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Soil Moisture

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Abstract

Soil moisture samples were taken at 29 sites in northwest Iowa during the last week of October 2001. Moisture samples were pulled at 1-foot increments, down to a 5-foot depth. Samples were weighed, oven dried, and reweighed at the Sutherland research farm. Moisture percentage was calculated from these data, then used to calculate inches of plant-available moisture in the soil.

Disciplines

Agricultural Science | Agriculture

Soil Moisture

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Soil moisture samples were taken at 29 sites in northwest Iowa during the last week of October 2001. Moisture samples were pulled at 1-foot increments, down to a 5-foot depth. Samples were weighed, oven dried, and reweighed at the Sutherland research farm. Moisture percentage was calculated from these data, then used to calculate inches of plant-available moisture in the soil. The data from these sites are listed in Table 1.

Long-term fall averages range from approximately 4.5–6.0 inches in the top five feet

of soil, but averages for the past 10 years have been higher. The maximum plant-available moisture level for most of these soils is approximately 11 inches in the top five feet of soil.

Throughout northwest Iowa, some areas have a very good subsoil moisture supply for the 2002 crop year, but others are well below their long-term average. Summer and fall precipitation was quite varied as indicated by the fall soil moisture results. Fall precipitation has been less than normal. Average to above-average rainfall in spring 2002 is needed for much of the area.

Table 1. Soil moisture available to plants, in inches, October 2001, northwest IA.

Site	County	2001 crop	Plant-available moisture
Calumet	O'Brien	soybeans	8.3 inches
Sanborn	O'Brien	corn	6.3 inches
Doon	Lyon	soybeans	6.5 inches
Sibley	Osceola	corn	6.4 inches
Boyden	Sioux	soybeans	8.3 inches
Ireton	Sioux	corn	9.3 inches
Akron	Plymouth	soybeans	2.3 inches
LeMars	Plymouth	soybeans	3.7 inches
Hinton	Plymouth	corn	3.4 inches
Kingsley	Plymouth	corn	4.3 inches
Aurelia(North)	Cherokee	corn	8.3 inches
Aurelia(South)	Cherokee	soybeans	9.6 inches
Cherokee	Cherokee	soybeans	8.9 inches
Marcus (North)	Cherokee	soybeans	9.5 inches
Marcus (South)	Cherokee	soybeans	6.0 inches
Lawton	Woodbury	corn	5.1 inches
Anthon	Woodbury	corn	6.5 inches
Rossie	Clay	soybeans	8.0 inches
Newell	Buena Vista	corn	2.8 Inches
Spirit Lake	Dickinson	soybeans	3.1 inches
Estherville	Emmet	corn	4.9 inches
Rolfe	Pocahontas	corn	6.2 inches
Ida Grove	Ida	corn	5.5 inches
Holstein	Ida	corn	7.3 inches
Battle Creek	Ida	corn	3.4 inches
Sac City	Sac	corn	8.5 inches
Schaller	Sac	soybeans	9.8 inches
Auburn	Sac	soybeans	7.7 inches
Odebolt (North)	Sac	corn	7.8 inches
Odebolt (South)	Sac	corn	6.2 inches