ARMS data highlight trends in cropping practices

Since 1996, U.S. farmers have responded to a number of industry-altering changes, including lower crop prices, the availability of genetically engineered seed, and environmental incentives embodied in farm legislation. How have these shocks affected farming and conservation practices used by farmers? USDA's Agricultural Resource Management Survey (ARMS) provides a new source of information about production and conservation practices on sample fields in major field crop producing States. Data from 1996 to 2000 show significant trends beginning to emerge, which may have implications for environmental quality.

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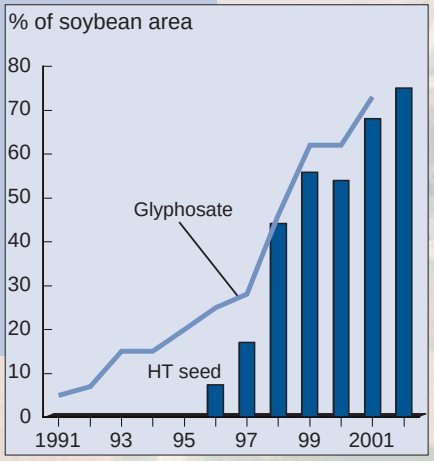
See Crop Production Practices data at:
www.ers.usda.gov/Data/cropproductionpractices/

Genetically Modified Soybeans

HT seed and glyphosate herbicide use soared...

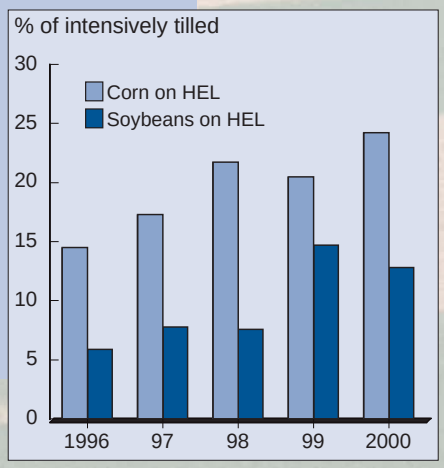
Use of herbicide-tolerant (HT) soybean seed has enabled farmers to use glyphosate herbicides that are effective in controlling weeds during crop growth.



Tillage

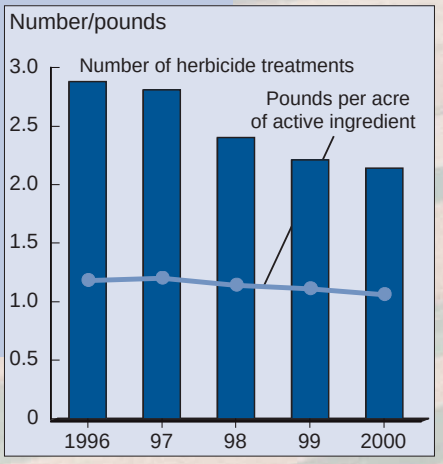
Intensive tillage increased on highly erodible land

More highly erodible land under intensive tillage reverses a previous trend toward soil-conserving tillage. Intensive tillage requires less management and may be perceived by farmers as less risky.



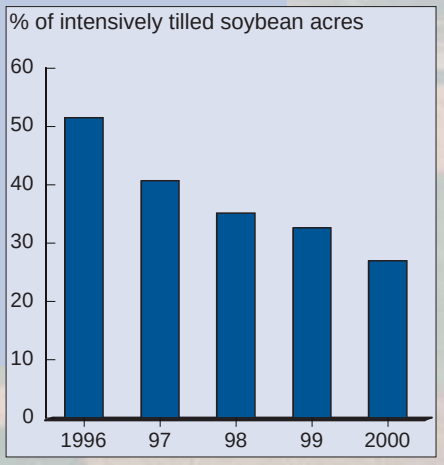
…while overall herbicide use decreased on soybeans...

With soybean producers relying more on glyphosate herbicides, the number of herbicide treatments has declined. The annual per-acre average of all herbicide active ingredients also declined. Adopting HT soybean varieties has allowed producers to switch to herbicides that are more effective at lower rates of use per acre.



…and cultivation for soybean weed control dropped.

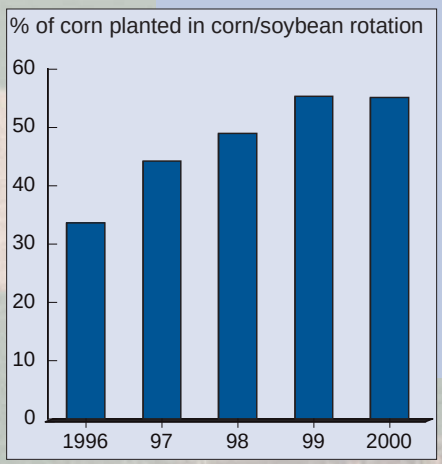
The use of glyphosate herbicides during soybean growth allowed farmers to reduce cultivation for weed control, especially on intensively tilled soybeans (i.e., soybeans planted on land plowed or tilled so as to leave little or no crop residue, one-fourth of planted acreage in 2000).



Crop Rotation

More corn/soybean rotation in the Northern Plains and Lake States

Rotating corn with soybeans increased in regions where continuous corn production had been the norm. Adding soybeans to the rotation may reduce use of nitrogen fertilizers and insecticides.



Nutrient Management

Broadcasting nitrogen fertilizer without incorporation has declined

Where nitrogen is applied to soybeans (about one-sixth of soybean area in 2000), broadcasting without incorporation is down from 49 to 28 percent of treated acres. This trend substantially reduces the risk of nitrogen runoff to surface waters.