

*Conservation Tillage  
for Dryland Wheat:  
Try It—You'll Like It!*



**What is it?**

Just enough of the right tillage to:

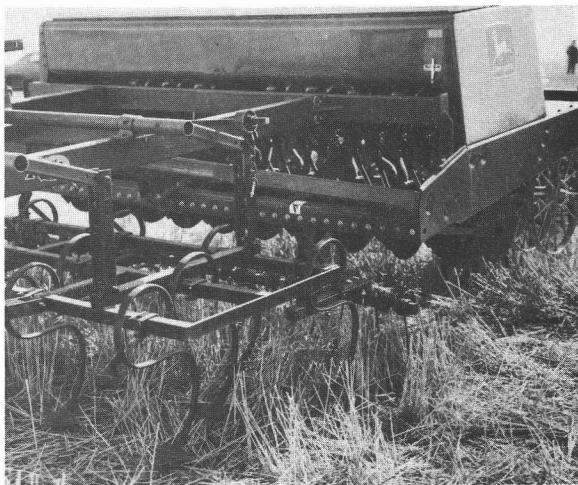
1. control weeds;
2. conserve moisture by mulch;
3. incorporate fertilizers, additives, and amendments;  
and
4. leave adequate residues on the surface.

***NO MORE — NO LESS!***

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Extension Service**

## How can you do this?

Use conservation tillage systems: stubble mulch, reduced or minimum tillage, no till, combined-operation tillage (fertilize and seed, sweep and seed, or chisel and seed). Change tillage method and depth periodically. Reduce moldboarding and discing. Use 3-year crop rotation (fall wheat, spring grain, fallow, for example). Avoid double fallow. Use strip tillage and cross-slope farming. Overwinter in standing stubble. Minimum fall tillage.



## What can it do for you?

1. *Save energy*—Cuts fuel costs.
2. *Reduce machinery time*—Reduce equipment wear and save labor dollars.
3. *Reduce soil compaction*—Fewer trips means less compacted soil roots won't penetrate; fewer pressure pans and plow pans.
4. *Capture more water*—Residues on and near the surface reduce sealing due to raindrops, provide ponding for water penetration, promote surface roughness for water penetration.
5. *Reduce soil freezing*—Residues insulate soils.
6. *Reduce runoff*—Covered, nonfrozen soils absorb water faster.
7. *Reduce soil erosion*—Less erosion from less spattering by rain and from less runoff.
8. *Maintain soil organic matter level*—Leaving organic matter on surface delays decomposition. Requires a new fertilization program; maintaining soil organic matter requires adequate quantities of fertilizers.



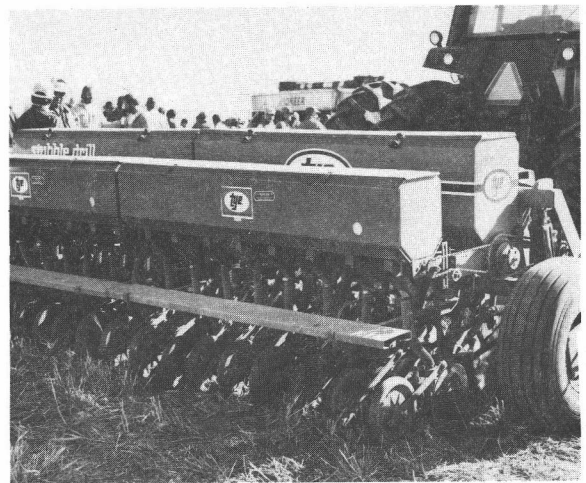
### Why conservation tillage now?

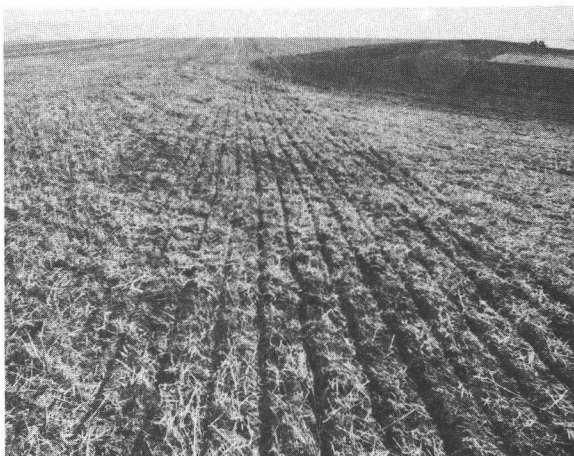
1. Modern power units can handle large, strong, high clearance tillage and planting implements.
2. High clearance tillage units are available that can pass large residue volumes below the frame.
3. The current suite of herbicides goes a long way toward safe, effective, economic weed control.
4. The cost of energy is increasing in significance. Small reductions in tillage can mean dollars for herbicides and/or extra profits.
5. You can't ignore public concern about water pollution.
6. Soil compaction is a serious problem. Plow pans can rob crops of deep moisture by reducing root systems. Reduced field traffic, less wet plowing, and increased soil organic matter can reduce soil compaction.
7. You can reduce soil erosion and maintain yields at reasonable cost.
8. You can solve fertilizer placement problems.

3. Weeds could occasionally get out of control.
4. Too much surface residue can increase rodent and insect problems.
5. Higher herbicide rates may be needed on heavy residue surfaces.
6. Tucked-in straw under the seed is a poor seedbed. Avoid it!
7. You *must* spread straw and chaff evenly.
8. Yields could suffer if you do not properly place and time fertilizer and/or amendments.
9. A long term tillage plan is essential. You must plan conservation tillage with respect to: soil; rainfall;

### What will it cost?

1. You may need to own more equipment. Some conventional equipment can be modified to fit new needs.
2. Herbicides must be used properly and carefully with well-calibrated, carefully adjusted equipment, and well-trained people.





weeds, present and possible; cropping system; energy cost; your time and labor time; land lay and layout; marketing of possible commodities; government programs; current and prospective insect and disease control.

### **The future tillage**

Tillage rotations including use of chisel plows, sweeps, and minimum tillage planting. Occasional cross-slope moldboard plowing can be worked out to vary tillage depth for compaction control, to incorporate solid fertilizers, and to help with weed control in a conservation tillage program. Use sweeps and rods for evaporation control, chemicals for weed control, surface litter for soil heat control.





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