

## CORN NITROGEN RATE CALCULATOR WEBSITE - 2017 UPDATE

John Sawyer, Professor, Department of Agronomy, Iowa State University

The regional [Corn Nitrogen Rate Calculator](http://cnrc.agron.iastate.edu/) (CNRC) website was recently updated with a revised Iowa N response trial database. Last year the CNRC website was updated and the url changed to (<http://cnrc.agron.iastate.edu/>). The ISU Extension and Outreach publication CROP 3073 (Nitrogen Use in Iowa Corn Production) will be updated in the near future to reflect the change in N rate guidelines for Iowa. Other states are also updating databases, and those changes have been made for some states or will occur in the future for others.

With the new Iowa database, Iowa N rate guidelines have changed. In addition, last year in Iowa the state was divided into two regions: the major region/area of Iowa (Main) and a Southeast (SEIA) region. The two regions of Iowa in the CNRC will match Iowa State University publication CROP 3073. Details about the two Iowa regions can be found in CROP 3073 and in the Map help area of the CNRC website.

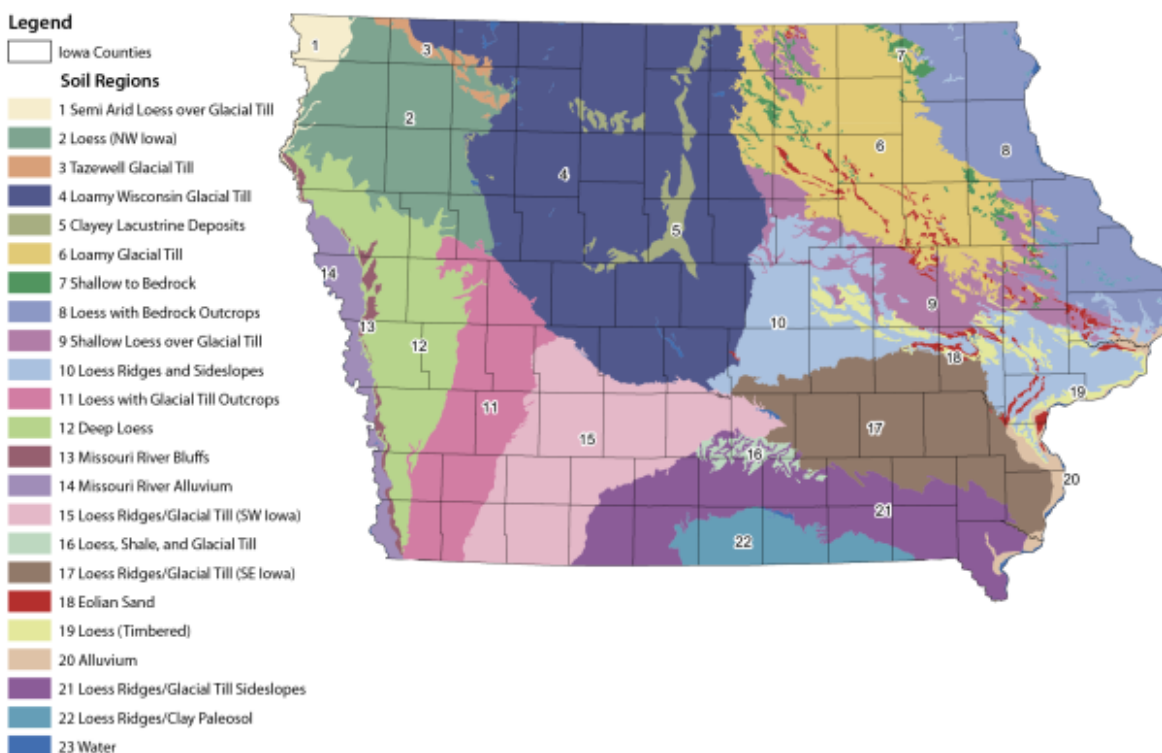
As before, the MRTN and most profitable N rates determined from the calculator are directly the total N fertilization amounts for each rotation, with no need to further adjust rate for the previous corn or soybean crop.

### **If you are not familiar with the Corn Nitrogen Rate Calculator**

The [CNRC](http://cnrc.agron.iastate.edu/) is an online tool that allows determination of N application rates for corn production and is helpful in determining the effect of fertilizer and corn price on needed rates. The method for calculating suggested N rates is based on a regional (Corn Belt) approach to N rate guidelines. Details on the approach are provided in the regional publication [\*Concepts and Rationale for Regional Nitrogen Rate Guidelines for Corn\*](#). This approach was first implemented in 2005 and the CNRC is the current university N rate guideline system used in seven states across the Corn Belt: Iowa, Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin.

### **Iowa Geographic and Soil Regions**

Nitrogen response trial sites for Iowa are now grouped by two geographic regions. The main Iowa region is the majority of the state. A second Iowa region is Southeast Iowa, which includes Soil Regions 21, 22, and approximately the south half of Soil Region 17 (generally about south of highway 92). Soils for trial sites in the Southeast region include poorly drained soils like Haig, Kalona, Macksburg, Mahaska, Nira, Otley, Richwood, Taintor, and other similar soils. If soils in the Southeast region are better drained, then use the main Iowa region.



## Resources for N Rate Decisions

The *Corn Nitrogen Rate Calculator* Web tool is located at <http://cnrc.agron.iastate.edu/>.

Publication CROP 3073, *Nitrogen Use in Iowa Corn Production*, can be ordered through any ISU county extension and outreach office, downloaded from the ISU Extension Online Store at <https://store.extension.iastate.edu/>, or by calling (515) 294-5247.

The regional publication *Regional Nitrogen Rate Guidelines for Corn* (PM 2015) can be ordered through any ISU county extension and outreach office, downloaded from the ISU Extension Online Store at <https://store.extension.iastate.edu/>, downloaded from the CNRC website, downloaded from the ISU Agronomy Extension Soil Fertility website, or by calling (515) 294-5247.

The ISU Agronomy Extension Soil Fertility website is located at <http://www.agronext.iastate.edu/soilfertility/>