

# Land & Water

## Conserving Natural Resources in Illinois

University of Illinois Extension • College of Agricultural, Consumer and Environmental Sciences

### U.S. Tillage Trends

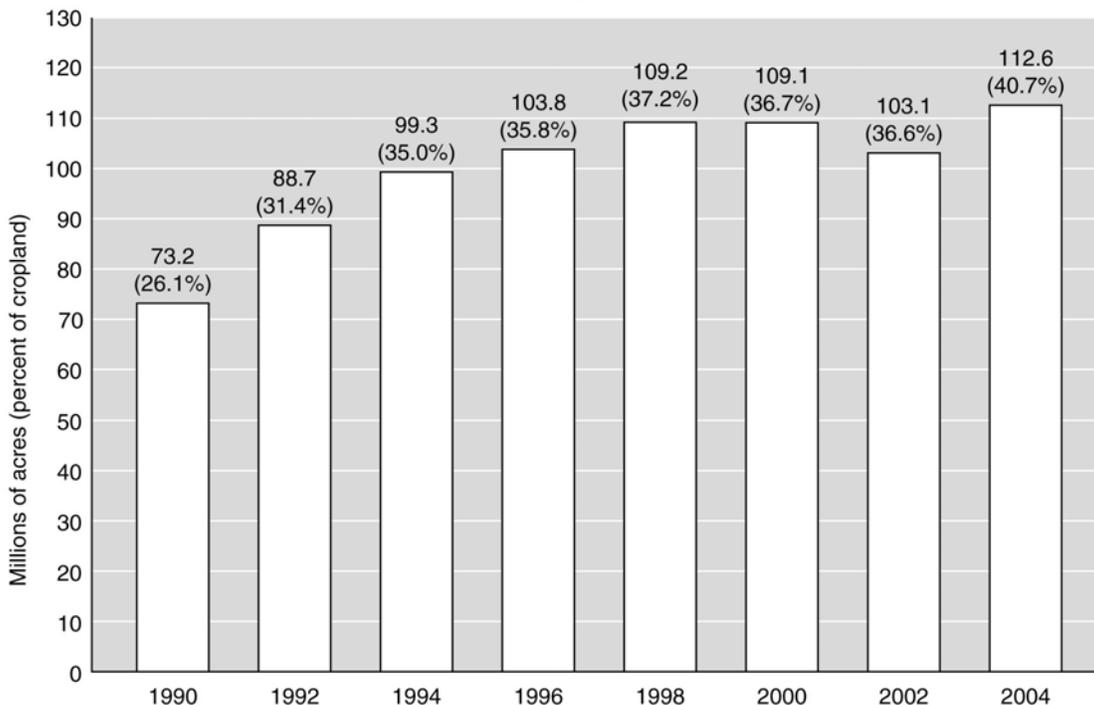
#### The Big Bounce

Conservation tillage bounced back from a four-year slide in a big way in 2004. After dropping in acreage nationwide in 2000 and 2002, conservation tillage roared back to its highest level ever, with 112.6 million acres in the United States in some form of conservation tillage (Figure 1).

This means conservation tillage is being used on 40.7 percent of all U.S. cropland—the first time this statistic has ever broken the 40-percent barrier.

Conservation tillage includes any type of tillage system in which at least 30 percent of the soil surface is covered with crop residue after harvest

**Figure 1**  
**Conservation Tillage in the United States**



Conservation tillage includes no-till, ridge-till, and mulch-till—all systems that leave at least 30% of the soil surface covered with residue.

Source: Conservation Technology Information Center (CTIC) National Crop Residue Management Survey

to protect against erosion. These systems, which include no-till, strip-till, ridge-till, and mulch-till, also save on labor, fuel, and machinery costs—a big incentive, especially during this period of skyrocketing fuel costs.

No-till, in which the soil is undisturbed between harvest and planting, received particularly high marks on its 2004 report card, with acreage reaching 62.4 million acres, or 22.6 percent of all cropland in the United States—both records (Figure 2).

These figures come from the National Crop Residue Management Survey, which is conducted every two years. The survey is coordinated by the Conservation Technology Information Center in partnership with the USDA Natural Resources Conservation Service.

### Illinois: A No-Till Leader, But...

Illinois continues to lead the nation in total no-till acreage with 6.7 million acres and in no-till soybean acres with 4.8 million. No-till soybeans in Illinois rose for the seventh straight survey, increasing by 228,000 acres since 2002.

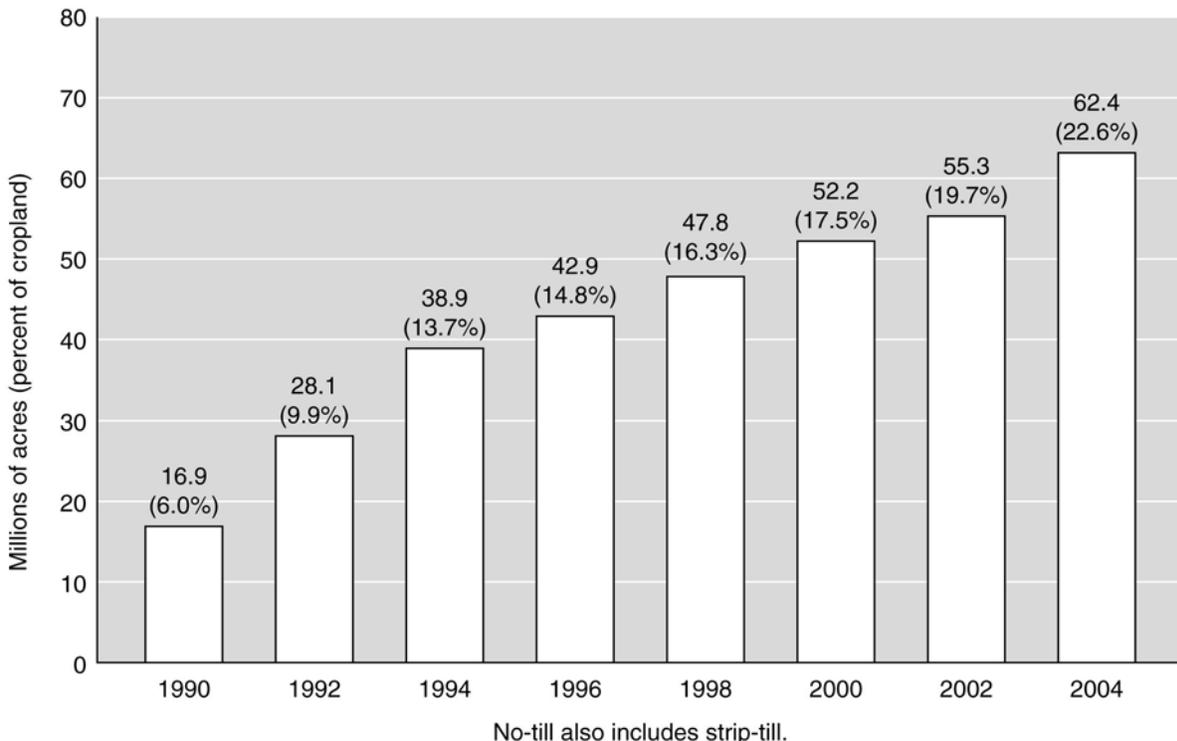
Illinois farmers can take pride in this accomplishment, as can all members of the state’s conservation team—state agencies, commodity groups, agribusinesses, and University of Illinois Extension. However, the state can’t rest on its laurels, especially since Illinois still faces the challenge of finding ways to boost its *percentage* of cropland in no-till.

While total no-till acreage in Illinois runs far ahead of the other 49 states, Figures 3 through 5 show that Illinois does not fare as well in the *percent* of cropland acreage in no-till:

- In percent of **total cropland** acreage in no-till, Illinois is 16th—14th if you count only states with 1 million or more cropland acres.
- In percent of **soybean** acreage in no-till, Illinois is 13th—6th if you count only states with 1 million acres or more of soybeans.
- In percent of **corn** acreage in no-till, Illinois is 27th—14th if you count only states with 1 million acres or more of corn.

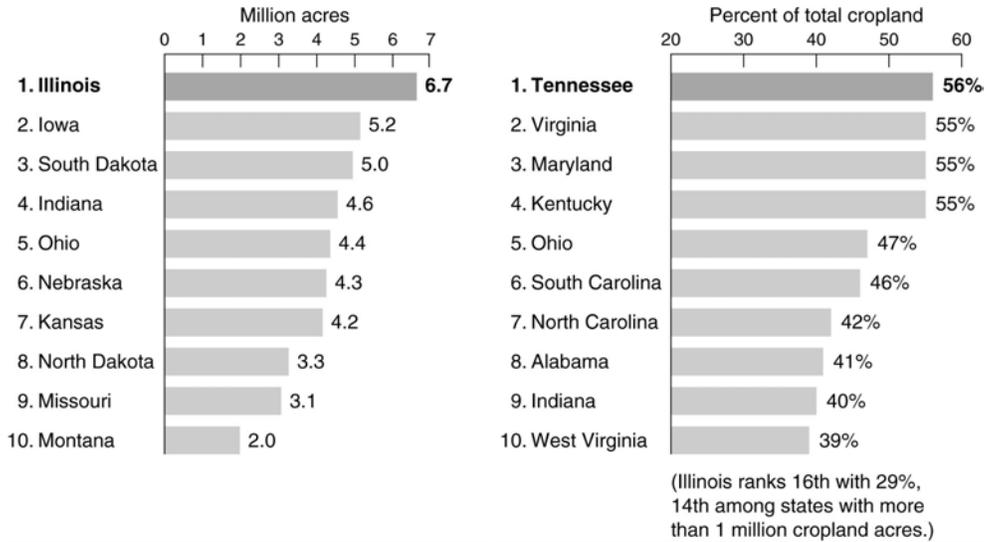
Part of the reason for this lower ranking is that most states with large amounts of corn and soybean acreage rank lower in percent of crop-

**Figure 2**  
**No-till in the United States**

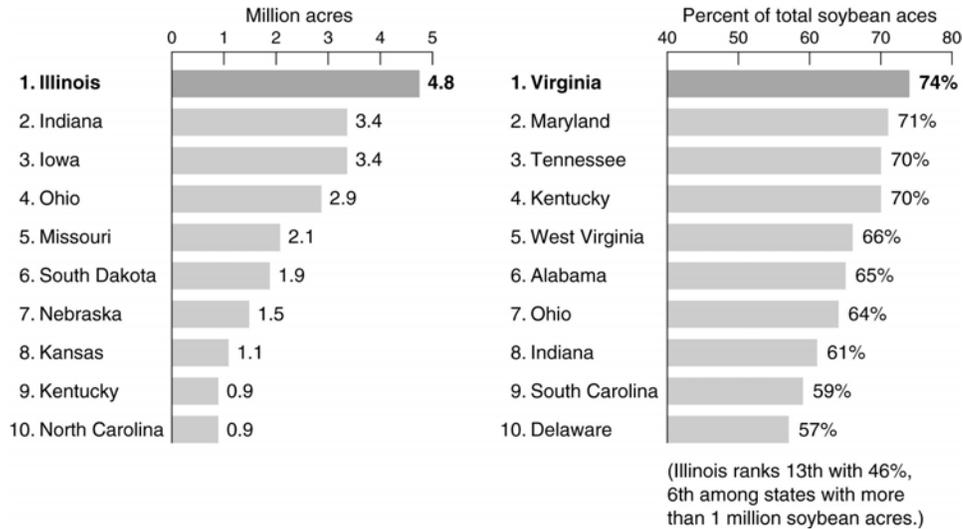


Source: Conservation Technology Information Center (CTIC) National Crop Residue Management Survey

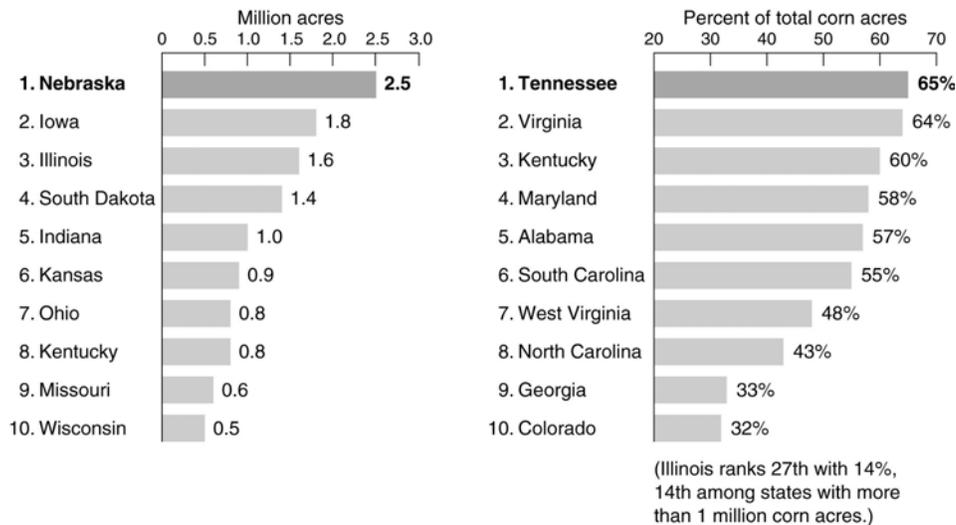
**Figure 3**  
**2004 Top 10 No-till States**



**Figure 4**  
**2004 Top 10 No-till Soybean States**



**Figure 5**  
**2004 Top 10 No-till Corn States**



**Figure 6**  
**2004 Greatest**  
**Increases in No-till Corn**

Rank	State	Increases
1.	South Dakota	>253,000 acres
2.	Colorado	>224,000 acres
3.	North Dakota	>201,000 acres
4.	Kansas	>191,000 acres
5.	Wisconsin	>121,000 acres

**Figure 7**  
**2004 Greatest**  
**Increases in No-till Soybeans**

Rank	State	Increases
1.	North Dakota	>349,000 acres
2.	Nebraska	>336,000 acres
3.	South Dakota	>330,000 acres
4.	North Carolina	>265,000 acres
5.	Kansas	>251,000 acres
6.	Illinois	>228,000 acres

land because of the sheer number of acres. However, two Midwestern states have shown that it is possible to rank high in “percent of cropland”, even when they are dealing with large acreages of corn and soybeans.

Ohio and Indiana were the only states that made the top 10 in both total no-till acres and percent of cropland.

### The Trouble with No-Till Corn

The only other flaw in an otherwise positive no-till picture is no-till corn. Many states in the Eastern Corn Belt, including Illinois, continue to slip in this category. Illinois dropped from 1.7 million acres in no-till corn in 2002 to 1.6 million acres in 2004, putting the state third in the nation behind Nebraska and Iowa (Figure 5).

The reason for the drop is that farmers in the Eastern Corn Belt have encountered problems with cool, moist soil conditions fostered by no-till’s heavy residue cover. The Western Corn Belt, in contrast, has been hit by dry conditions, so farmers are turning to no-till as a way to retain moisture.

South Dakota, for example, is in the midst of a four-year drought, and it saw the nation’s greatest increase in no-till corn acreage. In fact, with a few exceptions, most of the greatest increases in either no-till corn or soybeans in 2004 came in states in the Western Corn Belt (Figures 6-7).

One solution to the no-till corn predicament in the Eastern Corn Belt is strip-till, a system in which residue is left undisturbed, except for a narrow strip in which to plant. Strip-till qualifies as a no-till system, yet it alleviates the cool, moist soil conditions. Another possible solution is using a fluffing harrow prior to planting to help improve seedbed conditions.

### Other Survey Highlights

Other highlights from the 2004 National Crop Residue Management Survey include the following:

**Mulch-till** increased from 45 to 48 million acres in the U.S. in 2004, but it is still behind its 1998 peak of 57.9 million acres. Mulch-till is a system in which some full-width tillage is done but 30-percent residue cover is still maintained.

**Ridge-till** dropped from 2.8 to 2.2 million acres in the U.S. in 2004. With ridge-till, soil is undisturbed from harvest to planting, except for strips up to one-third of the row width. Planting is done on a ridge.

### A One-Year Picture

When looking at the data, it’s important to keep in mind that this is only a one-year snapshot of conservation tillage. Therefore, the numbers can be influenced by weather conditions unique to the year.

**Sources**

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