ROLE AND USE OF IMPROVED AGRICULTURAL IMPLEMENTS

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ROLE AND USE OF IMPROVED AGRICULTURAL IMPLEMENTS

Timeliness of farm operations is the key to achieve higher production and avoid post-harvest losses in rainfed agriculture

Time available to carry out field operations is limited and critical for higher production

Working capacity of indigenous implements is low, difficult to perform operations in time

Improved implements are essential components of dryland crop production systems

IMPORTANT FARM OPERATIONS FOR DRYLANDS

- Tillage and seedbed preparation
- Seeding and fertilization
- Weeding and intercultivation
- Plant protection
- Harvesting
- Threshing

TILLAGE IMPLEMENTS

Mould board plough

Cuts and inverts the soil and stubbles in the form of slices

Weeds and other crop residues are completely buried

It does not leave uncut soil between adjacent furrows

Area of 0.05ha /hr can be covered

TILLAGE IMPLEMENTS

Mould board plough

TILLAGE IMPLEMENTS

Disc harrow

Riding type implement suitable for seed bed preparation

Light soils – 2 to 3 operations will make good seed bed

Hard soils – does not penetrate easily in its first operation
First operation by mould board plough followed by disc harrow saves time and labour for seed bed preparation by 15-20%

TILLAGE IMPLEMENTS

Disc harrow

TILLAGE IMPLEMENTS

Chisel plough

Rips through the soil with a narrow chisel

Breaks the hard layer of soil just below the plough depth

Rain water is made to infiltrate the soil by using this implement

TILLAGE IMPLEMENTS

Chisel plough

TILLAGE IMPLEMENTS

Bund former

Used for making bunds after sowing - to check water in fields

Forms bunds by gathering upper layer of soil

Shape and size of bunds can be controlled by changing the angle of wings which gather soil

TILLAGE IMPLEMENTS

Bund former

TILLAGE IMPLEMENTS

Ridger

Used for making drainage channels and border ridges

In two to three passes it can make a ditch up to a depth of 30cm

Water movement can be eased by the use of this implement

TILLAGE IMPLEMENTS

Ridger

- **In order to take full advantage of annual precipitation in dryland agriculture, higher doses of energy input is essential**

- **Tillage machines of appropriate size and type matching the power sources need to be used**