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Soil Moisture

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Abstract

Soil moisture samples were taken at eleven sites in northwest Iowa during the last few days of October 2011. Moisture samples were taken at 1-ft increments down to a 5-ft depth. Samples were weighed, oven dried, and reweighed at the ISU Northwest Research Farm. The moisture percentage was calculated from these data, and then used to calculate the inches of plant available moisture in the soil. The data from these sites are listed in the following table.

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Long-term fall averages range from about 4.5 in. to 6.0 in. in the top five feet of soil, but averages for the last 30 years have been significantly higher. The maximum plant available moisture level for most of these soils is about 11 in. in the top five feet of soil. Not all of the normal sites from northwest Iowa had moisture samples taken this fall. Late summer and fall precipitation has been almost absent in most northwest Iowa neighborhoods. Typical increases in soil moisture levels from fall to April 15 sampling dates are usually about 2 to 3 in. Spring soil moisture recharge and timely summer rainfall will likely be more critical for the 2012 growing season than it has been in recent years.

Table 1. Soil moisture available to plants.

Site	County	2011 crop	Plant available moisture (in.)
Calumet	O'Brien	corn	5.1
Sanborn	O'Brien	soybean	4.5
Doon	Lyon	soybean	4.3
Sibley	Osceola	soybean	5.5
Ireton	Sioux	corn	5.6
Akron	Plymouth	corn	1.8
Le Mars	Plymouth	corn	3.4
Aurelia (North)	Cherokee	soybean	3.9
Marcus (South)	Cherokee	soybean	2.4
Lawton	Woodbury	corn	0.4
Anthon	Woodbury	corn	2.4
Spirit Lake	Dickinson	soybean	1.4
Rossie	Clay	soybean	5.0
Rolfe	Pocahontas	corn	3.3