

**Record: 1****Title:** Unsustainable Soil Use Can Cause Civilizations to Collapse.**Authors:** Bakalar, Nicholas**Source:** Discover; Jan2008, Vol. 29 Issue 1, p54-54, 1/5p**Document Type:** Article**Subject Terms:** SOIL erosion  
MONTGOMERY, David R.  
RURAL industries  
PLOWING  
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NO-tillage**Abstract:** The article discusses the earth running out of soil. David R. Montgomery of the University of Washington has studied soil and found, on averages, that plowed land erodes over 1 millimeter per year with new soil building up around 0.2 millimeter per year. Cultivated land, depending on original thickness, gets exhausted within 500 to several thousand years. A suggested solution is no-till agriculture where crop stubble remains and a drill inserts the seed into the soil.**Lexile:** 1220**Full Text Word Count:** 283**ISSN:** 02747529**Accession Number:** 28044899**Database:** MAS Ultra - School Edition**Section:** Environment Medicine Technology**Unsustainable Soil Use Can Cause Civilizations to Collapse**

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**Earth is running out of soil. At least that's the conclusion** of a new study supporting the long-held belief that current farming practices are causing soil to erode more quickly than new soil can be produced.

The best way to measure the effects of farming is a before-and-after comparison of soil erosion on the same kind of land, looking at both cultivated and wild-growing areas. David R. Montgomery of the University of Washington compiled the data and published his findings last August. On average, he found, plowed land erodes at slightly more than 1 millimeter per year, while new soil builds up at about 0.2 millimeter per year. Montgomery calculates that cultivated soil becomes exhausted, depending on original thickness, within 500 to several thousand years—a number correlating reasonably well with the life spans of civilizations around the world.

"Soil erosion is one of the least appreciated but most important environmental challenges we face," Montgomery says. "It's every bit as important as global warming. And part of the problem with both these things is the slow timescales over which problems accumulate."

Fortunately, there is a solution: no-till agriculture, a method in which crop stubble remains in place (instead of being plowed under) and a special drill inserts the seeds into the soil.

As of 2000, however, only about 16 percent of cultivated areas in the United States used the method, and worldwide, only 5 percent of cultivated land is managed this way. If Montgomery is right, civilizations around the world will continue to disappear like clockwork as their soil goes blowing in the wind.

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By Nicholas Bakalar

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