

Presentation Notes - Tillage

Name _____

Introduction: What is Tillage?

Tillage is the _____ of the soil in preparation for _____

Purpose

1. _____
2. _____
3. _____
4. _____

Primary Tillage is _____

Effects of Primary Tillage-

1. _____ up compacted soil layers
2. Buries _____ and crop _____
3. Enhances water _____
4. May cause _____ if done excessively

Equipment	Description	Best Use	Advantages	Disadvantages
Moldboard Plow	Turns over the _____ top layer of soil	In _____ residue fields and for breaking new ground or _____	Excellent _____ Control, Completely buries _____	High _____ Use, soil erosion risk
Chisel Plow	Loosens soil but leaves _____ on the surface	For Breaking up _____ soil without excessive soil _____	Reduced soil _____ (compared to moldboard plow)	Doesn't fully bury _____ or _____
Ripper/Subsoil Plow	Uses deep _____ to break up the soil _____ below the surface without _____ the soil over	For breaking up _____ soil layers	Relieves soil _____, improves _____, preserves soil _____	High _____ requirements, does not mix residue

Secondary Tillage is _____

Effects of Secondary Tillage-

1. Breaks up large _____ from _____ tillage
2. Improves _____-to-_____ contact
3. Reduces weed _____
4. Helps with _____ conservation

Equipment	Description	Best Use	Advantages	Disadvantages
Field Cultivator	Uses rows of _____ to aerate the soil with breaking up _____ clods	For preparing a _____ and even _____ and for light _____ control	Helps incorporate _____ and fertilizers, low fuel and horsepower requirements	Less effective in _____-residue fields and has a limited penetration _____
Disk Harrow	Uses rows of _____ to slice through the soil and mix _____	For Breaking _____ of dirt and _____ soil after primary tillage	Good for incorporating residue and _____. Can be adjusted for different _____ conditions	Multiple _____ may be needed, high risk of _____
Rolling Basket/ Soil Conditioner	Rollers with metal _____ break up small _____ and _____ the soil surface	For final soil preparation before _____	Prevents soil _____, enhances _____-to-_____ contact	Very limited affect on _____ compaction. Requires _____ tillage for best results

Reflection Questions

1. Emilia has been farming the same fields for years, and she has noticed her crops aren't growing as well. Her soil seems hard and compacted, especially below the surface. Water pools in her field after heavy rain instead of draining properly. She doesn't want to disturb the topsoil too much but needs to break up the hardpan. **What tillage implement should she use?**

2. Jake's field is almost ready for planting but there are still some small soil clods that could make seed-to-soil contact uneven. He needs something to firm the soil and create a uniform planting surface. **What tillage implement should he use?**

3. Carlos used a chisel plow in the fall to loosen his soil, but now in the spring, his field is too rough and cloddy to plant soybeans. He needs to break up the clumps and create a smooth, even seedbed so that his planter works efficiently. **What tillage implement should he use?**

4. Amanda just bought a piece of land that has never been farmed before. It is covered in thick grass and weeds, and she wants to grow soybeans next year. She needs to completely break up the soil and bury the plant material to start fresh. **What tillage implement should she use?**
