No-tillage plus

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Tropical soils often behave differently than temperate soils when being farmed. In tropical regions, soils lose nutrients quickly when cultivated. With food shortages looming and soil quality declining rapidly, new farming techniques are needed to make tropical and sub-tropical farming more productive and sustainable. New research from Agronomy Journal shows that no-till management combined with a winter cover crop is most effective in retaining nutrients in tropical soils.

An international team of scientists from Brazil, France, and the U.S. studied the impact of different cover crops, crop rotation, and tillage on soil organic carbon storage after 19 years of crop production on a tropical soil in southern Brazil.

The results, published in the July-August issue of *Agronomy Journal,* show that no-tillage management combined with crop rotations including winter cover crops with high amounts of crop residues returned annually to the soil, will most likely maintain soil organic carbon stocks, and most likely mimic natural forested condition for tropical and subtropical areas.

This crop management, if adopted by farmers in tropical and sub-tropical regions, can help to keep land productive and sustainable.

Scientist Bill Hargrove from Kansas State University said, "These results have broad implications for agricultural production in tropical areas in Africa, Asia, and Latin America. We can manage soils in ways that allow profitable crop production while mimicking natural vegetative

conditions under which land is not degraded at accelerated rates."

Source: American Society of Agronomy