

## 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
<b>Moldboard Plow</b>	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
<b>Chisel Plow</b>	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 _____
<b>Ripper/Subsoil Plow</b>	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
<b>Field Cultivator</b>	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 _____
<b>Disk Harrow</b>	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
<b>Rolling Basket/ Soil Conditioner</b>	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?**

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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?**

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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?**

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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?**

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