

## Next ag revolution — perennial grain

Earth-friendly perennial grain crops, which grow with less fertilizer, herbicide, fuel, and erosion than grains planted annually, could be available in two decades, say researchers in a recent issue of the journal "Science."

Perennial grains would be one of the largest innovations in the 10,000 year history of agriculture, and could arrive even sooner with the right breeding programs, said John Reganold, Washington State University professor of soil science and lead

author of the paper, which is a call to action as half the world's growing population lives off marginal land.

Perennial grains, say the paper's authors, expand farmers' ability to sustain the ecological underpinnings of their crops.

"People talk about food security," Reganold said a news release. "That's only half the issue. We need to talk about both food and ecosystem security."

Perennial grains, say the authors, have longer seasons than annual crops and deeper roots

that let plants take greater advantage of precipitation.

Their larger roots, which can reach 10 to 12 feet down, reduce erosion, build soil and sequester carbon from the atmosphere. They require fewer passes of farm equipment and less herbicide, key features in less developed regions. "Developing perennial versions of our major grain crops would address many of the environmental limitations of annuals while helping to feed an increasingly hungry planet," said Reganold.