

PAST, PRESENT, AND FUTURE OF CONSERVATION TILLAGE: U.S.A. FARMER PERSPECTIVE

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In my opinion, the adaptation of conservation tillage in the past has been slow for several reasons:

1. Lack of over-the-top herbicides for our crops, with corn being the exception. Atrazine and Lasso or Dual have provided excellent weed control and still perform well.
2. Lack of equipment to plant in heavy cover crops.
3. Lack of research from our extension service.
4. Farmers have heavily-tilled the soil for years and are reluctant to reduce their tillage.
5. The myth of no till - no yield, no combine bill - is believed to be true by some.
6. The myth that lime won't move through the soil profile over time.
7. Generally speaking, NRCS personnel haven't promoted conservation tillage. There are several NRCS personnel that are avid supporters of conservation tillage and we owe them many thanks.

Presently, there are several reasons for increased conservation tillage:

1. We have good over-the-top herbicides for our major crops. Farmers realize, now, we can control weeds and grasses.
2. Our equipment has been improved through the efforts of farmers, USDA-ARS research and equipment manufacturers. The following are examples:
 - a. Moving the coulter farther from the subsoiler;
 - b. Raised fin on subsoil points;
 - c. Roller to roll down heavy cover crops.
3. The introduction of RR Technology has benefitted cotton farmers in particular.

4. Education of the value of cover crops to our soils:

- a. Increases water holding capacity;
- b. Nutrient recycling;
- c. No water or wind erosion;
- d. Increased beneficial insects.

We still have some areas that need improving, such as more conservation tillage research from our extension services. Also, a lot of NRCS personnel still don't promote the benefits of conservation tillage. Their encouragement would help lead some farmers to adopt conservation tillage. The myths of lower yields, soil must be tilled, (disked, chisel plow, etc.) to form a good seedbed, and lime needs to be incorporated still exist. Also, large acreage farmers think they can't plant in a timely manner.

In the future, as more emphasis is put on a clean environment in the areas of water, soil and air quality, more farmers will move to conservation tillage. We may be even paid to store carbon in our soils.

I think the use of GPS technology will increase conservation tillage acres. With autopilot on tractors, farmers will be able to plant more acres per unit of equipment. Rows could be established in the winter and early spring and large acreage could be planted on a timely basis. With GPS technology, traffic patterns could be established and maintained year to year. Maybe even reduce the need for subsoiling every year. Also, new chemistry herbicides will make weed control in conservation tillage much simpler.