

INTERCULTURE TOOLS AND IMPLEMENTS

Weeds can compete with productive crops or pasture, or convert productive land into unusable scrub. Weeds are also often poisonous, distasteful, produce burrs, thorns or other damaging body parts or otherwise interfere with the use and management of desirable plants by contaminating harvests or excluding livestock. They provide competition for space, nutrients, water and light.

Dry land weeder

Dry land weeders with long handles are suitable for weeding in row crops in rain fed and garden lands. The long handle eliminates the back strain and provides comfort to the operator for continuous operation in standing posture. This is a long handled tool and consists of 25 mm dia. 1200 mm long conduit pipe over which 520 mm long handle is fitted (Fig.1). To the bottom of the vertical pipe frame, two arms made of 250 x 25 x 3 mm of MS plates are fitted. At the extreme end of the arm 120 mm dia star wheel is fixed.

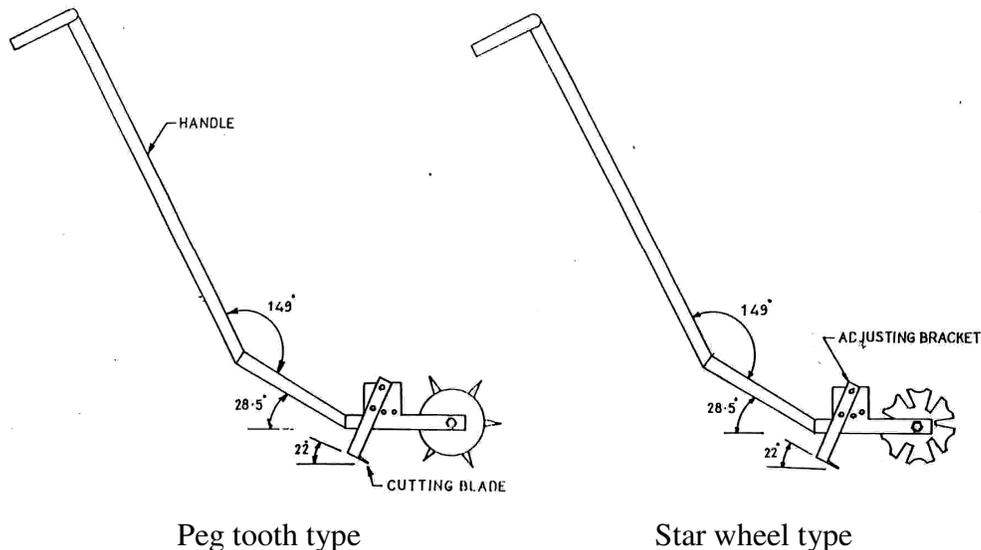


Fig 1. Dry land weeder

The cutting blade is fitted to the bottom portion of the arm, and 200 mm to the back of the star wheel. The star wheel facilitates easy movement of the tool. The cutting blade cuts the weeds. The operating width of the blade is 120 mm. The star type is suitable for operation in loamy and sandy soil. In the peg type the star wheel is replaced by pegs facilitating easier operation in clay soil. The coverage of the weeder is 0.05 ha/day.

2. Cono weeder for paddy

It is useful for uprooting and burying weeds in between standing rows of rice crop in wetlands. It disturbs the topsoil and increases the aeration. The unit consists of a long handle made of mild steel tube. Two truncated rollers one behind other are fitted at the bottom of the long handle (Fig.2). The conical rollers have serrated projections on the periphery. A float provided in the front portion prevents the unit from sinking into, the

puddled soil. The cono weeder can also be used for trampling the green manure crop in addition to weeding operation. They are more efficient than manual pulling of weeds.

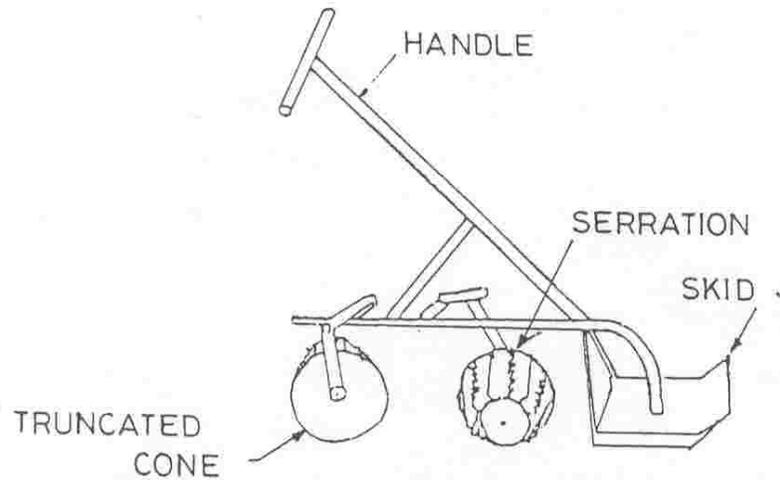


Fig.2 Cono weeder

3. Engine operated weeder

A 3-hp petrol start kerosene run engine operates the weeder. The engine power is transmitted to ground wheels through V belt-pulley and sprocket - chain mechanism. At the back of the machine a replaceable sweep blade is fixed (Fig.3). Sweep blades of different width can be fitted to the machine depending on the row to row spacing of the crop. A tail wheel is provided at the rear to maintain the operating depth. The sweep blade can be raised or lowered so as to have the desired operating depth. The cost of the unit is Rs. 50,000/- and the field capacity is 0.75 ha per day. The salient features of the unit are:

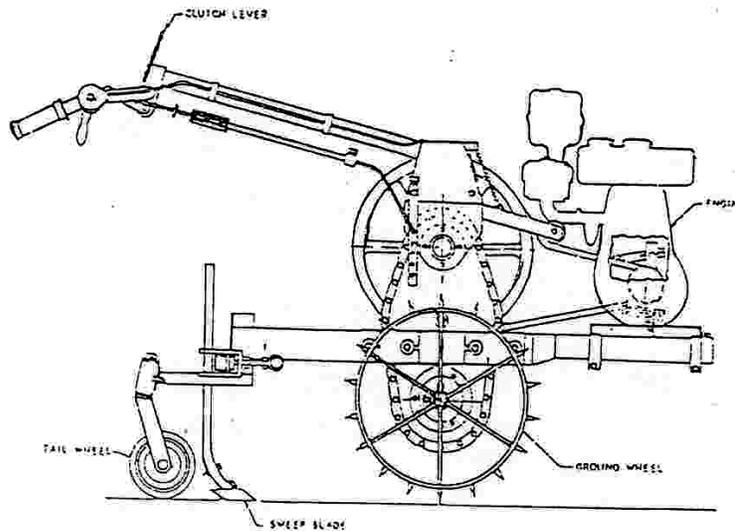


Fig.3 Engine operated weeder

- Useful for weeding between rows of crops like tapioca, cotton, sugarcane, maize, tomato and pulses whose rows spacing is more than 45 cm
- Can also be used for weeding and intercultural operations in orchards, coconut and areca nut plantations.

4. Sweep

It is an intercultural implement for removing shallow rooted weeds in between rows. The sweep consists of V shaped shovels with bevel edged wings. The shovels are held by the tynes fixed to a frame by means of counter sunk bolts and nuts. When the sweep is used for secondary tillage, five or six tynes may be clamped with the shovels in line having no gap in between them (Fig.4). By just skimming under the soil at a shallow depth of 2 to 3 cm, the sweep breaks the capillary in the soil pores and provides soil mulch. When the sweep is used for intercultural operations, the space between the shovels is adjusted to suit the row spacing of the crop and with different sizes of blades. The coverage is 1.75 to 2.5 ha/day. The salient features of the unit are:

- * Suitable for all row crops and soils; provides soil mulch and conserves soil moisture
- * Suitable for inter cultural operations.

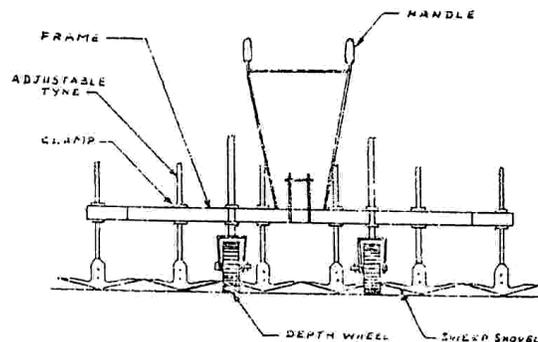


Fig.4. Sweep

5. Junior hoe

It is an interculture equipment used primarily for weeding in between the rows of standing crops. It consists of reversible shovels with curved tynes attached to framework with hinge arrangement. A handle and beam are fixed to the framework for guiding and attaching the unit to the yoke. The spacing between the shovel can be adjusted according to the row spacing of the crop. The coverage is 1.5 ha per day.