

3. Secondary tillage equipment

Secondary tillage implements,

- Harrows
- Pulverizes/rollers
- Leveling board
- Cultivators
- Special tools for surface tillage

Harrows

A harrow is an implement with spikes or disks that is used to cultivate the soil by pulverizing and smoothing it.

- » Disk harrow
- » Spike tooth harrow
- » Spring tooth harrow

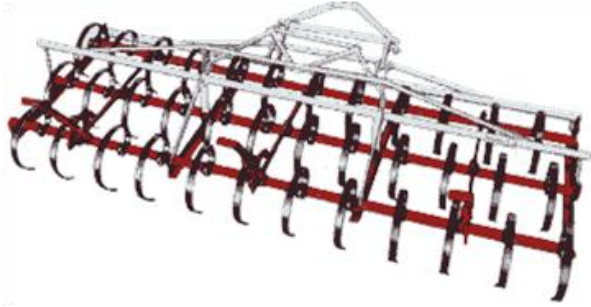
Disk Harrow:



Spike tooth harrow



Spring tooth harrow



Suitable forward speed – 5 -10 km/hr
Maximum depth – 15 cm
Working capacity – 8 acres/ day

Disk harrow:

Consist with number of small disks

Disks are arranged as gang

Two gang

Four gang

Three types of disk harrows

Single action

Double action

Off set

Two gang disk harrow:



Four gang disk harrow:



Single action



Double action



Offset disk harrow



Disk bedder

- Two gang disk harrow
- Disk size/concaveness is different
- Use to make race bed



Pulverizes/rollers

Large soil clods convert to tiny soil particles
Can achieve good seed bed



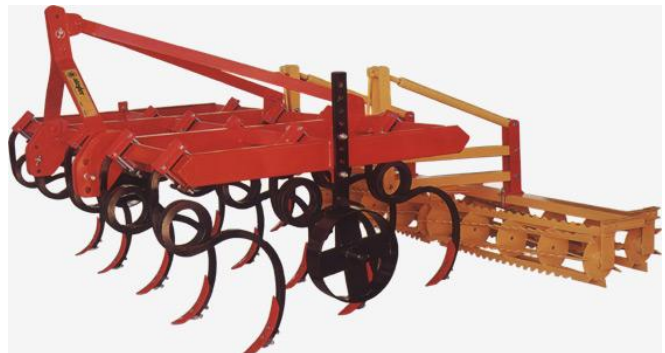
Leveling board

Use to level the field/seed bed
Use for irrigation practices
Use to make roads
Working width – 1.5 – 3 m
The suitable forward speed – 3-5 km/ hr



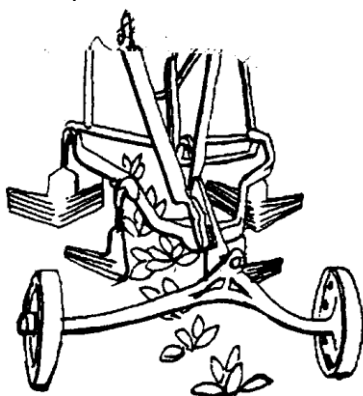
Cultivators

A cultivator is an implement used to loosen the soil and control weeds between rows of growing crops.



Special tools for surface tillage

Sweeps



Swiss hoe
Chopping
Sweepers



hoe
Swiss hoe (MI hoe)

Chopping hoe



Ridger and furrow opener

Use to make ridge and furrows

Ridger

make a furrow in an un-broken soil

Heavy implement

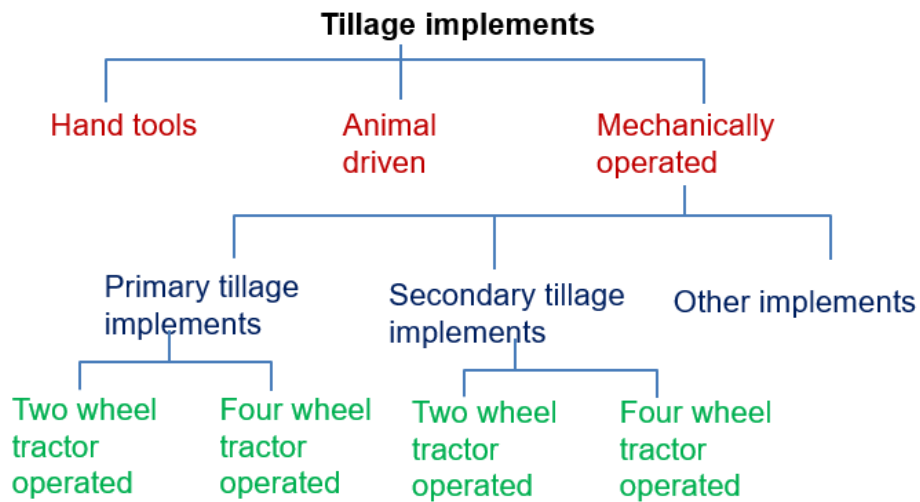
Furrow opener

make a furrow in a broken soil

Light implement

Use after rotary tiller

Classification of tillage implements



Hand tools,

- Single blade cultivator
- Three point cultivator
- Swis hoe
- Choping hoe
- Mamoty
- Crawbar

Animal driven

- Village wooden plow
- Single cattle plow
- Light iron plow
- Heavy duty moldboard plow
- Leveling board

Two wheel tractor driven primary tillage implements

- Japanese reversible plow
- Rotovator
- Disc plow

Four wheel tractor driven primary tillage implements

Moldboard plow

Disc plow

Sub soiler

Tine tiller

Rotovator

Two wheel tractor driven secondary tillage implements

Rotovator

Star plow

spine harrow

leveling board

Four wheel tractor driven secondary tillage implements

Rotovator

Tine tiller

Disc harrow

Spine tooth harrow

Spring tooth harrow

Other implements

Ridger

Plow wheels

Pudding wheels

Leveler

Inter cultivator