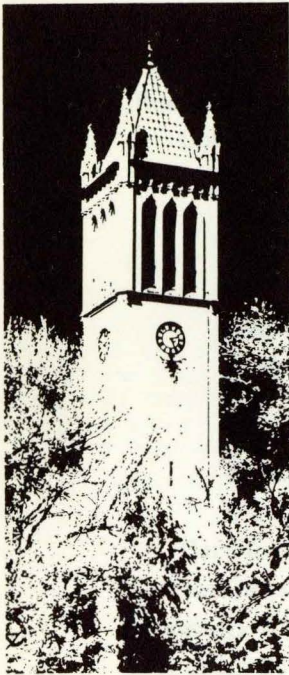


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SOIL MOISTURE AVAILABLE FOR PLANT GROWTH IN IOWA

by R.H. Shaw, R.E. Felch, and E.R. Duncan
Department of Agronomy

Special Report No. 70

Agriculture and Home Economics Experiment Station
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Soil Moisture Available for Plant Growth in Iowa

by R. A. Olson, R. E. Felch, and E. A. Duncan

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PROCEDURES

In planting the soil-moisture samples, the soil was first prepared as described in the report of the Iowa State University Soil Survey (1951). Each site selected had a soil texture of 70% clay and was located on a 1% slope. The soil was designated as the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th.

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SUMMARY

Soil-moisture data collected since 1954 have been summarized for 22 locations in Iowa. Plant-available water for each year for each foot increment down to 5 feet have been presented for each station for April 15 and the first of each month to Nov. 1. The actual values given for each month are produced by a soil-moisture calculation procedure.

The data show that, on April 15, plant-available soil moisture in the 5-foot profile averages from less than 5 inches in northwestern Iowa to almost 11 inches in east-central Iowa. Soil moisture generally shows an increase to early June, then decreases during the summer months.

On Aug. 1, the probability of having less than 5 inches of plant-available soil moisture present in the top 5 feet of the soil profile ranges from 13% in Des Moines County to 86% in Plymouth County. A further decrease in soil moisture occurs during August, and by Sept. 1, soil moisture has reached its lowest average value.

By Nov. 1, average soil moisture ranges from 9 inches in east-central Iowa to less than 4 inches in northwestern Iowa. The probability of having less than 5 inches of plant-available soil moisture ranges from 13% in Clayton County to 80% in Lyon County. In east-central Iowa, the probability of having more than 9 inches is near 70%, and in some northwestern areas, it is zero.

From April 15 to June 1, soil moisture has shown an average increase of 0.6 inch. From June 1 to Sept. 1, it has shown an average decrease of 3.7 inches, with the greatest decrease occurring in July. From Sept. 1 to Nov. 1, soil moisture has increased an average of 2.1 inches, with a further increase of 1.0 inch occurring from Nov. 1 to April 15.

Soil Moisture Available for Plant Growth in Iowa¹

by R.H. Shaw, R.E. Felch, and E.R. Duncan²

The moisture for crop production in Iowa can come from current crop-season rainfall or from stored soil moisture. Normal crop-season rainfall in Iowa is not adequate to produce a crop by itself, and stored moisture must be utilized. Only with much-above-normal crop-season rainfall can a good crop be produced without a substantial subsoil moisture reserve. Because of this need for a moisture reserve and the lack of quantitative data on it, a soil-moisture sampling program was started in 1954 to provide information on the amount of plant-available soil moisture in the top 5 feet of the soil profile. Plant-available soil moisture, as used here, is the amount of soil moisture above the wilting point. This record of soil-moisture conditions is unique and has provided the data from which techniques for prediction of soil moisture under corn (Shaw, 1963) and meadow (Shaw, 1964) were developed. This information also has provided the data from which soil-moisture stress indexes could be computed (Dale and Shaw, 1965; Corsi and Shaw, 1971; Shaw and Felch, 1972).

Although portions of the soil-moisture data have been published, the data have never been summarized in their entirety. The purpose of this report is to present the full history of soil-moisture conditions in Iowa since 1954. These data should be useful and applicable to a broad spectrum of interests.

PROCEDURES

In February 1954, 10 sites were chosen for soil-moisture sampling. The selected sites were considered typical for the major soil types in Iowa. Each site selected had little or no water run-on and was located so that ponding did not occur on the site. At each site, a 40 by 40 foot area was designated as the plot area. Two sets of three borings each were taken within this area at 1-foot increments to a depth of 5 feet. Samples were placed in soil-moisture cans and dried at 105 C for 48 hours to determine the total moisture present in percentages. This value was converted, by using a bulk density of 1.3, to inches of water per foot. The 15-bar atmosphere moisture for each location was subtracted from each sample (composite of each 1-foot increment) to determine the plant-available moisture.

The original 10 locations sampled in 1954 were revised and increased to 22 sites by 1959. Sixty-one sites were sampled in 1971. Of the original

locations, nine have continued since 1954. These are Ames, Beaconsfield, Bloomfield, Cedar Rapids, Independence, Kanawha, Marshalltown, Norwich-Shenandoah, and Sutherland-Primghar. The last two locations will be referred to as Norwich and Sutherland, respectively. The locations of the 22 long-term sites are shown in fig. 1. A description of each site is given in Appendix A. Soil-moisture characteristics are given in Appendix B. Individual sites have been taken from different rotations as available, to provide data on corn and (or) meadow at each location.

Through 1961, samples were taken about April 15, early June, late July-early August, and early November. In 1962, the June sample was dropped; since 1965, only the spring and fall samples have been taken routinely. The soil-moisture prediction techniques were considered accurate enough to provide the necessary information between these dates. In certain dry years, late July-early August samples have been taken to check the level of soil moisture.

The data presented in this report were produced as follows. The spring or earliest available sample was used as the starting point, and daily soil-moisture values were computed through Oct. 31 by the technique developed by Shaw (1963). Any soil-moisture data available between these dates were used to check and "edit" the calculated soil-moisture values. Relatively little editing of the data was done, but, when done, was necessary most frequently because of a change in site location during the season. Only values in which the estimated and computed values differed by more than 1 inch in the total for the 5-foot profile were edited. The value of 1 inch was used because it was near the standard error of the mean of 1.2 inches found by Shaw, Nielsen, and Runkles (1959). This value is based on six borings in a glacial till soil.

The calculated values for corn following corn for April 15, May 1, June 1, July 1, Aug. 1, Sept. 1, Oct. 1, and Nov. 1 are given in this report. The dates were used to provide the same dates for all stations and to remove the variation due to sampling at different dates.

Although all details of the procedure used in calculating soil moisture are given in the paper by Shaw (1963), one step in the procedure needs to be explained because of its effect on the data being presented. In the procedure, a "field capacity" without free water in the profile is assumed. When free water occurs, however, soil moisture can be above this value in the April sample. The prediction program for soil moisture was designed so that this excess water was "removed" from the profile on the first day for which the calculations were made. Although this is not the true picture of the

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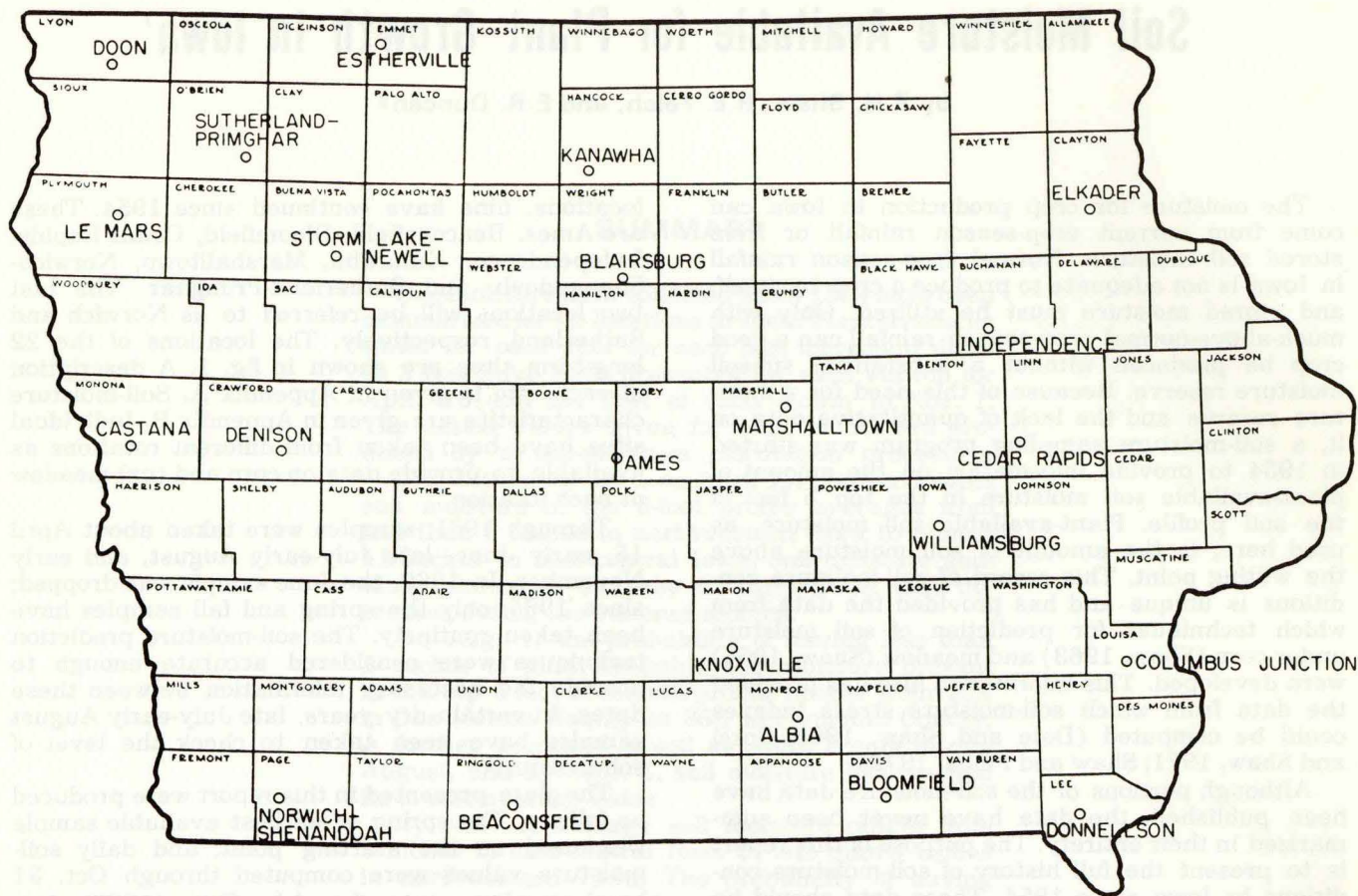


Fig. 1. Location of the 22 soil-moisture sites in Iowa sampled regularly since 1959 or earlier.

removal of the excess water, no simple scheme could be developed that would explain its gradual removal from the profile. Our method for removal of excess water affects the data by underestimating the soil moisture in wet years or at wet locations. In Appendix C, the data for certain sites show an asterisk (*), which indicates that the calculation procedure had predicted water being moved through the profile. For information about the amount of water that moved through the profile and when free water was found in the profile, write to: Climatology-Meteorology, Room 310, Curtiss Hall, Iowa State University, Ames, Iowa 50010.

The data for each location for each date are given in Appendix C. The data are given for a corn-corn cropping sequence. Where meadow samples were taken, the data for a meadow-corn sequence are given only for the years when a difference of more than 1 inch in the soil moisture persisted throughout the season. The only exception is for the Williamsburg location for which both corn-corn and meadow-corn were combined to provide the record. This was necessary because only one site was sampled at that location; meadow when available in most years, otherwise corn.

RESULTS AND DISCUSSION

Corn Following Corn

The average values or "normals" for each station are summarized for each of the eight dates in tables 1 through 8. The change in soil moisture among dates and the average change over all stations are shown in table 9.

April 15

The average amount of plant-available water in the soil profile on April 15 has ranged from 10.8 inches at Cedar Rapids (Linn County) to less than 5 inches at the Moody Experimental Farm near Doon (Lyon County) in northwestern Iowa (table 1, fig. 2). The Denison (Crawford County) values seemed high for western Iowa. The average value for the entire state was 7.6 inches. The highest single value measured was 16.9 inches at Marshalltown (Marshall County) in 1960 and, the lowest, 0.2 inch at Sutherland (O'Brien County) in 1968. A moisture reserve of at least 5 inches is considered essential for this time of year, with amounts over 9 inches indicating a wet condition that, with

Table 1. April 15 average amount of plant-available water (in inches) in the top 5 feet of the soil profile, by 1-foot increments, and total for the profile at 22 locations in Iowa. Period of record from starting date through 1970.

Station	Station records begin	Plant-available water in inches for designated foot increments					Total
		0-1	1-2	2-3	3-4	4-5	
Doon	1956	1.6	1.3	0.7	0.6	0.5	4.7
Le Mars	1957	1.4	1.2	0.9	0.9	1.0	5.4
Sutherland-Primghar	1954	1.7	1.4	1.1	1.1	0.9	6.2
Estherville	1957	1.8	1.5	1.1	1.1	1.3	6.8
Storm Lake-Newell	1959	1.8	1.5	1.2	1.0	1.1	6.5
Kanawha	1954	1.7	1.6	1.2	1.3	1.4	7.5
Blairsburg	1959	1.9	1.7	1.3	1.2	1.4	7.5
Elkader	1956	2.0	1.8	1.4	1.4	1.5	8.1
Independence	1954	2.4	2.0	1.3	1.1	1.2	8.0
Castana	1955	1.4	1.5	1.2	0.9	0.8	5.7
Denison	1957	1.9	1.8	1.4	1.3	1.2	7.6
Ames	1954	1.5	1.4	1.3	1.3	1.5	7.0
Marshalltown	1954	2.3	2.1	1.5	1.8	2.2	9.9
Cedar Rapids	1954	2.2	2.1	2.2	2.1	2.2	10.8
Williamsburg	1957	2.2	2.1	1.6	1.4	1.0	8.3
Norwich-Shenandoah	1954	1.6	1.6	1.4	1.5	1.5	7.6
Beaconsfield	1954	1.8	1.5	1.2	1.1	1.0	6.6
Knoxville	1957	1.7	2.0	2.0	1.2	1.7	8.6
Albia	1954 ^a	2.3	1.7	1.2	1.0	1.1	7.3
Bloomfield	1954	2.4	2.1	1.6	1.2	1.1	8.4
Burlington-Col. Junc.	1956	2.2	2.2	1.9	1.9	2.3	10.5
Donnellson	1957	2.2	1.7	1.6	1.4	1.6	8.5
Av.		1.9	1.7	1.4	1.3	1.3	7.6

^a Record ends in 1967.

Table 2. May 1 average amount of plant-available water (in inches) in the top 5 feet of the soil profile, by 1-foot increments, and total for the profile at 22 locations in Iowa. Period of record from starting date through 1970.

Station	Station records begin	Plant-available water in inches for designated foot increments					Total
		0-1	1-2	2-3	3-4	4-5	
Doon	1956	1.3	1.3	0.8	0.6	0.5	4.5
Le Mars	1957	1.1	1.2	1.0	0.9	1.0	5.2
Sutherland-Primghar	1954	1.3	1.5	1.2	1.1	0.9	6.0
Estherville	1957	1.3	1.5	1.1	1.1	1.3	6.3
Storm Lake-Newell	1959	1.4	1.6	1.3	1.0	1.1	6.4
Kanawha	1954	1.6	1.8	1.3	1.3	1.4	7.4
Blairsburg	1959	1.7	1.9	1.5	1.3	1.4	7.8
Elkader	1956	1.9	2.0	1.4	1.4	1.6	8.3
Independence	1954	2.0	2.1	1.4	1.1	1.1	7.7
Castana	1955	1.2	1.5	1.2	1.0	0.8	5.8
Denison	1957	1.5	1.8	1.4	1.3	1.2	7.2
Ames	1954	1.5	1.5	1.4	1.3	1.5	7.2
Marshalltown	1954	2.0	2.3	1.7	1.7	2.0	9.7
Cedar Rapids	1954	1.9	2.2	1.8	1.8	1.8	9.5
Williamsburg	1957	2.0	2.2	1.9	1.5	1.1	8.7
Norwich-Shenandoah	1954	1.4	1.7	1.5	1.5	1.4	7.5
Beaconsfield	1954	1.8	1.7	1.3	1.2	1.1	7.1
Knoxville	1957	1.7	2.1	2.0	1.6	1.7	9.1
Albia	1954 ^a	2.2	1.8	1.4	1.1	1.2	7.7
Bloomfield	1954	2.3	2.1	1.8	1.3	1.1	8.6
Burlington-Col. Junc.	1956	2.2	2.2	1.9	1.8	2.2	10.3
Donnellson	1957	2.1	1.8	1.8	1.7	1.7	9.1
Av.		1.7	1.8	1.5	1.3	1.3	7.6

^a Record ends in 1967.

Table 3. June 1 average amount of plant-available water (in inches) in the top 5 feet of the soil profile, by 1-foot increments, and total for the profile at 22 locations in Iowa. Period of record from starting date through 1970.

Station	Station records begin	Plant-available water in inches for designated foot increments					Total
		0-1	1-2	2-3	3-4	4-5	
Doon	1956	1.6	1.4	0.9	0.7	0.6	5.2
Le Mars	1957	1.5	1.4	1.2	1.2	1.1	6.4
Sutherland-Primghar	1954	1.7	1.7	1.3	1.1	0.9	6.7
Estherville	1957	1.8	1.7	1.4	1.3	1.5	7.7
Storm Lake-Newell	1959	1.7	1.7	1.6	1.4	1.2	7.6
Kanawha	1954	2.0	1.9	1.5	1.3	1.4	8.0
Blairsburg	1959	1.8	1.9	1.7	1.6	1.5	8.5
Elkader	1956	1.9	2.0	1.8	1.7	1.7	9.1

Independence	1954	2.0	2.2	1.7	1.2	1.2	8.3
Castana	1955	1.5	1.6	1.4	1.2	1.1	6.8
Denison	1957	1.9	1.9	1.7	1.5	1.4	8.4
Ames	1954	1.6	1.7	1.6	1.5	1.5	7.9
Marshalltown	1954	2.0	2.4	1.9	1.8	2.0	10.1
Cedar Rapids	1954	1.9	2.2	1.9	1.8	1.8	9.6
Williamsburg	1957	2.0	2.3	2.0	1.8	1.1	9.2
Norwich-Shenandoah	1954	1.6	1.9	1.7	1.6	1.6	8.4
Beaconsfield	1954	1.7	1.9	1.4	1.2	1.3	7.5
Knoxville	1957	1.6	2.1	2.1	1.7	1.8	9.3
Albia	1954 ^a	2.1	1.8	1.5	1.2	1.2	7.8
Bloomfield	1954	2.3	2.1	1.9	1.5	1.2	9.0
Burlington-Col. Junc.	1956	2.3	2.3	1.9	2.0	2.2	10.7
Donnellson	1957	1.9	1.8	1.8	1.8	1.7	9.1
Av.		1.8	1.9	1.6	1.5	1.4	8.2

^a Record ends in 1967.

Table 4. July 1 average amount of plant-available water (in inches) in the top 5 feet of the soil profile, by 1-foot increments, and total for the profile at 22 locations in Iowa. Period of record from starting date through 1970.

Station	Station records begin	Plant-available water in inches for designated foot increments					Total
		0-1	1-2	2-3	3-4	4-5	
Doon	1956	1.5	1.2	1.1	0.8	0.6	5.2
Le Mars	1957	1.2	0.8	1.1	1.3	1.2	5.7
Sutherland-Primghar	1954	1.6	1.3	1.4	1.2	1.0	6.5
Estherville	1957	1.7	1.2	1.4	1.5	1.6	7.4
Storm Lake-Newell	1959	1.3	1.4	1.6	1.6	1.5	7.4
Kanawha	1954	1.7	1.5	1.6	1.5	1.5	7.9
Blairsburg	1959	1.7	1.4	1.7	1.7	1.6	8.1
Elkader	1956	1.6	1.6	1.7	1.8	1.7	8.4
Independence	1954	1.7	1.8	1.6	1.5	1.2	7.8
Castana	1955	1.4	1.4	1.4	1.5	1.3	7.0
Denison	1957	1.8	1.6	1.7	1.8	1.7	8.6
Ames	1954	1.3	1.3	1.5	1.7	1.6	7.4
Marshalltown	1954	1.6	1.9	1.8	1.9	2.1	9.3
Cedar Rapids	1954	1.7	1.8	1.7	1.9	1.8	8.9
Williamsburg	1957	1.9	2.0	2.0	2.0	1.3	9.2
Norwich-Shenandoah	1954	1.4	1.6	1.6	1.7	1.8	8.1
Beaconsfield	1954	1.6	1.5	1.4	1.4	1.4	7.3
Knoxville	1957	1.5	1.5	1.9	1.8	1.8	8.5
Albia	1954 ^a	1.7	1.2	1.4	1.2	1.1	6.6
Bloomfield	1954	1.9	1.6	1.8	1.7	1.3	8.3
Burlington-Col. Junc.	1956	2.0	1.8	1.7	1.9	2.1	9.5
Donnellson	1957	1.6	1.2	1.6	1.9	1.9	8.2
Av.		1.6	1.5	1.6	1.6	1.5	7.8

^a Record ends in 1967.

Table 5. Aug. 1 average amount of plant-available water (in inches) in the top 5 feet of the soil profile, by 1-foot increments, and total for the profile at 22 locations in Iowa. Period of record from starting date through 1970.

Station	Station records begin	Plant-available water in inches for designated foot increments					Total
		0-1	1-2	2-3	3-4	4-5	
Doon	1956	0.7	0.5	0.6	0.6	0.6	3.0
Le Mars	1957	0.5	0.3	0.5	0.9	1.1	3.3
Sutherland-Primghar	1954	0.8	0.6	0.8	0.9	0.9	4.0
Estherville	1957 ^b	0.9	0.6	0.7	1.0	1.5	4.7
Storm Lake-Newell	1959	0.8	0.7	0.9	1.0	1.5	4.9
Kanawha	1954	1.1	0.9	0.9	1.1	1.5	5.6
Blairsburg	1959	1.1	0.9	1.0	1.1	1.5	5.6
Elkader	1956	1.3	1.3	1.2	1.4	1.6	6.8
Independence	1954	1.5	1.3	1.0	1.1	1.2	6.1
Castana	1955	0.8	0.7	0.8	1.0	1.3	4.6
Denison	1957	0.9	0.9	1.0	1.4	1.6	5.8
Ames	1954	0.6	0.7	0.9	1.2	1.6	5.0
Marshalltown	1954	1.0	1.3	1.2	1.5	2.1	7.1
Cedar Rapids	1954	1.2	1.4	1.1	1.4	1.8	6.9
Williamsburg	1957	1.6	1.8	1.6	1.7	1.4	8.1
Norwich-Shenandoah	1954	1.1	0.9	1.1	1.3	1.7	6.1
Beaconsfield	1954	1.1	1.1	0.9	1.1	1.5	5.7
Knoxville	1957	1.0	1.0	1.3	1.3	1.8	6.4
Albia	1954 ^a	1.4	0.8	0.8	0.9	1.0	4.9
Bloomfield	1954	1.1	0.9	1.1	1.3	1.3	5.7
Burlington-Col. Junc.	1956	1.6	1.3	1.0	1.5	2.0	7.4
Donnellson	1957	1.4	1.1	0.9	1.4	1.9	6.7
Av.		1.1	1.0	1.0	1.2	1.4	5.7

^a Record ends in 1967.

^b 1964-1965 missing.

Table 6. Sept. 1 average amount of plant-available water (in inches) in the top 5 feet of the soil profile, by 1-foot increments, and total for the profile at 22 locations in Iowa. Period of record from starting date through 1970.

Station	Station records begin	Plant-available water in inches for designated foot increments					Total
		0-1	1-2	2-3	3-4	4-5	
Doon	1956	1.1	0.3	0.3	0.3	0.5	2.5
Le Mars	1957	0.9	0.2	0.2	0.5	0.8	2.6
Sutherland-Pringhar	1954	1.2	0.4	0.5	0.6	0.8	3.5
Estherville	1957 ^b	1.0	0.4	0.4	0.7	1.1	3.6
Storm Lake-Newell	1959	1.0	0.5	0.5	0.8	1.3	4.1
Kanawha	1954	1.1	0.5	0.5	0.8	1.4	4.5
Blairsburg	1959	1.2	0.6	0.6	0.7	1.3	4.4
Elkader	1956	1.6	1.0	0.8	1.0	1.5	5.9
Independence	1954	1.5	1.0	0.6	0.7	1.1	4.9
Castana	1955	1.0	0.5	0.3	0.7	1.0	3.5
Denison	1957	1.4	0.9	0.5	1.0	1.5	5.3
Ames	1954	0.8	0.4	0.5	0.7	1.5	3.9
Marshalltown	1954	1.4	0.9	0.7	1.1	2.0	6.1
Cedar Rapids	1954	1.3	1.1	0.7	1.1	1.7	5.9
Williamsburg	1957	1.3	1.4	1.2	1.3	1.3	6.5
Norwich-Shenandoah	1954	1.2	0.7	0.6	0.9	1.6	5.0
Beaconsfield	1954	1.1	0.8	0.5	0.8	1.5	4.7
Knoxville	1957	1.1	0.6	0.7	0.9	1.7	5.0
Albia	1954 ^a	1.1	0.6	0.4	0.6	1.0	3.7
Bloomfield	1954	1.1	0.8	0.8	0.9	1.2	4.8
Burlington-Col. Junc.	1956	1.2	1.0	0.7	1.1	1.8	5.8
Donnellson	1957	0.9	0.6	0.5	0.9	1.7	4.6
Av.		1.2	0.7	0.6	0.8	1.3	4.6

^a Record ends in 1967.

^b 1964-1965 missing.

Table 7. Oct. 1 average amount of plant-available water (in inches) in the top 5 feet of the soil profile, by 1-foot increments, and total for the profile at 22 locations in Iowa. Period of record from starting date through 1970.

Station	Station records begin	Plant-available water in inches for designated foot increments					Total
		0-1	1-2	2-3	3-4	4-5	
Doon	1956	1.5	0.6	0.4	0.3	0.4	3.2
Le Mars	1957	1.3	0.6	0.3	0.5	0.8	3.5
Sutherland-Pringhar	1954	1.5	1.0	0.6	0.7	0.7	4.5
Estherville	1957 ^b	1.6	0.9	0.6	0.7	1.0	4.8
Storm Lake-Newell	1959	1.7	0.9	0.8	0.8	1.1	5.3
Kanawha	1954	1.6	1.1	0.7	0.8	1.3	5.5
Blairsburg	1959	1.8	1.2	0.7	0.8	1.3	5.8
Elkader	1956	2.0	1.5	1.1	1.1	1.5	7.2
Independence	1954	2.0	1.5	0.7	0.8	1.1	6.1
Castana	1955	1.3	1.0	0.5	0.5	0.9	4.1
Denison	1957	1.9	1.3	0.8	0.9	1.4	6.3
Ames	1954	1.4	1.1	0.8	0.7	1.4	5.4
Marshalltown	1954	2.0	1.5	0.8	1.1	2.0	7.4
Cedar Rapids	1954	2.0	1.5	1.0	1.2	1.6	7.3
Williamsburg	1957	2.3	1.7	1.3	1.4	1.4	8.1
Norwich-Shenandoah	1954	1.6	1.2	0.9	1.0	1.4	6.1
Beaconsfield	1954	1.7	1.2	0.8	0.9	1.3	5.9
Knoxville	1957	1.6	1.4	1.1	1.0	1.5	6.6
Albia	1954 ^a	1.9	0.9	0.5	0.5	0.9	4.7
Bloomfield	1954	2.2	1.1	0.9	0.9	1.1	6.2
Burlington-Col. Junc.	1956	2.0	1.1	0.9	1.2	1.7	6.9
Donnellson	1957	1.8	1.0	0.7	0.9	1.6	6.0
Av.		1.8	1.2	0.8	0.8	1.2	5.8

^a Record ends in 1967.

^b 1964-1965 missing.

Table 8. Nov. 1 average amount of plant-available water (in inches) in the top 5 feet of the soil profile, by 1-foot increments, and total for the profile at 22 locations in Iowa. Period of record from starting date through 1970.

Station	Station records begin	Plant-available water in inches for designated foot increments					Total
		0-1	1-2	2-3	3-4	4-5	
Doon	1956	1.4	1.0	0.6	0.4	0.5	3.9
Le Mars	1957	1.4	0.8	0.5	0.6	0.8	4.1
Sutherland-Pringhar	1954	1.6	1.0	0.9	0.9	0.7	5.1
Estherville	1957 ^b	1.6	1.2	0.9	0.9	1.2	5.8
Storm Lake-Newell	1959	1.6	1.2	0.9	1.0	1.1	5.8
Kanawha	1954	1.9	1.3	1.0	0.9	1.5	6.6
Blairsburg	1959	1.9	1.5	1.1	1.0	1.4	6.9

Elkader	1956	2.0	1.7	1.2	1.2	1.7	7.8
Independence	1954	2.2	1.7	1.0	1.0	1.0	6.9
Castana	1955	1.4	1.2	0.7	0.8	1.0	5.1
Denison	1957	1.8	1.5	1.1	1.1	1.3	6.8
Ames	1954	1.5	1.2	0.9	0.9	1.5	6.0
Marshalltown	1954	2.1	1.9	1.1	1.3	2.0	8.4
Cedar Rapids	1954	2.1	1.8	1.7	1.7	1.8	9.1
Williamsburg	1957	2.1	2.1	1.7	1.7	1.4	9.0
Norwich-Shenandoah	1954	1.7	1.6	1.3	1.1	1.4	7.1
Beaconsfield	1954	1.7	1.5	1.1	1.0	1.1	6.4
Knoxville	1957	1.6	1.6	1.5	1.1	1.5	7.3
Albia	1954 ^a	2.0	1.2	0.9	0.6	0.9	5.6
Bloomfield	1954	2.2	1.6	1.2	1.1	1.1	7.2
Burlington-Col. Junc.	1956	2.1	1.9	1.5	1.5	1.8	8.8
Donnellson	1957	2.0	1.4	1.1	1.1	1.7	7.3
Av.		1.8	1.5	1.1	1.0	1.3	6.7

^a Record ends in 1967.

^b 1964-1965 missing.

a normal to wet spring, could cause a delay in field operations. From 5 to 9 inches is considered an adequate reserve.

In fig. 3a, the probabilities of locations having a critically low reserve are shown. In roughly the eastern third of Iowa, the probability is less than 10%, with several locations showing a zero probability for the period of record. In the western part of the state, the probability is greater than 25%, reaching a maximum of 47% in Lyon County. The relatively low probability in Page County and high probability in Ringgold County cannot be explained adequately.

In fig. 4a, the probabilities of having more than 9 inches of reserve are shown. In east-central Iowa, the probability approaches 75%; in the northwest, it approaches zero.

May 1

Between April 15 and May 1, there was a decrease in the soil-moisture reserve at 12 of the 22 sites. In the wetter areas of Iowa, this probably is because of the calculation procedure used, which "forces" excess water to move through the profile. This, however, would account for only about half the sites showing a decrease. All sites in northwestern Iowa show an average decrease for this period.

On May 1, the average soil moisture ranged from 10.3 inches at Burlington-Columbus Junction in Des Moines County to 4.5 inches at Doon in Lyon County (table 2), with the state average still 7.6 inches. The maximum value measured at this date was 19.3 inches at Cedar Rapids in Linn County in 1960, a value 8.8 inches greater than the field-capacity value; the minimum, 0.0 inches, occurred at Sutherland in O'Brien County in 1968.

June 1

Between May 1 and June 1, all locations have shown an average increase in soil moisture, ranging from 0.1 inch at Donnellson and Cedar Rapids in Lee and Linn counties to 1.4 inches at Estherville in Emmett County. The wetter areas in eastern Iowa should show only small increases at most because of already being near or at capacity.

On June 1, the available soil moisture had ranged from 10.7 inches at Burlington in Des

Table 9. The average change (in inches) in the amount of plant-available water in the top 5 feet of the soil profile during various times at 22 locations in Iowa for corn following corn (C-C).^a

Station	April 15- May 1	May 1- June 1	June 1- July 1	July 1- Aug. 1	Aug. 1- Sept. 1	Sept. 1- Oct. 1	Oct. 1- Nov. 1	June 1- Sept. 1	Sept. 1- Nov. 1	Nov. 1- April 15
Doon	-0.2	+0.7	0.0	-2.2	-0.5	+0.7	+0.7	-2.7	+1.4	+0.8
Le Mars	-0.2	+1.2	-0.7	-2.4	-0.7	+0.9	+0.6	-3.8	+1.5	+1.4
Sutherland- Pringhar	-0.2	+0.7	-0.2	-2.5	-0.5	+1.0	+0.6	-3.2	+1.6	+1.1
Estherville	-0.5	+1.4	-0.3	-2.7	-1.1	+1.2	+1.0	-4.1	+2.2	+1.1
Storm Lake- Newell	-0.1	+1.2	-0.2	-2.5	-0.8	+1.2	+0.5	-3.5	+1.7	+0.7
Kanawha	-0.1	+0.6	-0.1	-2.3	-1.2	+1.4	+1.1	-3.6	+2.5	+0.9
Blairsburg	+0.3	+0.7	-0.4	-2.5	-1.0	+1.4	+1.1	-4.0	+2.5	+0.8
Elkader	+0.2	+0.8	-0.7	-1.6	-0.9	+1.3	+0.6	-3.2	+1.9	+0.3
Independence	-0.3	+0.6	-0.5	-1.7	-1.2	+1.2	+0.8	-3.4	+2.1	+1.1
Castana	+0.1	+1.0	+0.2	-2.4	-1.1	+0.6	+1.0	-3.3	+1.6	+0.6
Denison	-0.4	+1.2	+0.2	-2.8	-0.5	+1.0	+0.5	-3.1	+1.5	+0.7
Ames	+0.2	+0.7	-0.5	-2.4	-1.1	+1.5	+0.6	-4.0	+2.1	+1.0
Marshalltown	-0.2	+0.4	-0.8	-2.2	-1.0	+1.3	+1.0	-4.0	+2.3	+1.6
Cedar Rapids	-1.3	+0.1	-0.7	-2.0	-1.0	+1.4	+1.8	-3.7	+3.2	+1.7
Williamsburg	+0.4	+0.5	0.0	-1.1	-1.6	+1.6	+0.9	-2.7	+2.5	-0.5
Norwich- Shenandoah	-0.1	+0.9	-0.3	-2.0	-1.1	+1.1	+1.0	-3.4	+2.1	+0.4
Beaconsfield	+0.5	+0.4	-0.2	-1.6	-1.0	+1.2	+0.5	-2.8	+1.7	+0.2
Knoxville	+0.5	+0.2	-0.8	-2.1	-1.4	+1.6	+0.7	-4.3	+2.3	+1.5
Albia	+0.4	+0.1	-1.2	-1.7	-1.2	+1.0	+0.9	-4.1	+1.9	+1.7
Bloomfield	+0.2	+0.4	-0.7	-2.6	-0.9	+1.4	+1.0	-4.2	+2.4	+1.2
Burlington- Col. Junc.	-0.2	+0.4	-1.2	-2.1	-1.6	+1.1	+1.9	-4.9	+3.0	+1.9
Donnellson	+0.6	0.0	-0.9	-1.5	-2.1	+1.4	+1.3	-4.5	+2.7	+1.4
Av.	0.0	+0.6	-0.5	-2.1	-1.1	+1.2	+0.9	-3.7	+2.1	+1.0

^a Williamsburg primarily meadow-corn record.

Moines County to 5.2 inches at Doon in Lyon County (table 3, fig. 5). The average over the entire state was 8.2 inches, an average increase from May 1 of 0.6 inch. The lowest value recorded was 0.4 inch at Sutherland in O'Brien County in 1968. The highest value measured (when June samples were taken) was 13.2 inches at Cedar Rapids in Linn County in 1959. The probability of having less than 5 inches of soil moisture at this time ranges from zero in the eastern part of Iowa, up to 47% at Doon in Lyon County (fig. 3b). The probabilities of high soil moisture (fig. 4b), range from over 90% in Des Moines County to no occurrence in Buena Vista County. The probabilities are relatively low for Story County and high for Crawford County. This results from the relatively low field-capacity value for Ames (Story County) and the high value for Denison (Crawford County).

July 1

The average peak of soil moisture occurs about the middle of June with a decrease occurring during the last part of the month. From June 1 to July 1 (table 9), only Castana (Monona County) and Denison (Crawford County) have shown an average increase, Doon (Lyon County) and Williamsburg (Iowa County) have shown no change, and all other sites have shown a decrease.

Average soil moisture on July 1 has ranged from 9.5 inches at Burlington-Columbus Junction

in Des Moines County to 5.2 inches at Doon in Lyon County (table 4). The highest recorded value was 16.1 inches at Cedar Rapids in Linn County in 1969; the lowest, 0.8 inch at Denison in Crawford County in 1970.

Aug. 1

From July 1 to Aug. 1, all stations have shown an average decrease in soil moisture, with the average decrease being 2.1 inches.

The average soil moisture (table 5, fig. 6) has ranged from 8.1 inches at Williamsburg in Iowa County to 3.0 inches at Doon in Lyon County. The maximum value recorded was 11.8 inches at Burlington-Columbus Junction in Des Moines County in 1958; the minimum, 0.0 inches at Sutherland in O'Brien County in 1968.

This is a very critical period in the development of the corn crop, and severe yield reductions can result from severe stress at this time. The probabilities of low soil moisture and very high soil moisture are shown in figs. 3c and 4c. The east-central part of the state will have less than 5 inches of soil moisture less than 20% of the time. In the northwest, the probability is nearly 75%. Unusually high probabilities of dry conditions have occurred in Story and Monroe counties during the period of record. The probability of having a high moisture level at this time of the year is near zero in parts of western Iowa, increasing to nearly 20% in east-central Iowa and to a maximum of 33% in Clayton County in northeastern Iowa.

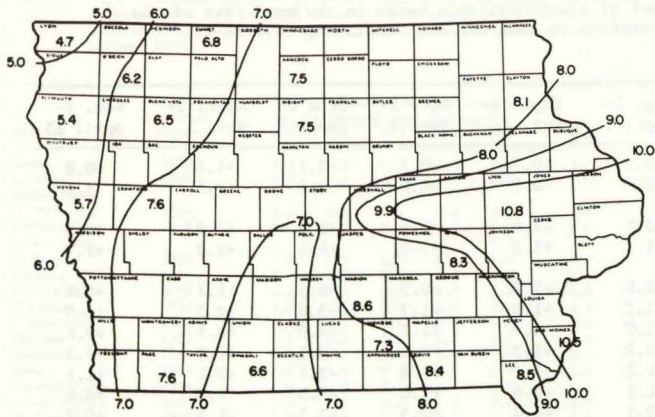


Fig. 2. The average inches of plant-available water present in the top 5 feet of the soil profile on April 15 at 22 locations in Iowa.

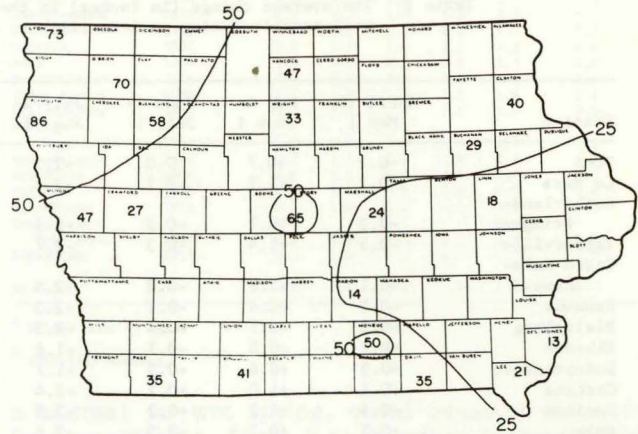


Fig. 3c. The probability, in percentages, of having less than 5 inches of plant-available water present in the top 5 feet of the soil profile on Aug. 1.

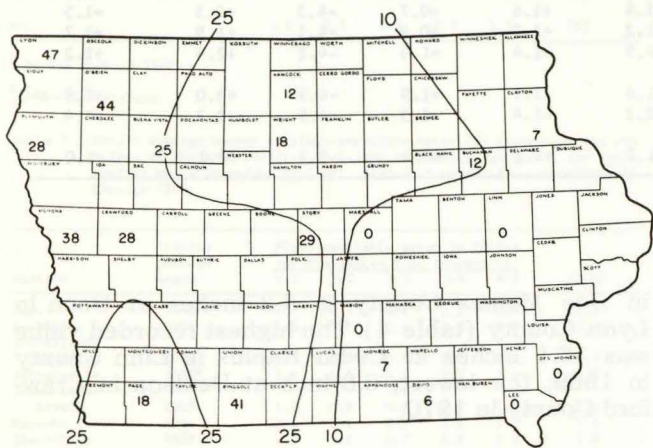


Fig. 3a. The probability, in percentages, of having less than 5 inches of plant-available water present in the top 5 feet of the soil profile on April 15.

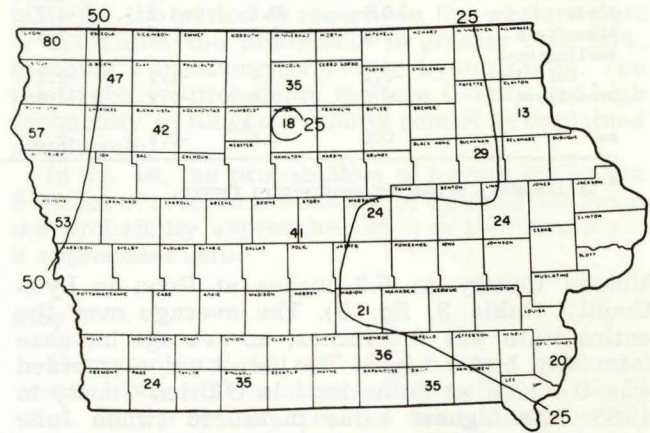


Fig. 3d. The probability, in percentages, of having less than 5 inches of plant-available water present in the top 5 feet of the soil profile on Nov. 1.

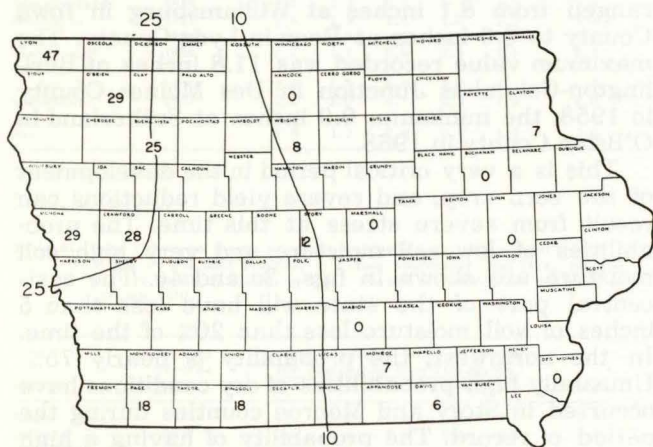


Fig. 3b. The probability, in percentages, of having less than 5 inches of plant-available water present in the top 5 feet of the soil profile on June 1.

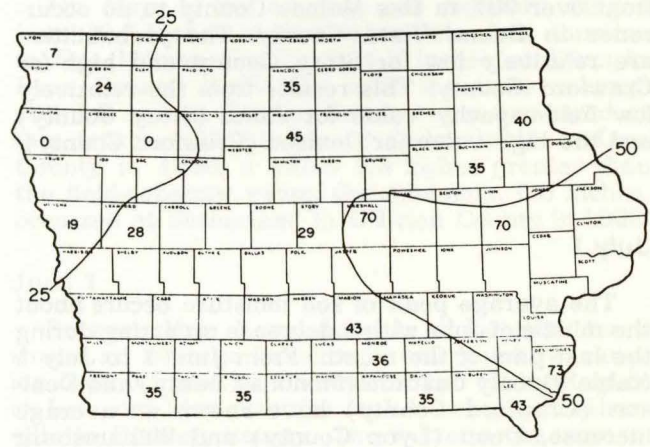


Fig. 4a. The probability, in percentages, of having more than 9 inches of plant-available water present in the top 5 feet of the soil profile on April 15.

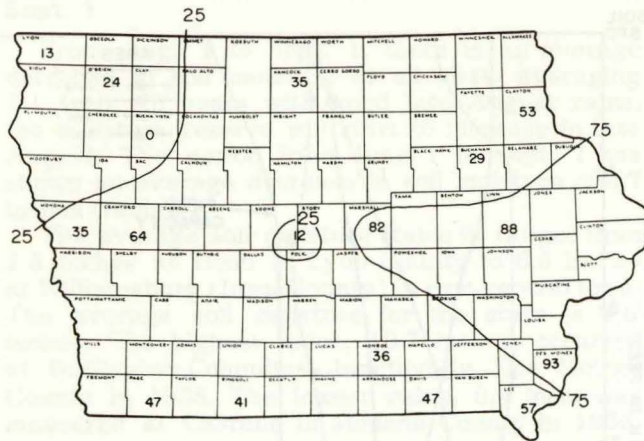


Fig. 4b. The probability, in percentages, of having more than 9 inches of plant-available water present in the top 5 feet of the soil profile on June 1.

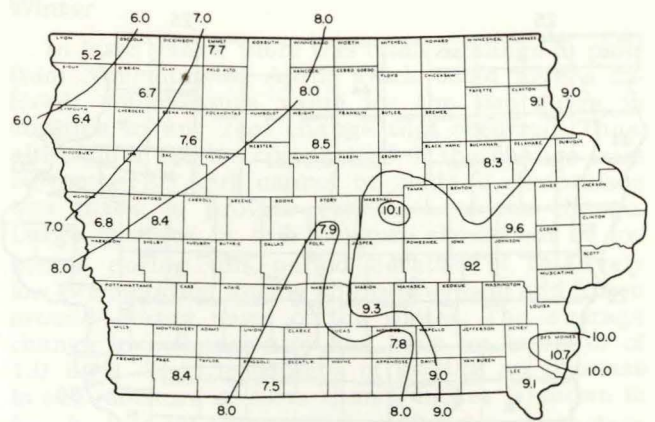


Fig. 5. The average inches of plant-available water present in the top 5 feet of the soil profile on June 1 at 22 locations in Iowa.

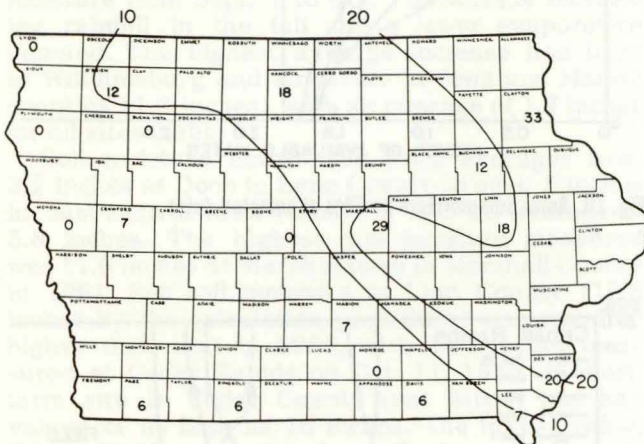


Fig. 4c. The probability, in percentages, of having more than 9 inches of plant-available water present in the top 5 feet of the soil profile on Aug. 1.

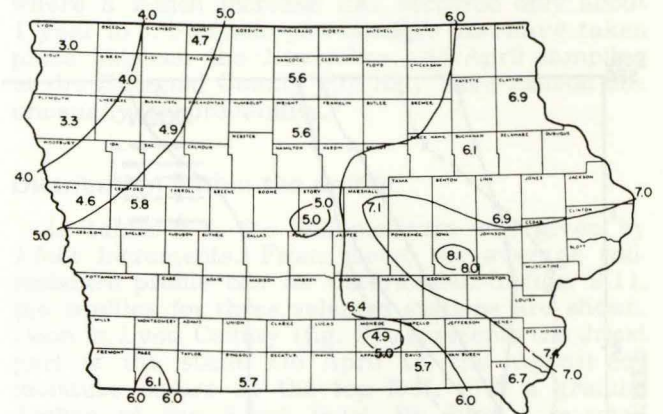


Fig. 6. The average inches of plant-available water present in the top 5 feet of the soil profile on Aug. 1 at 22 locations in Iowa.

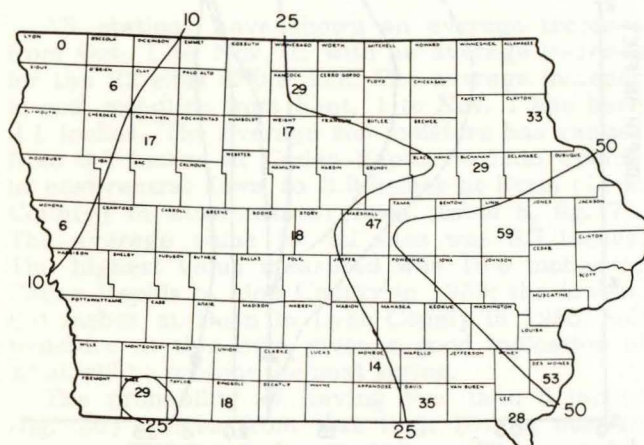


Fig. 4d. The probability, in percentages, of having more than 9 inches of plant-available water present in the top 5 feet of the soil profile on Nov. 1.

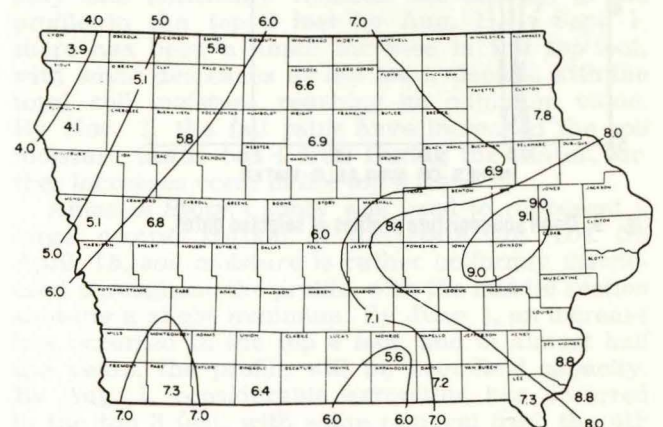


Fig. 7. The average inches of plant-available water present in the top 5 feet of the soil profile on Nov. 1 at 22 locations in Iowa.

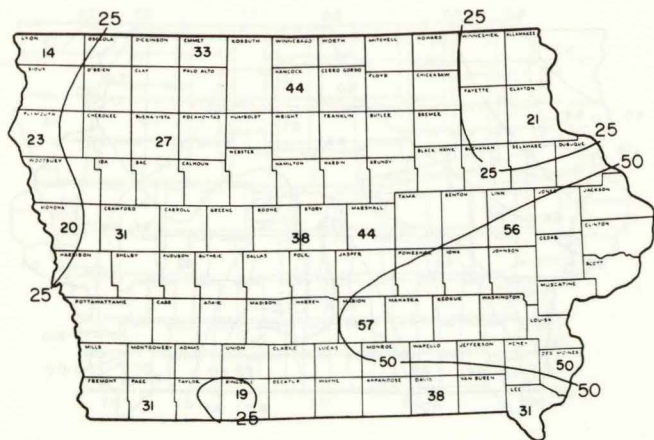


Fig. 8. The probability of increasing plant-available soil moisture by more than 2 inches in a corn-corn crop sequence between Nov. 1 and April 15.

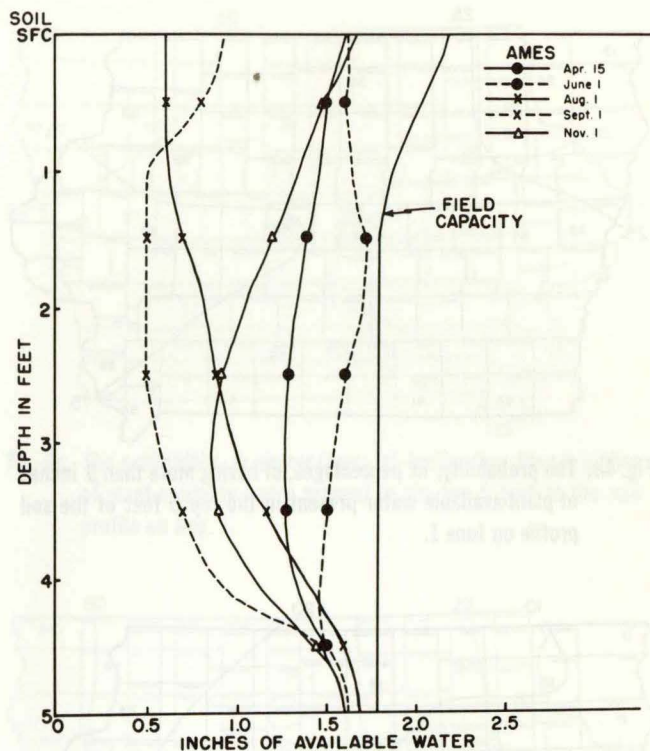


Fig. 10. Ames soil-moisture profiles at selected dates.

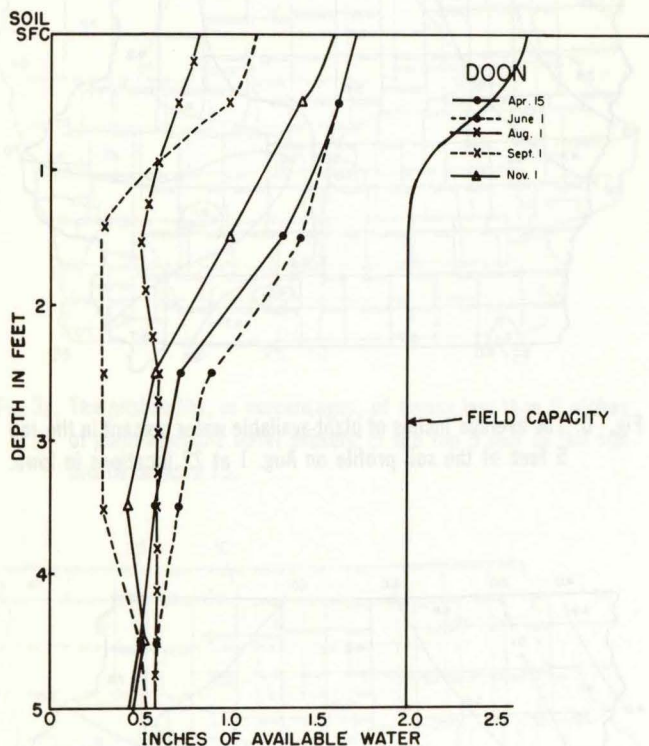


Fig. 9. Doon soil-moisture profiles at selected dates.

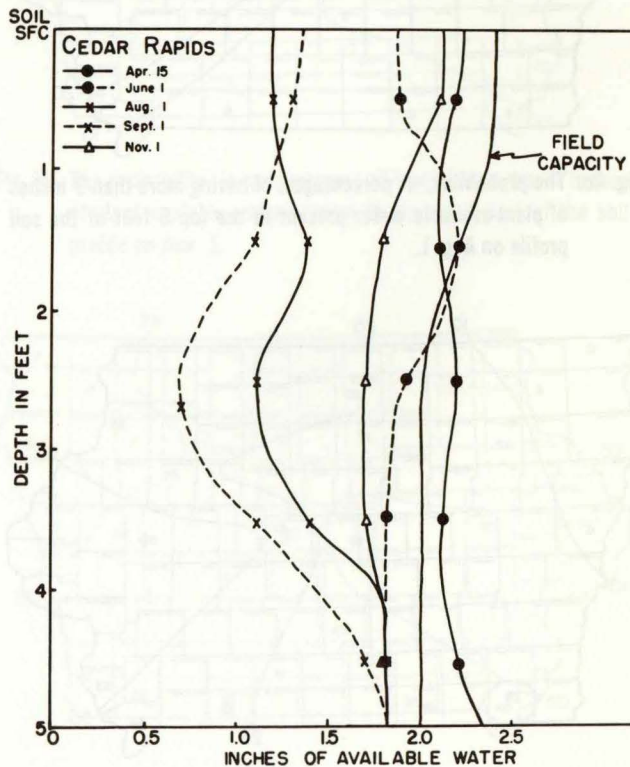


Fig. 11. Cedar Rapids soil-moisture profiles at selected dates.

Sept. 1

From Aug. 1 to Sept. 1, there is an average decrease in soil moisture at all sites, averaging 1.1 inch. In years with good late-August rains, the moisture reserve will start to increase in late August. The period from June 1 to Sept. 1 has shown an average decrease in soil moisture of 3.7 inches (table 9).

The average soil moisture (table 6) ranges from 2.5 inches at Doon in Lyon County to 6.5 inches at Williamsburg (Iowa County) in east-central Iowa. The average soil moisture for the state is 4.6 inches. The highest value, 10.7 inches, occurred at Burlington-Columbus Junction in Des Moines County in 1958. The lowest value, 0.4 inch, was measured at Castana in Monona County in 1956.

Oct. 1

All sites have shown an average gain in soil moisture from Sept. 1 to Oct. 1 because of increasing rainfall in the fall and a lower evaporative demand. The highest average increase has been at Williamsburg and Knoxville in Iowa and Marion counties (1.6 inches), with an average of 1.2 inches for all sites (table 9).

Soil moisture across the state averages from 3.2 inches at Doon in Lyon County to over 7 inches in east-central Iowa (table 7), with an average of 5.8 inches. The highest soil moisture measured was 11.6 inches at Marshalltown in Marshall County in 1961, but soil moisture in Linn County (10.6 inches by the calculation procedure) was probably higher than that in 1965, with 14.2 inches measured at Cedar Rapids on Oct. 11, 1965. A short-term site in Cedar County (not listed) has had values of as high as 16 inches. The lowest value, 0.1 inch, was measured at Castana in Monona County in 1956.

Nov. 1

All stations have shown an average increase from Oct. 1 to Nov. 1, with an average increase for the 22 sites of 0.9 inch. The average increase in soil moisture from Sept. 1 to Nov. 1 has been 2.1 inches. The average soil moisture has ranged from 9.1 inches at Cedar Rapids in Linn County in east-central Iowa to 3.9 inches at Doon (Lyon County) in northwestern Iowa (table 8, fig. 7). The average value for all sites was 6.7 inches. The highest value measured was 16.0 inches at Cedar Rapids in Linn County in 1959; the lowest, 0.0 inches at Doon in Lyon County in 1956. Soil moisture at this time gives a good indication of what will be present the next spring.

The probability of having less than 5 inches (fig. 3d) ranges from less than 20% in eastern Iowa to 80% in northwestern Iowa. The probability of having more than 9 inches at this time ranges from zero in northwestern Iowa to over 50% in east-central Iowa (fig. 4d).

Winter

In later years, there was often a change in plots from November to April, which could give a different soil-moisture value for the two dates, in addition to any real change that occurred. Thus, although a precise comparison of the change from November to April cannot be made, a comparison was made to provide estimates of the change. Large changes in soil moisture should not be expected during this period because of relatively low precipitation during the cold season and frozen ground during much of the winter. The average change in soil moisture has been an increase of 1.0 inch. The probability of getting an increase in soil moisture of more than 2 inches is shown in fig. 8. In east-central and much of southeastern Iowa, such an increase can be expected in about half the years. In northeastern Iowa, it occurs in about a fourth of the years. In part of the western counties, it can be expected only in 1 of 5-7 years. In the central part of the state, it can be expected in 1 year of 4. The exception is Ringgold County, where a 2-inch increase has occurred only about 1 year in 5. Frequent plot changes that have taken place between the November and April sampling at the Ringgold County site may have caused this unusually low probability.

Distribution within the profile

In tables 1-8, the soil moisture was given by 1-foot increments. From these, the average soil-moisture profile can be determined. In figs. 9-11, the profiles for three selected stations are shown. Doon in Lyon County (fig. 9) represents the driest part of the state. On April 15, the highest soil moisture occurs in the top foot, with a gradual decline to the 5-foot level. By June 1, a small increase has occurred at each of the four lower depths. Only rarely does this site reach field capacity. The total from June to July does not change, but the distribution (not shown) shows slightly lower amounts in the top 2 feet and a small increase from 2-3 feet. Moisture extraction during July has noticeably reduced the amount in the profile in the top 2 feet by Aug. 1. By Sept. 1, there has been a small increase in the top foot, with small decreases at the lower depths, with the total soil moisture reaching its minimum value. By Nov. 1, the fall rains have increased the soil moisture in the top 4 feet. During the winter, further increases occur in the top 4 feet.

Ames in Story County was used to represent a large central portion of the state (fig. 10). On April 15, soil moisture is rather uniformly distributed throughout the profile, with the middle section showing a slight minimum. By June 1, an increase has occurred in the top 4 feet, and in almost half the years, the profile will be near field capacity. By Aug. 1, considerable extraction has occurred in the top 3 feet, with some removal from the 4th foot. By late August, there is an increase in the top foot, with decreases at all the other depths. In the fall, increases in soil moisture occur in the

top 4 feet, with a profile increase of 2 inches from Sept. 1 to Nov. 1. During the winter, the soil moisture shows a small increase from 2 to 4 feet. On the average, little change takes place in the 5th foot. The greatest removal in a single year from this depth has been a little over 1 inch.

Cedar Rapids in Linn County was selected to represent the wetter part of the state. On April 15, the soil moisture below 2 feet has averaged above the value set for the field capacity, which assumes no free water present (fig. 11). The greater amount is due to frequent free water in the profile (9 of 17 years). The May 1 (not shown) and June 1 profiles show lesser amounts at the lower depths because the calculation procedure used "forces" excess water above field capacity out of the profile. Aug. 1 moisture at each 1-foot increment has averaged over 1 inch, with relatively few occurrences of low moisture. August samplings have shown free water in the profile in only 2 of the 17 years. By Sept. 1, the 2- to 3-foot depth averages less than 1 inch of available water, with the four lower depths showing decreases since Aug. 1. By Nov. 1, a 2-inch increase in the profile has taken place, and 6 of the 17 years have shown free water in the profile. During the winter, soil moisture increases almost another 2 inches, with increases showing at all depths.

Corn Following Meadow

Data in Appendix C for corn following meadow are only for the years when a difference of over 1 inch existed when compared with corn following corn for several months or where a major difference in profile distribution existed. The exception to this is the Williamsburg site, which primarily had corn following meadow. If all years are included, the average difference between the two crop sequences is small; yet, for certain years, a significant difference is present. The data for the different locations are summarized in table 10 for April 15, and in table 11, for Aug. 1. There is a higher percentage of drier conditions for M-C than for C-C in the western part of the state. In approximately the western third of Iowa, 49 of 108 station years of record are drier for M-C, and 6, wetter for

M-C. In the eastern part of the state, only 13 of 61 years show M-C drier, and 3, wetter.

By Aug. 1, the calculations show that the early-season differences between the two crop sequences tend to be reduced. In western Iowa, however, 28 of 108 station years of record still show the M-C over 1 inch drier than C-C. These years show a higher stress index for M-C than for C-C (Corsi and Shaw, 1971) and, in some years, a very significant difference.

Table 10. Comparison of total moisture in the 5-foot profile for corn following corn (C-C) and corn following meadow (M-C) on April 15.

Station	No. years of comparison	No. years C-C higher by 1 inch or more	Av. diff. in inches in years C-C \geq 1 inch higher	No. years M-C higher by 1 inch or more	Av. diff. in inches in years M-C \geq 1 inch higher
Doon	14	7	2.6	1	2.0
Sutherland-Pringhar	14	4	3.6	2	1.6
Storm Lake-Newell	6	5	3.1	0	-
Le Mars	14	6	2.9	0	-
Kanawha	16	3	1.5	1	1.6
Independence	16	2	2.1	2	1.3
Elkader	14	3	3.4	0	-
Castana	16	6	2.2	0	-
Denison	13	9	2.8	0	-
Ames	16	3	2.7	0	-
Norwich-Shenandoah	15	4	2.4	1	1.7
Beaconsfield	16	8	2.8	2	1.5
Albia	14	2	1.5	1	3.2
Bloomfield	17	7	2.1	1	1.7
Donnellson	14	1	1.7	0	-

Table 11. Comparison of total moisture in the 5-foot profile for corn following corn (C-C) and corn following meadow (M-C) on Aug. 1.

Station	No. years of comparison	No. years C-C higher by 1 inch or more	Av. diff. in inches in years C-C \geq 1 inch higher	No. years M-C higher by 1 inch or more	Av. diff. in inches in years M-C \geq 1 inch higher
Doon	14	4	1.7	0	0.3
Sutherland-Pringhar	14	2	1.1	1	0.9
Storm Lake-Newell	6	5	1.9	0	-
Le Mars	14	5	1.7	0	-
Kanawha	16	1	0.9	0	0.5
Independence	16	1	0.9	0	0.4
Elkader	14	2	2.2	0	-
Castana	16	1	0.5	0	-
Denison	13	5	1.1	0	-
Ames	16	0	0	0	-
Norwich-Shenandoah	15	2	1.1	0	-
Beaconsfield	16	4	0.9	0	-
Albia	14	0	0.2	1	1.9
Bloomfield	17	3	1.1	0	0.4
Donnellson	14	1	1.2	0	-

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APPENDIX A: SITE LOCATIONS

- The following gives a brief description of the location, soil type, and slope of the soil-moisture sites. For further details on the soil types, see: W.R. Oschwald, F.F. Riecken, R.I. Didericksen, W.H. Scholtes, and F.W. Schaller. 1965. Principal soils of Iowa: Their formation and properties. *Iowa Coop. Ext. Serv. Spec. Rep.* 42.
- Doon—Moody Experimental Farm, Moody silt loam, 2-5% slope, well drained.
- Le Mars—Site has changed from north of town to fairgrounds to 8 miles south, Galva silty clay loam, 2-5% slope, well drained.
- Sutherland-Primghar—near Primghar, 1954-56, Primghar silty clay loam, 2-4% slope. Galva-Primghar Experimental Farm, near Sutherland, 1957-70, Galva silt loam, 2-5% slope, somewhat poorly drained.
- Estherville—1 mile north, Nicollet loam, 1-3% slope, somewhat poorly drained.
- Storm Lake-Newell—1 mile east of Storm Lake, 1959-64, Webster silty clay loam and Nicollet loam, 1-3% slope. Allee Farm, near Newell, 1965-70, corn site on Nicollet loam, 1-3% slope, somewhat poorly drained; meadow site on Clarion loam, 2-4% slope, poorly drained.
- Kanawha—Northern Iowa Experimental Farm and Clarion-Webster Experimental Farm near Kanawha, Webster silty clay loam, 0-1% slope, poorly drained.
- Blairsburg—5 miles north, Webster silty clay loam and Nicollet loam, 0-3% slope, poorly drained.
- Elkader—6 miles southeast, Fayette silt loam, 2-5% slope, well drained.
- Independence—Carrington-Clyde Experimental Farm, Readlyn loam, 2-3% slope, imperfect drainage.
- Castana—Western Iowa Experimental Farm, Ida silt loam, 6-10% slope, well drained.
- Denison—Denison Demonstration Farm, Monona silt loam, 4-6% slope, well drained.
- Ames—Agronomy Farm, 1954-55, Webster silty clay loam, 0-1% slope, poorly drained. Beach Ave. Experimental Farm, 1956-64, Colo silty clay loam, 0-1% slope, poorly drained. Agronomy and Agricultural Engineering Research Center, 1965-70, Webster silty clay loam, 0-1% slope, poorly drained.
- Marshalltown—5 miles north, Muscatine silt loam, 1-3% slope, somewhat poorly drained.
- Cedar Rapids—4 miles south, Klinger silt loam, 1-3% slope, somewhat poorly drained.
- Williamsburg—1 mile south, Otley silt loam, 2-3% slope, moderately well drained.
- Norwich-Shenandoah—Norwich Soil Conservation Farm, 1954-65, Marshall silty clay loam, 2-7% slope, well drained. May Trial Gardens, Shenandoah, 1966-70, Marshall silty clay loam, 2-7% slope, well drained.
- Beaconsfield—Shelby-Grundy Experimental Farm, Shelby loam, 5-7% slope, well drained; Grundy silt loam, 2-5% slope, moderately well to somewhat poorly drained.
- Knoxville—½ mile southwest, Winterset silty clay loam, 0-1% slope, poorly drained.
- Albia—Albia Pasture Farm, Belinda silt loam, 0-1% slope, poorly drained.
- Bloomfield—Southern Iowa Experimental Farm, Edina silt loam, 0-1% slope, poorly drained.
- Burlington-Columbus Junction—Burlington Ordnance Plant, 1956-67, Taintor silt loam, 0-2% slope, somewhat poorly drained. Columbus Junction, 5 miles south, 1968-70, Mahaska silty clay loam, 1-3% slope, somewhat poorly drained.
- Donnellson—4 miles west, Belinda silt loam, 0-1% slope, poorly drained.

APPENDIX B

Table B-1. Plant-available (PA) and wilting-point (WP) values (in inches) used for different soils. Where more than one value has been used, the average is given. Plant-available water assumes no free water in the profile.

Depth in feet	DOON Moody S.L.		LE MARS Galva S.L.		PRIMGHAR Primghar S.L.		SUTHERLAND Galva S.L.		ESTHERVILLE Nicollet L.		STORM LAKE-NEWELL Webster S.C.L.	
	PA	WP	PA	WP	PA	WP	PA	WP	PA	WP	PA	WP
0-1	2.5	2.3	2.0	2.6	2.4	3.2	2.5	2.6	2.4	2.6	2.2	2.4
1-2	2.0	2.2	1.7	2.6	2.3	3.0	2.3	2.6	1.7	2.1	2.0	2.2
2-3	2.0	1.9	1.7	2.2	2.0	2.1	2.3	2.2	1.7	2.1	2.0	1.9
3-4	2.0	1.7	1.7	1.8	2.0	1.9	2.4	1.7	1.7	1.9	2.0	1.8
4-5	2.0	1.6	1.7	1.8	2.0	1.1	2.4	1.8	1.8	1.9	2.0	1.8

Depth in feet	NEWELL Clarion S.L.		KANAWHA Webster S.C.L.		BLAIRSBURG Nicollet S.C.L.		ELKADER Fayette S.L.		INDEPENDENCE Carrington S.L.		CASTANA Ida S.L.	
	PA	WP	PA	WP	PA	WP	PA	WP	PA	WP	PA	WP
0-1	2.2	2.0	2.2	2.0	2.4	2.5	2.4	1.6	2.5	1.9	2.0	1.4
1-2	2.0	2.0	2.0	1.8	2.0	2.5	2.2	1.7	2.2	1.9	2.0	1.4
2-3	2.0	1.9	2.0	1.6	2.0	2.0	2.2	1.9	1.8	1.5	2.0	1.4
3-4	2.0	1.8	2.0	1.4	2.0	1.8	2.4	1.9	1.6	1.5	2.0	1.4
4-5	2.0	1.8	2.0	1.4	2.0	1.8	2.4	1.9	1.6	1.5	2.0	1.4

Depth in feet	DENISON Monona S.L.		AMES Webster S.C.L.		AMES Colo S.C.L.		MARSHALLTOWN Muscatine S.L.		CEDAR RAPIDS Klinger S.L.		WILLIAMSBURG Otley S.L.	
	PA	WP	PA	WP	PA	WP	PA	WP	PA	WP	PA	WP
0-1	2.5	2.1	2.0	2.2	1.8	2.6	2.5	2.1	2.4	2.2	2.5	1.8
1-2	2.3	2.0	1.8	2.1	1.6	2.7	2.5	2.3	2.2	2.4	2.5	1.8
2-3	2.3	2.0	1.8	1.6	1.6	2.7	2.2	2.3	2.0	1.8	2.5	1.9
3-4	2.3	1.9	1.8	1.6	1.6	2.7	2.2	2.3	2.0	1.6	2.5	1.8
4-5	2.3	1.9	1.8	1.9	1.6	2.4	2.2	2.3	2.0	1.6	2.2	1.9

Depth in feet	NORWICH-SHENANDOAH Marshall S.L.		BEACONSFIELD Grundy S.L.		BEACONSFIELD Shelby S.L.		KNOXVILLE Winterset S.L.		ALBIA Belinda S.L.		BLOOMFIELD Edina S.L.	
	PA	WP	PA	WP	PA	WP	PA	WP	PA	WP	PA	WP
0-1	2.2	2.3	2.5	2.4	1.9	2.2	2.2	2.6	2.8	1.2	3.0	2.1
1-2	2.2	2.3	2.2	2.2	1.8	2.1	2.2	2.4	2.0	2.5	2.2	3.0
2-3	2.2	2.3	2.0	2.0	1.6	1.9	2.2	2.3	1.8	3.6	2.2	3.8
3-4	2.2	2.3	2.0	1.9	1.6	1.9	2.2	2.7	1.8	3.1	2.2	3.4
4-5	2.2	2.3	2.0	1.9	1.9	1.9	2.2	2.7	1.8	2.8	1.8	2.8

Depth in feet	BURLINGTON Taintor S.L.		COLUMBUS JUNCTION Mahaska S.L.		DONNELLSON Belinda S.L.	
	PA	WP	PA	WP	PA	WP
0-1	3.0	2.4	2.4	2.4	2.5	1.4
1-2	2.5	2.6	2.0	2.6	1.8	3.1
2-3	2.0	2.9	2.0	2.6	1.8	3.1
3-4	2.0	2.5	2.0	2.9	2.0	2.9
4-5	2.0	2.1	2.0	2.9	2.0	2.7

APPENDIX C

Table C-1. Soil-moisture data by 1-foot increments down to 5 feet and total in profile for each year of record and average for period of record for April 15, May 1, June 1, July 1, Aug. 1, Sept. 1, Oct. 1, and Nov. 1.

Northwestern Iowa
Doon
Le Mars
Sutherland-Primghar
Estherville
Storm Lake-Newell

North-Central Iowa
Kanawha
Blairsburg

Northeastern Iowa
Elkader
Independence

West-Central Iowa
Castana
Denison

Central Iowa
Ames
Marshalltown

East-Central Iowa
Cedar Rapids
Williamsburg

Southwestern Iowa
Norwich-Shenandoah

South-Central Iowa
Beaconsfield

Southeastern Iowa
Knoxville
Albia
Bloomfield
Burlington-Columbus Junction
Donnellson

NORTHWESTERN IOWA

Doon

DOON (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.4	1.0	0.0	0.0	0.2	1.6
1957	0.7	0.2	0.1	0.1	0.1	1.2
1958	1.7	2.0	1.0	0.6	0.6	5.9
1959	1.1	0.2	0.0	0.0	0.0	1.3
1960	2.9	2.2	1.5	1.3	1.0	8.9
1961	2.0	1.4	1.5	1.6	1.6	8.1
1962	2.7	1.8	1.2	0.6	0.3	6.6
1963	0.7	0.6	0.0	0.1	0.2	1.6
1964	2.2	1.9	1.3	0.2	0.0	5.6
1965	2.4	2.0	1.0	0.7	0.5	6.6
1966	1.0	1.6	1.0	1.0	0.6	5.2
1967	1.5	0.8	0.0	0.0	0.0	2.3
1968	0.9	0.0	0.2	0.3	0.6	2.0
1969	2.1	2.3	2.2	2.1	1.5	10.2
1970	2.2	0.8	0.1	0.2	0.3	3.6
Av.	1.6	1.3	0.7	0.6	0.5	4.7

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1960	3.0	2.5	1.2	0.0	0.0	6.7
1961	1.9	1.3	0.5	0.2	0.1	4.0
1962	1.8	1.0	0.1	0.1	0.2	3.2
1964	1.8	0.5	0.0	0.0	0.0	2.3
1965	2.1	2.0	0.8	0.1	0.0	5.0
1966	0.6	1.1	0.6	0.0	0.1	2.4
1968	0.9	0.0	0.0	0.0	0.0	0.9
1969	2.1	1.9	2.4	2.7	3.1	12.2

DOON (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.8	1.0	0.0	0.0	0.2	2.0
1957	0.5	0.2	0.1	0.1	0.1	1.0
1958	1.3	2.0	1.0	0.6	0.6	5.5
1959	0.6	0.2	0.0	0.0	0.0	0.8
1960	1.9	2.0	2.0	1.4	1.0	8.3
1961	1.1	1.4	1.5	1.6	1.6	7.2
1962	1.9	2.0	1.2	0.6	0.3	6.0
1963	0.7	0.6	0.0	0.1	0.2	1.6
1964	2.2	1.9	1.3	0.2	0.0	5.6
1965	1.9	2.0	1.0	0.7	0.5	6.1
1966	1.1	1.6	1.0	1.0	0.6	5.3
1967	1.2	0.8	0.0	0.0	0.0	2.0
1968	0.7	0.0	0.2	0.3	0.6	1.8
1969	1.3	2.0	2.0	2.0	2.0	9.3
1970	2.1	1.1	0.1	0.2	0.3	3.8
Av.	1.3	1.3	0.8	0.6	0.5	4.5

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1960	1.9	2.0	2.0	0.2	0.0	6.1
1961	1.0	1.3	0.5	0.2	0.1	3.1
1962	1.2	1.0	0.1	0.1	0.2	2.6
1964	1.9	0.5	0.0	0.0	0.0	2.4
1965	1.6	2.0	0.8	0.1	0.0	4.5
1966	0.8	1.1	0.6	0.0	0.1	2.6
1968	0.7	0.0	0.0	0.0	0.0	0.7
1969	1.3	1.9	2.0	2.0	2.0	9.2

DOON (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.8	1.0	0.0	0.0	0.2	2.0
1957	2.1	0.6	0.1	0.5	0.5	3.7
1958	1.4	2.0	1.0	1.0	0.8	6.2
1959	2.3	2.0	1.3	0.0	0.0	4.6
1960	2.0	1.8	1.8	1.8	1.8	9.2
1961	1.9	1.5	1.5	1.6	1.6	8.1
1962	2.1	2.0	1.4	0.6	0.3	6.4
1963	1.6	0.6	0.0	0.1	0.2	2.5
1964	1.5	1.5	1.5	0.7	0.0	5.2
1965	2.1	2.0	2.0	0.9	0.5	7.5
1966	1.0	1.6	1.0	1.0	0.6	5.2
1967	1.4	0.8	0.0	0.0	0.0	2.2
1968	0.4	0.0	0.2	0.3	0.6	1.5
1969	1.6	2.0	2.0	2.0	2.0	9.6
1970	1.8	1.1	0.1	0.2	0.3	3.5
Av.	1.6	1.4	0.9	0.7	0.6	5.2

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1960	2.2	2.0	2.0	2.0	0.3	8.5
1961	1.9	1.3	1.4	0.6	0.4	5.6
1962	2.0	1.0	0.1	0.1	0.2	3.4
1964	1.5	1.6	0.0	0.0	0.0	3.1
1965	2.1	2.0	1.7	0.1	0.0	5.9
1966	0.6	1.1	0.6	0.0	0.1	2.4
1968	0.4	0.0	0.0	0.0	0.0	0.4
1969	1.6	2.0	2.0	1.8	1.8	9.2

DOON (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.3	0.4	0.0	0.0	0.2	0.9
1957	2.2	1.9	1.7	0.1	0.1	6.0
1958	0.3	1.4	1.1	0.9	0.9	4.6
1959	1.8	1.2	1.1	0.0	0.0	4.1
1960	2.0	1.5	1.8	1.8	1.8	8.9
1961	1.5	1.0	1.3	1.6	1.6	7.0
1962	1.3	1.4	1.8	1.7	0.3	6.5
1963	1.0	0.2	0.0	0.1	0.2	1.5
1964	2.0	0.9	1.3	0.6	0.0	4.8
1965	2.3	1.9	1.8	1.8	0.5	8.3
1966	0.3	1.3	1.0	1.0	0.6	4.2
1967	2.4	1.8	2.0	0.0	0.0	6.2
1968	1.4	0.0	0.0	0.3	0.6	2.3
1969	2.2	1.8	1.8	2.0	2.0	9.8
1970	1.2	0.4	0.0	0.2	0.3	2.1
Av.	1.5	1.2	1.1	0.8	0.6	5.2

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1960	2.3	1.6	2.0	2.0	0.5	8.4
1961	1.5	0.9	1.1	0.5	0.4	4.4
1962	1.3	1.2	0.5	0.1	0.2	3.3
1963	0.9	0.0	0.0	0.0	0.1	1.0
1964	1.9	0.8	0.0	0.0	0.0	2.7
1965	2.3	1.6	1.1	0.5	0.4	5.9
1966	0.2	0.9	0.6	0.0	0.1	1.8
1967	2.4	1.8	2.0	0.4	0.0	6.6
1968	1.4	0.0	0.0	0.0	0.0	1.4
1969	2.2	1.8	1.8	1.8	1.8	9.4
1970	0.9	0.0	0.0	0.2	0.1	1.2

DOON (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.8	0.0	0.0	0.0	0.1	0.9
1957	1.7	1.0	1.0	0.4	0.1	4.2
1958	0.4	0.8	0.3	0.6	0.7	2.8
1959	1.9	2.0	0.5	0.0	0.0	2.6
1960	0.7	0.5	0.8	1.3	1.8	5.1
1961	0.1	0.2	0.5	1.2	1.6	3.6
1962	2.2	1.0	1.0	1.3	0.3	5.8
1963	1.2	0.0	0.0	0.0	0.1	1.3
1964	0.6	0.9	0.7	0.2	0.0	2.4
1965	0.2	1.2	1.2	1.5	1.2	5.3
1966	0.0	0.3	0.5	0.9	0.6	2.3
1967	0.0	0.5	1.2	0.0	0.0	1.7
1968	0.0	0.0	0.0	0.0	0.6	0.6
1969	1.3	1.0	1.4	1.7	1.8	7.2
1970	0.0	0.2	0.0	0.0	0.2	0.4
Av.	0.7	0.5	0.6	0.6	0.6	3.0

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1960	0.7	0.7	0.9	1.6	0.5	4.4
1961	0.1	0.5	0.2	0.1	0.1	1.0
1962	1.4	0.6	0.3	0.2	0.2	2.7
1964	1.1	0.7	0.0	0.0	0.0	1.8
1965	0.2	1.4	1.0	0.3	0.4	2.9
1966	0.1	0.3	0.2	0.0	0.1	0.7
1968	0.0	0.0	0.0	0.0	0.0	0.0
1969	1.8	1.3	1.3	1.3	1.8	7.5

DOON (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.9	0.1	0.0	0.0	0.0	1.0
1957	2.2	0.9	0.6	0.2	0.1	4.0
1958	0.0	0.4	0.5	0.4	0.6	1.9
1959	2.1	0.2	0.2	0.0	0.0	2.5
1960	2.1	0.2	0.0	0.5	0.7	3.5
1961	1.6	0.8	0.0	0.6	1.5	4.5
1962	1.9	0.5	0.5	1.0	0.3	4.2
1963	0.8	0.0	0.0	0.0	0.0	0.8
1964	1.2	0.5	0.3	0.1	0.0	2.1
1965	0.0	0.3	0.7	1.1	1.2	3.3
1966	2.0	0.0	0.1	0.5	0.5	3.1
1967	0.7	0.0	0.9	0.0	0.0	1.6
1968	0.0	0.0	0.0	0.0	0.6	0.6
1969	0.7	0.6	0.7	0.8	1.2	4.0
1970	0.0	0.1	0.0	0.0	0.1	0.2
Av.	1.1	0.3	0.3	0.3	0.5	2.5

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1960	2.2	0.3	0.4	1.2	0.5	4.6
1961	1.5	1.2	0.0	0.0	0.1	2.8
1962	1.5	0.3	0.3	0.2	0.1	2.4
1964	1.6	0.5	0.0	0.0	0.0	2.1
1965	0.0	0.8	0.6	0.6	0.4	1.5
1966	2.1	0.0	0.0	0.0	0.0	2.1
1968	0.0	0.0	0.0	0.0	0.0	0.0
1969	0.6	0.0	0.2	0.2	0.4	1.4

DOON (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.0	0.0	0.0	0.0	0.0	0.0
1957	2.2	1.0	0.3	0.3	0.3	4.1
1958	0.0	0.2	0.1	0.1	0.3	0.7
1959	2.5	1.7	0.1	0.0	0.0	4.3
1960						

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LE MARS (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.5	1.4	0.9	0.8	0.6	5.2
1958	1.9	1.5	1.4	1.3	1.4	7.5
1959	0.8	0.3	0.5	0.3	0.4	2.3
1960	2.0	1.7	1.5	0.9	1.0	7.1
1961	1.4	1.4	1.4	0.8	0.7	5.7
1962	1.7	1.6	1.7	1.4	1.3	7.7
1963	0.6	0.8	0.8	0.8	1.0	4.0
1964	1.9	2.0	0.1	0.3	0.2	3.0
1965	2.4	2.5	0.4	0.2	0.4	5.4
1966	0.9	1.4	1.6	1.8	2.0	7.7
1967	1.1	1.1	0.7	1.1	1.4	5.4
1968	1.0	0.0	0.0	0.5	1.2	2.7
1969	1.3	1.4	1.2	1.4	1.0	6.3
1970	1.4	1.5	0.8	1.3	1.7	6.7
Av.	1.4	1.2	0.9	0.9	1.0	5.4

Meadow-Corn
(For years different from corn-corn)

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.5	0.9	0.1	0.0	0.1	2.6
1958	1.7	1.2	0.6	0.1	0.0	3.6
1959	0.3	0.6	0.3	0.1	0.1	1.4
1961	1.3	1.1	0.7	0.1	0.0	3.2
1962	1.2	1.1	0.4	0.2	0.3	3.2
1965	1.7	0.8	0.7	0.0	0.3	3.5
1970	1.5	1.1	0.6	0.6	0.8	4.6

LE MARS (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	0.8	1.4	0.9	0.8	0.6	4.5
1958	1.7	1.6	1.6	1.3	1.4	7.6
1959	0.8	0.3	0.5	0.3	0.4	2.3
1960	1.1	1.7	1.5	0.9	1.0	6.2
1961	0.8	1.4	1.4	0.8	0.7	5.1
1962	1.2	1.6	1.7	1.4	1.3	7.2
1963	0.6	0.8	0.8	0.8	1.0	4.0
1964	1.9	0.5	0.1	0.3	0.2	3.0
1965	1.8	1.6	1.6	0.2	0.4	5.6
1966	0.7	1.4	1.6	1.8	2.0	7.5
1967	0.8	1.1	0.7	1.1	1.4	5.1
1968	0.7	0.0	0.0	0.5	1.2	2.4
1969	1.1	1.4	1.2	1.4	1.0	6.1
1970	1.7	1.5	0.8	1.3	1.7	7.0
Av.	1.1	1.2	1.0	0.9	1.0	5.2

Meadow-Corn
(For years different from corn-corn)

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	0.8	0.9	0.1	0.0	0.1	1.9
1958	1.7	1.3	0.6	0.1	0.0	3.7
1959	0.3	0.6	0.3	0.1	0.1	1.4
1961	0.7	1.1	0.7	0.1	0.0	2.6
1962	2.0	1.7	0.8	0.2	0.3	5.0
1965	1.8	0.8	0.7	0.0	0.3	3.6
1970	1.8	1.1	0.6	0.6	0.8	4.9

LE MARS (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.2	1.6	0.9	0.8	0.6	5.1
1958	2.1	1.6	1.6	1.4	1.4	8.1
1959	2.1	1.6	1.6	0.8	0.4	6.5
1960	1.5	1.6	1.6	1.9	2.0	8.6
1961	1.7	1.4	1.4	0.8	0.7	6.0
1962	2.0	1.7	1.7	1.7	1.7	8.8*
1963	1.0	0.8	0.8	0.8	1.0	4.4
1964	1.1	1.6	1.2	0.3	0.2	4.4
1965	1.9	1.6	1.6	1.6	0.4	7.1
1966	0.7	1.4	1.6	1.8	2.0	7.5
1967	2.0	1.2	0.7	1.1	1.4	6.4
1968	1.1	0.0	0.0	0.5	1.2	2.8
1969	1.3	1.6	1.6	1.4	1.0	6.9
1970	1.5	1.5	0.8	1.3	1.7	6.8
Av.	1.5	1.4	1.2	1.2	1.1	6.4

Meadow-Corn
(For years different from corn-corn)

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.1	1.1	0.1	0.0	0.1	2.4
1958	2.1	1.4	0.6	0.1	0.0	4.1
1959	2.1	1.6	1.6	0.3	0.1	5.7
1961	1.6	1.1	0.7	0.1	0.0	3.5
1962	2.0	1.7	0.8	0.2	0.3	5.0
1965	1.9	1.6	1.4	0.0	0.3	5.2
1970	1.5	1.1	0.6	0.6	0.8	4.6

LE MARS (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	2.1	1.4	1.4	1.6	0.6	7.1
1958	0.9	0.9	1.4	1.4	1.4	6.0
1959	1.5	0.8	1.4	0.9	0.4	5.0
1960	2.0	1.0	1.4	1.4	1.5	7.3
1961	0.7	1.1	1.4	1.7	0.7	5.6
1962	1.4	1.2	1.4	1.7	1.7	7.4*
1963	0.9	0.0	0.5	0.8	1.0	3.2
1964	0.5	0.7	0.8	0.3	0.2	2.5
1965	1.7	0.8	1.3	1.9	0.8	6.5
1966	1.4	0.8	1.4	1.9	2.0	7.4*
1967	1.8	1.4	1.6	1.9	2.2	8.9
1968	1.1	0.0	0.0	0.5	1.2	2.8
1969	1.9	1.2	1.5	1.4	1.0	7.0
1970	0.0	0.6	0.6	1.3	1.7	4.2
Av.	1.3	0.8	1.1	1.3	1.2	5.7

Meadow-Corn
(For years different from corn-corn)

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	2.1	1.4	0.9	0.0	0.1	4.5
1958	0.8	0.8	0.4	0.1	0.0	2.1
1959	1.5	0.8	1.4	0.3	0.1	4.1
1961	0.7	1.1	1.4	0.3	0.0	3.5
1962	1.3	1.2	1.4	1.7	0.9	6.5
1965	1.7	0.8	1.3	0.5	0.3	4.6
1970	0.0	0.4	0.5	0.6	0.8	2.3

LE MARS (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	0.3	1.1	1.0	1.3	0.6	4.3
1958	0.9	0.2	0.7	1.1	1.4	4.3
1959	0.0	0.0	0.6	0.5	0.3	1.4
1960	0.0	0.3	0.7	0.8	1.0	2.8
1961	0.8	0.1	0.4	0.5	0.6	2.4
1962	1.9	1.1	0.5	1.2	1.7	6.4
1963	0.8	0.0	0.1	0.4	0.9	2.2
1964	0.0	0.2	0.4	0.1	0.1	0.8
1965	0.2	0.0	0.5	1.4	0.8	2.9
1966	0.5	0.0	0.2	1.2	1.8	3.7
1967	0.2	0.2	0.9	1.7	2.2	4.2
1968	0.6	0.0	0.0	0.4	1.2	2.2
1969	1.0	0.9	0.9	1.3	1.0	5.1
1970	0.0	0.0	0.0	0.8	1.5	2.3
Av.	0.5	0.3	0.5	0.9	1.1	3.3

Meadow-Corn
(For years different from corn-corn)

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	0.2	1.1	0.6	0.0	0.1	2.0
1958	0.6	0.2	0.1	0.0	0.0	0.9
1959	0.0	0.0	0.7	0.0	0.1	0.8
1961	0.4	0.0	0.8	0.1	0.0	1.3
1962	1.9	1.1	0.5	1.2	0.9	5.6
1965	0.3	0.1	0.6	0.2	0.2	1.4
1970	0.0	0.0	0.1	0.4	0.7	1.2

LE MARS (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.4	0.4	0.5	1.0	0.6	3.9
1958	0.0	0.0	0.2	0.5	1.0	1.7
1959	1.2	0.0	0.2	0.3	0.3	2.0
1960	1.8	1.0	0.0	0.4	0.8	4.0
1961	1.0	0.0	0.5	0.5	0.7	2.7
1962	1.6	0.4	0.0	0.7	1.6	4.3
1963	0.8	0.0	0.2	0.2	0.4	1.6
1964	0.3	0.0	0.3	0.0	0.1	0.7
1965	0.1	0.0	0.0	0.9	0.7	1.7
1966	0.8	0.0	0.0	1.0	1.4	3.2
1967	0.0	0.0	1.0	0.4	0.7	2.1
1968	1.8	0.0	0.0	0.0	0.8	2.6
1969	1.4	0.3	0.4	0.9	1.0	4.0
1970	0.0	0.0	0.0	0.3	1.0	1.3
Av.	0.9	0.2	0.2	0.5	0.8	2.6

Meadow-Corn
(For years different from corn-corn)

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.5	0.7	0.3	0.0	0.1	2.6
1958	0.0	0.0	0.0	0.0	0.0	0.0
1959	1.2	0.1	0.3	0.0	0.1	1.7
1961	1.1	0.0	0.5	0.0	0.0	1.6
1962	1.6	0.5	0.1	0.8	0.9	3.9
1965	0.1	0.0	0.5	0.2	0.1	0.8
1970	0.0	0.0	0.0	0.2	0.5	0.7

LE MARS (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.7	1.5	0.3	0.6	0.9	5.0
1958	0.0	0.0	0.1	0.3	1.0	1.4
1959	2.2	0.1	0.1	0.4	0.8	3.6
1960	0.8	0.4	0.7	0.2	0.5	2.6
1961	1.3	0.0	0.6	0.6	0.7	3.2
1962	1.9	1.6	0.0	0.5	1.6	5.6
1963	0.9	0.1	0.0	0.2	0.2	1.4
1964	1.6	0.7	0.1	0.3	0.3	3.0
1965	2.1	1.4	1.3	1.2	0.9	6.9
1966	0.8	0.0	0.0	1.0	1.4	3.2
1967	0.0	0.0	0.1	0.4	0.7	1.2
1968	1.8	1.4	0.3	0.5	0.4	4.4
1969	1.6	0.8	0.2	0.9	1.5	5.0
1970	1.0	0.5	0.2	0.3	0.0	2.0
Av.	1.3	0.6	0.3	0.5	0.8	3.5

Meadow-Corn
(For years different from corn-corn)

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.7	1.5	0.4	0.0	0.1	3.7
1958	0.0	0.0	0.0	0.0	0.0	0.0
1959	2.1	0.2	0.2	0.0	0.0	2.5
1961	1.3	0.0	0.3	0.0	0.0	1.6
1962	1.9	0.9	0.8	0.9	0.9	5.4
1965	1.7	1.4	1.3	1.2	0.4	6.0

LE MARS (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	2.0	1.5	0.8	0.6	0.9	5.8
1958	0.0	0.0	0.0	0.4	1.0	1.4
1959	2.2	1.2	0.4	0.4	0.8	5.0
1960	1.2	0.4	0.7	0.2	0.5	3.0
1961	1.					

SUTHERLAND-PRIMGHAR (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.4	0.0	0.5	1.1	1.4	3.4
1955	0.0	0.6	0.6	0.4	0.7	2.3
1956	1.3	0.0	0.0	0.0	0.8	2.1
1957	0.8	1.5	1.0	0.0	0.0	3.3
1958	0.7	0.6	0.9	0.5	0.6	3.3
1959	0.0	1.0	0.6	0.4	0.1	2.1
1960	0.0	1.2	1.2	1.9	2.4	6.7
1961	1.6	0.3	1.1	1.6	1.4	6.0
1962	2.2	1.7	2.0	2.1	1.3	9.3
1963	2.0	0.5	0.7	0.6	0.6	4.4
1964	1.1	0.0	0.0	0.1	0.0	1.2
1965	0.0	0.5	1.3	0.9	0.5	3.2
1966	1.2	0.0	1.0	1.7	1.8	5.7
1967	0.0	0.0	0.8	0.7	0.4	1.9
1968	0.0	0.0	0.0	0.0	0.0	0.0
1969	2.0	1.7	1.6	2.4	2.4	9.7*
1970	0.0	0.2	0.2	1.1	1.8	3.3
Av.	0.8	0.6	0.8	0.9	0.9	4.0

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1961	2.6	0.6	1.0	2.0	1.5	6.7
1965	0.0	0.3	1.1	1.9	1.1	4.4
1966	1.2	0.2	0.7	0.7	0.4	3.2
1967	0.0	0.0	1.4	0.2	0.0	1.6
1970	0.0	0.4	0.1	0.1	0.1	0.7

SUTHERLAND-PRIMGHAR (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.5	1.1	0.1	0.6	1.3	4.6
1955	0.0	0.1	0.5	0.3	0.6	1.5
1956	0.7	0.0	0.0	0.0	0.8	1.5
1957	2.4	1.4	0.6	0.0	0.0	4.4
1958	0.0	0.3	0.2	0.4	0.4	1.3
1959	1.5	0.7	0.4	0.4	0.0	3.0
1960	1.7	0.2	0.6	1.4	2.4	6.3
1961	0.8	0.0	0.6	1.2	1.4	4.0
1962	2.4	1.7	1.2	1.6	1.0	7.9
1963	1.3	0.4	0.4	0.5	0.5	3.1
1964	1.4	0.0	0.0	0.0	0.2	1.6
1965	1.2	0.0	0.4	1.1	0.4	2.1
1966	1.2	0.0	0.2	1.2	1.8	4.4
1967	0.0	0.0	0.6	0.6	0.2	1.4
1968	1.7	0.0	0.0	0.0	0.0	1.7
1969	2.0	1.2	1.2	1.5	2.1	8.0
1970	0.0	0.0	0.0	0.9	1.2	2.1
Av.	1.2	0.4	0.5	0.6	0.8	3.5

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1961	0.8	0.0	0.4	1.6	1.5	4.3
1965	0.4	0.0	0.4	1.3	1.2	3.3
1966	1.3	0.0	0.3	0.4	0.4	2.4
1967	0.0	0.0	1.0	0.1	0.0	1.1
1970	0.0	0.3	0.1	0.0	0.0	0.4

SUTHERLAND-PRIMGHAR (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.5	0.4	0.0	0.4	1.3	3.6
1955	1.0	0.0	0.4	0.2	0.5	2.1
1956	0.5	0.0	0.0	0.0	0.7	1.2
1957	2.0	2.3	1.4	0.0	0.0	5.6
1958	0.0	0.1	0.1	0.3	0.3	0.8
1959	2.5	2.3	0.6	0.4	0.0	5.8
1960	2.2	0.9	0.3	1.2	2.4	7.0
1961	2.5	0.5	0.3	1.0	1.3	5.6
1962	2.2	2.0	1.1	1.4	0.7	7.4
1963	1.3	0.3	0.3	0.3	0.5	2.7
1964	2.2	2.3	0.7	0.0	0.2	5.4
1965	2.5	2.3	2.3	2.4	0.6	10.1
1966	0.2	0.0	0.1	0.6	0.6	1.5
1967	0.0	0.0	0.4	0.5	0.0	0.9
1968	2.0	2.0	0.5	0.5	0.5	5.5
1969	2.1	0.9	1.3	2.0	2.1	8.4
1970	2.0	1.0	0.0	0.6	0.8	4.4
Av.	1.5	1.0	0.6	0.7	0.7	4.5

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1961	2.5	0.5	0.2	1.4	1.5	6.1
1965	2.5	2.3	2.3	2.4	1.2	10.7
1966	0.7	0.0	0.2	0.3	0.3	1.5
1967	0.0	0.1	0.5	0.0	0.0	0.6
1970	1.6	0.5	0.3	0.0	0.0	2.4

SUTHERLAND-PRIMGHAR (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.9	0.4	0.0	0.4	1.3	4.0
1955	0.5	0.0	0.5	0.2	0.5	1.6
1956	0.9	0.0	0.0	0.0	0.7	1.6
1957	2.5	2.0	1.6	0.7	0.1	6.9
1958	0.0	0.0	0.0	0.2	0.2	0.4
1959	2.5	2.3	2.3	1.0	0.5	8.6
1960	2.3	0.9	0.3	1.2	2.4	7.1
1961	1.8	1.5	1.1	1.4	0.4	6.2
1962	1.8	1.6	1.5	1.1	0.7	6.7
1963	1.8	0.4	0.3	0.6	0.6	3.7
1964	1.8	1.3	0.9	0.6	0.2	4.8
1965	1.9	2.3	2.3	2.4	0.6	9.5
1966	1.0	0.0	0.1	0.6	0.9	2.6
1967	0.4	0.0	0.0	0.0	0.0	0.4
1968	2.1	1.9	1.6	1.5	0.7	7.8
1969	2.0	1.3	1.3	2.0	2.1	8.2
1970	2.0	1.8	1.8	1.1	0.7	7.4
Av.	1.6	1.0	0.9	0.9	0.7	5.1

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1961	2.0	1.4	0.2	1.4	1.5	6.5
1965	1.9	2.3	2.3	2.4	1.2	10.1
1966	1.5	0.0	0.2	0.3	0.3	2.3
1967	0.4	0.0	0.0	0.0	0.0	0.4
1970	1.9	1.8	1.7	0.5	0.0	5.9

Estherville

ESTHERVILLE (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.2	0.9	0.7	1.1	1.4	5.3
1958	1.7	1.3	0.5	0.6	0.7	4.8
1959	0.6	0.0	0.0	0.4	1.0	2.0
1960	2.0	1.7	1.3	1.2	1.3	7.5
1961	2.3	1.7	1.7	1.1	1.0	7.8
1962	2.5	2.1	1.2	1.1	1.7	8.6
1963	1.5	1.5	1.5	1.4	1.7	7.6
1964	Too wet to sample					
1965	No sample					
1966	2.1	2.3	2.1	1.9	2.0	10.4
1967	2.4	1.9	1.1	1.1	1.3	7.8
1968	0.8	0.8	0.3	0.4	0.6	2.9
1969	2.4	1.7	1.7	1.7	1.8	9.3*
1970	1.8	2.0	1.5	1.3	1.6	8.2
Av.	1.8	1.5	1.1	1.1	1.3	6.8

ESTHERVILLE (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.0	0.9	0.7	1.1	1.4	5.2
1958	0.9	1.3	0.5	0.6	0.7	4.0
1959	0.4	0.0	0.0	0.4	1.0	1.8
1960	2.2	1.7	1.4	1.2	1.3	7.9
1961	1.2	1.7	1.7	1.1	1.0	6.7
1962	1.3	2.1	1.2	1.1	1.7	7.4
1963	1.2	1.5	1.5	1.4	1.7	7.3
1964	Too wet to sample					
1965	No sample					
1966	1.4	2.3	2.1	1.9	2.0	9.7
1967	1.4	1.9	1.1	1.1	1.3	6.8
1968	1.5	0.8	0.3	0.4	0.6	3.6
1969	1.5	1.7	1.7	1.7	1.8	8.4
1970	2.1	2.0	1.5	1.3	1.6	8.5
Av.	1.3	1.5	1.1	1.1	1.3	6.3

ESTHERVILLE (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	2.2	1.7	1.3	1.1	1.4	7.7
1958	2.3	1.7	1.7	1.7	1.8	9.2*
1959	2.3	1.7	1.7	1.0	1.0	7.7
1960	1.8	1.7	1.7	1.7	1.8	8.7*
1961	1.3	1.7	1.7	1.7	1.1	7.5
1962	1.8	2.1	1.2	1.1	1.7	7.9
1963	2.0	1.7	1.5	1.4	1.7	8.3
1964	Too wet to sample					
1965	No sample					
1966	1.5	1.7	1.7	1.7	1.8	8.4*
1967	1.7	1.9	1.1	1.1	1.3	7.1
1968	1.4	0.8	0.3	0.4	0.6	3.5
1969	1.6	1.7	1.7	1.7	1.8	8.5*
1970	2.2	1.7	1.7	1.5	1.6	8.7
Av.	1.8	1.7	1.4	1.3	1.5	7.7

ESTHERVILLE (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.9	1.5	1.5	1.7	1.8	8.4
1958	1.5	0.8	1.4	1.7	1.8	7.2
1959	1.6	0.8	1.5	1.0	1.0	5.9
1960	1.8	1.5	1.5	1.7	1.8	8.3*
1961	1.3	1.0	1.4	1.7	1.4	6.8
1962	2.2	1.6	1.6	1.7	1.8	8.9*
1963	1.7	0.7	1.3	1.6	1.7	7.0
1964	Too wet to sample					
1965	No sample					
1966	1.5	0.9	1.5	1.7	1.8	7.4
1967	2.3	1.5	1.6	1.7	1.8	8.9*
1968	2.1	1.6	1.0	0.4	0.6	5.7
1969	2.2	1.6	1.6	1.7	1.8	8.9*
1970	0.9	0.9	1.2	1.5	1.6	6.1
Av.	1.7	1.2	1.4	1.5	1.6	7.4

ESTHERVILLE (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.2	1.0	1.0	1.0	1.2	5.4
1958	0.0	0.0	0.2	0.7	1.6	1.5
1959	0.0	0.0	0.5	0.4	0.8	1.7
1960	0.0	0.5	0.5	1.2	1.8	4.0
1961	0.3	0.0	0.6	1.3	1.4	3.6
1962	1.8	1.4	1.4	1.5	1.8	7.9*
1963	2.1	1.9	1.9	1.8	1.8	9.5
1964	Too wet to sample					
1965	No sample					
1966	1.1	0.0	0.4			

STORM LAKE-NEWELL (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	2.2	1.1	1.8	1.7	0.3	7.1
1960	2.2	1.7	1.9	2.0	2.0	9.8
1961	1.6	1.3	1.9	2.0	1.8	8.6
1962	1.1	1.2	1.7	2.0	2.0	8.0*
1963	1.0	1.1	1.5	2.0	2.0	7.6*
1964	1.4	1.7	1.7	0.6	0.7	6.1
1965	0.4	1.2	1.8	2.0	1.8	7.2
1966	0.2	1.2	1.2	1.2	1.5	5.3
1967	1.7	1.8	1.9	2.0	2.0	9.4*
1968	1.9	1.6	0.4	0.4	1.0	5.3
1969	1.8	1.8	1.9	2.0	2.0	9.5*
1970	0.1	0.9	1.4	1.4	1.8	5.6
Av.	1.3	1.4	1.6	1.6	1.5	7.4

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1965	0.4	1.2	1.1	0.0	0.0	2.7
1967	1.7	1.8	1.9	2.0	0.2	7.6
1968	1.9	1.3	0.1	0.0	0.0	3.3
1969	1.8	1.8	1.8	0.4	1.1	6.9
1970	0.3	0.3	0.4	0.6	0.6	2.2

STORM LAKE-NEWELL (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	0.0	0.0	0.9	1.2	0.3	2.4
1960	1.1	1.5	1.1	1.6	2.0	7.3
1961	2.2	0.5	1.0	1.6	1.8	7.1
1962	2.0	1.9	1.1	1.5	2.0	8.5
1963	0.3	0.2	0.8	1.5	2.0	4.8
1964	1.0	1.2	0.9	0.2	0.7	4.0
1965	0.0	0.0	1.0	1.5	1.8	4.3
1966	0.0	0.0	0.4	0.6	1.3	2.3
1967	0.0	0.7	1.0	1.6	2.0	5.3
1968	1.2	0.7	0.0	0.1	1.0	3.0
1969	1.8	1.9	1.8	1.4	1.5	8.4
1970	0.0	0.0	0.7	0.7	1.6	3.0
Av.	0.8	0.7	0.9	1.0	1.5	4.9

Meadow-Corn
(For years different from corn-corn)

Year	0-1	0-4	0.5	0.0	0.0	2.9
1967	0.0	0.8	1.0	1.6	0.2	3.6
1968	1.0	0.4	0.0	0.0	0.0	1.4
1969	1.8	1.9	1.8	0.1	1.1	6.7
1970	0.0	0.0	0.2	0.4	0.5	1.1

STORM LAKE-NEWELL (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	0.1	0.0	0.5	0.9	0.2	1.7
1960	1.9	1.5	0.4	1.1	2.0	6.9
1961	1.0	0.0	0.3	1.2	1.8	4.3
1962	2.1	2.0	2.0	1.6	2.0	9.7
1963	0.6	0.3	0.6	1.0	1.3	3.8
1964	1.2	0.8	0.5	0.1	0.6	3.2
1965	1.4	0.0	0.1	0.7	1.6	3.8
1966	1.2	0.0	0.1	0.3	1.0	2.6
1967	0.0	0.0	0.3	1.1	2.0	3.4
1968	2.2	0.4	0.0	0.0	0.8	3.4
1969	0.8	1.2	1.0	1.1	0.9	5.0
1970	0.0	0.0	0.4	0.4	1.2	2.0
Av.	1.0	0.5	0.5	0.8	1.3	4.1

Meadow-Corn
(For years different from corn-corn)

Year	0-1	0.1	0.4	0.0	0.0	1.9
1967	0.0	0.2	0.5	1.2	0.2	2.1
1968	2.2	0.3	0.0	0.0	0.0	2.5
1969	0.5	1.4	1.0	0.0	1.1	4.1
1970	0.0	0.0	0.2	0.1	0.1	0.4

STORM LAKE-NEWELL (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	1.9	0.0	0.4	0.8	0.2	3.2
1960	2.0	2.0	0.9	0.9	2.0	7.8
1961	2.2	0.5	0.8	0.8	1.1	5.3
1962	2.1	1.9	1.9	1.5	2.0	9.4
1963	1.1	0.3	0.4	0.7	1.0	3.6
1964	1.7	1.2	0.5	0.5	0.6	4.5
1965	2.2	2.0	2.0	2.0	2.0	10.2*
1966	0.3	0.0	0.1	0.2	0.9	1.5
1967	0.9	0.4	0.4	0.6	1.0	3.3
1968	2.1	1.4	1.0	0.0	0.8	5.3
1969	1.4	0.9	1.0	1.1	0.9	5.3
1970	1.9	0.0	0.4	0.4	1.1	3.8
Av.	1.7	0.9	0.8	0.8	1.1	5.3

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1.5	1.7	0.9	1.1	7.3
1967	0.9	0.1	0.2	0.6	0.6	2.4
1968	2.1	1.0	0.9	1.0	0.0	5.0
1969	1.0	1.0	0.7	0.0	1.1	3.8
1970	0.2	0.2	0.0	0.0	0.0	0.4

STORM LAKE-NEWELL (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	2.2	1.1	0.4	0.8	0.1	4.6
1960	1.6	2.0	0.9	1.4	1.5	7.4
1961	2.0	1.2	0.8	0.8	1.1	5.9
1962	1.5	2.0	2.0	2.0	2.0	9.5*
1963	1.4	0.3	0.4	0.7	1.0	3.9
1964	1.1	1.2	0.5	0.5	0.6	3.9
1965	1.5	2.0	2.0	2.0	2.0	9.5
1966	0.6	0.0	0.1	0.2	0.9	1.8
1967	0.9	0.4	0.4	0.6	1.0	3.3
1968	1.8	1.1	1.3	1.1	1.1	6.4
1969	2.2	0.9	1.0	1.1	0.9	6.1
1970	1.8	1.8	1.6	0.9	1.1	7.2
Av.	1.6	1.2	0.9	1.0	1.1	5.8

Meadow-Corn
(For years different from corn-corn)

Year	1.5	1.5	1.7	0.9	1.1	6.7
1967	1.2	0.1	0.2	0.6	0.6	2.7
1968	1.8	1.1	1.3	1.1	1.1	6.4
1969	2.2	2.0	0.7	0.0	1.1	6.0
1970	1.2	1.2	0.1	0.0	0.0	2.5

NORTH-CENTRAL IOWA

Kanawha

KANAWHA (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.1	1.3	0.7	1.0	1.0	5.1
1955	1.1	1.7	1.1	1.4	1.2	6.5
1956	0.5	1.5	0.9	1.0	1.1	5.0
1957	0.9	1.7	0.2	0.7	1.1	4.6
1958	1.6	1.8	0.4	0.5	0.5	4.8
1959	1.1	1.6	0.7	0.8	0.9	5.1
1960	1.7	1.5	1.0	1.0	0.6	5.8
1961	2.1	1.9	1.7	1.4	2.0	8.8
1962	2.1	1.9	1.7	1.8	2.1	9.6
1963	1.4	1.6	1.4	1.6	1.8	7.8
1964	2.2	2.0	2.0	1.8	1.8	9.8*
1965	2.2	2.1	1.8	2.0	2.2	10.3*
1966	2.3	2.0	2.0	1.8	1.8	9.9*
1967	1.6	1.3	1.2	1.1	1.1	6.3
1968	2.1	1.6	0.9	0.6	1.0	6.2
1969	2.5	2.0	2.0	1.8	1.8	10.1*
1970	2.5	2.3	1.7	1.8	1.6	9.9
Av.	1.7	1.6	1.2	1.3	1.4	7.5

Meadow-Corn
(For years different from corn-corn)

Year	1.0	0.9	0.4	0.6	0.8	3.7
1957	0.6	1.3	0.8	0.3	0.4	3.4
1960	2.4	2.0	1.7	0.7	0.6	7.4
1961	2.0	2.0	1.2	0.8	0.9	6.9

KANAWHA (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.9	1.3	0.7	1.0	1.0	5.9
1955	1.3	1.7	1.1	1.4	1.2	6.7
1956	1.0	1.5	0.9	1.0	1.1	5.5
1957	1.0	1.7	0.2	0.7	1.1	4.7
1958	1.3	1.8	0.4	0.5	0.5	4.5
1959	0.7	1.6	0.7	0.8	0.9	4.7
1960	2.0	1.5	1.0	1.0	0.6	6.1
1961	1.5	1.8	1.5	1.4	2.0	8.2
1962	1.4	1.9	1.7	1.8	2.1	8.9
1963	2.4	2.0	1.4	1.6	1.8	9.2
1964	2.5	2.0	2.0	1.8	1.8	10.1*
1965	2.2	2.1	1.8	2.0	2.2	10.3
1966	1.6	2.0	2.0	1.8	1.8	9.2
1967	1.0	1.3	1.2	1.1	1.1	5.7
1968	1.8	2.0	2.0	1.0	1.0	7.8
1969	1.8	2.0	2.0	1.8	1.8	9.4
1970	1.7	2.3	1.7	1.8	1.6	9.1
Av.	1.6	1.8	1.3	1.3	1.4	7.4

Meadow-Corn
(For years different from corn-corn)

Year	1.7	0.9	0.4	0.6	0.8	4.4
1957	0.7	1.3	0.8	0.3	0.4	3.5
1960	2.3	2.0	2.0	0.8	0.6	7.7
1961	1.4	2.0	1.2	0.8	0.9	6.3

KANAWHA (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.5	1.4	0.7	1.0	1.0	6.6
1955	0.8	1.7	1.1	1.4	1.2	6.2
1956	2.3	1.6	0.9	1.0	1.1	6.9
1957	2.3	2.0	0.6	0.7	1.1	6.7
1958	2.5	2.0	0.4	0.5	0.5	5.9
1959	2.4	2.0	1.6	0.8	0.9	7.7
1960	2.0	2.0	1.8	1.0	0.6	7.4
1961	1.5	1.8	1.5	1.4	2.0	8.2
1962	2.3	2.0	2.0	1.8	1.8	9.9*
1963	1.8	2.0	2.0	1.8	1.8	9.4*
1964	1.2	2.0	2.0	1.8	1.8	8.8*
1965	2.3	2.0	2.0	1.8	1.8	9.9*
1966	1.7	2.0	2.0	1.8	1.8	9.3*
1967	1.6	1.3	1.2	1.1	1.1	6.3
1968	1.6	2.0	2.0	1.0	1.0	7.6
1969	2.3	2.0	2.0	1.8	1.8	9.9*
1970	2.4	2.0	2.0	2.0	2.0	10.4*
Av.	2.0	1.9	1.5	1.3	1.4	8.0

Meadow-Corn
(For years different from corn-corn)

Year	2.4	0.9	0.4	0.5	0.8	5.1
1957	2.3	1.7	0.8	0.3	0.4	5.5
1960	2.0	2.0	2.0	1.8	1.2	9.0
1961	1.4	2.0	1.2	0.8	0.9	6.3

KANAWHA (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	

KANAWHA (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.4	2.0	2.0	0.4	1.7	8.5
1955	2.0	0.1	0.0	0.4	0.9	3.4
1956	1.5	0.0	0.0	0.2	0.6	2.3
1957	2.4	1.6	0.3	0.5	0.9	5.7
1958	0.0	0.5	0.4	0.5	0.5	1.9
1959	2.5	2.0	0.8	0.1	0.6	6.0
1960	1.8	0.0	0.1	0.1	1.1	3.1
1961	2.5	2.0	1.0	0.4	1.8	7.7
1962	1.8	2.0	2.0	1.8	1.8	9.4*
1963	0.8	1.0	0.9	1.2	1.7	5.6
1964	1.6	2.0	1.5	1.0	1.8	7.9
1965	1.8	2.0	2.0	1.8	1.8	9.4
1966	0.4	0.0	0.1	0.5	1.5	2.5
1967	1.1	0.3	0.4	0.5	1.5	3.8
1968	3.0	2.5	2.3	2.3	2.7	12.8*
1969	2.5	2.0	1.8	1.8	2.0	10.1
1970	2.9	2.5	2.1	2.2	2.2	11.9*
Av.	1.9	1.3	1.0	0.9	1.5	6.6

Meadow-Corn
(For years different from corn-corn)

1954	2.4	2.0	2.0	0.6	0.9	7.9
1957	1.3	0.5	0.0	0.8	0.3	2.9
1960	1.8	0.8	0.0	0.5	1.1	4.2
1961	2.3	2.0	1.0	0.5	1.3	7.1

Blairsburg

BLAIRSBURG (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	1.0	1.8	1.1	0.6	0.9	5.4
1960	2.0	2.0	1.5	1.4	1.6	8.5
1961	2.2	1.9	1.8	2.2	1.7	9.8
1962	2.3	1.6	2.0	1.7	2.0	9.6
1963	1.0	1.5	1.2	0.8	1.2	5.7
1964	1.8	1.6	0.9	0.8	1.2	6.3
1965	No sample until May 1					
1966	1.6	2.0	1.5	2.2	2.5	9.8
1967	1.8	1.3	0.3	0.6	0.8	4.8
1968	1.9	1.3	0.3	0.5	0.8	4.8
1969	2.3	2.0	2.0	1.5	1.5	9.3
1970	2.8	1.5	1.3	0.9	1.0	7.5
Av.	1.9	1.7	1.3	1.2	1.4	7.5

BLAIRSBURG (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	0.8	1.8	1.1	0.6	0.9	5.2
1960	2.3	2.0	1.8	1.6	1.9	9.6
1961	1.4	1.8	1.8	2.2	1.7	8.9
1962	1.6	1.6	2.0	1.7	2.0	8.9
1963	2.2	2.0	2.0	0.8	1.2	8.2
1964	2.4	2.0	1.3	0.8	1.2	7.7
1965	2.7	2.4	2.4	2.1	1.7	11.3*
1966	1.1	2.0	1.5	2.2	2.0	8.8
1967	1.3	1.3	0.3	0.6	0.8	4.3
1968	1.6	2.0	0.7	0.5	0.8	5.6
1969	1.9	2.0	2.0	2.0	1.9	9.8
1970	1.6	1.5	1.3	0.9	1.0	6.3
Av.	1.7	1.9	1.5	1.3	1.4	7.8

BLAIRSBURG (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	2.3	2.0	2.0	0.6	0.9	7.8
1960	1.8	2.0	2.0	2.0	2.0	9.8*
1961	1.4	1.8	1.8	2.2	1.7	8.9
1962	2.1	2.0	2.0	2.0	2.0	10.1*
1963	2.0	2.0	2.0	2.0	1.3	9.3
1964	1.8	2.0	2.0	2.0	1.3	9.1
1965	2.1	2.0	2.0	2.0	2.0	10.1*
1966	1.6	2.0	1.9	2.0	2.0	9.5
1967	1.5	1.3	0.3	0.6	0.8	4.5
1968	1.5	2.0	0.7	0.5	0.8	5.5
1969	1.6	2.0	2.0	2.0	2.0	9.6*
1970	2.4	2.0	2.0	1.0	1.0	8.4
Av.	1.8	1.9	1.7	1.6	1.5	8.5

BLAIRSBURG (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	2.3	1.1	1.7	0.7	0.9	6.7
1960	2.0	1.6	2.0	2.0	2.0	9.6
1961	0.8	1.3	1.9	2.0	2.0	8.0*
1962	1.4	1.2	1.8	2.0	2.0	8.4
1963	0.6	1.2	1.7	2.0	2.0	7.5
1964	1.6	1.3	1.7	2.0	1.3	7.9
1965	2.0	1.3	1.9	2.0	2.0	9.2*
1966	2.1	1.5	1.7	2.0	2.0	9.3*
1967	2.0	1.8	1.9	2.0	1.3	9.0
1968	2.2	1.8	0.7	0.5	0.8	6.0
1969	2.2	1.9	1.9	2.0	2.0	10.0
1970	1.1	1.2	1.6	1.0	1.0	5.9
Av.	1.7	1.4	1.7	1.7	1.6	8.1

BLAIRSBURG (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	0.0	0.2	1.1	0.2	0.9	2.4
1960	0.2	0.4	0.7	1.1	1.3	3.7
1961	2.3	1.4	1.2	1.3	1.7	7.9
1962	1.6	1.1	1.1	1.3	2.0	7.1*
1963	0.7	0.6	0.8	1.6	1.7	5.4
1964	1.9	1.1	1.1	1.1	1.5	6.7
1965	0.8	0.4	1.0	1.6	2.0	5.8
1966	0.2	0.6	0.8	1.5	1.5	4.6
1967	0.7	0.9	1.0	1.6	1.3	5.5
1968	1.7	1.8	0.7	0.1	0.8	5.1
1969	2.0	1.8	1.6	1.5	2.0	8.9
1970	0.8	0.3	0.9	0.6	0.8	3.4
Av.	1.1	0.9	1.0	1.1	1.5	5.6

BLAIRSBURG (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	2.4	0.4	0.7	0.0	0.8	4.3
1960	2.1	0.4	0.4	0.4	0.8	4.1
1961	0.9	1.3	1.3	1.4	2.0	6.9
1962	0.6	1.0	1.0	1.0	1.8	5.4
1963	0.8	0.4	0.3	0.8	1.5	3.8
1964	2.2	0.6	1.0	1.0	1.5	6.3
1965	1.4	0.0	0.3	1.0	2.0	4.7
1966	0.3	0.0	0.2	0.8	0.8	2.1
1967	0.0	0.6	0.5	0.5	1.3	2.9
1968	1.7	1.1	0.4	0.0	0.8	4.0
1969	2.2	1.6	0.9	1.1	2.0	7.8
1970	0.4	0.1	0.5	0.4	0.8	2.2
Av.	1.2	0.6	0.6	0.7	1.3	4.4

BLAIRSBURG (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	2.4	1.3	0.7	0.3	0.8	5.5
1960	2.2	0.7	0.2	0.4	0.8	4.3
1961	2.4	2.0	1.1	1.3	2.0	8.8
1962	1.2	0.7	0.7	0.7	1.8	5.1
1963	1.4	1.0	0.3	0.6	1.3	4.6
1964	1.9	1.0	1.2	1.3	1.5	6.9
1965	2.4	2.0	2.0	2.0	2.0	10.4*
1966	0.2	0.2	0.1	0.6	0.7	1.8
1967	1.9	1.2	0.5	0.3	1.2	5.1
1968	2.3	1.6	0.1	0.5	0.8	5.3
1969	1.9	1.3	0.5	0.9	2.0	6.6
1970	1.4	1.3	0.9	0.9	0.9	5.4
Av.	1.8	1.2	0.7	0.8	1.3	5.8

BLAIRSBURG (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1959	2.3	1.8	1.4	1.4	1.4	8.3
1960	2.0	0.7	0.2	0.4	0.8	4.1
1961	2.7	2.2	1.8	1.8	2.1	10.6
1962	1.7	1.0	0.7	0.7	1.8	5.9
1963	1.4	1.6	0.3	0.6	1.3	5.2
1964	1.6	1.6	1.2	1.3	1.5	7.2
1965	2.0	2.0	2.0	2.0	2.0	10.0
1966	0.5	0.2	0.1	0.6	0.7	2.1
1967	2.1	1.4	0.5	0.3	1.2	5.5
1968	2.3	1.8	1.5	1.3	1.3	8.2
1969	2.1	2.0	1.6	0.9	2.0	8.6
1970	2.1	2.0	1.8	1.1	1.1	8.1
Av.	1.9	1.5	1.1	1.0	1.4	6.9

NORTHEASTERN IOWA

Elkader

ELKADER (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	1.8	0.8	0.4	0.8	1.1	4.9
1957	2.0	1.6	0.4	0.6	0.6	5.2
1958	1.5	2.2	1.2	1.0	1.3	7.2
1959	1.6	1.3	0.6	0.8	1.1	5.4
1960	1.5	1.5	1.9	2.1	2.1	9.1
1961	2.3	2.2	2.2	2.4	2.4	11.5*
1962	2.2	2.3	2.1	2.3	2.7	11.6*
1963	2.0	2.0	1.9	1.8	2.2	9.9
1964	2.1	2.0	2.2	1.1	1.5	8.9
1965	2.0	1.9	0.5	0.0	0.0	4.4
1966	2.0	1.7	1.9	2.0	1.8	9.4
1967	2.3	1.0	0.5	0.8	1.2	5.8
1968	2.0	1.9	1.7	1.0	1.0	7.6
1969	2.4	2.3	2.0	2.2	2.3	11.2*
1970	2.1	1.7	1.1	1.5	1.9	8.3
Av.	2.0	1.8	1.4	1.4	1.5	8.1

Meadow-Corn
(For years different from corn-corn)

1956	1.5	0.6	0.4	0.6	0.6	3.7
1958	1.5	2.0	0.1	0.5	0.8	4.9
1964	0.5	0.9	0.3	0.2	0.2	2.1

ELKADER (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	2.4	1.8	0.4	0.8	1.1	6.5
1957	1.8	1.7	0.4	0.6	0.6	5.1
1958	1.2	2.2	1.2	1.0	1.3	6.9
1959	1.1	1.3	0.6	0.8	1.1	4.9
1960	2.3	2.2	2.2	2.4	2.4	11.5*
1961	1.8	2.2	2.2	2.4	2.4	11.0*
1962	2.2	2.2	2.2	2.4	2.4	11.4*
1963	2.2	2.2	2.2	1.8	2.2	10.6
1964	2.2	2.2	2.2	1.3	1.5	9.4
1965	2.1	2.2	0.5	0.0	0.0	4.8
1966	2.3	2.2	2.2	2.4	2.4	11

ELKADER (Corn-Corn)
Inches plant-available water Oct. 1 by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	1.9	1.4	0.0	0.0	0.9	4.2
1957	2.0	2.1	1.0	1.2	1.1	7.4
1958	2.2	1.8	0.7	0.2	1.3	6.2
1959	2.2	2.2	2.0	1.2	1.2	8.8
1960	2.2	2.2	1.6	1.6	1.9	9.5
1961	2.4	2.2	2.2	2.0	2.4	11.2
1962	2.4	2.2	2.2	2.4	2.4	11.6
1963	2.0	1.0	0.0	0.6	2.2	5.8
1964	2.0	0.8	0.0	0.3	2.1	5.2
1965	2.1	2.2	2.2	1.2	0.3	8.0
1966	0.6	0.0	0.5	0.9	1.5	3.5
1967	2.2	1.7	0.3	0.0	0.9	5.1
1968	2.4	1.6	1.9	1.9	1.2	9.0
1969	1.3	1.0	0.6	1.1	1.7	5.7
1970	2.1	1.7	1.9	1.7	1.7	9.1
Av.	2.0	1.5	1.1	1.1	1.5	7.2

Meadow-Corn
(For years different from corn-corn)

1956	1.8	1.4	0.0	0.0	0.4	3.6
1958	1.6	0.5	0.5	0.5	0.8	3.9
1964	1.9	0.9	0.1	0.0	0.1	3.0

INDEPENDENCE (Corn-Corn)
Inches plant-available water May 1 by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.5	2.2	0.9	0.3	0.8	6.7
1955	1.9	2.2	1.8	1.2	1.0	8.1
1956	2.3	2.2	1.4	0.8	0.9	7.6
1957	1.2	1.6	0.0	0.1	0.3	3.2
1958	1.2	2.2	1.1	0.5	0.8	5.8
1959	1.9	1.4	0.4	0.5	0.4	4.6
1960	2.5	2.2	1.8	1.6	1.6	9.7*
1961	1.9	2.2	1.8	1.6	1.6	9.1*
1962	2.2	2.2	1.8	1.6	1.6	9.4*
1963	2.4	2.2	1.8	1.5	1.0	8.9
1964	2.4	2.2	1.8	1.6	1.3	9.3
1965	2.2	1.6	1.4	0.9	1.0	7.1
1966	2.3	2.2	1.8	1.6	1.6	9.5*
1967	2.5	2.2	1.2	1.1	1.3	8.3
1968	1.9	2.2	1.8	1.6	1.6	9.1*
1969	2.1	2.2	1.8	1.6	1.6	9.3*
1970	1.4	2.3	1.0	0.6	0.7	6.0
Av.	2.0	2.1	1.4	1.1	1.1	7.7

Meadow-Corn
(For years different from corn-corn)

1955	1.9	2.2	0.6	0.2	0.2	5.1
1959	1.6	1.8	1.1	0.5	0.4	5.4

INDEPENDENCE (Corn-Corn)
Inches plant-available water Aug. 1 by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.0	1.1	0.6	1.1	1.2	4.0
1955	2.2	0.5	0.7	0.8	1.0	5.2
1956	1.3	0.0	0.6	0.9	1.0	3.8
1957	1.3	0.7	0.8	1.2	0.3	4.3
1958	2.4	1.8	0.6	0.8	0.8	6.4
1959	1.2	1.6	1.2	1.1	0.4	5.5
1960	1.6	2.0	1.6	1.3	1.6	8.1
1961	2.5	2.2	1.8	1.6	1.6	9.7*
1962	2.2	2.1	1.7	1.5	1.6	9.1*
1963	0.8	0.8	0.7	1.2	1.6	5.1
1964	0.9	0.3	0.4	0.8	1.0	3.4
1965	0.7	1.2	0.8	0.5	0.8	4.0
1966	1.4	1.7	1.3	1.3	1.6	7.3*
1967	1.5	1.2	0.8	1.2	1.6	6.3
1968	2.0	1.9	1.4	1.2	1.6	8.1
1969	2.1	2.0	1.3	1.2	1.2	7.8*
1970	2.0	0.9	0.5	1.1	1.3	5.8
Av.	1.5	1.3	1.0	1.1	1.2	6.1

Meadow-Corn
(For years different from corn-corn)

1955	2.2	1.0	0.0	0.0	0.1	3.3
1959	1.3	1.6	1.1	1.1	1.2	6.3

INDEPENDENCE (Corn-Corn)
Inches plant-available water Nov. 1 by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.2	2.0	1.0	1.0	1.0	7.2
1955	1.9	1.0	0.1	0.6	0.7	4.3
1956	2.4	1.4	0.1	0.4	0.5	4.8
1957	2.4	2.0	0.2	0.7	0.3	5.6
1958	1.7	1.1	0.6	0.3	0.8	4.5
1959	2.5	2.2	1.8	1.6	0.4	8.5
1960	2.5	2.2	1.8	1.6	1.6	9.7*
1961	2.5	2.2	1.8	1.6	1.6	9.7*
1962	2.3	1.8	1.0	1.4	1.4	7.9
1963	1.8	1.9	1.0	0.4	0.8	5.9
1964	1.1	0.9	0.3	0.3	0.8	3.4
1965	2.6	2.7	2.0	1.4	1.5	10.2*
1966	2.2	0.7	0.5	0.6	1.1	5.1
1967	2.5	2.0	0.8	0.8	1.3	7.4
1968	2.8	2.4	1.8	1.6	1.5	10.1
1969	2.2	0.7	0.3	0.5	0.9	4.6
1970	2.6	2.4	1.8	1.4	1.4	9.6*
Av.	2.2	1.7	1.0	1.0	1.0	6.9

Meadow-Corn
(For years different from corn-corn)

1955	1.9	1.7	0.0	0.0	0.0	3.6
1959	2.5	2.2	1.8	1.6	1.2	9.3

ELKADER (Corn-Corn)
Inches plant-available water Nov. 1 by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	2.4	2.0	0.0	0.0	0.9	5.3
1957	2.2	2.0	1.0	1.2	1.1	7.5
1958	2.3	2.2	0.9	0.2	1.3	6.9
1959	2.6	1.9	1.8	2.1	1.0	10.3
1960	2.2	2.3	1.6	1.8	1.9	9.8
1961	2.2	2.2	2.1	2.5	2.8	11.8*
1962	2.0	2.2	2.2	2.4	2.4	11.2*
1963	1.3	1.0	0.5	0.6	1.7	5.1
1964	1.1	0.8	0.0	0.3	2.1	4.3
1965	2.0	2.2	2.2	1.2	0.6	8.2
1966	0.3	0.0	0.5	0.9	1.3	3.0
1967	2.4	2.0	0.8	0.2	1.2	6.6
1968	2.1	1.6	1.9	2.0	1.6	9.2
1969	2.4	1.2	0.6	1.1	1.7	7.0
1970	2.4	2.2	2.2	2.3	2.3	11.4*
Av.	2.0	1.7	1.2	1.2	1.7	7.8

Meadow-Corn
(For years different from corn-corn)

1956	2.4	2.0	0.0	0.0	0.4	4.8
1958	1.6	0.7	0.5	0.6	1.1	4.5
1964	1.1	0.9	0.1	0.0	0.1	2.2

INDEPENDENCE (Corn-Corn)
Inches plant-available water June 1 by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.5	2.2	1.7	0.3	0.8	7.5
1955	1.4	2.2	1.8	1.2	1.0	7.6
1956	2.3	2.2	1.8	1.6	1.0	8.9
1957	2.3	2.2	1.8	0.5	0.3	7.1
1958	2.5	2.2	1.1	0.5	0.8	7.1
1959	2.4	2.2	1.6	0.5	0.4	7.1
1960	2.2	2.2	1.8	1.6	1.6	9.4*
1961	1.9	2.2	1.8	1.6	1.6	9.1
1962	2.2	2.2	1.8	1.6	1.6	9.4*
1963	1.2	2.2	1.8	1.6	1.6	8.4*
1964	1.7	2.2	1.8	1.6	1.6	8.9*
1965	2.5	2.2	1.8	0.8	0.8	8.1
1966	1.6	2.2	1.8	1.6	1.6	8.8
1967	1.2	2.2	1.3	1.1	1.3	7.1
1968	1.5	2.2	1.8	1.6	1.6	8.7
1969	2.3	2.2	1.8	1.6	1.6	9.5*
1970	2.5	2.2	1.8	1.6	1.1	9.2
Av.	2.0	2.2	1.7	1.2	1.2	8.3

Meadow-Corn
(For years different from corn-corn)

1955	1.4	2.2	0.6	0.2	0.2	4.6
1959	2.4	2.2	1.8	1.1	0.4	7.9

INDEPENDENCE (Corn-Corn)
Inches plant-available water Sept. 1 by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.2	2.1	0.5	0.7	1.2	6.7
1955	0.0	0.2	0.4	0.6	0.8	2.0
1956	2.1	0.0	0.2	0.5	0.8	3.6
1957	2.2	0.1	0.4	0.9	0.3	3.9
1958	2.0	1.8	0.3	0.3	0.8	5.2
1959	1.8	1.0	0.6	0.7	0.4	4.5
1960	2.2	2.1	1.6	1.2	1.6	8.7
1961	1.7	1.6	1.2	1.2	1.6	7.3*
1962	1.7	1.4	1.0	1.1	1.6	6.8
1963	1.6	0.1	0.2	0.7	1.6	4.2
1964	1.7	0.0	0.0	0.5	0.8	3.0
1965	2.3	0.9	0.4	0.2	0.6	4.4
1966	1.0	0.6	0.6	0.7	1.6	4.5
1967	1.1	1.7	0.2	0.7	1.6	5.3
1968	1.1	1.6	1.2	1.0	1.6	6.5
1969	0.0	0.8	0.6	0.6	1.0	3.0
1970	0.4	0.6	0.1	0.7	1.3	3.1
Av.	1.5	1.0	0.6	0.7	1.1	4.9

Meadow-Corn
(For years different from corn-corn)

1955	0.4	0.6	0.0	0.0	0.0	1.0
1959	2.0	0.9	0.5	0.7	1.2	5.3

Independence

INDEPENDENCE (Corn-Corn)
Inches plant-available water April 15 by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.8	0.6	0.1	0.3	0.8	4.6
1955	2.4	2.2	1.4	0.9	1.0	7.9
1956	1.4	2.2	0.6	0.8	0.9	5.9
1957	1.5	1.6	0.0	0.1	0.3	3.5
1958	1.6	2.2	1.1	0.5	0.8	6.2
1959	2.4	1.4	0.4	0.5	0.4	5.1
1960	2.2	2.2	1.9	2.1	2.1	10.5*
1961	2.4	2.2	1.8	1.6	1.6	9.6*
1962	3.0	2.9	1.9	1.6	1.5	10.9*
1963	2.4	2.0	1.0	1.0	1.0	7.4
1964	2.2	2.3	1.5	0.8	1.3	8.1
1965	2.4	1.4	1.4	0.9	1.0	7.1
1966	3.1	2.6	2.1	1.7	1.6	11.1*
1967	2.5	2.0	1.1	1.1	1.3	8.0
1968	2.2	2.2	1.8	1.6	1.5	9.3
1969	4.0	3.2	3.4	2.6	2.6	15.8*
1970	2.0	2.3	1.0	0.6	0.7	6.6
Av.	2.4	2.0	1.3	1.1	1.2	8.0

Meadow-Corn
(For years different from corn-corn)

1955	2.0	2.0	0.5	0.2	0.2	4.9
1959	2.4	1.7	0.8	0.5	0.8	6.2

INDEPENDENCE (Corn-Corn)
Inches plant-available water July 1 by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.1	1.8	1.5	1.6	1.2	8.2
1955	0.0					

CASTANA (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.0	2.0	2.0	2.0	1.0	9.0
1955	1.0	1.6	0.9	0.7	0.6	4.8
1956	1.4	0.1	0.0	0.2	0.4	2.1
1957	1.6	1.2	0.2	0.2	0.2	3.4
1958	1.9	2.0	2.0	2.0	2.0	9.9
1959	1.9	2.0	2.0	2.0	2.0	9.9*
1960	1.2	2.0	2.0	2.0	2.0	9.2*
1961	2.0	2.0	2.0	2.0	2.0	10.0*
1962	1.7	2.0	2.0	2.0	2.0	9.7*
1963	1.0	2.0	2.0	2.0	1.8	8.8
1964	1.4	2.0	2.0	2.0	2.0	9.4*
1965	1.6	2.0	2.0	2.0	0.8	6.4
1966	1.0	1.6	1.2	1.0	1.0	5.8
1967	1.8	0.1	0.1	0.2	0.3	2.5
1968	1.3	0.1	0.0	0.0	0.0	1.4
1969	1.0	2.0	1.8	0.9	0.8	6.5
1970	1.9	2.0	1.8	0.4	0.3	6.4
Av.	1.5	1.6	1.4	1.2	1.1	6.8

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1958	1.9	2.0	2.0	1.6	0.7	8.2
1963	1.0	2.0	1.4	0.8	0.8	6.0
1965	1.6	2.0	1.5	0.0	0.2	5.3
1970	1.9	1.9	0.2	0.0	0.0	4.0

CASTANA (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.2	1.6	1.7	2.0	2.0	8.5
1955	1.6	1.2	0.6	0.7	0.6	4.7
1956	1.5	0.0	0.0	0.1	0.2	1.8
1957	1.9	1.9	0.6	0.2	0.2	4.8
1958	1.1	1.3	1.8	2.0	2.0	8.2
1959	2.0	1.1	1.8	2.0	2.0	8.9
1960	1.9	2.0	2.0	2.0	2.0	9.9*
1961	0.7	1.3	1.9	2.0	2.0	7.9*
1962	0.8	1.3	1.7	2.0	2.0	7.8*
1963	1.4	1.4	1.7	2.0	2.0	8.5*
1964	1.2	1.7	1.8	2.0	2.0	8.7*
1965	1.1	1.3	1.9	2.0	0.9	7.2
1966	1.4	1.6	1.7	2.0	1.5	8.0
1967	1.6	1.9	1.9	2.0	2.0	9.4*
1968	1.7	1.4	0.0	0.0	0.0	3.1
1969	1.8	1.9	1.9	2.0	0.9	8.5
1970	0.5	1.1	1.3	0.4	0.3	3.6
Av.	1.4	1.4	1.4	1.5	1.3	7.0

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1958	1.1	1.4	1.7	2.0	1.0	7.2
1963	1.4	1.4	1.7	2.0	1.9	8.4
1965	1.1	1.3	1.9	1.2	0.2	5.7
1970	0.4	1.0	0.0	0.0	0.0	1.4

CASTANA (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.8	0.0	0.5	1.2	2.0	4.5
1955	0.0	0.0	0.2	0.3	0.3	0.8
1956	1.1	0.4	0.0	0.0	0.1	1.6
1957	1.2	1.8	0.7	0.0	0.2	3.9
1958	1.0	1.1	1.9	1.8	2.0	7.8
1959	0.3	0.0	0.6	1.1	2.0	4.0
1960	0.2	1.6	1.1	1.6	2.0	6.5
1961	2.0	0.2	0.7	0.8	1.8	5.5
1962	1.7	1.6	0.7	1.5	2.0	7.5
1963	1.1	1.0	0.6	1.5	2.0	6.2
1964	0.7	0.8	0.7	1.4	2.0	5.6
1965	1.0	0.7	1.0	1.6	0.9	5.2
1966	0.3	0.6	0.9	1.6	1.5	4.9
1967	0.1	0.4	1.0	1.5	2.0	5.0
1968	1.1	0.6	0.0	0.0	0.0	1.7
1969	0.9	1.4	1.4	1.2	0.6	5.5
1970	0.3	0.2	0.8	0.1	0.2	1.6
Av.	0.8	0.7	0.8	1.0	1.3	4.6

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1958	1.0	1.0	1.9	1.8	1.5	7.2
1963	1.1	1.0	0.7	1.5	1.9	6.2
1965	0.9	0.7	1.1	0.8	0.2	3.7
1970	0.3	0.4	0.0	0.0	0.0	0.7

CASTANA (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.3	0.9	0.3	0.5	0.7	3.7
1955	0.3	0.1	0.0	0.2	0.2	0.8
1956	0.3	0.0	0.0	0.0	0.1	0.4
1957	1.9	1.3	0.4	0.0	0.2	3.8
1958	0.4	0.0	1.2	1.2	2.0	4.8
1959	1.3	0.0	0.1	0.7	1.8	3.9
1960	1.5	0.7	0.4	1.1	2.0	5.7
1961	0.9	0.1	0.2	0.6	1.8	3.6
1962	1.9	2.0	0.4	1.0	2.0	7.3
1963	2.0	1.4	0.1	1.0	2.0	6.5
1964	1.7	0.2	0.1	1.0	1.0	4.0
1965	0.3	0.0	0.5	1.2	0.9	2.9
1966	0.0	0.1	0.4	1.2	1.5	3.2
1967	0.4	0.0	0.2	0.7	1.0	2.3
1968	1.9	0.3	0.0	0.0	0.0	2.2
1969	1.7	1.0	0.4	0.6	0.4	4.1
1970	0.0	0.0	0.7	0.1	0.1	0.9
Av.	1.0	0.5	0.3	0.7	1.0	3.5

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1958	0.2	0.3	1.2	1.3	1.5	4.5
1963	2.0	1.4	0.1	1.0	1.9	6.4
1965	0.3	0.4	0.8	0.6	0.0	2.1
1970	0.0	0.0	0.0	0.0	0.0	0.0

CASTANA (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.1	0.5	0.3	0.4	0.5	2.8
1955	1.6	0.1	0.1	0.2	0.3	2.3
1956	0.0	0.0	0.0	0.0	0.1	0.1
1957	1.5	1.9	1.9	0.4	0.2	5.9
1958	0.1	0.0	0.7	0.9	2.0	3.7
1959	0.9	0.0	0.0	0.5	1.7	3.1
1960	1.8	1.9	0.5	0.9	2.0	7.1
1961	2.0	2.0	0.0	0.9	1.8	6.7
1962	1.8	1.9	1.5	0.8	2.0	8.0
1963	1.6	1.8	0.0	0.8	2.0	6.2
1964	1.6	1.0	0.0	0.5	0.5	3.6
1965	2.0	2.0	2.0	1.0	1.0	8.0
1966	0.4	0.0	0.2	0.5	0.5	1.6
1967	0.6	0.0	0.0	0.5	0.5	1.6
1968	1.8	2.0	0.6	0.0	0.0	4.4
1969	1.3	0.3	0.0	0.3	0.2	2.1
1970	1.7	1.0	0.5	0.1	0.1	3.4
Av.	1.3	1.0	0.5	0.5	0.9	4.1

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1958	0.0	0.0	0.8	1.1	1.6	3.5
1963	1.6	1.8	0.0	0.8	1.9	6.1
1965	2.0	2.0	1.0	1.0	1.2	7.2
1970	1.7	1.0	0.0	0.0	0.0	2.7

CASTANA (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.0	1.6	0.0	0.4	0.5	4.5
1955	0.9	0.1	0.0	0.3	0.4	1.7
1956	0.7	0.0	0.0	0.0	0.0	0.7
1957	1.9	2.0	2.0	2.0	0.5	8.4
1958	0.0	0.2	0.7	0.9	1.8	3.6
1959	2.0	0.7	0.0	0.5	1.7	4.9
1960	1.5	1.9	0.5	0.9	2.0	6.8
1961	2.0	2.0	2.0	1.7	1.5	9.2
1962	1.7	2.0	1.5	0.8	2.0	8.0
1963	1.6	1.9	0.0	0.8	2.0	6.3
1964	1.0	1.0	0.0	0.5	0.5	3.0
1965	1.6	1.2	1.2	1.0	1.0	6.0
1966	0.6	0.2	0.2	0.5	0.5	2.0
1967	1.4	0.0	0.0	0.5	0.5	2.4
1968	1.8	1.9	1.9	1.3	0.7	7.6
1969	2.0	1.5	0.0	0.3	0.2	4.0
1970	2.0	1.8	1.8	0.8	0.6	7.0
Av.	1.4	1.2	0.7	0.8	1.0	5.1

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1958	0.0	0.0	0.8	1.1	1.6	3.5
1963	1.6	1.9	0.0	0.8	1.9	6.2
1965	1.5	2.0	1.0	1.0	1.5	7.0
1970	2.0	1.8	1.3	0.0	0.0	5.1

Denison

DENISON (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.6	1.3	0.0	0.1	0.0	3.0
1958	1.9	2.3	2.3	2.3	2.3	11.1
1959	2.4	2.3	2.3	2.0	1.5	10.5
1960	2.1	2.2	1.3	1.4	1.1	8.1
1961	2.1	1.9	1.8	1.5	1.2	8.5
1962	1.9	1.8	1.4	1.4	1.6	8.1
1963	1.0	1.9	1.7	1.5	1.4	7.5
1964	2.3	2.3	2.3	2.3	1.9	11.1
1965	2.4	2.3	1.6	1.3	1.2	8.8
1966	1.1	2.0	2.0	2.3	1.9	9.3
1967	1.7	0.7	0.5	0.4	0.5	3.8
1968	2.1	0.2	0.1	0.1	0.1	2.6
1969	1.9	2.1	1.6	1.2	1.2	8.0
1970	1.8	1.5	0.4	0.3	0.4	4.4
Av.	1.9	1.8	1.4	1.3	1.2	7.6

Meadow-Corn
(For years different from corn-corn)

Year	0-1	1-2	2-3	3-4	4-5	Tot
1958	1.6	2.1	1.6	0.8	0.4	6.5
1961	2.1	1.9	0.5	0.6	0.6	5.7
1963	0.6	1.6	1.4	1.3	1.0	5.9
1964	2.3	1.2	0.8	0.6	0.5	5.4
1965	2.0	1.8	0.8	0.6	0.6	5.8
1966	0.8	1.9	2.0	1.6	1.0	7.3
1967	1.5	0.1	0.0	0.0	0.1	1.7
1970	1.5	1.3	0.3	0.0	0.0	3.1

DENISON (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.0	1.3	0.0	0.1	0.0	2.4
1958						

DENISON (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.0	1.7	1.0	0.6	1.9	7.2
1957	2.0	2.2	1.2	0.4	0.4	6.2
1958	1.9	1.9	1.2	1.6	2.3	8.9
1959	1.2	0.0	0.2	1.0	2.1	4.5
1960	2.4	2.3	1.1	1.2	1.7	8.7
1961	2.4	0.6	0.3	1.0	1.8	6.1
1962	2.5	2.2	0.4	1.2	1.8	8.1
1963	2.1	2.3	1.4	1.2	1.8	8.8
1964	2.1	1.8	0.6	1.1	1.8	7.4
1965	2.5	2.0	3.3	2.0	1.9	10.7
1966	1.1	0.0	0.2	1.0	2.2	4.5
1967	1.6	0.1	0.2	0.4	0.5	2.8
1968	2.4	2.3	2.2	0.0	0.0	6.9
1969	0.6	0.7	0.3	0.2	0.1	1.9
1970	1.8	0.1	0.0	0.0	0.3	2.2
Av.	1.9	1.3	0.8	0.9	1.4	6.3

Meadow-Corn
(For years different from corn-corn)

1958	1.8	1.7	1.4	0.6	0.4	5.9
1961	2.5	2.3	0.5	0.2	0.6	6.1
1963	2.1	2.3	1.7	0.6	0.9	7.6
1966	1.1	0.0	0.3	1.2	1.0	3.6
1967	2.1	0.2	0.8	1.0	0.0	4.1
1970	0.5	0.1	0.0	0.0	0.0	0.6

DENISON (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.3	2.3	1.0	0.6	1.9	8.1
1957	2.4	2.3	2.3	2.3	0.5	9.8
1958	1.0	1.9	1.2	1.6	2.3	8.0
1959	2.3	0.0	0.2	1.0	2.1	5.6
1960	1.8	2.2	1.0	1.0	1.6	7.6
1961	2.0	1.5	1.5	1.5	1.8	8.3
1962	2.3	1.7	1.0	1.2	2.0	8.2
1963	2.1	2.3	1.4	1.2	1.8	8.8
1964	1.4	1.3	1.1	1.0	1.1	5.9
1965	1.8	2.0	2.3	2.0	1.9	10.0
1966	1.6	0.8	0.2	0.5	0.9	4.0
1967	1.9	0.1	0.2	0.4	0.5	3.1
1968	2.3	2.1	2.1	2.2	0.7	9.4
1969	2.1	0.7	0.2	0.2	0.1	3.3
1970	2.0	1.7	0.9	0.0	0.0	4.6
Av.	1.8	1.5	1.1	1.1	1.3	6.8

Meadow-Corn
(For years different from corn-corn)

1958	1.0	1.7	1.4	0.6	0.4	5.1
1961	2.2	2.3	1.2	0.2	0.6	6.5
1963	2.1	2.3	1.7	0.6	0.9	7.6
1966	0.6	0.0	0.3	1.2	1.0	3.1
1967	1.9	0.2	0.8	1.0	0.0	3.9
1970	1.6	1.5	0.1	0.0	0.0	3.2

CENTRAL IOWA

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AMES (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.6	0.6	0.6	1.7	2.2	6.7
1955	1.4	0.7	1.1	1.5	1.7	6.4
1956	0.4	0.2	0.3	0.5	0.6	2.0
1957	0.8	1.1	0.7	0.5	0.6	3.7
1958	1.4	1.8	1.8	1.8	1.8	8.6
1959	1.2	1.8	1.8	1.8	1.8	8.4*
1960	2.0	1.8	1.8	1.8	1.8	9.2*
1961	2.0	1.8	1.8	1.8	1.8	9.2*
1962	2.0	1.6	1.4	1.4	1.9	8.3*
1963	0.7	0.8	0.8	0.4	1.1	3.8
1964	1.9	1.8	1.8	1.6	0.8	7.9
1965	1.8	1.9	1.8	1.1	1.2	7.8
1966	2.4	2.4	2.1	1.5	2.4	10.8*
1967	1.4	0.2	0.0	0.5	0.8	2.9
1968	1.4	0.8	0.5	0.5	0.6	3.8
1969	1.9	1.8	1.8	1.8	1.8	9.1*
1970	2.0	2.3	2.1	1.7	2.1	10.2
Av.	1.5	1.4	1.3	1.3	1.5	7.0

AMES (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.0	0.6	0.6	1.7	2.2	7.1
1955	1.3	1.2	1.1	1.5	1.7	6.8
1956	1.6	0.2	0.3	0.5	0.6	3.2
1957	1.5	1.4	0.7	0.5	0.6	4.7
1958	0.9	1.8	1.8	1.8	1.8	8.1
1959	1.4	1.8	1.8	1.8	1.8	8.6
1960	2.0	1.8	1.8	1.8	1.8	9.2*
1961	1.1	1.8	1.8	1.8	1.8	8.3
1962	1.5	1.5	1.2	1.2	1.9	7.3
1963	1.8	1.8	1.1	0.4	1.1	6.2
1964	1.9	1.8	1.8	1.8	1.8	9.1*
1965	1.6	1.8	1.8	1.8	1.8	8.8*
1966	1.3	2.0	1.8	1.8	1.8	8.7*
1967	1.4	0.2	0.0	0.5	0.8	2.9
1968	1.3	1.8	1.5	0.5	0.6	5.7
1969	1.7	1.8	1.8	1.8	1.8	8.9*
1970	1.2	2.3	2.1	1.7	2.1	9.4*
Av.	1.5	1.5	1.4	1.3	1.5	7.2

AMES (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.0	1.8	1.8	1.8	1.8	9.2*
1955	1.6	1.8	1.2	1.5	1.7	7.8
1956	1.8	0.8	0.3	0.5	0.6	4.0
1957	1.8	1.8	1.8	1.6	0.6	7.6
1958	1.7	1.8	1.8	1.8	1.8	8.9*
1959	1.9	1.8	1.8	1.8	1.8	9.1
1960	1.3	1.8	1.8	1.8	1.8	8.5*
1961	1.1	1.8	1.8	1.8	1.8	8.3
1962	1.8	1.8	1.8	1.8	1.8	9.0*
1963	1.6	1.8	1.8	1.3	1.1	7.6
1964	1.4	1.8	1.8	1.8	1.8	8.6*
1965	1.8	1.8	1.8	1.8	1.8	9.0*
1966	1.8	0.5	0.0	0.5	0.8	3.6
1967	1.5	1.8	1.5	0.5	0.6	5.9
1968	1.0	1.8	1.8	1.8	1.8	8.2*
1969	1.4	1.8	1.8	1.8	1.8	8.6*
1970	1.4	1.8	1.8	1.8	1.8	8.6*
Av.	1.6	1.7	1.6	1.5	1.5	7.9

AMES (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.9	1.3	1.6	1.8	1.8	7.4*
1955	2.0	1.0	0.2	1.5	1.7	7.0
1956	0.1	0.5	0.2	0.5	0.6	1.9
1957	1.6	1.3	1.6	1.8	1.8	8.1*
1958	1.3	1.6	1.6	1.8	1.8	8.0*
1959	2.0	1.4	1.6	1.8	1.8	8.6
1960	1.9	1.5	1.7	1.8	1.8	8.7
1961	0.7	1.2	1.7	1.8	1.8	7.2*
1962	0.9	1.1	1.6	1.8	1.8	7.2*
1963	1.2	0.9	1.6	1.3	1.1	6.1
1964	1.2	1.5	1.7	1.8	1.8	8.0*
1965	1.7	1.2	1.8	1.8	1.8	8.3*
1966	1.7	1.7	1.7	1.8	1.8	8.3*
1967	1.7	1.7	1.7	1.8	1.8	8.7*
1968	1.8	1.7	1.7	1.8	1.0	8.0
1969	2.0	1.8	1.8	1.8	1.8	8.4*
1970	0.2	1.0	1.2	1.8	1.8	6.0
Av.	1.3	1.3	1.5	1.7	1.6	7.4

AMES (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.0	0.0	0.4	1.1	1.8	3.3
1955	0.1	0.3	1.1	1.2	1.6	4.3
1956	0.2	0.0	0.0	0.0	0.5	0.7
1957	0.7	1.3	1.2	1.3	1.8	6.3
1958	1.9	1.8	1.7	1.6	1.8	8.7*
1959	0.7	0.4	0.7	1.3	1.8	4.9
1960	0.0	1.1	1.2	1.4	1.8	5.5
1961	2.0	1.8	1.6	1.5	1.8	8.7
1962	1.0	0.9	0.9	1.5	1.8	6.1
1963	0.6	0.7	0.7	0.9	1.1	4.1
1964	0.2	0.9	0.5	0.7	1.4	4.1*
1965	0.0	0.1	0.9	1.4	1.8	4.2
1966	0.2	0.0	0.7	1.3	1.8	4.0
1967	0.1	0.8	0.8	1.4	1.8	4.9
1968	0.2	0.7	0.8	1.2	1.0	3.9
1969	1.5	1.3	1.2	1.4	1.8	7.2
1970	1.2	0.0	0.2	0.9	1.8	4.1
Av.	0.6	0.7	0.9	1.2	1.6	5.0

AMES (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.6	1.7	1.7	0.6	1.6	7.2
1955	0.1	0.0	0.4	0.6	1.0	2.1
1956	1.1	0.0	0.0	0.0	0.4	1.5
1957	1.5	0.5	0.6	1.3	1.5	5.4
1958	0.9	1.0	1.0	1.1	1.8	5.8
1959	0.5	0.1	0.2	0.8	1.8	3.4
1960	1.7	1.0	0.5	0.8	1.8	5.8
1961	0.1	1.1	1.0	1.0	1.8	5.0
1962	0.5	0.1	0.2	0.8	1.8	3.4
1963	1.6	0.9	0.3	0.6	1.0	4.4
1964	1.0	0.0	0.0	0.4	1.8	3.2
1965	1.5	0.0	0.1	0.5	1.6	3.7
1966	0.0	0.0	0.1	0.5	1.4	2.0
1967	0.0	0.0	0.1	0.8	1.7	2.6
1968	0.6	0.1	0.3	0.8	1.0	2.8
1969	0.9	0.6	0.6	1.2	1.6	4.9
1970	0.7	1.5	0.9	0.4	1.8	5.3
Av.	0.8	0.4	0.5	0.7	1.5	3.9

AMES (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.0	1.8	1.8	0.5	1.6	7.7
1955	1.2	0.3	0.7	0.8	0.8	3.8
1956	0.6	0.5	0.0	0.0	0.6	1.7
1957	1.5	0.9	0.6	1.3	1.5	5.8
1958	1.6	1.8	1.3	0.9	1.8	7.4
1959	2.0	1.1	0.0	0.6	1.7	5.4
1960	2.0	1.8	1.0	0.6	1.8	7.2
1961	2.0	1.8	1.8	1.8	1.8	9.2*
1962	1.1	0.0	0.1	0.6	1.6	3.4
1963	1.6	1.6	0.1	0.4	1.0	4.7
1964	1.5	1.0	0.0	0.2	1.7	4.4
1965	2.0	1.8	1.8	1.8	1.7	9.1
1966	0.0	0.0	0.0	0.2	1.1	1.3

MARSHALLTOWN (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.1	2.4	0.5	1.0	2.2	8.2
1955	0.0	0.0	0.0	0.7	1.9	2.6
1956	1.6	0.2	0.4	0.2	1.3	3.7
1957	1.9	1.0	0.7	1.2	2.2	7.0
1958	2.0	1.8	1.4	1.7	2.2	9.1
1959	0.1	0.3	0.6	1.4	2.2	4.6
1960	2.2	0.6	0.6	1.4	2.2	7.0
1961	0.4	1.9	1.6	1.8	2.2	7.9*
1962	1.7	1.4	1.2	1.5	2.2	8.0
1963	2.2	2.3	0.4	1.3	2.2	8.4
1964	1.9	0.6	0.4	1.1	2.2	6.2
1965	2.3	0.5	0.9	1.3	2.2	7.2
1966	0.2	0.0	0.2	1.0	2.1	3.5
1967	0.9	0.8	0.7	0.1	1.3	3.8
1968	1.9	0.6	0.7	0.9	1.5	5.6
1969	2.0	1.2	0.8	1.7	2.0	7.7
1970	1.2	0.5	0.2	1.1	2.1	5.1
Av.	1.4	0.9	0.7	1.1	2.0	6.1

CEDAR RAPIDS (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.4	2.2	2.0	2.0	2.0	10.6*
1955	1.9	2.2	2.0	2.0	1.6	9.7
1956	2.2	1.9	1.7	0.7	1.3	7.8
1957	1.6	1.8	0.3	0.5	1.1	5.3
1958	1.2	2.1	1.3	0.9	1.3	6.8
1959	2.1	2.2	2.0	2.0	2.0	10.3*
1960	2.3	2.2	2.0	2.0	2.0	10.5*
1961	1.5	2.2	2.0	2.0	2.0	9.7*
1962	1.5	2.2	2.0	2.0	2.0	9.7*
1963	2.2	2.2	2.0	2.0	2.0	10.4*
1964	2.4	2.2	2.0	2.0	2.0	10.6*
1965	2.0	2.2	2.0	2.0	2.0	10.2*
1966	2.3	2.2	2.0	2.0	2.0	10.5*
1967	2.4	2.2	2.0	2.0	1.7	10.3
1968	1.8	2.2	2.0	2.0	2.0	10.0*
1969	2.0	2.2	2.0	2.0	2.0	10.2*
1970	1.2	2.2	2.0	2.0	2.0	9.4*
Av.	1.9	2.2	1.8	1.8	1.8	9.5

CEDAR RAPIDS (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.0	2.1	0.3	1.0	1.5	6.9
1955	0.0	0.1	0.0	1.0	1.3	2.4
1956	2.3	2.0	1.2	1.1	1.3	7.9
1957	1.6	0.3	0.5	0.5	0.4	3.3
1958	1.2	1.6	0.8	0.8	1.3	5.7
1959	1.8	1.2	0.3	1.1	2.0	6.4
1960	0.8	0.6	0.7	1.1	2.0	5.2
1961	1.2	1.6	1.4	1.6	2.0	7.8
1962	0.7	1.4	0.8	1.2	2.0	6.1
1963	2.1	0.8	0.3	1.1	2.0	6.3
1964	1.1	0.0	0.2	1.0	2.0	4.3
1965	2.0	2.0	1.3	1.1	2.0	8.4
1966	0.0	0.0	0.5	1.0	2.0	3.5
1967	1.7	2.0	0.7	1.2	2.0	7.6
1968	0.9	0.7	0.3	1.6	1.5	5.0
1969	1.0	1.3	1.7	1.6	1.3	6.9
1970	0.9	1.7	1.4	1.0	2.0	7.0
Av.	1.3	1.1	0.7	1.1	1.7	5.9

WILLIAMSBURG (Meadow-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.8	1.0	0.2	0.5	0.6	4.1
1958	1.6	0.8	0.7	0.7	0.6	4.4
1959	2.2	2.5	1.3	0.5	0.3	6.8
1960	2.5	2.5	2.5	2.5	2.2	12.2*
1961	1.9	2.6	2.5	2.5	2.2	11.7
1962	2.0	2.5	2.5	2.5	2.2	11.7
1963	2.4	2.5	2.5	2.5	1.5	11.4
1964	2.5	2.5	2.4	1.1	0.9	9.4
1965	2.2	2.5	2.3	1.1	0.9	9.0
1966	2.2	2.2	2.2	2.1	1.8	10.5
1967	2.1	2.5	1.8	1.7	0.8	8.9
1968	2.0	2.5	2.5	2.1	0.3	9.4
1969	1.8	2.5	1.9	0.4	0.0	6.6
1970	1.3	1.4	0.9	0.6	0.6	4.8
Av.	2.0	2.2	1.9	1.5	1.1	8.7

MARSHALLTOWN (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.5	2.5	0.2	0.8	2.2	8.2
1955	2.1	0.0	0.0	0.5	1.7	4.3
1956	1.0	0.8	0.3	0.0	1.3	3.4
1957	2.0	1.4	0.5	1.1	2.2	7.2
1958	2.2	2.5	2.0	1.7	2.2	10.6
1959	2.4	0.6	0.3	1.1	2.2	6.6
1960	2.4	1.0	0.4	1.2	2.2	7.2
1961	2.5	2.5	2.2	2.2	11.6*	
1962	2.4	1.4	1.0	1.4	2.2	8.4
1963	2.0	2.5	1.0	1.1	2.2	8.8
1964	2.0	2.5	0.2	1.0	2.2	7.9
1965	2.4	2.5	2.2	2.2	11.5*	
1966	0.0	0.0	0.1	0.6	1.8	2.5
1967	1.6	0.6	0.5	0.0	1.2	3.9
1968	1.9	0.9	0.8	1.1	1.5	6.2
1969	1.8	1.3	0.5	1.7	2.0	7.3
1970	2.0	2.0	1.6	1.0	2.1	8.7
Av.	2.0	1.5	0.8	1.1	2.0	7.4

CEDAR RAPIDS (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.4	2.2	2.0	2.0	2.0	10.6*
1955	1.5	2.2	2.0	1.7	1.7	9.1
1956	2.3	2.2	2.0	2.0	1.3	9.8
1957	1.6	1.8	0.9	0.5	0.5	5.3
1958	2.0	2.1	1.3	0.9	1.3	7.6
1959	2.3	2.2	2.0	2.0	2.0	10.5*
1960	2.4	2.2	2.0	2.0	2.0	10.6*
1961	1.9	2.2	2.0	2.0	2.0	10.1*
1962	2.1	2.2	2.0	2.0	2.0	10.3*
1963	1.2	2.2	2.0	2.0	2.0	9.4
1964	1.2	2.2	2.0	2.0	2.0	9.4*
1965	2.4	2.2	2.0	2.0	2.0	10.6*
1966	1.5	2.2	2.0	2.0	2.0	9.7*
1967	1.3	2.2	2.0	2.0	1.9	9.4
1968	2.3	2.2	2.0	2.0	2.0	10.5
1969	1.9	2.2	2.0	2.0	2.0	10.1*
1970	2.4	2.2	2.0	2.0	2.0	10.6*
Av.	1.9	2.2	1.9	1.8	1.8	9.6

CEDAR RAPIDS (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.4	2.2	0.5	0.7	1.5	7.3
1955	2.0	0.6	0.1	0.7	0.8	4.2
1956	1.4	1.9	1.0	0.9	1.3	6.5
1957	1.4	0.8	0.5	0.5	0.4	3.6
1958	2.1	2.2	1.7	0.6	1.3	7.9
1959	2.3	2.2	0.6	0.9	2.0	8.0
1960	2.1	0.1	0.5	0.9	1.9	5.5
1961	2.4	2.2	2.0	2.0	2.0	10.6*
1962	2.2	1.2	0.6	1.0	2.0	7.0
1963	1.9	2.2	0.6	1.0	2.0	7.7
1964	2.0	0.4	0.1	0.8	1.9	5.2
1965	2.4	2.2	2.0	2.0	2.0	10.6*
1966	0.5	0.5	0.5	0.7	1.7	3.9
1967	2.2	2.2	2.0	2.0	2.0	10.4*
1968	2.2	1.4	0.2	1.6	1.3	6.7
1969	1.4	1.0	2.1	1.6	1.3	7.4
1970	2.3	2.0	2.3	2.3	1.9	10.8*
Av.	2.0	1.5	1.0	1.2	1.6	7.3

WILLIAMSBURG (Meadow-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	2.5	1.9	0.2	0.5	0.6	5.7
1958	2.2	0.8	0.7	0.7	0.6	5.0
1959	2.4	2.5	2.5	2.2	0.3	9.9
1960	1.9	2.5	2.5	2.5	2.2	11.6*
1961	1.6	2.6	2.5	2.5	2.2	11.4
1962	2.2	2.5	2.5	2.5	2.2	11.9*
1963	2.2	2.5	2.5	2.5	1.6	11.3
1964	1.2	2.5	2.0	1.5	0.9	8.1
1965	2.5	2.5	2.5	2.5	1.0	11.0
1966	1.7	2.5	2.5	2.5	2.2	11.4*
1967	1.9	2.5	1.8	1.7	0.8	8.7
1968	1.7	2.5	2.5	2.1	0.3	9.1
1969	1.9	2.5	2.5	0.4	0.0	7.3
1970	2.4	2.5	1.0	0.6	0.6	7.1
Av.	2.0	2.3	2.0	1.8	1.1	9.2

WILLIAMSBURG (Meadow-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	2.2	2.1	0.6	0.5	0.6	6.0
1958	1.8	1.9	0.6	0.7	0.6	5.6
1959	2.5	1.7	2.2	2.2	0.3	8.9
1960	2.1	2.2	2.5	2.5	2.2	11.5*
1961	1.3	1.8	2.3	2.5	2.2	10.1*
1962	1.8	2.3	2.3	2.5	2.2	11.1*
1963	0.0	1.2	2.2	2.5	1.6	7.5
1964	1.6	1.1	1.2	1.6	1.1	6.6
1965	2.4	2.1	2.3	2.5	1.2	10.5
1966	2.2	2.2	2.3	2.5	2.2	11.4*
1967	1.9	2.1	2.3	2.5	0.8	9.6
1968	2.4	2.4	2.5	2.5	0.5	10.3
1969	2.5	2.5	2.5	2.5	2.2	12.2*
1970	1.7	2.1	2.1	1.0	0.6	7.5
Av.	1.9	2.0	2.0	2.0	1.3	9.2

WILLIAMSBURG (Meadow-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.7	1.5	0.1	0.1	0.6	4.0
1958	2.4	2.5	2.4	0.6	0.6	8.5
1959	1.5	0.9	1.4	1.8	0.3	5.9
1960	0.6	1.9	1.9	2.1	2.2	8.7*
1961	2.5	2.3	1.5	2.1	2.2	10.6
1962	1.9	2.3	2.2	2.3	2.2	10.9*
1963	2.3	1.6	1.2	2.0	1.6	8.7
1964	0.7	0.7	0.8	1.1	0.8	4.1
1965	0.9	1.9	1.9	2.1	2.2	9.0*
1966	2.2	2.0	1.4	2.1	2.2	9.9
1967	1.7	1.3	1.6	2.1	0.8	7.5

WILLIAMSBURG (Meadow-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.4	1.2	0.0	0.0	0.6	3.2
1958	1.4	1.9	1.8	0.2	0.6	5.9
1959	1.0	0.4	0.9	1.4	0.3	4.0
1960	0.6	0.5	1.2	1.5	2.2	6.0
1961	1.2	1.8	0.9	1.7	2.2	7.8
1962	1.7	1.5	1.8	2.2	2.2	8.7
1963	1.6	1.9	0.6	1.6	1.6	7.3
1964	1.7	0.0	0.5	0.8	0.6	3.6
1965	2.4	2.5	2.1	1.7	2.2	10.9
1966	0.1	1.4	0.7	1.6	2.2	6.0
1967	1.4	1.5	1.0	1.7	0.8	6.4
1968	0.6	0.5	1.0	1.5	0.4	4.0
1969	1.0	2.0	2.0	2.0	2.2	9.2
1970	1.5	2.2	2.0	0.9	0.6	7.2
Av.	1.3	1.4	1.2	1.3	1.3	6.5

NORWICH-SHENANDOAH (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.6	0.1	0.0	0.2	0.6	2.5
1955	1.4	1.5	1.6	1.6	1.6	7.7
1956	1.1	0.1	0.2	0.2	0.1	1.7
1957	1.1	1.6	1.5	1.5	0.0	5.7
1958	1.0	1.9	1.9	2.1	2.2	9.1
1959	1.2	2.2	2.2	2.1	2.2	9.9
1960	2.0	2.2	2.1	2.2	2.1	10.6
1961	1.1	2.2	2.2	2.2	2.2	9.9
1962	2.2	2.2	2.2	2.1	2.2	10.9
1963	2.0	2.2	2.0	2.2	2.2	10.6
1964	2.0	2.2	1.0	1.0	1.4	7.6
1965	0.8	1.3	1.4	0.8	0.8	5.1
1966	1.0	1.4	1.8	2.0	1.9	8.1
1967	1.1	2.2	0.8	0.8	1.8	6.7
1968	1.6	1.4	0.4	0.4	0.8	4.6
1969	1.8	2.2	2.2	2.2	1.0	9.4
1970	1.3	1.5	1.3	1.2	1.0	6.3
Av.	1.4	1.7	1.5	1.5	1.4	7.5

NORWICH-SHENANDOAH (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.2	0.3	0.6	0.0	0.5	2.6
1955	0.0	0.3	0.8	1.0	1.5	3.6
1956	1.6	0.8	0.0	0.0	0.1	2.5
1957	0.6	0.8	1.0	1.6	2.2	6.2
1958	2.1	2.2	2.2	2.2	2.2	10.9*
1959	0.6	1.1	1.2	1.8	2.2	6.9
1960	1.0	1.4	2.0	2.2	2.2	8.8
1961	1.0	1.1	1.3	1.9	1.7	7.0
1962	1.9	1.2	1.3	1.8	2.2	8.4
1963	1.7	0.2	1.0	1.4	2.2	6.5
1964	0.0	0.1	0.5	1.0	1.7	3.3
1965	1.0	1.8	1.7	1.8	2.2	8.5*
1966	1.5	0.8	0.6	1.6	1.9	6.4
1967	1.0	0.7	1.0	1.6	2.2	6.5
1968	0.9	0.3	0.0	0.2	0.7	2.1
1969	1.4	1.6	1.6	1.8	1.9	8.3
1970	0.5	0.0	1.3	1.0	1.4	4.2
Av.	1.1	0.9	1.1	1.3	1.7	6.1

NORWICH-SHENANDOAH (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.9	2.2	2.2	0.0	0.5	6.8
1955	1.7	0.0	0.2	0.5	1.0	3.4
1956	1.6	0.1	0.0	0.0	0.0	1.7
1957	2.0	2.2	1.9	0.8	2.2	9.1
1958	1.0	2.2	2.2	2.2	2.2	9.8
1959	1.8	2.2	2.2	2.2	2.2	10.6*
1960	2.4	2.2	1.7	2.2	3.0	11.5
1961	2.2	2.2	2.2	2.2	2.0	10.8
1962	1.8	1.7	1.1	1.3	1.6	7.5
1963	1.1	2.2	0.5	1.0	2.2	7.0
1964	0.8	0.6	0.3	0.4	0.8	2.9
1965	1.7	1.4	1.4	1.9	1.7	8.1
1966	1.4	0.9	1.0	1.3	1.7	6.3
1967	2.0	1.2	0.6	0.5	0.8	5.1
1968	1.9	1.8	0.6	0.2	0.3	4.8
1969	2.2	1.7	1.7	0.8	0.9	7.3
1970	2.2	2.2	2.2	1.0	0.4	8.0
Av.	1.7	1.6	1.3	1.1	1.4	7.1

WILLIAMSBURG (Meadow-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	2.0	1.2	0.0	0.0	0.5	3.7
1958	2.2	2.5	2.5	0.8	0.6	8.6
1959	2.4	0.5	0.8	1.3	0.3	5.3
1960	2.3	0.0	0.9	1.3	2.2	6.7
1961	2.5	2.5	2.5	2.0	2.2	11.7
1962	2.5	1.6	1.3	1.7	2.2	9.3
1963	2.0	2.5	1.2	1.5	1.1	8.3
1964	2.2	0.6	0.3	0.6	0.6	4.3
1965	2.5	2.5	2.5	2.5	2.2	12.2*
1966	1.8	1.1	0.4	1.4	2.2	6.9
1967	2.2	1.8	1.1	1.0	0.7	6.8
1968	2.3	1.6	0.8	1.3	0.4	6.4
1969	2.4	2.4	1.8	1.7	2.2	10.5
1970	2.2	2.5	2.5	2.5	2.2	11.9*
Av.	2.3	1.7	1.3	1.4	1.4	8.1

Meadow-Corn
(For years different from corn-corn)

1955	0.9	0.8	0.4	1.2	0.9	4.2
1957	0.9	1.5	0.5	0.8	0.3	4.0
1958	1.1	1.7	1.6	1.7	1.4	7.5
1963	2.0	1.8	1.3	1.4	1.6	8.1

Meadow-Corn
(For years different from corn-corn)

1955	0.0	0.4	0.0	0.7	1.6	2.7
1957	0.6	0.9	1.0	1.6	0.6	4.7
1958	2.1	2.1	1.5	1.8	2.0	9.5
1963	1.6	0.2	1.0	1.3	1.6	5.7

Meadow-Corn
(For years different from corn-corn)

1955	0.9	0.2	0.0	0.1	0.1	1.3
1957	2.0	2.0	2.0	1.2	1.5	8.7
1958	1.0	2.0	1.5	1.5	1.5	7.5
1963	1.1	2.2	0.4	0.7	1.6	6.0

NORWICH-SHENANDOAH (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.2	1.0	0.0	0.2	0.6	4.0
1955	0.9	1.5	1.6	1.6	1.6	7.2
1956	0.6	0.1	0.2	0.2	0.1	1.2
1957	1.7	2.2	1.7	1.5	1.1	8.2
1958	1.4	1.9	1.9	2.1	2.2	9.5
1959	2.1	2.2	2.2	2.2	2.2	10.9*
1960	1.4	2.2	2.2	2.2	2.2	10.2*
1961	1.4	2.2	2.2	2.2	2.2	10.2*
1962	2.0	2.2	2.2	2.2	2.2	10.8*
1963	1.4	2.2	2.2	2.2	2.2	10.2*
1964	1.7	2.2	2.2	2.2	1.4	9.7
1965	1.8	2.2	2.2	1.0	0.8	8.0
1966	1.4	1.7	1.8	2.0	1.9	8.8
1967	2.2	2.2	2.0	0.8	1.8	9.0
1968	1.6	1.7	0.4	0.4	0.8	4.9
1969	1.3	2.2	2.2	2.2	2.2	10.1*
1970	1.9	1.6	1.3	1.2	1.0	7.0
Av.	1.6	1.9	1.7	1.6	1.6	8.4

Meadow-Corn
(For years different from corn-corn)

1955	0.5	1.1	1.3	1.2	0.9	5.0
1957	1.7	2.1	1.5	0.8	0.3	6.4
1958	1.5	1.7	1.6	1.7	1.4	7.9
1963	1.4	2.2	2.2	1.8	1.6	9.2

NORWICH-SHENANDOAH (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.5	2.0	1.0	0.0	0.5	5.0
1955	0.4	0.0	0.4	0.6	1.1	2.5
1956	1.2	0.5	0.0	0.0	0.0	1.7
1957	1.2	0.0	0.4	1.0	2.2	4.8
1958	0.7	1.7	1.4	1.7	2.2	7.7
1959	2.2	1.9	0.6	1.2	2.2	8.1
1960	1.8	2.1	1.3	1.8	2.2	9.2
1961	0.7	0.0	0.3	1.4	1.7	4.1
1962	1.8	0.6	0.7	1.3	1.8	6.2
1963	2.0	0.9	0.3	1.2	2.2	6.6
1964	1.0	0.0	0.2	0.6	2.0	3.8
1965	1.9	0.6	1.0	1.2	2.2	6.9
1966	1.0	0.5	0.5	1.2	1.9	5.1
1967	0.0	0.0	0.3	1.0	2.1	3.4
1968	1.8	0.2	0.0	0.0	0.6	2.6
1969	0.8	0.8	1.0	1.2	1.4	5.2
1970	0.1	0.0	1.3	0.7	1.1	3.2
Av.	1.2	0.7	0.6	0.9	1.6	5.0

Meadow-Corn
(For years different from corn-corn)

1955	0.4	0.2	0.0	0.5	1.0	2.1
1957	1.3	0.2	0.6	1.3	1.2	4.6
1958	0.7	1.7	1.4	1.4	2.0	7.2
1963	1.9	0.8	0.4	0.9	1.6	5.6

NORWICH-SHENANDOAH (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.9	1.7	1.2	0.2	0.6	4.6
1955	2.1	2.0	1.7	1.6	1.6	9.0
1956	1.2	0.0	0.0	0.2	0.1	1.5
1957	2.1	2.2	2.1	2.2	2.2	10.8
1958	1.3	1.4	1.7	2.1	2.2	8.7
1959	2.2	2.2	2.2	2.2	2.2	11.0*
1960	2.1	2.2	2.2	2.2	2.2	10.9*
1961	1.2	1.2	1.5	2.2	1.8	7.9
1962	0.4	1.4	1.9	2.2	2.2	8.1*
1963	0.0	1.4	1.9	2.2	2.2	7.7
1964	1.4	1.7	1.6	1.9	2.2	8.8*
1965	2.2	2.2	2.2	2.2	2.2	11.0*
1966	1.8	1.8	1.7	2.0	1.9	9.2
1967	1.9	2.1	2.2	2.2	2.2	10.6*
1968	0.0	0.9	0.2	0.4	0.8	2.3
1969	2.1	2.2	2.2	2.2	2.2	10.9*
1970	0.5	0.5	1.5	1.2	1.0	4.7
Av.	1.4	1.6	1.6	1.7	1.8	8.1

Meadow-Corn
(For years different from corn-corn)

1955	2.0	1.6	1.1	1.2	0.9	6.8
1957	2.1	2.2	2.1	1.2	0.6	8.2
1958	1.4	1.2	1.4	1.7	1.	

BEACONSFIELD (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.5	1.7	0.7	0.5	0.5	5.9
1955	0.4	0.7	0.8	0.6	1.0	3.5
1956	1.1	0.5	0.1	0.1	0.2	2.0
1957	1.5	2.0	1.0	0.7	1.0	6.2
1958	1.1	1.3	1.3	0.7	0.2	4.6
1959	2.4	2.2	2.0	2.0	2.0	10.6
1960	2.0	1.8	1.7	1.6	1.8	8.9
1961	1.4	2.2	2.0	2.0	1.9	9.5
1962	2.2	2.2	2.0	2.0	2.0	10.4*
1963	1.3	2.2	2.0	2.0	2.0	9.5*
1964	2.0	2.0	1.0	0.9	1.5	7.4
1965	2.5	2.2	2.0	2.0	2.0	10.7*
1966	1.4	2.2	2.0	2.0	2.0	9.6*
1967	2.5	2.2	0.8	0.3	0.4	6.2
1968	1.7	2.2	0.8	0.7	0.2	5.6
1969	1.4	2.2	2.0	2.0	1.7	9.3
1970	2.0	2.2	1.8	0.7	1.0	7.7
Av.	1.7	1.9	1.4	1.2	1.3	7.5

Meadow-Corn
(For years different from corn-corn)

1954	2.5	2.2	2.0	0.6	0.0	7.3
1955	0.3	0.6	0.9	0.4	0.1	2.3
1957	1.4	1.6	0.9	0.2	0.2	4.3
1963	1.3	2.2	1.8	0.9	0.8	7.0
1964	2.0	1.6	0.5	0.3	0.2	4.6
1969	2.0	2.0	1.5	0.2	0.2	5.9
1970	2.0	2.0	0.2	0.2	0.1	4.5

BEACONSFIELD (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.5	0.8	0.9	0.5	0.5	3.2
1955	1.5	0.3	0.6	0.6	1.0	4.0
1956	0.0	0.2	0.0	0.1	0.2	0.5
1957	2.2	1.8	0.8	0.7	1.0	6.5
1958	0.1	0.7	1.1	0.7	0.2	2.8
1959	2.5	1.6	1.8	2.0	2.0	9.9
1960	2.2	2.1	1.9	1.9	1.9	10.0
1961	2.1	2.1	1.9	2.0	2.0	10.1*
1962	1.4	1.4	1.7	2.0	2.0	8.5
1963	0.0	1.2	1.6	2.0	2.0	6.8
1964	1.6	1.9	1.7	2.0	2.0	9.2*
1965	2.5	2.2	2.0	2.0	2.0	10.7*
1966	2.2	2.1	1.9	2.0	2.0	10.2*
1967	2.2	2.1	1.9	2.0	2.0	10.2*
1968	2.3	1.5	0.8	0.7	0.5	5.8
1969	2.5	2.2	2.0	2.0	2.0	10.7*
1970	0.9	1.4	1.3	0.7	1.0	5.3
Av.	1.6	1.5	1.4	1.4	1.4	7.3

Meadow-Corn
(For years different from corn-corn)

1954	0.4	1.3	1.7	1.1	0.0	4.5
1955	1.5	0.1	0.7	0.4	0.1	2.8
1957	2.2	1.3	0.7	0.2	0.2	4.6
1963	0.0	1.2	1.4	0.9	0.8	4.3
1964	1.6	1.9	1.7	1.4	0.2	6.8
1969	2.5	2.2	2.0	2.0	0.2	8.9
1970	0.7	1.2	0.0	0.2	0.1	2.2

BEACONSFIELD (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.5	0.0	0.1	0.6	0.7	1.9
1955	0.5	0.0	0.2	0.3	0.9	1.9
1956	2.5	0.8	0.0	0.0	0.2	3.5
1957	0.0	1.0	0.1	0.4	1.0	2.5
1958	2.5	1.9	1.7	1.2	1.2	8.5
1959	0.8	1.0	1.0	1.6	2.0	6.4
1960	0.5	1.3	1.1	1.6	2.0	6.5
1961	2.6	2.2	1.7	1.4	1.6	9.5
1962	1.6	1.3	0.8	1.5	2.0	7.2
1963	0.5	0.1	0.7	1.5	2.0	4.8
1964	0.0	1.5	1.3	1.6	2.0	6.4
1965	0.8	1.5	1.3	1.5	2.0	7.1*
1966	2.1	1.2	1.0	1.5	2.0	7.8
1967	0.6	1.2	1.0	1.6	2.0	6.4
1968	1.6	1.0	0.8	0.7	0.7	4.8
1969	0.9	1.8	1.6	1.7	2.0	8.0*
1970	0.0	0.5	0.8	0.3	1.0	2.6
Av.	1.1	1.1	0.9	1.1	1.5	5.7

Meadow-Corn
(For years different from corn-corn)

1954	0.5	0.0	0.7	0.6	0.0	1.8
1955	0.7	0.0	0.3	0.2	0.0	1.2
1957	0.2	0.8	0.2	0.0	0.1	1.3
1963	0.6	0.3	0.7	0.5	0.7	2.8
1964	0.0	1.5	1.3	1.6	1.5	5.9
1969	0.9	1.8	1.6	1.7	0.7	6.7
1970	0.0	0.8	0.0	0.0	0.0	0.8

BEACONSFIELD (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.2	0.0	0.0	0.5	0.8	1.5
1955	0.0	0.0	0.1	0.2	0.8	1.1
1956	0.9	1.2	0.0	0.0	0.2	2.3
1957	0.5	0.5	0.0	0.2	0.8	2.0
1958	0.9	1.5	1.0	0.7	1.2	5.3
1959	1.3	1.8	0.8	1.1	2.0	7.0
1960	2.2	1.6	0.4	1.1	2.0	7.3
1961	0.9	1.5	1.1	1.3	1.8	6.6
1962	1.7	0.7	1.0	1.1	1.5	6.0
1963	2.0	0.0	0.2	1.0	2.0	5.2
1964	2.0	0.6	0.7	1.1	2.0	6.4
1965	2.3	0.4	0.6	1.1	2.0	6.4
1966	1.6	0.7	0.3	1.1	2.0	5.7
1967	0.0	0.0	0.3	1.0	2.0	3.3
1968	1.2	1.2	0.8	0.7	0.7	4.6
1969	1.0	0.8	0.9	1.2	2.0	5.9
1970	0.0	0.5	0.8	0.3	1.0	2.6
Av.	1.1	0.8	0.5	0.8	1.5	4.7

Meadow-Corn
(For years different from corn-corn)

1954	0.1	0.0	0.7	0.6	0.0	1.4
1955	0.2	0.0	0.2	0.1	0.0	0.5
1957	0.5	0.6	0.1	0.0	0.0	1.2
1963	2.2	0.0	0.4	0.3	0.6	3.5
1964	2.0	0.7	1.1	1.1	1.5	6.0
1969	1.0	0.8	0.9	1.0	0.7	4.4
1970	1.3	1.0	0.0	0.0	0.0	2.3

BEACONSFIELD (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.6	0.0	0.4	0.4	0.4	1.8
1955	2.1	0.0	0.0	0.0	0.0	2.1
1956	0.6	0.8	0.0	0.0	0.2	1.6
1957	2.0	1.9	0.0	0.0	0.7	4.6
1958	1.9	1.2	1.0	0.9	0.9	5.9
1959	2.5	2.2	2.0	2.0	2.0	10.7*
1960	2.3	2.2	1.4	0.8	2.0	8.7
1961	2.2	2.2	1.5	1.5	1.5	8.9
1962	2.4	0.5	0.6	0.9	1.5	5.9
1963	1.8	2.1	0.3	0.8	2.0	7.0
1964	1.8	2.2	2.0	2.0	2.0	10.0*
1965	2.5	2.2	1.9	1.9	1.5	10.0*
1966	1.1	0.5	0.6	1.1	1.5	4.8
1967	1.1	0.0	0.0	0.6	1.6	3.3
1968	1.0	1.3	0.8	0.7	0.7	4.5
1969	1.5	0.5	0.6	1.0	2.0	5.6
1970	1.7	0.3	0.9	1.0	1.2	5.1
Av.	1.7	1.2	0.8	0.9	1.3	5.9

Meadow-Corn
(For years different from corn-corn)

1954	0.6	0.0	0.6	0.5	0.0	1.7
1955	1.7	0.0	0.2	0.1	0.0	2.0
1957	2.0	2.1	0.0	0.0	0.0	4.1
1963	1.8	2.2	0.8	0.2	0.6	5.6
1964	1.9	2.2	2.0	2.0	2.0	10.1*
1969	1.5	0.5	0.4	0.5	0.7	3.6
1970	1.4	0.1	0.0	0.2	0.0	1.7

BEACONSFIELD (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.5	1.4	0.5	0.5	0.5	4.4
1955	1.0	0.0	0.0	0.0	0.0	1.0
1956	0.6	0.8	0.0	0.0	0.2	1.6
1957	2.3	2.2	1.3	0.0	0.7	6.5
1958	1.2	1.2	1.0	0.9	0.9	5.2
1959	2.5	2.2	2.0	2.0	2.0	10.7*
1960	2.9	2.2	2.0	2.0	1.4	10.5
1961	2.2	2.2	1.8	1.4	1.4	9.0
1962	2.0	2.2	1.4	1.3	1.2	8.1
1963	1.3	1.1	1.6	1.1	1.4	6.5
1964	1.2	2.2	2.0	2.0	2.0	9.4
1965	1.4	2.0	1.9	1.9	1.5	8.7
1966	1.5	1.5	0.1	0.5	1.0	4.6
1967	2.0	0.6	0.4	0.6	1.0	4.6
1968	1.5	1.3	0.8	0.7	0.7	5.0
1969	2.0	1.4	0.8	1.0	2.0	7.2
1970	2.1	1.6	0.9	1.0	1.2	6.8
Av.	1.7	1.5	1.1	1.0	1.1	6.4

Meadow-Corn
(For years different from corn-corn)

1954	1.5	1.4	0.6	0.5	0.0	4.0
1955	2.0	0.3	0.2	0.1	0.0	2.6
1957	2.3	2.2	1.5	0.0	0.0	6.0
1963	1.2	2.2	0.8	0.3	0.6	5.1
1964	1.2	2.2	2.0	2.0	2.0	9.4
1969	2.0	1.4	0.4	0.5	0.7	5.0
1970	1.5	0.5	0.2	0.2	0.1	2.5

SOUTHEASTERN IOWA

Knoxville

KNOXVILLE (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.6	1.2	1.1	0.4	1.4	5.7
1958	1.3	1.7	1.8	1.2	1.6	7.6
1959	1.5	2.0	2.2	2.0	2.0	9.7*
1960	1.9	2.0	2.3	1.4	2.0	9.6
1961	2.4	2.4	2.8	2.4	3.0	13.0*
1962	1.5	2.0	2.1	1.6	1.9	9.1
1963	1.1	1.9	2.2	1.6	1.9	8.7
1964	2.0	2.2	1.7	0.8	1.4	8.1
1965	1.8	2.1	2.3	1.3	1.9	9.4
1966	1.1	2.1	2.2	1.5	1.8	8.7
1967	2.0	1.8	1.0	0.3	0.6	5.7
1968	1.8	2.2	1.4	0.8	0.9	7.1
1969	2.0	2.0	2.3	0.9	1.9	9.1
1970	2.1	1.9	2.2	1.2	2.0	9.4
Av.	1.7	2.0	2.0	1.2		

Albia

ALBIA (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

ALBIA (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.1	1.4	0.0	0.5	1.1	5.1
1955	2.7	1.8	0.1	0.5	0.6	5.7
1956	0.2	0.2	0.0	0.0	0.5	0.9
1957	2.5	2.0	0.9	0.7	0.9	7.0
1958	1.8	1.6	1.4	1.5	1.3	7.6
1959	2.7	2.0	1.9	1.3	1.4	9.3
1960	3.2	2.3	2.0	1.5	1.6	10.6
1961	3.0	1.9	1.8	1.4	1.4	9.5
1962	2.7	2.0	1.8	1.5	1.5	9.5
1963	2.0	1.1	1.2	1.0	1.1	6.4
1964	2.2	2.0	0.7	0.4	0.8	6.1
1965	2.6	1.6	1.1	0.8	0.7	6.8
1966	1.5	1.6	1.9	1.4	1.4	7.8
1967	2.6	2.0	1.8	1.8	1.4	9.6
Av.	2.3	1.7	1.2	1.0	1.1	7.3

Meadow-Corn
(For years different from corn-corn)

1954	3.3	0.5	0.0	0.3	0.4	4.5
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ALBIA (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.8	2.0	0.7	0.5	1.1	7.1
1955	2.2	2.0	0.4	0.5	0.6	5.7
1956	0.9	0.2	0.0	0.0	0.5	1.6
1957	2.4	2.0	1.2	0.7	0.9	7.2
1958	1.2	1.6	1.4	1.5	1.3	7.0
1959	2.5	2.0	1.8	1.8	1.8	9.9*
1960	2.7	2.0	1.8	1.8	1.8	10.1*
1961	2.3	2.0	1.8	1.6	1.4	9.1
1962	1.9	2.0	1.8	1.5	1.5	8.7
1963	2.4	1.1	1.2	1.0	1.1	6.8
1964	2.7	2.0	1.8	0.7	0.8	8.0
1965	2.4	2.0	1.5	0.8	0.7	7.4
1966	2.2	1.9	1.9	1.4	1.4	8.8
1967	2.0	2.0	1.8	1.8	1.8	9.4
Av.	2.2	1.8	1.4	1.1	1.2	7.7

Meadow-Corn
(For years different from corn-corn)

1954	2.8	2.0	0.4	0.3	0.4	5.9
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ALBIA (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.8	2.0	1.7	0.5	1.1	8.1
1955	2.2	2.0	1.6	0.5	0.6	6.9
1956	1.3	0.2	0.0	0.0	0.5	2.0
1957	1.8	1.6	1.2	0.7	0.9	6.2
1958	1.3	1.6	1.4	1.5	1.3	7.1
1959	2.7	2.0	1.8	1.8	1.8	10.1*
1960	2.2	2.0	1.8	1.8	1.8	9.6*
1961	1.4	2.0	1.8	1.6	1.4	8.2
1962	2.5	2.0	1.8	1.8	1.8	9.9*
1963	1.7	1.4	1.2	1.0	1.1	6.4
1964	2.2	2.0	1.6	1.0	0.8	7.6
1965	2.7	2.0	1.5	0.8	0.7	7.7
1966	1.9	2.0	1.8	1.8	1.4	8.9
1967	2.8	2.0	1.8	1.8	1.8	10.2
Av.	2.1	1.8	1.5	1.2	1.2	7.8

Meadow-Corn
(For years different from corn-corn)

1954	2.8	2.0	1.4	0.3	0.4	6.9
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ALBIA (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.3	1.2	1.5	1.2	1.1	6.3
1955	0.9	1.3	1.3	0.5	0.6	5.6
1956	0.0	0.0	0.0	0.0	0.5	0.5
1957	2.6	1.7	1.5	0.7	0.9	7.4
1958	1.8	1.2	1.1	1.5	1.3	6.9
1959	2.4	1.3	1.6	1.5	1.5	8.3
1960	2.8	2.0	1.8	1.8	1.8	10.2*
1961	0.6	1.4	1.7	1.6	1.4	6.7
1962	1.2	0.6	1.5	1.3	1.3	6.1*
1963	0.2	0.8	1.0	1.0	1.1	4.1
1964	1.6	1.5	1.2	0.9	0.7	5.9
1965	2.7	1.2	1.6	1.6	0.7	7.8
1966	2.3	1.3	1.5	1.6	1.4	8.1
1967	2.2	1.6	1.6	1.6	1.6	8.6
Av.	1.7	1.2	1.4	1.2	1.1	6.6

Meadow-Corn
(For years different from corn-corn)

1954	1.3	1.2	1.5	0.8	0.4	5.2
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Bloomfield

BLOOMFIELD (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

BLOOMFIELD (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.0	2.2	1.4	1.1	1.1	7.8
1955	2.7	2.2	2.2	1.2	1.5	9.8
1956	1.5	1.6	0.7	0.3	0.7	4.8
1957	2.2	2.0	1.6	0.6	0.4	6.8
1958	1.8	2.4	1.8	1.4	0.9	8.3
1959	2.8	2.2	1.9	1.5	1.3	9.7
1960	2.7	2.0	2.0	1.9	1.4	10.0
1961	2.3	2.2	2.0	1.5	0.9	8.9
1962	2.6	2.1	2.0	1.9	1.8	10.4*
1963	2.0	1.8	1.8	1.0	1.0	7.6
1964	2.3	2.0	0.3	0.4	1.1	6.1
1965	2.7	2.0	1.6	0.8	0.8	7.9
1966	1.6	2.2	2.2	2.2	1.8	10.0
1967	2.9	2.2	1.2	0.7	0.8	7.8
1968	2.7	2.3	2.1	2.0	1.8	10.9
1969	3.0	2.2	0.7	0.6	0.7	7.2
1970	2.6	1.9	1.9	1.3	1.3	9.0
Av.	2.4	2.1	1.6	1.2	1.1	8.4

Meadow-Corn
(For years different from corn-corn)

1954	3.6	2.6	1.9	0.9	0.5	9.5
1957	2.0	2.2	1.0	0.3	0.0	5.5
1963	1.4	1.7	0.8	0.7	0.9	5.5
1964	2.0	1.5	0.2	0.2	0.2	3.1
1967	2.9	1.1	0.2	0.7	1.0	5.9
1970	2.5	1.6	1.1	0.7	0.8	6.7

BLOOMFIELD (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.9	2.2	2.1	1.1	1.1	9.4
1955	2.3	2.2	2.2	1.4	1.5	9.6
1956	1.7	1.6	0.7	0.3	0.7	5.0
1957	2.4	2.0	1.6	0.6	0.4	7.0
1958	2.0	2.4	1.8	1.4	0.9	8.5
1959	2.6	2.2	2.2	2.0	1.3	10.3
1960	1.8	2.0	2.2	1.9	1.2	9.1
1961	2.4	2.2	2.2	1.8	0.9	9.5
1962	2.2	2.1	2.0	1.9	1.8	10.0
1963	2.7	1.8	1.8	1.0	1.0	8.3
1964	2.6	2.2	1.4	0.4	1.1	7.7
1965	2.4	2.2	1.6	0.8	0.8	7.8
1966	2.6	2.2	2.2	2.2	1.8	11.0*
1967	2.1	2.2	1.2	0.7	0.8	7.0
1968	2.5	2.2	2.2	2.2	1.8	10.9*
1969	2.6	2.2	1.7	0.6	0.7	7.8
1970	2.1	2.1	2.1	1.3	1.3	8.9
Av.	2.3	2.1	1.8	1.3	1.1	8.6

Meadow-Corn
(For years different from corn-corn)

1954	2.9	2.2	2.2	2.2	1.6	11.1
1957	2.2	2.2	1.0	0.3	0.0	5.7
1963	2.1	1.7	0.8	0.7	0.9	6.2
1964	2.6	1.5	0.2	0.2	0.2	4.7
1967	2.1	1.9	1.1	0.7	0.8	6.6

BLOOMFIELD (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	3.0	2.2	2.2	2.0	1.2	10.6
1955	2.4	2.2	2.2	2.0	1.5	10.3
1956	1.1	1.6	0.7	0.3	0.7	4.4
1957	2.0	2.2	1.8	0.6	0.4	7.0
1958	2.4	1.7	1.7	1.4	0.9	8.1
1959	2.9	2.2	2.2	2.2	1.8	11.3*
1960	2.5	2.2	2.2	2.2	1.8	10.9*
1961	1.7	2.2	2.2	1.8	0.9	8.8
1962	2.8	2.2	2.2	2.2	1.8	11.2*
1963	2.1	2.2	2.0	1.0	1.0	8.3
1964	1.4	2.2	1.4	0.4	1.1	6.5
1965	2.8	2.2	1.6	0.8	0.8	8.2
1966	1.8	2.2	2.2	2.2	1.8	10.2*
1967	2.7	2.2	1.7	0.7	0.8	8.1
1968	2.6	2.2	2.2	2.2	1.8	11.0
1969	2.1	2.2	2.2	1.0	0.7	8.2
1970	2.5	2.2	2.2	2.2	1.5	10.6
Av.	2.3	2.1	1.9	1.5	1.2	9.0

Meadow-Corn
(For years different from corn-corn)

1954	3.0	2.2	2.2	2.2	1.8	11.4*
1957	2.0	2.2	1.3	0.3	0.0	5.8
1963	2.1	1.7	0.8	0.7	0.9	6.2
1964	1.4	1.5	0.2	0.2	0.2	3.5
1967	2.7	1.6	0.2	0.7	1.0	6.2
1970	2.5	2.2	2.1	0.7	0.8	8.3

BLOOMFIELD (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.8	1.4	1.8	2.2	1.3	8.5
1955	2.7	1.8	1.9	2.0	1.5	9.9
1956	1.0	0.9	0.6	0.3	0.7	3.3
1957	2.1	1.6	2.0	0.8	0.4	6.9
1958	2.0	1.2	1.3	2.0	1.4	7.9
1959	3.0	1.9	2.0	2.2	1.8	10.9
1960	3.0	2.2	2.2	2.2	1.8	11.4*
1961	0.4	1.6	2.0	1.8	0.9	6.7
1962	2.2	1.4	1.9	2.2	1.8	9.5*
1963	0.0	1.2	1.6	1.0	1.0	4.8
1964	2.2	1.9	1.8	0.9	1.1	7.9
1965	3.0	1.7	2.0	1.4	0.8	8.9
1966	2.1	1.5	2.0	2.2	1.8	9.6*
1967	2.5	1.9	2.1	2.2	1.2	9.9
1968	1.3	1.4	1.9	2.2	1.8	8.6
1969	3.0	2.2	2.2	1.3	0.7	9.4
1970	1.8	1.5	1.8	2.2	1.7	9.0
Av.	1.9	1.6	1.8	1.7	1.3	8.3

Meadow-Corn
(For years different from corn-corn)

1954	1.7	1.4	1.8	2.2	1.8	8.9*
1957	2.1	1.6	1.7	0.3	0.0	5.7
1963	0.0	1.0	0.9	0.7	0.9	3.2
1964	2.2	1.9	0.4	0.2	0.2	4.9
1967	2.5	1.9	2.0	0.7	1.0	8.1
1970	1.8	1.5	1.8	0.8	0.8	6.7

BLOOMFIELD (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	0.1	0.1	0.9	1.6	1.3	4.0
1955	0.2	0.8	0.9	0.9	1.5	4.3
1956	1.8	1.0	0.5	0.5	1.0	4.8

BLOOMFIELD (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.4	1.9	0.4	0.9	1.4	6.0
1955	2.3	0.0	0.2	0.3	1.2	4.0
1956	0.7	0.6	0.0	0.0	0.5	1.8
1957	2.5	0.5	0.7	0.1	0.2	4.0
1958	2.7	2.2	2.2	1.4	1.4	9.9
1959	2.9	2.2	2.2	2.2	1.8	11.3
1960	1.1	0.8	0.9	1.3	1.8	9.8
1961	2.9	2.2	1.8	0.9	0.9	8.7
1962	2.7	0.3	0.2	1.1	1.8	6.1
1963	1.2	0.0	0.6	0.3	0.7	2.8
1964	1.6	0.4	0.5	0.5	0.5	3.5
1965	2.8	2.1	2.1	2.1	0.9	10.0
1966	1.5	0.0	0.0	0.7	1.5	3.7
1967	2.9	1.8	0.2	0.9	1.2	7.0
1968	2.6	0.2	0.0	0.2	0.8	3.8
1969	2.8	2.0	0.9	0.7	1.0	7.4
1970	2.3	2.3	1.9	1.7	1.9	10.1*
Av.	2.2	1.1	0.9	0.9	1.1	6.2

Meadow-Corn
(For years different from corn-corn)

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	1.4	1.0	0.1	0.9	1.8	5.2
1957	2.6	0.6	0.3	0.0	0.0	3.5
1963	1.2	0.1	0.0	0.2	0.6	2.1
1964	2.6	0.5	0.7	0.3	0.1	4.2
1967	2.9	1.8	0.7	0.0	0.7	6.1
1970	2.3	2.2	2.2	1.8	1.0	10.7*

BLOOMFIELD (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.8	2.2	2.2	2.1	1.3	10.6
1955	2.2	1.0	0.5	0.1	0.9	4.7
1956	0.7	0.6	0.0	0.0	0.3	1.6
1957	2.8	2.2	1.0	0.1	0.2	6.3
1958	2.6	2.2	2.2	1.4	1.4	9.8
1959	2.7	2.2	2.2	2.2	1.8	11.1*
1960	2.2	0.9	0.5	0.8	0.7	5.1
1961	2.4	3.0	2.7	2.7	1.8	12.6
1962	2.7	2.2	0.9	1.1	1.8	8.7
1963	0.1	0.7	0.2	0.2	0.5	1.7
1964	1.4	0.4	0.4	0.4	0.4	3.0
1965	2.6	2.1	2.1	2.1	1.1	10.0
1966	2.2	0.0	0.0	0.7	1.5	4.4
1967	3.0	2.2	2.2	2.2	1.8	11.4*
1968	1.7	0.6	0.0	0.2	0.8	3.3
1969	3.0	2.2	1.8	0.7	1.0	8.7
1970	3.0	2.2	2.2	2.2	1.8	11.4*
Av.	2.2	1.6	1.2	1.1	1.1	7.2

Meadow-Corn
(For years different from corn-corn)

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1954	2.8	2.2	2.2	2.0	1.8	11.0
1957	2.8	2.2	0.8	0.0	0.0	5.8
1963	0.6	0.1	0.0	0.2	0.6	1.5
1964	1.4	0.9	0.3	0.3	0.1	3.0
1967	3.0	2.2	2.2	2.2	1.8	11.4*
1970	3.0	2.2	2.2	2.2	1.8	11.4*

Burlington-Columbus Junction

BURLINGTON-COLUMBUS JUNCTION (Corn-Corn)
Inches plant-available water April 15
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.9	1.9	1.3	1.2	1.3	6.6
1957	2.6	1.9	1.1	1.2	1.6	8.4
1958	2.1	2.4	2.0	2.0	2.0	10.5
1959	2.4	2.5	2.2	2.0	2.5	11.6
1960	3.2	2.8	2.8	3.5	3.5	15.8
1961	2.5	2.1	2.0	2.0	3.0	11.6
1962	2.0	1.8	1.9	2.0	3.0	10.7
1963	1.3	2.2	1.8	1.8	8.9	
1964	2.1	2.5	2.0	2.0	2.0	10.6
1965	2.9	2.5	2.0	2.0	2.9	12.3
1966	1.7	2.2	1.8	1.5	2.0	9.2
1967	2.8	2.5	2.0	1.8	1.9	11.0
1968	2.1	1.9	1.9	2.0	2.1	10.0
1969	2.1	1.8	1.7	1.7	1.7	9.0
1970	2.4	2.5	2.5	2.5	3.0	12.9
Av.	2.2	2.2	1.9	1.9	2.3	10.5

BURLINGTON-COLUMBUS JUNCTION (Corn-Corn)
Inches plant-available water May 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	1.5	1.9	1.3	1.2	1.3	7.2
1957	2.6	2.5	1.8	1.2	1.6	9.7
1958	1.7	2.4	2.0	2.0	2.0	10.1
1959	2.7	2.5	2.0	2.1	2.5	11.8*
1960	2.4	2.0	1.6	2.0	3.5	11.5
1961	1.7	2.1	2.0	2.0	2.5	10.3
1962	2.1	1.8	1.9	2.0	3.0	10.8
1963	1.9	2.2	1.8	1.8	1.8	9.5
1964	3.0	2.4	2.0	2.0	2.5	11.4*
1965	2.6	2.5	2.0	2.0	2.9	12.0*
1966	2.7	2.4	1.8	1.5	2.0	10.4
1967	3.0	2.5	2.0	2.0	2.0	11.5*
1968	2.3	2.0	2.0	2.0	2.0	10.3*
1969	1.8	1.8	1.7	1.7	1.7	8.7
1970	2.1	2.0	2.0	2.0	2.0	10.1
Av.	2.2	2.2	1.9	1.8	2.2	10.3

BURLINGTON-COLUMBUS JUNCTION (Corn-Corn)
Inches plant-available water June 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	2.0	1.9	1.3	1.2	1.3	7.7
1957	2.9	2.5	2.0	2.0	1.8	11.2
1958	2.6	2.2	2.1	2.7	3.0	12.6
1959	2.9	2.5	2.0	2.0	2.5	11.9*
1960	3.0	2.5	2.0	2.0	3.5	13.0*
1961	1.8	2.0	2.0	2.0	2.0	9.8
1962	2.5	1.8	1.9	2.0	2.5	10.7
1963	1.9	2.4	1.8	1.8	1.8	9.7
1964	1.3	2.5	2.0	2.0	2.0	9.8
1965	2.3	2.5	2.0	2.0	2.5	11.3
1966	2.0	2.5	2.0	2.0	2.0	10.5*
1967	2.8	2.5	2.0	2.0	2.0	11.3*
1968	2.4	2.0	2.0	2.0	2.0	10.4*
1969	1.8	2.0	2.0	2.0	2.0	9.8*
1970	2.1	2.0	2.0	2.0	2.0	10.1*
Av.	2.3	2.3	1.9	2.0	2.2	10.7

BURLINGTON-COLUMBUS JUNCTION (Corn-Corn)
Inches plant-available water July 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.0	1.1	1.0	1.2	1.3	4.6
1957	3.0	2.4	1.9	2.0	2.0	11.3*
1958	3.0	2.4	2.1	2.4	2.7	12.6*
1959	3.0	2.3	1.7	2.0	2.5	11.5
1960	3.0	2.5	2.0	2.0	3.0	12.5*
1961	1.1	1.5	1.8	2.0	2.3	8.7
1962	2.0	1.7	1.7	2.0	2.5	9.9*
1963	0.0	1.4	1.4	1.8	1.8	6.4
1964	1.9	0.9	1.4	1.4	1.3	6.9
1965	1.9	1.5	1.7	2.0	2.0	9.1
1966	1.8	1.9	1.8	2.0	2.0	9.5*
1967	2.8	2.2	1.9	2.0	2.0	10.9*
1968	2.5	1.9	1.8	2.0	2.0	10.2*
1969	2.4	2.0	2.0	2.0	2.0	10.4*
1970	1.9	1.7	1.7	2.0	2.0	9.3*
Av.	2.0	1.8	1.7	1.9	2.1	9.5

BURLINGTON-COLUMBUS JUNCTION (Corn-Corn)
Inches plant-available water Aug. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	1.2	0.5	0.3	0.8	1.2	4.0
1957	1.7	1.0	1.2	1.2	1.8	6.9
1958	2.7	2.1	2.1	2.2	2.7	11.8*
1959	1.3	1.4	1.4	2.0	2.5	8.6
1960	1.6	1.4	1.2	1.8	2.8	8.8
1961	2.5	1.9	1.0	1.6	2.3	9.3
1962	1.3	1.1	0.7	1.6	2.4	7.1
1963	1.5	1.9	0.5	1.4	2.0	7.3
1964	0.3	0.2	0.8	1.0	1.3	3.6
1965	1.4	0.7	0.8	1.5	2.0	6.4
1966	1.2	0.3	0.9	1.5	2.0	5.9
1967	2.9	1.7	0.9	1.6	2.0	9.1
1968	1.8	1.8	1.4	1.4	1.5	7.9
1969	1.5	1.6	1.6	1.7	2.0	8.4*
1970	1.8	1.3	0.7	1.5	2.0	7.3
Av.	1.6	1.3	1.0	1.5	2.0	7.4

BURLINGTON-COLUMBUS JUNCTION (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	1.3	0.4	0.4	0.5	0.6	3.2
1957	0.5	0.7	0.3	0.9	1.6	4.0
1958	2.3	2.0	1.8	2.1	2.5	10.7*
1959	0.5	0.9	0.3	1.2	2.5	5.4
1960	0.4	1.0	0.8	1.2	2.0	5.4
1961	2.0	1.7	0.3	1.1	2.0	7.1
1962	0.1	0.3	0.3	1.0	2.0	3.7
1963	1.8	0.6	0.8	1.3	1.6	6.1
1964	0.2	0.0	0.4	0.6	0.9	2.1
1965	2.6	1.2	0.3	1.1	1.9	7.1
1966	0.0	0.5	0.2	0.9	1.9	3.5
1967	1.9	1.3	0.3	0.7	2.0	6.2
1968	2.4	1.5	1.2	1.2	1.3	7.6
1969	0.5	1.1	0.9	1.3	2.0	5.8
1970	1.5	1.8	1.8	1.2	2.0	8.3
Av.	1.2	1.0	0.7	1.1	1.8	5.8

BURLINGTON-COLUMBUS JUNCTION (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.2	0.5	0.3	0.4	0.3	1.7
1957	1.4	0.5	0.7	0.9	1.4	4.9
1958	2.8	2.5	2.0	2.0	2.5	11.8
1959	2.9	1.9	0.1	1.0	2.5	8.4
1960	0.9	1.7	1.2	1.6	6.7	
1961	3.0	2.5	2.0	2.0	2.0	11.5*
1962	2.6	0.0	0.1	0.9	2.0	5.6
1963	1.0	0.2	0.8	1.4	1.5	4.9
1964	2.7	0.5	0.3	0.6	0.9	5.0
1965	2.3	1.8	1.6	1.8	1.9	9.4
1966	1.8	0.0	0.3	0.8	1.9	4.8
1967	2.8	0.9	0.1	0.8	1.9	6.5
1968	1.3	1.8	1.2	1.2	1.3	6.8
1969	2.3	0.8	0.6	1.0	2.0	6.7
1970	2.0	1.8	1.8	1.8	1.7	9.1*
Av.	2.0	1.1	0.9	1.2	1.7	6.9

BURLINGTON-COLUMBUS JUNCTION (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1956	0.0	0.5	0.3	0.4	0.3	1.5
1957	2.4	2.1	1.4	0.7	1.4	8.0
1958	2.1	2.1	1.8	2.1	2.5	10.6
1959	3.1	3.1	2.			

DONNELSON (Corn-Corn)
Inches plant-available water Sept. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	0.4	1.1	0.0	1.0	2.0	4.5
1958	2.0	1.0	1.0	1.2	2.0	7.2
1959	2.5	1.3	0.7	0.9	1.9	7.3
1960	0.0	0.2	0.5	1.1	2.0	3.8
1961	0.5	1.0	0.4	1.0	1.8	4.7
1962	0.2	0.1	0.1	1.0	2.0	3.4
1963	0.6	0.3	0.2	0.7	1.7	3.5
1964	0.6	0.0	0.1	0.5	0.9	2.1
1965	2.0	0.3	0.8	0.8	1.5	5.4
1966	0.0	0.0	0.0	0.5	1.4	1.9
1967	1.2	1.0	0.7	1.1	1.5	5.5
1968	1.0	0.0	0.5	0.6	1.2	3.3
1969	0.3	0.8	0.5	1.1	2.0	4.7
1970	1.5	1.6	0.8	0.8	2.0	6.7
Av.	0.9	0.6	0.5	0.9	1.7	4.6

Meadow-Corn

(For years different from corn-corn)
1965 2.0 0.3 0.5 1.0 0.5 4.3

DONNELSON (Corn-Corn)
Inches plant-available water Oct. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	1.4	0.8	0.0	0.8	1.9	4.9
1958	2.4	1.1	1.0	1.0	2.0	7.5
1959	2.4	1.8	1.8	1.8	1.8	9.6
1960	1.2	1.0	1.0	0.7	1.7	5.6
1961	2.5	1.7	1.3	1.2	1.6	8.3
1962	1.8	0.6	0.6	0.7	1.8	5.5
1963	0.4	0.2	0.1	0.5	1.6	2.8
1964	1.0	0.2	0.0	0.3	1.1	2.6
1965	1.4	0.9	0.8	0.8	1.5	5.4
1966	1.8	0.4	0.0	0.1	1.2	3.5
1967	2.3	1.0	0.4	0.8	1.4	5.9
1968	2.0	1.2	1.0	0.6	1.2	6.0
1969	2.2	0.8	0.3	0.7	1.2	5.2
1970	2.2	1.8	1.8	2.0	2.0	9.8*
Av.	1.8	1.0	0.7	0.9	1.6	6.0

Meadow-Corn

(For years different from corn-corn)
1965 1.4 0.9 0.5 1.0 0.5 4.3

DONNELSON (Corn-Corn)
Inches plant-available water Nov. 1
by 1-ft increments and total to 5 ft

Year	Depth in feet					Tot
	0-1	1-2	2-3	3-4	4-5	
1957	2.2	1.8	0.9	0.8	1.9	7.6
1958	2.6	1.1	1.0	1.3	1.6	7.6
1959	2.5	1.8	1.8	1.9	2.6	10.6*
1960	2.5	1.0	1.0	0.7	1.7	6.9
1961	2.5	1.8	1.8	2.0	2.0	10.1*
1962	2.3	1.8	1.0	1.4	2.1	8.6
1963	0.5	0.2	0.1	0.3	1.0	2.1
1964	0.0	0.1	0.0	0.0	1.1	1.2
1965	1.2	0.9	0.8	0.8	1.5	5.2
1966	1.5	1.1	0.8	0.3	1.3	5.0
1967	2.5	1.8	1.8	2.0	2.0	10.1*
1968	2.0	1.7	1.0	0.6	1.2	6.5
1969	2.5	2.2	1.6	0.7	1.2	8.2
1970	2.5	1.8	1.8	2.0	2.0	10.1*
Av.	2.0	1.4	1.1	1.1	1.7	7.3

Meadow-Corn

(For years different from corn-corn)
1965 1.2 0.9 0.5 1.0 0.5 4.1

