 300-330×100-120

Dimensions of each finger

Length (mm)
Diameter (mm)

155-245 6-10

No. of fingers

: 3 nos.

Dimensions of handle

Diameter (mm) : 35-40

Length (mm)

: 1200-1500

Weight (kg)

0.45-0.50

Uses

It is used for breaking soil crust, weeding, and collection of weeds.

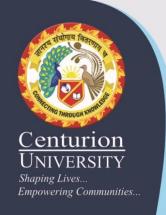




HAND RAKE

Uses

The tool is used for aeration in seedbed and lawns. It is also used for collection of trash in nursery beds and scratching/stirring of top layer.



GARDEN RAKE

Local name: Napikot

Features

It is a long handled tool and consists of spikes, welded to a Z section frame made from joining two pieces of angle iron. A ferrule of mild steel tube is welded to the frame in which a wooden handle is inserted for the operation of tool. These spikes are made from mild steel rod, angle or flat section and forged to shape. The tips are made sharp for easy penetration in the soil. The rake is operated by pulling the tool head towards the operator.



Specifications

Raw materials used

Spikes Mild steel rod, angles, or flat

Handle Bamboo/Wood

Dimensions of whole fork

Length \times Width (mm) 200-300x200-250

Dimensions of each spike

Length (mm) 150-200

Diameter (mm) 6-10

Number of spikes 6 nos.

Dimensions of handle

Diameter (mm) 35-40

Length (mm) 1200-1500mm

Angle between blade and handle (degrees) 90

Weight (kg) 0.70-0.80 (without handle)

Uses

It is used for levelling of beds, crushing of clods, collection of uprooted weeds and aeration of soil.