

**Iowa State University
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Iowa State University Updates Method for Rating Soil Productivity

AMES, Iowa — Advances in soil science have necessitated an update in the Corn Suitability Rating (CSR), a system for rating the crop-growing productivity of Iowa soil, according to Iowa State University agronomist Lee Burras.

“Advances in soil-mapping techniques and the adoption of the national soil classification system during the past 50 years provides improved methods for calculating the CSR when compared to its original formula,” Burras said.

The Corn Suitability Rating was published in 1971 by Thomas Fenton and several colleagues at Iowa State. It reflected their expertise and a multi-year detailed analysis on the productivity of Iowa’s 30 million acres of farmland, making it the most sophisticated and complete quantitative soil productivity rating available.

The CSR was originally established in response to county assessors who needed a measure to help assess the productivity of farmland. In the mid-1970’s the State of Iowa established legislation that requires agricultural land be assessed on the basis of productivity and the net earning capacity to ensure equitable assessment. Today, the CSR is used in many additional ways, including to develop land use plans, determine land values, predict yields and negotiate cash rents.

“The goal of CSR2 is to provide a transparent system for calculating CSR such that a county assessor, farmer, realtor and any other interested person readily understands the mathematics underlying CSR,” Burras said.

CSR2 values are meant to be proportional to the existing CSR values, he said, although it is not always possible given the responsibility for transparency and consistency.

The CSR2 values of any given soil map unit (SMU) is a function of five parameters:

- (a) the soil properties captured within a soil series classification,
- (b) the specific field conditions captured by each SMU,
- (c) the soil depth,
- (d) local climate and environment,
- (e) expert judgment.

A secondary goal is the creation of a framework for CSR2 evolution, which is necessary to ensure rapid and transparent updates of CSR2 as new soil series and new classifications are created.

Burras presented the updated CSR2 at the Soil Management and Land Valuation Conference at Scheman Center. A recording of his presentation will soon be available at the Iowa State Land Use web page (<http://www.extension.iastate.edu/soils/>), which also includes frequently asked questions about the change.

He said the new CSR2 values would be added to the Iowa State Land Use web page by July 1.

The U.S. Department of Agriculture's Natural Resources Conservation Service will make CSR2 available Oct. 1 through the USDA-NRCS Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>), which is the nation's official source of soil survey information.

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