U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU AND
BUREAU OF AGRICULTURAL ECONOMICS

In Cooperation with the

Iowa Weather and Crop Bureau

Annual Report for 1925

Reprinted from the Twenty-Sixth Annual Iowa
Year Book of Agriculture

CHARLES D. REED, M. Sc. Agr.

Published by
THE STATE OF IOWA
Des Moines

LETTER OF TRANSMITTAL

HON. JOHN HAMMILL, *Governor.*

SIR: I have the honor to submit herewith the thirty-sixth annual report of the Iowa Weather and Crop Bureau for the year 1925.

MARK G. THORNBURG,
Secretary of Agriculture.

Des Moines, Iowa, January 15, 1926.

HISTORICAL

The Iowa Weather and Crop Service was established by an Act passed by the Twenty-third General Assembly, and approved by the Governor April 25, 1890. On July 1, 1923, it became a bureau of the State Department of Agriculture by act of the 40th General Assembly.

The object of the Service is to co-operate with Government Bureaus in collecting crop statistics and meteorological data, and more widely disseminate weather forecasts and storms and frost warnings for the producers and shippers of perishable products, and to promote general knowledge of meteorological science and the climatology of the State.

In accordance with the Act, on the recommendation of the directors of the State Agricultural Society, J. R. Sage was duly commissioned as director by Governor Boies on June 3, 1890, and General Greeley, then Chief Signal Officer, U. S. Army detailed Dr. George M. Chappel to serve as assistant director of the State Service. Mr. J. R. Sage resigned as director December 31, 1907, and Dr. George M. Chappel was commissioned on January 1, 1908, as director, and served in that capacity until March 31, 1918, when he resigned and was succeeded by Charles D. Reed. Toward the close of the year, 1919, co-operation in estimating acreage and production of crops was begun with the U. S. Bureau of Markets and Crop Estimates now known as the U. S. Bureau of Agricultural Economics, of which Mr. Leslie M. Carl is Agricultural Statistician for Iowa.

OFFICE FORCE DECEMBER 31, 1925

Charles D. Reed, M. Sc. Agr., Meteorologist and Director.
J. Earl Cook, Statistician.
May Myers, Stenographer and Clerk.
A. M. Huston, Clerk.

CO-OPERATING ORGANIZATIONS

U. S. Weather Bureau

Fred L. Disterdick, Assistant Meteorologist.
Arthur H. Christensen, Observer.
Warren J. Rice, Ass't Observer.
Ralph M. Aldrich, Minor Observer.

U. S. Bureau of Agricultural Economics
Division of Crop and Livestock Estimates

Leslie M. Carl, Agricultural Statistician for Iowa.
Mabel E. Atwood, Chief Clerk.
Mildred L. Baldrige, Junior Clerk.

ANNUAL REPORT, 1925

For convenient reference and comparison with past and future years, this report contains summaries of the weekly, monthly and annual bulletins of the Weather and Crop Bureau of the State Department of Agriculture in co-operation with the Weather Bureau and Bureau of Agricultural Economics, both of the United State Department of Agriculture, for the year, 1925.

The usual meteorological, climatological and crop reporting work was maintained, except the checking and compilation of the agricultural statistics collected by assessors relative to the 1924 crops, which was done by the State Census. The present law places these agricultural statistics under the State Census once in ten years. Because of the delay in the State Census, the acreage enumerations of 1924 crops did not become available in time to use as a basis for early county estimates of the acreage and production of the principal crops of 1925. Such early estimates have been made each year for the preceding 35 years.

Attention of legislators is invited to the fact that the Weather and Crop Bureau of the State Department of Agriculture has a trained organization with equipment, a rich background of experience, and a personal touch with the assessors of the State, which enables it to collect and publish agricultural statistics much more promptly and economically than can be done by any hastily recruited State Census organization, which functions only once in ten years.

Assessors' enumerations of the 1925 crops, made early in 1926, will be checked, tabulated and published as one of the major parts of the Year Book of 1925. They will, also, be published in the May Monthly Crop Report. The annual inventory of livestock on farms, for January 1, 1926, will not be ready in time for publication in the Year Book of 1925, but will probably be published in the July Monthly Crop Report.

After several years' experience in assessors' enumerations of livestock, it is thought best to discontinue the effort for the reason that taxation bias and other causes make the figures far less than the true figures. This is known from careful comparison with other sources of information, such as Government Censuses, reports of animals received at terminal markets, and surveys connected with campaigns to eradicate tuberculosis.

To meet the demand for a January 1 inventory of livestock by counties, it is proposed to take the animals reported to the State Auditor for taxation and apply certain correction factors to form county estimates. Unfortunately the Auditor's figures will not become available until about July 1, so the estimates cannot be published in the 1925 Year Book.

However, very accurate statistics of animals shipped into and marketed out of the State during the year, 1925, appear in the 1925 Year Book, and, after all, this is by far the more important feature of livestock statistics. As yet, it is impossible to compile these statistics by counties, although car lot shipments out of counties for the years 1920-1923 were shown in the Monthly Crop Report of January, 1925. The difficulty is that some counties provided with good shipping points near their borders draw extensively from adjoining counties to the apparent disadvantage of these counties.

OLD WEATHER RECORDS

In meteorology, 100 years is but a day. Too many people are quick to lay down solemn rules based on a life time of more or less unreliable memory.

Only patiently recorded observations day by day with standard instruments and methods, for longer periods than the span of reliable memory of an individual, can produce data from which reliable deductions can be drawn.

During the year, 1925, the Weather and Crop Bureau retabulated and reduced to comparable form the available weather records on a State-wide area basis extending back to 1873. This added 18 years to the period of dependable and comparable records, bringing the total up to 53 years.

Risking the criticism of eminent meteorologists that this length of record is too short for reliable deductions, an effort was made to learn something of the sequence of abnormal weather changes, with the hope that some light might be shed on the all important problem of seasonal weather forecasts.

The 53 years of data were subjected to analysis by methods commonly used by statisticians. As might be expected, only a little wheat was garnered from the chaff. Some of the results were published in the Monthly Weather Review of June, 1925, by the U. S. Weather Bureau, Washington, D. C., in somewhat technical form. Only a few of the outstanding things can here be summarized for the State of Iowa. When June temperature is above normal, the average temperature of the next three months combined, will be above normal 78 per cent of the time; so a warm June strongly indicates that corn will not be caught by frost.

A warm June is followed by a dry July 83 per cent of the time.

June temperature below normal indicates a cool three-month period to follow, 71 per cent of the time. If June is cool, there are 7 chances out of 10 that the ice cream man had better reduce rather than expand his business for the rest of the season; and the danger of frosted corn is considerably increased.

Several other indications considerably better than guess work were revealed by this study but can not be presented here.

Considerable time has been devoted to a study of weather records in the State prior to 1873 but, as yet, these have not been reduced to State-wide means in form comparable with later records. It is not generally known that reliable records extend back more than a century, the oldest known beginning at Council Bluffs October 22, 1819.

FORECAST DISTRIBUTION

Radio and newspaper distribution of weather forecasts now covers the State so effectively that distribution by mail, telegraph and telephone was discontinued December 1, 1925.

Daily weather data from the principal cities of the United States are printed on postal cards or small sheets and distributed to business interests that can make actual use of them. For convenience and at very little additional expense the forecasts are included in the postal cards and bulletins. These are issued from the regular Weather Bureau offices in and near Iowa.

The schedule of forecasts and data being broadcast by radio on December 31, 1925, is shown in the subjoined table.

WEATHER FORECASTS AND SUMMARIES BY RADIO

Call Letters	Name and City	Wave Length (Meters)	Frequency (Kc.)	Power (Watts)	WEATHER FORECASTS (Central time)	Weekly Weather and crop summary Wednesday in crop season.
KFKX	Westinghouse Elec. & Mfg. Co. Hastings, Nebr.	288.3	1,040	2,000	Iowa, Nebraska, Kansas, and South Dakota 10:30 a. m., except Sundays and holidays.	
KFNF	Henry Field Seed Co., Shenandoah, Iowa.	266	1,130	500	Iowa, Missouri, Nebraska, Kansas, 12:55 p. m. except Sunday; Iowa, Missouri and Nebraska 9:00 p. m. except Sunday; special warnings 3:00 p. m. and 7:00 p. m.	United States and Iowa. 9:00 p. m.
KOIL	Monarch Mfg. Co., Council Bluffs, Iowa.	278	.....	500	Iowa and Nebraska 9:45 a. m. and 12:15 p. m., except Sundays. Iowa, Nebraska, South Dakota, and Kansas, 9:45 p. m.	United States and Iowa. 9:45 a. m. and 12:15 p. m. Thursdays.
WEAU	Davidson Bros. Co., Sioux City, Iowa.	275	1,090	100	Sioux City, Iowa, Nebraska, Minnesota and South Dakota, shippers forecast radius 200 miles, Nov. 1 to April 1, 10 a. m., 11 a. m., 11:45 a. m., and 5 p. m., and special warnings 5 p. m. except Sundays and holidays.	Iowa 11:00 a. m. and 5:00 p. m. U. S. Summary Thursday, same hours.
WHO	Bankers Life Co., Des Moines, Iowa.	526	570	5,000	Des Moines and Iowa, and "Weather Conditions" 9:45 a. m., 12:00 noon; special warnings 2:00 p. m. and 4:00 p. m. except Sundays and holidays.	U. S. and Iowa 9:45 a. m. and 12:00 noon.
WOAW	Woodmen of the World, Omaha, Nebr.	526	570	1,000	Omaha, and Nebraska, and Iowa, 10:30 a. m. and 1:45 p. m. Nebraska, Iowa, South Dakota, and Kansas about 10:00 p. m. except Wednesday and occasionally at 5:45 p. m., when unusual conditions exist.	
WOC	Palmer School, Davenport, Iowa.	483.6	620	5,000	Davenport and Iowa and Illinois, and "Weather conditions" and river forecasts 12:15 p. m. and 2 p. m. except Sundays and holidays, Saturdays, 1 p. m. only. Iowa and Illinois about 9 p. m., except Monday is silent, and Sunday 9:45 p. m.	United States, Iowa and Illinois 9:00 p. m.
WOI	Iowa State College, Ames, Iowa.	270	1,110	750	Iowa, except Sundays and holidays 9:30 a. m., 12:45 p. m. Iowa, Nebraska, Minnesota, South Dakota and Wisconsin 9:30 p. m. except Sundays.	United States and Iowa 12:45 p. m. and 9:30 p. m.

CLIMATOLOGY OF THE YEAR 1925

The mean temperature of the year 1925, 48.8°, is 0.8° above normal. All the months averaged warmer than usual except May, October, November and December. October was notably cold—the coldest of record with record breaking low temperatures on the 29th. The precipitation of 1925 averaged 28.24 inches or 3.98 inches below normal. The first five months were the driest of record. July and November were also deficient. Only June and September had notable excesses. Drouth was at times serious in the western portion of the State where wells and streams failed.

Hay, pastures and small grains were damaged by the early drouth but small grains largely recovered. Corn was injured some by drouth and heat in July and by rather continuous drouth in the northwest counties. Conditions were unusually favorable for corn in the eastern portion of the State where about twelve counties reported the largest yields per acre in the history of the State. Unusually cold, cloudy weather with frequent rain and a heavy snow in October made corn too moist to crib and injured seed corn.

BAROMETER: (Reduced to sea-level.) The average pressure of the atmosphere for the year was 30.03 inches. The highest pressure was 30.96 inches at Sioux City on December 27. The lowest pressure was 29.13 inches at Davenport on December 4. The range of the State was 1.83 inches.

TEMPERATURE: The mean temperature for the State was 48.8° or 0.8° above normal. The highest annual mean was 52.5° at Keokuk in Lee county. The lowest annual mean was 44.5° near Postville, in Clayton county. The highest temperature reported was 105° at Perry, in Dallas county; Marshalltown, in Marshall county; Ames, in Story county; Monroe, in Jasper county, on July 1; at Inwood, in Lyon county on September 2 and at Cedar Rapids in Linn county on September 4. The lowest temperature reported was -25° at Waverly, in Bremer county, on December 29. The range for the State was 130°.

PRECIPITATION: The average amount of rainfall and melted snow for the year was 28.24 inches, or 3.98 inches less than normal, and 3.15 inches less than the average for 1924. The greatest amount at any station was 45.53 inches at Burlington, in Des Moines county, and the least amount was 13.77 inches at Sanborn, in O'Brien county. The greatest monthly precipitation

was 13.30 inches at Oelwein, in Fayette county, in June. The least amount was a "trace" at Creston, in Union county, and near Cumberland, in Cass county, in February. The greatest amount in any 24 consecutive hours was 6.50 inches at Oelwein, in Fayette county, on June 15. Measurable precipitation oc curred on an average of 81 days, 12 days less than in 1924 and 4 days less than normal.

SNOWFALL: The average amount of snowfall was 29.2 inches. The greatest amount reported from any station was 46.9 inches at Fayette, in Fayette county, and the least amount was 14.5 inches near Corning, in Adams county, and at Creston, in Union county. The greatest monthly snowfall was 24.2 inches near Sigourney, in Keokuk county, in December.

WIND: The prevailing direction of the wind was from the northwest. The highest velocity reported was 76 miles an hour from the southwest at Sioux City, in Woodbury county, on June 1.

SUNSHINE AND CLOUDINESS: The average number of clear days was 179; partly cloudy, 100; cloudy, 86; as against 177 clear, 97 partly cloudy and 92 cloudy days in 1924. The average percentage of the possible amount of sunshine was 61 per cent, or about 2 per cent more than the normal.

SYNOPSIS BY MONTHS

January averaged nearly normal in temperature but was deficient in precipitation and snowfall. In the western portion of the State from the 9th to the 18th, temperatures were mostly below normal and there was a cold period, 26th-27th, throughout the State. The usual outdoor activities were uninterrupted except on the coldest days. Building operations and ice harvest made good headway and some corn husking was done.

February mean temperature, 28.4°, made the month one of the warmest of record. There were no prolonged cold spells and the temperature was below normal for only three brief periods. In about 85 per cent of the State, precipitation was deficient, while in small areas in the extreme southwest and extreme southeast portions, there was an excess. A wide belt running east and west across the State began to show need of more moisture. Snowfall was generally deficient and caused no interference with traffic, but thawing made many dirt roads nearly impassable during the first half of the month.

Mild weather continued in March, aside from cold spells, 1st-2nd, and 14th-15th. Trees and fruit buds were advanced about two weeks ahead of normal. Precipitation was well distributed through the month but mostly too light to penetrate the soil except on the 13th. Frost left the ground much earlier than usual and the preparation of the soil and seeding of oats and spring wheat progressed with practically no interruption during the last half of the month, to a stage much ahead of the average. Drouth, low humidity and windy days were unfavorable to certain kinds of vegetation. Dry soil drifted and covered up some winter wheat, leaving the roots exposed in spots. It was too dry for oats to germinate much and grasses were generally dormant. A number of small streams were completely dry and an unusually large number of wells failed.

Unusually mild weather prevailed practically the entire month of April, which was the warmest of record except April, 1915. At a number of stations the temperature did not reach the freezing point, although a decided change to colder occurred at the close of the month. The night of April 21st-22nd was more like a July night. Vegetation advanced far beyond the average. Under ideal conditions fruit trees blossomed in some parts of the State nearly three weeks ahead of the average date. Strawberries were damaged somewhat by frost at the end of the month but most tree fruit escaped injury. The weather was ideal for all farm work. The preparation of the soil for corn was pushed rapidly and considerable planting was done in the southern half of the State. Precipitation was generally deficient except in the southeast and south-central portions and wells and streams continued to go dry and crops in large areas were badly in need of rain. A number of severe local electric, wind and hail storms occurred from the 18th to 21st.

May was characterized by great extremes and numerous changes in temperatures. While neither the maximums nor minimums equalled the record for the State for May, a great many stations in the northwestern and central divisions reported the highest of record for May; and the low temperatures that occurred during the last week in May were the lowest ever recorded so late in the season. Following the abnormally high temperature on the 22nd, the temperature made the most remarkable drop ever recorded in the State except in winter. Over a large area in northeastern Iowa the drop amounted to more than

65° in a period of thirty-six hours. In this short period, both the high and low May temperature records for this section of the State were broken. Frosts of varying degrees occurred with unusual frequency until the 27th, causing severe damage to all vegetation susceptible to frost. All fruit and truck crops were seriously injured. Considerable corn was cut down by the hard freeze of the 25th but practically all recovered without replanting. Besides being the driest May of record, the current five-month period was the driest similar period of record. Although remarkably favorable for all outdoor work, the month was detrimental to practically all crops. Further failures of wells, streams and general water supply were reported.

The persistent drouth was broken in June. Some stations reported amounts exceeding the total for eight months preceding. There were many destructive hail, wind and electrical storms. Fifteen minor tornadoes were reported. Temperatures averaged slightly above normal, with a cool period during the last week. Crops made a wonderful recovery; oats, which had started to head "short," lengthened greatly and filled well during the cool period at the close of the month; and corn made unusual growth.

Hot weather prevailed the first half of July, followed by rather cool the last half. Precipitation was generally deficient and unevenly distributed. Drouth became severe over the western half of the State and limited areas in other sections. While corn made some progress, its relative condition at the close of July was not as good as at the beginning. However, the cool weather toward the close of the month lessened the drouth damage. Severe wind squalls and hail storms were frequent. Conditions were favorable for haying, harvesting and threshing and small grains turned out much better than seemed possible at the close of May.

August temperature averaged slightly above normal, with a rather protracted warm spell toward the close of the month. Precipitation was very nearly normal, but much localized in distribution. In the northwest portion of the State, drouth was especially severe and corn was seriously damaged. Water trains were run out of Des Moines to towns in the vicinity. What is believed to be the worst hail storm in the history of the State occurred on the 18th. This storm extended from the southeast corner of Poweshiek county southeastward over Iowa, Keokuk,

Washington, Jefferson, Henry, Des Moines and Lee counties. The damage is conservatively estimated at $2,500,000.

Abnormally high temperature prevailed during the first ten days of September. The average temperature was the highest of record except in 1897. While no State records were broken, a number of stations report the highest maximum temperatures of the year and several stations reported the highest of record for the month. Cool periods occurred from the 11th to the 15th and from the 20th to the 24th. Precipitation was above normal and rather uniform in all divisions. Downpours occurred in the northern and central divisions on the 1st. The intense heat during the first week caused the corn to mature too rapidly in some portions of the State but in the eastern portion, where the crop was rank and rather late, the warm weather was beneficial. By the end of the month, the crop was practically safe from frost. The heat, also, injured pastures but the rain, at the close of the month, was of great benefit.

October mean temperature, 41.2°, was 11.7° below normal and the coldest in fifty-three years, in striking contrast to 1924 which was the warmest in forty-seven years. The minimum temperatures were much lower at all stations than previously recorded for October and zero weather heretofore practically unkown in October occurred in more than one-half of the State, the lowest reported being -15° at Inwood. Zero temperature reached to the Missouri line. The first killing frost occurred at a number of stations on the 7th and by the 10th killing frost had visited the entire State. Owing to the advanced state of vegetation, there was very little damage to staple crops, but considerable damage to late truck crops. Precipitation was above normal and unusually frequent, with very little sunshine so that corn which was of unusually high quality at the beginning of the month failed to dry out and was much damaged by mold. Heavy snowfall on the 25th-27th damaged down corn. Husking started about the middle of the month but much of the early husked corn heated in the cribs and less than 20 per cent had been husked by the close of the month. The excellent condition of the corn at the beginning of the month caused procrastination in seed corn saving and subsequent moist weather and severe temperature rendered much corn unfit for planting and imperilled the 1926 crop.

Nearly normal temperature prevailed in November but there

was a decided deficiency in precipitation. More zero weather was reported in the central and southern divisions than in the northern division of the State. Corn husking was pushed rapidly after the first week although there were continued reports of corn heating in the cribs. Plowing was resumed about the middle of the month when frost left the ground. Water shortage continued in the western half of the State where additional wells were reported failing. Because of the unfavorable fall, considerable acreage intended for winter wheat could not be seeded and considerable late seeded wheat failed to germinate or made little showing above the ground.

Although December temperature averaged 3° below normal, the month could not be regarded as severe. Precipitation was uniformly distributed and averaged slightly above normal. It was mostly in the form of snow, and blizzard conditions occurred on the 24th. Deep snow drifts formed over large areas in the east and south portions of the State, blocking highways and delaying railway traffic. During the more severe weather, winter grains and grasses were well protected by an evenly distributed snow covering. The heavy snowfall interfered with belated corn husking and there was still considerable to be gathered in the southeast portion of the State at the end of the month.

MONTHLY SUMMARIES

JANUARY

Compared to the month preceding, January would be considered a very mild month, and while the mean temperature for the State was less than one degree above normal, the absence of disagreeable features made the month appear more mild than the mean temperature indicates. There were numerous fluctuations above and below normal but there were no decided departures. While the mean for the State averaged above normal there was a general deficiency over most of the Missouri and Big Sioux valleys, which amounted to more than two degrees in several counties in the northwest portion. The most pronounced periods of excess occurred from the 2nd till the 9th and another during most of the 3d week, being the most marked in the central and eastern portions, while in the western half of the State, where the coldest weather prevailed, there was a period with below normal temperatures that extended from the 9th till the 18th.

The month was characterized by the entire absence of severe storms and the precipitation, which was almost entirely in the form of sleet or snow, has been less in January only three times since 1890. There were no individual heavy falls of snow, except over a limited area in the western portion of the State on the 28th. There was practically no drifting and as a result of these favorable conditions railway traffic was able to move

normally throughout the month, and highways continued passable though dirt roads in the southern and central sections were quite rough following periods of thawing weather. Sleet was reported from numerous places on several dates but there was apparently no damage from this source. The snow cover remained on the ground over nearly all the northern division throughout the entire month but large areas in the central and southern sections were bare at the end of the month, and were bare over much of the area during the last 10 days, but there had been no material damage reported to winter wheat or grasses.

Some building operations were halted during the most severe weather, but the usual winter out door occupations were pursued with very little interruption. Some corn that remained in the fields was gathered in the southern portion and there was still some corn standing in the northwest portion. The ice harvest was completed in all portions of the State, the quality being unusually good and the quantity ample.

Temperature. The mean temperature for the State, as shown by the records of 104 stations, was 19.4°, or 0.9° higher than the normal. By divisions approximately three tiers of counties to the division, the means were as follows: Northern, 15.8°, or 0.5° higher than the normal; Central, 20.0°, or 1.2° higher than the normal; Southern, 22.5°, or 1.1° higher than the normal. The highest monthly mean was 25.4°, at Keokuk, and the lowest was 11.8° at Inwood. The highest temperature reported was 55°, at Wescott, on the 24th, and the lowest was —24°, at Milford, on the 27th. The temperature range for the State was 79°.

Precipitation. The average precipitation for the State, as shown by the records of 107 stations, was 0.40 inch, or 0.68 inch less than the normal. By divisions, the averages were as follows: Northern, 0.42 inch, or 0.52 inch less than the normal; Central, 0.35 inch, or 0.77 inch less than the normal; Southern, 0.43 inch, or 0.74 inch less than the normal. The greatest amount, 1.23 inches occurred at Burlington, and the least, 0.05 inch, occurred at Grundy Center. The greatest amount in any 24 consecutive hours, 0.60 inch, occurred at Williamsburg, on the 16th.

Snowfall. The average snowfall for the State 4.2 inches, or 2.7 inches less than the normal. The greatest amount, 10.0 inches, occurred at Burlington and Washington, and the least, 0.2 inch occurred at Pella. The ground was covered the entire month north of a line running from Monona to Allamakee Counties and over a few small areas in the southern and east-central portions. The snowfall was above normal over most of the Missouri Valley and a small area in the southeast section.

Miscellaneous Phenomena. Fog: 8th, 9th, 10th, 11th, 12th, 14th, 16th, 18th, 19th, 20th, 21st, 24th, 25th, 28th, 29th, 30th. Halos (Lunar and solar): 3d, 4th, 6th, 7th, 8th, 12th, 13th, 15th, 19th, 22d, 23d, 26th, 27th, 28th, 31st. Parhelia: 12th. Sleet: 15th, 16th, 25th, 26th, 28th. Winds (strong): 26th, 31st.

Rivers. A gradual, though slight, fall prevailed on the Mississippi River throughout the month with a mean stage slightly below the normal. Low and nearly stationary stages prevailed on all interior rivers. There was considerable fluctuation on the Missouri River with a falling tendency

till the middle of the month and a slight rising tendency the remainder of the month. All rivers were frozen during the entire month, with the ice ranging from a foot to more than two feet in thickness.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)					Relative Humidity, %					Wind					Sunshine	
						Mean			Maximum								
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date	Per cent of possible	Departure from normal
Charles City	30.19	30.80	26	29.69	31	91	71	83	48	23	4,948	6.7	25	n.	25	57	+ 9
Davenport	30.29	30.71	23	29.84	31	88	77	78	50	22	4,978	6.7	23	s.	6	41	— 7
Des Moines	30.18	30.78	26	29.76	31	89	67	73	39	23	5,161	6.9	28	sw.	31	60	+29
Dubuque	30.17	30.73	26	29.73	31	82	65	72	44	22	4,610	6.2	29	nw.	31	53	+ 4
Keokuk	30.21	30.68	23	29.82	22	77	61	66	29	12	5,006	6.7	25	n.	26	68	+17
Sioux City	30.19	30.83	26	29.70	31	81	67	74	44	6	7,977	10.2	47	n.	20	57	+ 5
Omaha, Neb	30.15	30.79	26	29 79	31	83	63	73	39	7	5,748	7.7	40	n.	20	64	+ 9
Means and extremes	30.19	.....	.....	.....	.....	84	67	74	.....	.....	.....	7.4	.....	.....	.....	58	+ 8
	.....	30.83	26	29.69	31	.....	.....	.....	29	12	.....	.....	47	n.	20	.....	.....
Normals and records	30.14	.....	25th	.....	3d	85	...	78	...	24†	.....	8.7	.....	.....	6th	50	.....
	.....	31.09	1905	§28.71	1906	...	...	...	*25	1922	.....	.....	§72	nw.	1903	.....	.....

†Sioux City. §Dubuque. *Omaha. ‡Local mean time. †And other dates.

COMPARATIVE DATA FOR THE STATE—JANUARY

YEAR	Temperature				Precipitation					Number of			
	Mean	Departure*	Highest	Lowest	Total	Departure*	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	19.7	+1.2	61	—27	2.08	+0.95	3.46	0.35	.....	.....	.....	.....	.....
1891	26.0	+7.5	58	— 4	1.75	+0.67	3.99	0.61	.....	4	13	7	11
1892	15.3	—3.2	76	—38	1.09	+0.01	3.13	0.10	6.9	5	16	9	6
1893	9.3	—9.2	54	—34	0.74	—0.34	3.20	0.13	6.9	6	11	9	11
1894	19.2	+0.8	60	—27	1.09	+0.01	2.24	0.31	6.9	5	14	9	8
1895	13.6	—4.9	68	—21	0.85	—0.23	2.65	0.09	8.7	4	15	7	9
1896	23.4	+4.9	68	—20	0.48	—0.60	2.10	T.	2.8	3	10	10	11
1897	17.2	—1.3	66	—30	2.01	+0.93	6.16	0.15	8.2	7	12	7	12
1898	23.4	+4.9	52	—11	1.60	+0.52	5.32	T.	12.6	5	15	6	10
1899	19.8	+1.3	68	—34	0.28	—0.80	1.15	T.	1.5	3	15	10	6
1900	25.6	+7.1	66	—20	0.53	—0.55	2.47	T.	2.3	3	16	7	8
1901	23.7	+5.2	60	—21	0.74	—0.34	2.34	0.04	6.2	4	14	9	8
1902	22.4	+3.9	63	—31	0.88	—0.20	2.83	0.19	9.4	4	17	8	6
1903	23.0	+4.5	60	—12	0.28	—0.80	1.46	T.	2.0	4	13	7	11
1904	14.0	—4.5	57	—32	1.18	+0.10	3.68	0.02	6.1	6	12	8	11
1905	11.2	—7.3	58	—30	0.91	—0.17	1.82	0.12	11.1	7	14	7	10
1906	24.6	+6.1	60	—19	1.52	+0.44	4.71	0.28	11.3	5	14	6	11
1907	18.8	+0.3	68	—22	1.52	+0.44	5.30	0.10	6.0	7	8	7	16
1908	24.9	+6.4	60	—18	0.44	—0.64	1.50	0.06	4.8	2	17	8	6
1909	21.2	+2.7	72	—25	1.66	+0.58	3.74	0.41	7.8	6	9	6	16
1910	18.1	—0.4	56	—35	1.57	+0.49	3.15	0.55	12.6	6	13	7	11
1911	20.3	+1.7	66	—35	0.97	—0.11	3.73	0.11	7.3	5	9	8	14
1912	4.2	—14.3	49	—47	0.53	—0.55	1.90	T.	3.5	5	14	7	10
1913	30.9	+2.4	62	—25	0.77	—0.31	2.05	0.04	7.2	5	14	9	8
1914	27.8	+9.3	64	—10	0.88	—0.20	2.34	0.27	5.1	5	11	8	12
1915	17.5	—1.0	59	—32	1.63	+0.55	3.15	0.10	7.3	8	13	8	10
1916	17.8	—0.7	63	—34	2.62	+1.54	6.07	0.85	7.2	10	12	6	13
1917	17.0	—1.5	60	—28	0.88	—0.25	2.07	0.17	7.2	4	17	8	6
1918	8.6	—9.9	53	—30	1.02	—0.06	2.79	0.30	11.2	7	13	8	10
1919	26.8	+8.3	64	—32	0.24	—0.84	0.86	T.	2.8	2	20	5	6
1920	16.7	—1.8	58	—26	0.42	—0.66	1.05	T.	4.6	4	12	8	11
1921	28.4	+9.9	67	— 2	0.51	—0.57	1.92	0.10	4.1	4	11	7	13
1922	19.8	+1.3	57	—29	0.89	—0.19	2.30	0.32	5.3	4	17	6	8
1923	20.7	+8.2	58	—10	0.85	—0.23	2.34	T.	6.5	6	10	7	14
1924	13.9	—4.6	59	—36	0.89	—0.19	2.47	0.06	5.5	5	17	7	7
1925	19.4	+0.9	55	—24	0.40	—0.68	1.23	0.05	4.2	3	17	7	7

T. Indicates an amount too small to measure, or less than .005 inch precipitation and less than .05 inch snowfall.
*New normals effective June 1, 1924.

FEBRUARY

Uniformly mild winter weather prevailed during February throughout the State and the month was decidedly the warmest of the three winter months. The mean temperature for the state, 28.4°, is the highest, with the exception of 1915 and 1921, in the history of the State for February. There were no prolonged cold spells and the temperature was below normal only three brief periods, the first at the beginning of the month, the second on the 16th and 17th, and the last and longest period of three days, at the end of the month. Zero weather occurred on one or more days throughout the northern division and most of the central division, but zero was reached on a single day in about one-fourth of the southern division.

The precipitation was very unevenly distributed, and while the average for the State was slightly more than two-thirds of the normal, there was

a decided deficiency in about 85 per cent of the State and small areas in the extreme southeastern and extreme southwestern portions had excesses that amounted to more than one inch. In about one-third of the State, mostly in the central division, the precipitation amounted to less than half an inch. At a number of stations in the north-central section the precipitation was nearly all snow, but over the rest of the State rain predominated and at several stations in the southwestern portion it was all rain. The heaviest snowfall was 12.0 inches and the fall exceeded 5.0 inches over only about one-tenth of the State. The heaviest individual fall of snow was 6.0 inches, but there were only a few stations that had individual falls of 4.0 inches or more. There was very little drifting and railroads were not hampered in any way by snow or adverse weather conditions. Highways remained open as to snow drifts but thawing made dirt roads almost impassable during most of the first half of the month, after which there was a decided improvement and at the end of the month roads were in unusually good condition except in small areas where the rainfall was heaviest.

Conditions were favorable for outdoor work but the frost had not left the ground sufficiently to permit plowing except small areas in the southern portion of the State, where it was too wet. There was too little moisture in a wide belt running east and west across the State and many fields in this area were beginning to show the need of rain.

Temperature. The mean temperature for the State, as shown by the records of 99 stations, was 28.4°, or 5.8° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 24.4°, or 5.3° higher than the normal; Central, 28.7°, or 5.8° higher than the normal; Southern, 32.2°, or 6.4° higher than the normal. The highest monthly mean was 33.8°, at Burlington and Centerville, and the lowest was 21.6°, at Estherville. The highest temperature reported was 66°, at Perry on the 6th, and the lowest was —16° at Rock Rapids, Sanborn and Spencer on the 2d. The temperature range for the State was 82°.

Precipitation. The average precipitation for the State, as shown by the records of 103 stations, was 0.82 inch, or 0.38 inch less than the normal. By divisions, the averages were as follows: Northern, 0.58 inch, or 0.48 inch less than the normal; Central, 0.65 inch, or 0.61 inch less than the normal; Southern, 1.24 inches, or 0.05 inch less than the normal. The greatest amount, 3.69 inches, occurred at Burlington, and the least, a trace occurred at Creston and Cumberland. The greatest amount in 24 consecutive hours, 1.95 inches, occurred at Glenwood on the 22d-23d.

Snowfall. The average snowfall for the State was 2.6 inches, or 4.8 inches less than the normal. The average for February has been less but once in the history of the State. In about one-third of the State, in the central and southern divisions, the total snowfall was less than one inch and a large number of stations in the southwestern portion reported only a trace. A few stations in the northern division had a snow cover the entire month, but over more than half of the State the

range was from a single day to a week, while in several counties in the southwestern portion there was no snow on the ground at any time.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)					Relative Humidity, %					Wind						Sunshine	
						Mean							Maximum					
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date		Per cent of possible	Departure from normal
Charles City	30.04	30.4	2	29.57	24	86	69	81	39	27	4,733	7.0	36	nw.	25		44	—10
Davenport	30.03	30.5	2	29.56	9	90	73	79	42	11	5,259	7.8	30	nw.	25		37	—17
Des Moines	30.02	30.5	2	29.56	24	85	64	67	41	†11	4,906	7.3	31	sw.	3		56	0
Dubuque	30.01	30.4	2	29.56	9	84	56	74	39	27	4,731	7.0	31	nw.	26		45	— 8
Keokuk	30.0	30.5	2	29.51	23	87	59	67	30	28	5,257	7.8	29	w.	8		50	— 5
Sioux City	30.00	30.5	11	29.61	24	85	71	76	42	11	8,102	12.1	46	nw.	25		55	— 4
Omaha, Neb	30.01	30.5	11	29.51	1	82	53	68	31	11	6,300	9.4	33	nw.	†23		54	— 3
Means and extremes	30.0	30.5	11	29.51	17	85	66	73	31	11		8.3	46	nw.	25		48	— 7
Normals and records	30.10	§31.0	1‡1	*28.09	2‡15 1902	84	76	¶13	22‡3	1880		9.3	¶69	nw.	4‡15 1917		55	

§Sioux City. *Davenport. ¶Des Moines. ‡Local mean time. †And other dates.

COMPARATIVE DATA FOR THE STATE—FEBRUARY

YEAR	Temperature				Precipitation					Number of			
	Mean	Departure*	Highest	Lowest	Total	Departure*	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	26.0	+3.4	67	—24	0.83	—0.37	2.18	0.11	.....	.....	.....	.....	.....
1891	19.4	—3.2	70	—31	1.16	—0.04	2.41	0.55	.....	3	13	7	8
1892	28.1	+5.5	68	—30	1.20	0.00	2.18	0.12	5.0	6	6	7	16
1893	19.6	—6.6	60	—24	1.39	+0.19	2.91	0.06	8.1	6	10	8	10
1894	19.7	—2.9	60	—19	0.89	—0.31	2.41	T.	8.4	3	16	8	4
1895	16.4	—6.2	73	—33	0.49	—0.71	1.34	0.02	3.3	4	13	9	6
1896	27.4	+4.8	78	—13	0.71	—0.49	2.40	0.04	5.4	4	12	9	8
1897	24.7	+2.1	61	—24	0.89	—0.31	1.81	0.22	8.9	5	6	10	12
1898	24.2	+1.6	62	—18	1.20	0.00	3.65	0.10	7.8	5	10	9	9
1899	12.2	—10.4	75	—40	0.89	—0.31	4.32	0.12	7.1	5	11	10	7
1900	14.8	—7.8	60	—27	1.30	+0.10	4.57	0.18	9.9	6	10	8	10
1901	17.5	—5.1	49	—24	1.01	—0.19	3.00	0.12	9.7	4	15	7	6
1902	17.6	—5.0	62	—21	0.73	—0.47	2.39	0.02	2.6	4	13	8	7
1903	19.8	—2.8	56	—21	1.18	—0.02	3.25	0.30	7.9	4	13	7	8
1904	14.8	—7.8	70	—26	0.41	—0.79	1.99	T.	4.5	4	10	9	10
1905	12.8	—9.8	69	—41	1.57	+0.37	2.97	0.44	15.5	7	14	6	8
1906	22.6	+1.0	66	—32	1.29	+0.09	2.91	0.29	6.1	5	14	7	7
1907	25.0	+2.4	65	—31	0.71	—0.49	1.95	0.05	4.6	4	14	6	8
1908	24.3	+1.7	59	—16	1.69	+0.49	3.95	0.23	8.9	6	12	6	11
1909	26.2	+3.6	62	—26	1.54	+0.34	4.72	0.30	7.7	5	11	6	11
1910	17.8	—4.8	58	—21	0.46	—0.74	2.09	T.	4.0	3	14	8	6
1911	27.3	+4.7	71	—13	2.56	+1.56	5.46	0.59	7.0	6	12	6	10
1912	18.1	—4.5	57	—30	1.21	+0.01	3.25	0.04	11.2	5	10	9	10
1913	20.2	—2.4	70	—24	0.82	—0.38	2.39	0.07	7.3	4	14	7	7
1914	16.8	—5.8	59	—29	0.87	—0.33	1.99	0.32	9.2	6	10	9	9
1915	29.1	+6.5	62	— 8	2.93	+1.73	5.39	0.43	9.4	9	9	5	14
1916	19.0	—3.6	62	—32	0.55	—0.65	1.38	0.05	6.0	4	14	8	7
1917	15.2	—7.4	68	—37	0.36	—0.84	1.19	T.	3.5	3	14	8	6
1918	22.0	+0.4	70	—36	0.96	—0.25	2.10	0.09	6.0	5	14	7	7
1919	24.9	+2.3	65	—16	2.42	+1.22	4.12	1.32	9.9	8	11	5	12
1920	24.0	+1.4	59	—22	0.56	—0.64	1.75	0.04	4.1	5	9	6	14
1921	31.0	+8.4	76	— 5	0.77	—0.43	2.00	T.	6.5	5	13	7	8
1922	23.7	+1.1	70	—20	1.59	+0.39	4.56	0.46	1.3	4	14	7	7
1923	20.1	—2.5	61	—23	0.49	—0.80	1.71	0.00	3.2	3	13	8	7
1924	25.8	+3.2	70	—15	1.27	+0.07	4.00	0.30	11.2	7	15	5	9
1925	28.4	+5.8	66	—16	0.82	—0.38	3.09	T.	2.6	4	11	7	10

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.
*New normals effective June 1, 1924.

Rivers. The Mississippi rose gradually till about the middle of the month and thereafter there was a general falling tendency till the end of the month, though there was considerable fluctuation due to ice conditions. There were breaks in the ice in the upper reaches but it continued frozen generally though the thickness of the ice diminished greatly as the month progressed. The backwater from the Keokuk dam was free of ice during the greater portion of the month but it froze again during the cold spell at the end of the month. There was a gradual rise in the Missouri River till the latter part of the third week, with considerable fluctuation, and a fall during the rest of the month. The ice was reduced materially during the month and no menacing gorges were produced. Low stages prevailed on all interior rivers with very slight changes and most of the streams in the southern half of the State were free of ice during most of the month.

Miscellaneous Phenomena. Fogs: 3d, 4th, 5th, 6th, 7th, 8th, 9th, 14th, 20th, 21st, 22d, 23d, 24th. Hail: 22d. Halos (lunar and solar): 3d, 4th, 6th, 7th, 12th, 16th, 18th, 19th, 26th, 27th. Haze: 20th. Parhelia: 26th, 27th. Sleet: 1st, 3d, 8th, 9th, 10th, 14th. Thunderstorms: 8th, 9th, 20th, 21st, 22d, 23d. Winds (high): 8th, 9th, 10th, 18th, 20th, 25th, 26th, 28th.

The Winter of 1924-1925. The mean temperature for the three winter months was 21.1°, which is 0.6° lower than the normal, for the State, and 3.3° lower than the mean of 1923-1924. The winter was the coldest since the winter of 1919-1920, which had a mean temperature of 18.6°. The highest temperature reported was 66°, at Perry on February 6, and the lowest was —33°, at Washta, on December 28.

The average monthly precipitation for the State was 1.00 inch, and the average total precipitation was 3.01 inches, or 0.41 inch less than the normal. The average total snowfall was 14.9 inches, or 5.6 inches less than the normal.

The average number of days with 0.01 inch or more of precipitation was 15, or 1 less than the winter of 1923-1924. The average number of clear days was 40, partly cloudy 20, and cloudy 30, as compared with 46 clear days, 18 partly cloudy days and 27 cloudy days during the winter of 1923-1924.

MARCH

Aside from a cold spell on the 1st and 2d, and another at the end of the second week and the beginning of the third week, unusually mild weather prevailed throughout the month, though the mean temperature has been exceeded five times in March. Zero temperatures were reached on the 1st, 2d, and 15th, being general over most of the State on the 2d and over a large area on the 15th, but zero was reached in none of the counties bordering the Missouri River except Lyon. This is the third consecutive month with an excess in temperature. The average daily excess since January 1 is 4.0 degrees. This caused all trees to make rapid advances and at the end of the month fruit buds were about two weeks ahead of last year.

The precipitation was decidedly below the normal, only two stations having an excess. This was also the third consecutive month with deficient precipitation, and the total for the three months, 2.15 inches, was the least in the history of the State for a similar period. The nearest approach to this amount was 2.17 inches in 1895. Precipitation was well distributed throughout the month but generally too light to penetrate the soil, except in the storm of the 13th, and most of the moisture was lost by evaporation.

Conditions were unusually favorable for all farm work. Frost left the ground much earlier than usual, and the preparation of the soil and seeding oats and spring wheat progressed with practically no interruption during the last half of the month, to a stage much ahead of the average. While conditions were favorable for farm work, the general lack of

precipitation in connection with the large number of windy days and the abnormally low humidity was injuriously affecting certain kinds of vegetation. In localities the dry soil drifted and covered up some winter wheat, and in other fields the soil blew away from the roots.

A number of small streams were completely dry and an unusually large number of wells were failing that never before had failed in the spring. The soil was so dry in most of the State that most of the oats seeded had made no advance toward germination, and grasses appeared dormant. Truck gardeners reported that hardy plants that had been transferred to fields were becoming yellow where irrigation was not practiced. Building operations progressed with very little interruption and highways were in unusually good condition, except for a brief period following the storm of the 13th, when dirt and gravel roads became soft.

Temperature. The mean temperature for the State, as shown by the records of 101 stations, was 40.1°, or 5.4° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 37.6°, or 5.5° higher than the normal; Central, 40.2°, or 5.1° higher than the normal; Southern, 42.4°, or 5.6° higher than the normal. The highest monthly mean was 44.4° at Ottumwa, and the lowest was 34.3°, at Estherville. The highest temperature reported was 82° at Thurman on the 22d, and at Glenwood and Little Sioux on the 23d, and the lowest was —6° at Cedar Rapids, Williamsburg and Postville on the 2d and at Fayette on the 15th. The temperature range for the State was 88°.

Precipitation. The average precipitation for the State, as shown by the records of 105 stations, was 0.93 inch, or 0.82 inch less than the normal. By divisions, the averages were as follows: Northern, 0.68 inch, or 0.88 inch less than the normal; Central, 0.90 inch, or 0.92 inch less than the normal; Southern, 1.20 inches, or 0.68 inch less than the normal. The greatest amount, 2.34 inches, occurred at Thurman, and the least, 0.10 inch, occurred at Harlan. The greatest amount in 24 consecutive hours, 1.50 inches occurred at Creston on the 13th.

Snowfall. The average snowfall for the State was 2.9 inches, or 2.4 inches less than the normal. The greatest amount, 7.5 inches occurred at Humboldt and Iowa Falls and the least was a trace at Bonaparte, Corning, Cumberland, Fairfield, Fairport, Keosauqua, Monroe, Ottumwa, Stockport, Washington and Winterset.

Miscellaneous Phenomena. Birds (migration of): Boone, red winged black birds, ducks, robins and killdeer, 6th; wild geese, 13th; blue birds, 14th; phoebe, 19th; fox sparrow, song sparrow, 21st; blue heron, chewing, kingfisher, 31st. Corydon, robins, 4th. Earlham, robins, 6th. Jefferson, robins, 6th. Oskaloosa, ducks, 6th; meadow larks, 11th. Dust storm: 26th. Fog: 8th, 9th, 17th, 19th, 22d, 24th, 25th. Hail: 23d. Halos (lunar and solar): 1st, 2d, 3d, 5th, 9th, 11th, 12th, 15th, 16th, 17th, 18th, 20th, 21st, 22d. Haze: 16th, 23rd. Parhelia: 1st. Sleet: 3d, 4th, 13th, 14th, 18th. Thunderstorms: 9th, 13th, 22d, 23d, 24th, 31st. Wind (high): 1st, 3d, 5th, 10th, 13th, 15th, 16th, 20th, 21st, 23d, 24th, 25th, 26th, 27th, 28th.

Rivers. Low stages prevailed on the Mississippi river with a slight fall during the first week and a gradual rise thereafter till near the end of the month. The ice began breaking at the end of the first week but there was still some ice in the upper course as late as the 20th. Low stages also prevailed on all interior rivers with considerable fluctuation during the first week due to ice after which there was a slow rise till the latter part of the month. Moderate stages prevailed on the Missouri River with the highest stages during the first week and a general falling tendency prevailed the rest of the month. The ice moved out of all streams with very little damage.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, inches (Sea Level)					Relative Humidity, %					Wind					Sunshine	
						Mean							Maximum				
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon†	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date	Per cent of possible	Departure from normal
Charles City	30.08	30.50	14	29.57	9	79	32	67	24	29	6,411	8.6	29	s.	20	71	+15
Davenport	30.09	30.53	15	29.64	9	83	37	68	40	30	6,626	8.9	32	s.	20	66	+ 9
Des Moines	30.07	30.52	27	29.54	24	7[illegible]	[illegible]	[illegible]	20	28	6,477	8.7	38	sw.	20	76	+16
Dubuque	30.06	30.50	15	29.60	9	76	32	54	21	31	6,085	8.2	28	s.	20	67	+14
Keokuk	30.10	30.58	15	29.66	10	[illegible]	[illegible]	[illegible]	33	22	6,571	8.8	30	s.	20	67	+ 7
Sioux City	30.08	30.65	14	29.33	9	[illegible]	[illegible]	[illegible]	18	21	1,251	15.1	50	nw.	26	74	+10
Omaha, Neb	30.07	30.6[illegible]	14	29.5[illegible]	9	[illegible]	[illegible]	[illegible]	14	28	7,165	9.6	35	n.	†13	68	+11
Means and extremes	30.08	30.67	14	29.33	9	76	33	55	14	28		9.7			20	70	+13
Normals and records	30.04	§30.82	29th 1921	*28.79	29th 1924	80	37	67	*5	18th 1918		9.6	65	w.	16th 1920	57	

§Sioux City. *Des Moines. †Local mean time. ‡And other dates

COMPARATIVE DATA FOR THE STATE—MARCH

YEAR	Temperature				Precipitation					Number of Days			
	Mean	Departure*	Highest	Lowest	Total	Departure*	Greatest	Least	Snowfall	With prec. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	28.0	−6.7	75	−24	1.57	−0.18	3.67	0.32	.....	.....	.....	.....	.....
1891	26.8	−7.9	66	−19	2.60	+0.85	4.58	1.33	.....	10	6	8	17
1892	31.9	−2.8	84	− 6	2.22	+0.47	4.58	0.57	3.9	6	11	8	12
1893	31.8	−2.9	84	− 8	2.14	+0.39	4.40	0.64	4.0	8	9	11	11
1894	41.0	+6.3	84	− 5	2.03	+0.28	4.52	0.26	2.7	6	13	10	8
1895	34.4	−0.3	94	−11	0.83	−0.92	2.60	0.22	2.9	4	16	8	7
1896	30.9	−3.8	81	−12	1.10	−0.65	3.99	0.16	5.4	5	12	9	10
1897	32.0	−2.7	72	−22	2.39	+0.64	6.16	0.29	5.5	8	9	8	14
1898	37.5	+2.8	72	− 2	1.94	+0.19	6.21	0.33	3.7	6	12	9	10
1899	23.0	−11.7	75	−16	1.62	−0.13	5.90	0.37	8.0	6	7	12	12
1900	30.7	−4.0	81	−13	2.06	+0.31	5.15	0.45	6.6	5	12	9	10
1901	34.2	−0.5	76	− 8	2.64	+0.89	5.25	0.70	12.6	7	10	8	13
1902	30.1	+4.4	79	−12	1.45	−0.30	4.33	0.13	1.3	7	9	11	11
1903	38.8	+4.1	82	6	1.38	−0.37	3.90	0.15	3.9	7	11	7	13
1904	34.8	+0.1	78	3	2.18	+0.43	4.57	0.50	4.4	7	8	8	15
1905	41.5	+6.8	84	1	2.64	+0.29	3.70	0.89	4.1	7	8	8	15
1906	27.1	−7.6	65	−14	2.34	+0.59	4.55	0.58	8.9	10	8	7	16
1907	40.6	+5.9	92	− 7	1.35	−0.40	5.05	0.23	4.1	6	14	7	10
1908	37.9	+3.2	85	− 8	1.58	−0.17	3.74	0.45	1.1	6	13	7	11
1909	32.5	−2.2	71	−15	1.53	−0.22	5.00	0.25	9.8	6	12	10	9
1910	48.9	+14.2	92	−10	0.17	−1.58	1.37	0.00	T.	1	23	6	2
1911	39.4	+4.7	83	2	0.93	−0.82	4.84	T.	1.9	5	16	9	6
1912	24.9	−9.8	70	−19	2.01	+0.26	5.25	0.60	19.1	7	15	6	10
1913	31.9	−2.8	78	−23	2.48	+0.73	5.88	0.74	5.3	9	11	10	10
1914	34.7	0.0	78	− 5	1.69	−0.06	3.84	0.28	1.8	7	12	8	11
1915	29.3	−5.4	61	− 5	0.96	−0.79	2.12	0.17	8.8	5	8	9	14
1916	35.2	+0.5	80	−18	1.57	−0.18	5.80	0.23	2.9	6	11	9	11
1917	34.6	−0.1	85	−12	1.84	+0.09	4.35	0.57	6.2	6	14	8	9
1918	42.9	+8.2	86	0	0.63	−1.12	2.12	0.03	2.6	3	19	7	5
1919	37.5	+2.8	78	−11	2.33	+0.58	5.40	0.81	1.1	6	15	8	8
1920	38.6	+3.3	80	−21	3.02	+1.27	5.70	0.47	2.4	7	15	7	9
1921	42.8	+8.1	86	4	1.57	−0.18	6.62	0.17	0.2	7	14	8	9
1922	38.3	+3.6	74	− 5	1.97	+0.22	3.73	0.76	3.4	7	12	6	13
1923	29.4	−5.3	78	−22	2.87	+1.12	5.08	0.71	18.5	7	13	9	9
1924	31.9	−2.8	72	3	2.65	+0.90	4.76	1.26	10.5	8	8	8	15
1925	40.1	+5.4	82	− 6	0.93	−0.82	2.34	0.10	2.9	4	17	9	5

T. indicates an amount too small to measure, or less than .006 inch precipitation and less than .05 inch snowfall.
*New normals effective June 1, 1924.

APRIL

Unusually mild weather prevailed practically the entire month, and with the exception of April, 1915, this was the warmest April of record. From the 1st to the 26th the temperature was continuously above normal except on an occasional day, in scattered portions of the State. An unusual feature was the fact that at a number of stations the temperature did not reach the freezing point, and there was no damage of consequence from frost. The month closed with a decided change to colder. Another unusual feature was the remarkably high minimum temperature on the night of the 21st-22d, which seemed more like a July night, and the minimum on the morning of the 22d did not go below 70° at several stations in the western portion of the State. The mild weather caused all vegetation to advance far beyond the average for the season. Fruit blossomed in some parts of the State nearly three weeks ahead of the

average date, under ideal conditions. Strawberries were damaged somewhat by frost at the end of the month, but most tree fruit escaped injury. Truck gardeners generally disregarded caution and planted a large acreage of tomatoes, sweet corn and beans. Many fields of sweet corn intended for early market were more than six inches high at the end of the month. The weather was ideal for all farm work. The preparation of the soil for corn was pushed and there was considerable planting in the southern half of the State, but in a small area in the southeast the work was interrupted by too much rain. The temperature departures were remarkably uniform.

Though precipitation averaged only 0.79 inch below normal, the greater portion of the State had less than half the normal, the average being brought up by an excess in the southeast and south-central sections. The continued rain shortage in much of the State caused small streams and wells to continue to go dry and crops in large areas were badly in need of rain. Since the present dry period set in there has been but one month, December, 1924, that has had more than the normal precipitation. The deficiency since last September now amounts to more than five inches. There was very little rain during the first week; thereafter rainfall occurred at frequent intervals but generally insufficient to penetrate the soil. Hail occurred on a large number of days, but it was not of a damaging nature except on the 18th, 20th, and 21st. The most severe storm occurred on the 18th in a strip running from Humboldt and Wright counties northeastward to Winneshiek, Howard, and Mitchell counties. The damage consisted mainly of broken windows, punctured roofs, and some damage to fruit buds. Stones were noted at many places as large as hen's eggs. A less severe storm also occurred over much of this area on the 20th and 21st; and on the 21st a local storm occurred in Appanoose county. These storms were accompanied by considerable wind which wrecked a number of barns and silos. Lightning was severe in localities. In Dubuque county a team of two mules and two horses were killed, but the driver escaped without being stunned; in Lee county lightning struck a barn, causing it to burn with all its contents, including four horses.

Roads were in generally good condition, except in the southeast portion, throughout the month, and all outside occupations were carried on with very little interruption.

Temperature. The mean temperature for the State, as shown by the records of 102 stations, was 56.5°, or 7.6° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 54.8°, or 7.7° higher than the normal; Central, 56.7°, or 7.5° higher than the normal; Southern, 58.1°, or 7.6° higher than the normal. The highest monthly mean was 60.2°, at Thurman, and the lowest was 52.6°, at Osage. The highest temperature reported was 95°, at Waterloo, on the 23d, and the lowest was 21°, at Postville, on the 5th. The temperature range for the State was 74°.

Precipitation. The average precipitation for the State, as shown by the records of 105 stations, was 2.20 inches, or 0.79 inch less than the

normal. By divisions the averages were as follows: Northern, 1.76 inches, or 1.01 inches less than the normal; Central, 2.12 inches, or 0.91 inch less than the normal; Southern, 2.71 inches, or 0.47 inch less than the normal. The greatest amount, 5.34 inches, occurred at Centerville, and the least, 0.71 inch, occurred at Allison. The greatest amount in any 24 consecutive hours, 2.31 inches, occurred at Fairfield, on the 24th.

Snowfall. The average snowfall for the State was a trace, this year being the fifth year in the history of the State's weather that the April average has been less than 0.1 inch. The normal for the state is 1.8 inches. Only three stations, Belmond, Spencer and Davenport, reported more than a trace and about three-fourths of the Stations reported no snow whatever.

Miscellaneous Phenomena. Fog: 9th, 18th. Frost (light): 1st, 2d, 3d, 5th, 6th, 15th, 16th, 27th, 28th, 29th, 30th; (heavy): 5th, 15th, 27th, 29th, 30th; (killing): 2d, 3d, 5th, 6th, 15th, 16th, 29th, 30th. Hail: 7th, 14th, 18th, 19th, 20th, 21st, 22d, 24th, 26th, 27th, 28th, 29th. Halos (lunar and solar): 1st, 2d, 3d, 4th, 7th, 16th, 18th, 21st, 23d, 26th, 28th. Haze: 4th, 18th, 22d. Rainbows: 13th, 23d, 25th. Sleet: 19th, 29th. Thunderstorms: 7th, 8th, 9th, 13th, 14th, 16th, 18th, 19th, 20th, 21st, 22d, 23d, 24th, 25th, 26th, 28th. Winds (high): 3d, 6th, 14th, 18th, 20th, 21st, 22d, 23d, 26th, 29th.

Rivers. Low stages prevailed on the Mississippi and all interior rivers. The highest stages prevailed during the first week after which there was a gradual fall on the interior rivers but a moderate rise occurred on the Mississippi during the third and fourth weeks. Moderate stages prevailed on the Missouri River with a rather sharp rise during the first week, the total rise amounting to more than 6.0 feet and a rise in a single day of more than 2.5 feet. After the first week there was a gradual fall except a slight rise occurred during the latter part of the third week.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)					Relative Humidity, %					Wind					Sunshine	
						Mean			Lowest	Date	Total movement	Average hourly velocity	Maximum			Per cent of possible	Departure from normal
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon	7 p. m.					Miles	From	Date		
Charles City	30.00	30.40	5	29.59	18	78	60	48	14	2	5,111	7.1	31	se.	3	66	+ 8
Davenport	29.96	30.41	5	29.37	18	76	61	58	33	12	5,428	7.5	30	e.	20	54	— 4
Des Moines	29.96	30.38	5	29.44	18	66	42	48	20	12	6,089	8.5	40	sw.	26	62	+ 3
Dubuque	29.98	30.43	5	29.51	18	70	40	44	16	3	4,748	6.6	33	n.	14	61	+ 4
Keokuk	29.98	30.37	5	29.39	19	73	53	53	26	2	5,603	7.9	32	n.	29	61	+ 4
Sioux City	29.97	30.37	15	29.52	18	57	46	44	17	25	10,029	13.9	56	nw.	29	64	+10
Omaha, Neb	29.95	30.37	15	29.54	18	64	42	44	18	15	6,228	8.6	48	n.	29	65	+ 7
Means and extremes	29.98	30.43	5	29.37	18	70	46	48	14	2		8.6	56	nw.	29	62	+ 4
Normals and records	29.98	30.78	9th 1918	*28.99	20th 1898	76	57		†10	25th 1902		9.9	‡74	n.	25th 1902	58	

‡Dubuque. *Davenport. †Sioux City. ‡Local mean time. †And other dates.

COMPARATIVE DATA FOR THE STATE—APRIL

YEAR	Temperature				Precipitation					Number of Days			
	Mean	Departure*	Highest	Lowest	Total	Departure*	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	51.8	+2.9	88	2	1.80	—1.19	4.46	0.38	.....	6	14	9	7
1891	50.6	+1.7	93	13	2.15	—0.84	5.06	0.59	.....	8	14	7	9
1892	45.4	—3.5	88	14	4.75	+1.76	8.38	2.43	5.7	9	8	9	13
1893	45.5	—3.4	96	15	4.21	+1.22	8.51	1.24	6.0	10	8	9	13
1894	51.7	+2.8	93	12	2.07	+0.08	6.91	0.55	0.2	9	11	11	8
1895	54.2	+5.3	98	8	2.62	—0.37	5.88	0.28	2.1	5	14	8	8
1896	54.5	+5.6	94	10	5.02	+2.03	9.67	2.35	4.5	11	11	10	9
1897	47.9	—1.0	89	19	5.35	+2.36	9.85	2.22	T.	11	9	9	12
1898	48.1	—0.8	91	14	2.56	—0.43	4.82	0.27	T.	8	13	9	8
1899	48.9	0.0	89	1	2.40	—0.59	5.76	0.56	2.0	7	12	11	7
1900	52.2	+3.3	89	19	2.67	—0.32	6.02	0.43	0.9	6	12	9	9
1901	49.9	+1.0	92	15	1.79	—1.20	3.47	0.66	2.0	5	14	8	8
1902	48.2	—0.7	96	9	1.71	—1.28	4.15	0.46	T.	5	14	11	5
1903	49.8	+0.9	86	17	2.98	—0.01	6.00	0.74	0.8	9	11	9	10
1904	44.1	—4.8	86	13	3.63	+0.64	8.97	1.32	1.4	7	15	6	9
1905	47.5	—1.4	96	10	3.03	+0.04	5.49	0.62	1.3	8	12	8	10
1906	52.5	+3.6	94	22	2.42	—0.57	5.55	0.53	0.6	8	14	9	7
1907	41.5	—7.4	86	10	1.32	—1.67	3.22	0.24	2.7	6	12	8	10
1908	50.5	+1.6	91	8	2.24	—0.75	4.59	0.67	0.3	8	14	8	8
1909	43.8	—5.1	86	14	4.58	+1.59	9.43	0.83	3.1	12	9	9	12
1910	52.5	+3.6	90	15	1.48	—1.51	4.86	0.10	3.0	7	14	7	9
1911	46.7	—2.2	86	3	3.69	+0.19	6.04	1.33	3.6	9	11	8	11
1912	49.9	+1.0	84	20	2.66	—0.33	5.66	0.78	1.1	8	13	8	9
1913	50.2	+1.3	88	16	3.28	+0.29	7.43	1.12	2.7	9	15	5	10
1914	48.6	—0.3	88	11	2.52	—0.47	5.03	0.37	0.3	8	10	8	12
1915	57.2	+8.3	95	18	1.41	—1.58	4.02	0.05	T.	7	15	10	5
1916	47.1	—1.8	90	11	2.62	—0.37	5.92	1.13	1.1	10	10	9	11
1917	45.5	—3.4	88	17	4.55	+1.56	7.84	2.05	3.8	11	9	7	14
1918	44.8	—4.1	79	12	2.32	—0.67	4.20	1.01	3.5	9	12	8	10
1919	48.4	—0.5	81	20	4.78	+1.79	9.00	1.94	0.7	14	8	8	14
1920	42.4	—6.5	78	22	4.59	+1.60	7.13	1.93	2.0	12	8	9	13
1921	52.4	+3.5	88	14	3.34	+0.35	6.69	0.99	3.6	10	13	7	10
1922	49.9	+1.0	87	21	3.66	+0.67	6.70	1.04	1.0	9	11	9	10
1923	48.4	—0.5	85	11	2.09	—0.90	4.26	0.47	0.8	8	15	7	8
1924	50.5	+1.6	90	—8	1.38	—1.61	4.53	0.38	1.4	7	16	8	6
1925	56.5	+7.6	95	21	2.20	—0.79	5.34	0.71	T.	8	14	9	7

T. indicates an amount too small to measure, or less than .005 inch rainfall an less than .05 inch snowfall.
*New normals effective June 1, 1924.

MAY

The month was characterized by great extremes and numerous sudden changes in temperature. While neither the maximum nor the minimum equaled the record for the State for May, a great many stations in the northern and central divisions reported the highest record for May and the low temperatures that occurred during the last week of May were the lowest ever recorded so late in the season. Following the abnormally high temperature on the 22d, occurred the most remarkable drop that ever occurred in the State, except in winter. The greatest drop of 78° occurred at Webster City, falling from a maximum of 102° on the afternoon of the 22d, to 26° on the morning of the 25th, a period of about 60 hours. Over a large area in the northeastern portion of the State the drop amounted to more than 65° in a period of 36 hours, thus within this short period the high and low record for this section of the State

was broken. Frost of varying degrees occurred with unusual frequency till the 27th, causing severe damage to all vegetation susceptible to frost damage. Some truck crops were completely destroyed, the damage being particularly heavy to tomato plants and beans. After the first killing frost occurred many truck gardeners replanted after each killing frost, so that in some parts of the State the tomato crop was wiped out for the third time. One field of 1,500 acres had 700 acres killed at Muscatine. The loss was heavy in all sections of the State and there was fear that there would not be sufficient plants to replace those killed. The frost seriously injured all fruit. Grapes were generally killed early in the month but they had recovered and were putting out the second shoots when the hard freeze of the 25th again killed them in a large portion of the State. Strawberries went through almost the same adversities as grapes and in portions of the State they will be almost a total failure. Blackberries and raspberries also suffered from the frost.

Also, this was the 5th consecutive month that the precipitation has been below normal, being the driest May of record. The deficiency was the greatest of record for any month, and the five-month period is the driest of all similar periods of record. The total for the last five months has been 5.51 inches as compared to a normal of 11.63 inches. An unusual feature in connection with the lack of rain is that last May was the second driest May, with a total of 0.55 inch more than this month. The month was favorable for all outdoor work but detrimental to practically all crops.

Corn planting was completed and much of the early planted was cut to the ground by frost, but it generally made a good recovery. In some of the drier sections the soil was too dry for the corn to germinate, but notwithstanding the generally unfavorable conditions there was only a small per cent of replanting necessary, and the general condition was better than a year ago, and compared favorably with the normal condition at the end of May. Wheat, oats, and grasses were affected by the dry weather. In some sections of the State winter wheat was injured beyond recovery; oat fields were heading that were not over six inches high; meadows were making no growth; pastures were burned brown; and cattle in sections of the State were being grazed along roadsides. The extremely dry conditions in connection with the strong winds on numerous days caused the soil to drift and cover up growing crops and other fields had the soil blown away from the roots. The protracted dry weather caused a further drying up of small streams and wells, necessitating the hauling of water. There were very few storms of a damaging nature, though a rather severe hail storm, ranging from 6 to 10 miles wide, and from 10 to 15 miles long, occurred in the vicinity of Sioux City. The hail accompanied a heavy downpour that flooded numerous basements and caused the collapse of a building under construction. Greenhouses also suffered from the hail. The storm caused a loss of about $30,000.

The unusual features of the month are well set forth in the following brief notes by the Official in Charge of the Weather Bureau Office in Dubuque, where one of the longest records in the State is available:

"Both the high and low temperature records for the season of the year were broken within a two-day period; mean daily range for the month set a new record; precipitation was the lowest of record for three-quarters of a century; snowfall occurred the latest of record; sunshine the greatest for any May of record; river stage equaled the previous low record for May; low record of thunderstorms also equaled."

Temperature. The mean temperature for the State, as shown by the record of 104 stations, was 57.8°, or 2.4° lower than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 56.4°, or 2.2° lower than the normal; Central, 57.9°, or 2.5° lower than the normal; Southern, 59.0°, or 2.5° lower than the normal. The highest monthly mean was 61.2°, at Thurman, and the lowest was 54.2°, at Decorah. The highest temperature reported was 102°, at Cedar Rapids and Webster City, on the 22d, and the lowest was 20°, at Milford, on the 17th. The temperature range for the State was 82°. This range has never been exceeded in May, and only once, in 1907, has it been equaled.

Precipitation. The average precipitation for the State, as shown by the records of 108 stations, was 1.16 inches, or 3.45 inches less than the normal. By divisions the averages were as follows: Northern, 1.12 inches, or 3.48 inches less than the normal; Central, 1.18 inches, or 3.43 inches less than the normal; Southern, 1.18 inches, or 3.44 inches less than the normal. The greatest amount, 2.62 inches, occurred at Fayette, and the least, 0.30 inch, occurred at Milford and Sioux Center. The greatest amount in any 24 consecutive hours, 1.59 inches, occurred at Mt. Pleasant on the 30th.

Snowfall. Light snow flurries occurred in each of the three divisions but it did not exceed a trace at a single station, the snowfall that occurred on the 24th over the northeastern portion of the State is the latest that snow has occurred in the last 41 years.

Miscellaneous Phenomena. Fog: 7th, 8th, 10th, 16th, 18th, 29th. Frost Northern Division, Killing: 2d, 5th, 6th, 7th, 8th, 9th, 11th, 16th, 17th, 18th, 25th, 26th; Heavy: 2d, 6th, 7th, 8th, 16th, 17th, 25th; Light: 1st, 2d, 4th, 5th, 7th, 8th, 10th, 11th, 12th, 18th; Central Division, Killing: 1st, 2d, 5th, 6th, 7th, 8th, 11th, 16th, 25th; Heavy: 2d, 5th, 6th, 7th, 17th, 25th; Light: 1st, 2d, 5th, 6th, 7th, 11th, 12th, 17th; Southern Division, Killing: 1st, 2d, 6th, 7th, 11th, 25th; Heavy: 1st, 2d, 5th, 6th, 7th, 11th, 17th; Light: 1st, 2d, 5th, 6th, 7th, 12th, 18th, 25th, 27th, Hail: 3d, 5th, 19th, 20th. Halos: 2d, 4th, 5th, 7th, 17th, 26th, 28th. Haze: 21st. Parhelia: 1st. Sleet: 5th, 7th. Thunderstorms: 3d, 4th, 5th, 6th, 9th, 15th, 16th, 19th, 20th, 22d, 24th, 27th, 30th, 31st. Winds (high): 3d, 16th, 22d, 23d, 24th, 30th, 31st.

Rivers. Unusually low stages prevailed on the Mississippi and all interior rivers. There was a gradual though slow fall the entire month, and almost without exception, the highest stages occurred on the first of the month and the lowest stages on the last. The lowest stages for

the month of May were either equalled or exceeded along the entire border of the State on the Mississippi. Remarkably uniform moderate stages prevailed on the Missouri River. The range at Omaha was less than one foot from the 1st to the 25th, inclusive, and at Sioux City, from the 1st to the 27th, inclusive. A moderate rise occurred during the last half of the last week along the entire course bordering the State.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)					Relative Humidity, %					Wind					Sunshine	
						Mean							Maximum				
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon†	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date	Per cent of possible	Departure from normal
Charles City	29.9	30.3	17	29.43	2	69	58	46	19	6	4,987	6.7	26	sw.	22	76	+15
Davenport	29.9	30.37	26	29.5	2	71	54	43	23	13	5,216	7.0	27	se.	15	70	+ 6
Des Moines	29.9	30.37	17	29.51	2	72	52	48	21	22	5,733	7.7	40	sw.	22	73	+12
Dubuque	29.9	30.37	26	29.51	2	70	51	44	26	7	4,755	6.4	24	sw.	20	75	+17
Keokuk	29.8	30.3	26	29.60	2	70	46	49	29	13	5,148	6.9	32	nw.	4	74	+19
Sioux City	29.96	30.39	17	29.46	31	71	42	42	20	6	8,920	12.0	44	s.	31	77	+20
Omaha, Neb	29.99	30.36	11	29.59	2	68	42	44	15	7	4,837	6.5	34	n.	3	78	+17
Means and extremes	29.99	30.39	17	29.43	22	70	42	45	15	7		7.6	44	s.	31	75	+64
Normals and records	29.95	*30.58	4th 1910	‡29.02	7th 1875	77	59	59	§10	3d 1889		8.7	¶84	nw.	21*† 1894	61	

*Dubuque. §Omaha. ¶Sioux City. ‡Local mean time. †And other dates.

COMPARATIVE DATA FOR THE STATE—MAY

YEAR	Temperature				Precipitation					Number of Days			
	Mean	Departure*	Highest	Lowest	Total	Departure*	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	57.7	−2.5	90	26	3.56	−1.05	6.44	1.61	.....	9	10	13	8
1891	58.3	−1.9	94	21	3.18	−1.43	7.10	1.46	.....	8	14	9	8
1892	54.0	−6.2	88	29	8.77	+4.16	12.64	4.87	T.	16	5	9	17
1893	56.6	−3.6	96	30	3.45	−1.16	5.82	1.65	0	9	13	9	9
1894	61.1	+0.9	96	22	1.87	−2.74	4.77	0.33	0	6	17	10	4
1895	61.7	+1.5	104	24	3.19	−1.42	5.79	0.84	0	9	11	12	8
1896	65.5	+5.3	100	34	6.69	+2.06	11.79	3.40	0	12	11	12	8
1897	58.5	−1.7	96	20	1.92	−2.69	3.59	0.21	0	5	16	10	5
1898	59.6	−0.6	92	26	4.67	+0.06	7.82	2.22	0	12	9	10	12
1899	60.2	0.0	90	27	6.23	+1.62	11.47	3.09	0	13	9	12	10
1900	63.2	+3.0	98	22	3.31	−1.30	6.98	0.96	0	8	14	10	7
1901	60.7	+0.5	95	28	2.35	−2.26	4.57	0.72	0	7	16	9	6
1902	63.8	+3.6	97	25	5.39	+0.78	18.04	0.87	0	13	10	12	9
1903	61.6	+1.4	91	24	8.55	+3.94	15.45	2.88	0	16	9	12	10
1904	59.6	−0.6	93	27	3.78	−0.83	8.15	1.50	0	8	13	10	8
1905	58.3	−1.9	88	28	5.95	+1.34	10.80	2.57	0	14	12	11	8
1906	60.8	+0.6	96	24	3.54	−1.07	10.72	0.89	0	11	13	10	8
1907	53.5	−6.7	96	14	3.48	−1.13	7.68	0.71	1.0	10	11	10	10
1908	59.4	−0.8	93	13	8.34	+3.73	14.33	1.33	0	15	9	11	11
1909	57.9	−2.3	97	18	4.34	−0.27	7.85	1.86	0.1	9	12	12	7
1910	55.4	−4.8	89	18	3.41	−1.20	6.91	1.29	T.	10	15	7	9
1911	64.9	+4.7	98	23	3.76	−0.85	8.73	0.42	0.7	9	16	9	6
1912	62.7	+2.5	97	29	3.33	−1.27	6.41	0.72	0	10	14	11	6
1913	59.4	−0.8	102	30	6.24	+1.63	10.25	3.14	0	13	11	8	12
1914	62.2	+2.0	98	25	3.31	−1.30	6.90	0.30	T.	10	14	11	6
1915	56.1	−4.1	99	25	7.34	+2.73	13.21	3.82	T.	14	9	9	13
1916	59.9	−0.3	94	27	4.93	+0.32	10.44	2.14	T.	12	13	10	8
1917	55.1	−5.1	95	18	3.87	−0.74	7.33	1.69	0.6	10	15	8	8
1918	64.9	+4.7	98	25	6.87	+2.26	11.98	2.72	T.	13	13	11	7
1919	58.2	−2.0	93	30	3.11	−1.50	7.14	0.73	0	9	13	11	7
1920	59.4	−0.8	89	29	3.26	−1.35	5.73	0.62	0	8	14	9	8
1921	63.3	+3.1	90	25	4.23	−0.38	9.41	1.32	0	10	14	10	7
1922	63.4	+3.2	91	34	3.53	−1.08	8.36	0.47	0	12	13	10	8
1923	59.6	−0.6	90	20	2.84	−1.77	6.55	1.07	T.	10	14	10	7
1924	54.1	−6.1	94	26	1.71	−2.90	3.28	0.78	0.1	9	13	9	9
1925	57.8	−2.4	102	29	1.16	−3.45	2.62	0.30	T.	6	19	8	4

T. indicates an amount too small to measure, or less than .005 inch precipitation and less than .05 inch snowfall.
*New normals effective June 1, 1924.

JUNE

The principal feature of the weather during June was the breaking of the persistent drouth that has prevailed throughout the previous months of the year. The average precipitation for the State exceeded the total for the preceding five months by more than one inch, and several stations reported amounts that exceeded the total for eight months preceding. As is usual during periods of heavy rainfall, there were the accompanying destructive elements, including hail, severe electrical storms, damaging straight winds, tornadoes, and floods. Minor tornadoes were reported at several places on the 1st, but on the afternoon of the 2d a large area in the western part of the State reaching eastward to Greene county reported unusual tornadic activity. The damage was especially heavy in portions of Woodbury, Harrison, Pottawattamie, Shelby, Mills, Montgomery, Cass, and Adair counties on the 2d, consisting of many separate

tornadoes advancing in the same general direction. Small villages were almost completely destroyed and the path of destruction at a point near the line of Harrison and Pottawattamie counties was nearly five miles wide. Much of the area was again visited by a series of tornadoes on the afternoon of the 3d. One locality in the west-central portion of the State was visited by three distinct tornadoes, two being within a short period on the afternoon of the 2d. On the afternoon of the 11th tornadoes developed over a large area from Franklin and Cerro Gordo counties eastward to Fayette county, which injured many people, destroyed farm buildings, and damaged crops. More details of these tornadoes will be published next month. There is not sufficient time to carefully consider and arrange the data for this report. Destructive hail occurred over limited areas in the southwestern counties, portions of Woodbury county, and from Calhoun and Pocahontas counties northeastward to Winneshiek county. The fall was especially heavy in localities. In the southern portion of Floyd county, a stream that is normally dry rose to a height of 20 feet and was over 100 yards wide. Residents in the district reported the fall of hail on the level to be from two to four inches deep. A picture was taken of the hail at a turn in a creek known as "Bloody Run" where the hail had collected, and it showed a bank from two to four feet deep that covered one and one-half acres. At the time the picture was taken, the day following the storm, there were still stones to be seen that were two inches in diameter. The damage from hail amounted to probably more than $250,000 and from straight winds and tornadoes to an amount exceeding $800,000.

The temperature averaged slightly above normal, being greatest in the southern division. There were no periods of oppressively warm weather, and the fluctuations were frequent beginning with the most protracted warm period during the first week and terminating with the coolest period of the month during the last week. All crops were greatly benefited. Corn made unusual growth and the straw of small grain lengthened considerably, so that much that seemed too short to harvest will be gathered in the usual manner. Pastures that were bare in the beginning of the month were soon revived and minor crops responded quickly to the favorable growing conditions. The rains came so late that hay will not make more than half a crop.

As practically all the flood damage occurred in the northeastern portion of the state, a complete report is furnished by the official in charge of the Dubuque station appears elsewhere in this report.

Temperature. The mean temperature for the State, as shown by the records of 101 stations, was 70.4°, or 1.1° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 68.4°, or 0.4° higher than the normal; Central, 70.8°, or 1.2° higher than the normal; Southern, 71.9°, 1.7° higher than the normal. The highest monthly mean was 74.2°, at Keokuk, and the lowest was 66.0°, at Postville. The highest temperature recorded was 98° at Glenwood, Little Sioux and Perry on the 20th, and the lowest was 38°, at Milford on the 9th. The temperature range for the State was 60°.

Precipitation. The average precipitation for the State, as shown by the records of 107 stations, was 6.64 inches, or 2.11 inches greater than the normal. By divisions, the averages were as follows: Northern, 7.20 inches, or 2.59 inches greater than the normal; Central, 5.77 inches, or 1.31 inches greater than the normal; Southern, 6.69 inches, or 2.45 inches greater than the normal. The highest amount, 13.30 inches occurred at Oelwein, and the least, 2.99 inches, occurred at Marshalltown. The greatest amount in 24 consecutive hours, 6.50 inches, occurred at Oelwein, on the 15th.

Miscellaneous Phenomena. Fog. 15th, 22d. Hail: 1st, 2d, 3d, 4th, 6th, 10th, 11th, 12th, 13th, 14th, 16th, 21st, 22d, 23d, 24th, 27th, 28th. Halos (lunar and solar): 15th, 17th. Light frost: 28th, (1 station). Thunderstorms: All dates except 5th, 6th, 9th, 20th, 30th. Tornadoes: 1st, 2d, 3d, 4th, 7th, 11th, 12th, 16th, 23d, 28th. Winds (damaging): 1st, 2d, 4th, 11th, 12th, 14th.

Rivers. Rather low stages prevailed on the Mississippi River till the latter part of the 2d week, the heavy rains that occurred during the first week having affected the stages very little owing to the previous dry weather. During the rest of the month there were several sharp rises but no flood conditions developed. There was considerable fluctuation on the interior rivers following each period of heavy rain with some sharp rises, but there was no flood damage except in the northeastern portion of the State, principally on the Maquoketa and tributary streams. (See below.) There was a gradual rise on the Missouri River till the 2d week with mostly falling stages thereafter. Crest stages were below the flood stage and the only damage was on low lands in the lower course.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)					Relative Humidity, %					Wind						Sunshine	
						Mean							Maximum					
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon‡	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date		Per cent of possible	Departure from normal
Charles City	29.91	30.37	30	29.44	2	76	55	63	37	6	5,783	8.0	29	se.	11		74	+ 6
Davenport	29.93	30.38	30	29.52	12	73	55	56	32	21	5,551	7.7	30	sw.	7		63	— 8
Des Moines	29.89	30.31	30	29.49	2	76	56	59	30	29	6,412	8.9	37	sw.	2		70	+ 3
Dubuque	29.90	30.38	30	29.50	12	76	56	58	39	†29	4,997	6.9	24	sw.	8		71	+ 7
Keokuk	29.91	30.36	30	29.56	12	75	56	59	26	5	5,725	8.0	37	sw.	15		60	—15
Sioux City	29.86	30.28	29	29.30	2	73	52	52	22	19	9,974	13.9	76	sw.	1		71	+ 8
Omaha, Neb.	29.87	30.25	*9	29.33	2	74	52	56	30	†8	5,841	8.1	38	nw.	†14		72	+ 4
Means and extremes	29.90	.....	.....	.....	.....	75	55	58	.....	.....	.....	8.8	.....	.....	.....		70	+ 2
	.....	30.38	30	29.30	2	.....	.....	.....	22	19	.....	.....	76	sw.	1		.....	.....
Normals and records	29.93	.....	10th	.....	5th	79	...	60	...	30th	.....	7.6	.....	.....	22d		62	.....
	.....	*30.61	1912	29.04	1880	.....	.....	.....	†14	1891	.....	.....	*85	w.	1917		.....	.....

*Dubuque. †Omaha. ‡Sioux City. §Local mean time. †And other dates.

COMPARATIVE DATA FOR THE STATE—JUNE

YEAR	Temperature				Precipitation					Number of Days			
	Mean	Departure	Highest	Lowest	Total	Departure	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	72.7	+3.4	100	44	7.76	+3.23	16.53	1.57	.....	11	12	10	8
1891	69.1	−0.2	99	37	5.39	+0.86	19.88	1.08	.....	11	8	10	12
1892	69.2	−0.1	102	42	5.19	+0.66	14.16	0.67	.....	10	12	11	7
1893	71.2	+1.9	100	40	3.91	−0.62	7.56	1.36	.....	8	15	11	4
1894	73.2	+3.9	104	34	2.67	−1.86	6.20	0.57	.....	7	16	10	4
1895	69.7	+0.4	102	34	4.32	−0.21	9.26	0.98	.....	10	11	11	8
1896	69.1	−0.2	100	40	3.11	−1.42	7.89	0.81	.....	9	12	13	5
1897	69.1	−0.2	103	29	3.81	−0.72	9.38	1.03	.....	10	10	12	8
1898	71.4	+2.1	99	42	4.72	+0.19	12.48	1.90	.....	9	13	10	7
1899	70.7	+1.4	100	42	5.04	+0.51	11.99	1.10	.....	10	12	13	5
1900	69.7	+0.4	102	38	3.98	−0.55	12.35	0.67	.....	5	17	10	3
1901	72.3	+3.0	106	30	3.71	−0.82	7.84	1.05	.....	9	15	11	4
1902	65.2	−4.1	97	32	7.16	+2.63	16.04	1.46	.....	14	8	11	11
1903	64.6	−4.7	96	30	2.86	−1.67	6.04	0.75	.....	10	13	10	7
1904	67.1	−2.2	94	35	3.45	−1.08	8.35	0.44	.....	7	13	10	7
1905	69.9	+0.6	100	36	5.53	+1.00	14.89	1.80	.....	10	12	11	7
1906	67.9	−1.4	99	37	3.92	−0.61	8.27	1.48	.....	8	15	10	5
1907	66.5	−2.8	98	36	5.35	+0.82	9.33	2.07	.....	11	14	9	7
1908	67.1	−2.2	94	35	5.66	+1.13	11.88	1.77	.....	13	12	10	8
1909	69.1	−0.2	96	40	6.41	+1.88	13.30	2.89	.....	13	12	10	8
1910	69.5	+0.2	105	33	1.99	−2.54	5.51	0.05	.....	7	18	7	5
1911	75.7	+6.4	108	39	1.82	−2.71	6.28	0.06	.....	5	20	8	3
1912	66.2	−3.1	101	34	2.74	−1.79	5.71	0.78	.....	7	15	9	6
1913	71.5	+2.2	102	33	3.21	−1.22	8.95	0.74	.....	7	19	8	3
1914	72.2	+2.9	101	40	5.57	+1.04	13.24	1.17	.....	13	12	14	4
1915	65.1	−4.2	91	31	4.16	−0.37	9.99	1.73	.....	11	12	12	6
1916	64.5	−4.8	96	38	3.71	−0.82	7.96	1.41	.....	10	13	11	6
1917	66.0	−3.3	100	32	6.65	+2.12	13.82	3.04	.....	12	13	10	7
1918	70.8	+1.5	104	38	5.29	+0.76	10.19	1.55	.....	11	16	10	4
1919	71.9	+2.6	98	41	6.13	+1.60	12.25	1.82	.....	13	12	12	6
1920	70.7	+1.4	99	40	3.56	−0.97	8.48	1.35	.....	9	16	10	4
1921	74.7	+5.4	100	46	3.76	−0.77	8.85	0.56	.....	9	16	10	4
1922	72.2	+2.9	104	38	1.82	−2.71	7.19	0.28	.....	6	19	8	3
1923	70.9	+1.6	100	46	4.93	+0.40	7.69	2.43	.....	12	14	10	6
1924	66.8	−2.5	96	35	8.10	+3.57	14.92	4.00	.....	14	11	14	5
1925	70.4	+1.1	98	38	6.64	+2.11	13.30	2.99	.....	12	15	9	6

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.

INTENSE RAINSTORM OF JUNE 14-15, 1925, WITH ATTENDANT FRESHETS IN NORTHEASTERN IOWA

By H. Merrill Wills, Weather Bureau, Dubuque, Iowa

A series of four heavy rainstorms visited northeastern Iowa from June 11th to 24th, resulting in floods which took a toll of ten lives and cost in damages to property, including live stock, prospective crops, highways and bridges, railway trackage and bridges, and town properties, a total of approximately $1,888,000. This discussion has to do mainly with the most intense of the four storms and it will be taken up first.

One of the heaviest downpours in recent years at Dubuque occurred on the night of June 14-15, 1925, when 3.15 inches of rain fell between the hour of 10 p. m. and 4 a. m. and a total of 3.19 inches in the 24

hours. This is the greatest rainfall with a 24-hour period that has been recorded at Dubuque in the month of June since 1874, excepting that of June 16, 1892, when 3.48 inches fell; and is the heaviest single rainstorm of any month since October 4, 1919, when 3.38 inches were recorded.

The rain fell at an excessive rate from 10:25 p. m. to 10:35 p. m. and again from 1:00 a. m. to 1:37 a. m. The greatest falls within limited periods were as follows: 5 minutes, 0.32 inch; 10 minutes, 0.48; 15 minutes, 0.70; 30 minutes, 1.18; 1 hour, 1.45; 2 hours, 1.87.

The storm was accompanied by brilliant lightning and considerable thunder, the flashes of lightning being almost incessant throughout the storm. However, there was apparently very little damage caused by the lightning.

As compared with the last previous rainstorms of similar intensity, namely those of July 9, 1919 (3.87 inches), and October 4, 1919 (3.38 inches), the total duration of fall was not greatly different, though the two previous storms occurred during the day, while the recent one occurred at night. Moreover, those of 1919 were much more intense for a short period of time and were decidedly more destructive to streets and other property in Dubuque. Also, the storm of July 9, 1919, destroyed considerable property at Union Park and cost the lives of five persons there and two in Dubuque. In the two former instances most of the lower flat sections of the city were under water, while only comparatively small areas were inundated in the recent storm. Again while the storms of 1919 were local in character, that of June 14th-15th was quite general over the major portions of northeastern Iowa, resulting in severe freshets in the streams west and north of Dubuque. The rain caused a rise of nearly 3.0 feet in the Mississippi at Dubuque, but that only brought the water up to a stage of 8.8 feet, though, a stage of 11.1 feet was reached a week later due to subsequent storms.

Many of the streams and rivers of northeastern Iowa rose rapidly from the torrential rains and left their banks in the upper reaches about 1 a. m. and raged through towns and rich bottom lands for several hours causing damage approaching the two million dollar mark and costing the lives of seven persons. The greatest losses in single localities were sustained by the three towns of Manchester, Dyersville and Cascade, though thousands of acres of corn and other crops were destroyed in the lowlands along the streams, innumerable highway bridges were wrecked or seriously impaired, and railroads suffered heavily. The flood was generally considered the most disastrous in the history of the communities devastated, the water reaching one to several feet higher than in 1896. Railroad service on the Illinois Central and Chicago-Great Western was completely abandoned for days, the trains being diverted over other routes.

The Maquoketa River freshet was the most damaging, perhaps due to its being the largest of the streams in flood and also to its passing

directly through the three towns mentioned. Some of the details are given below:

MANCHESTER (Delaware County): One-third of the city under water, 10 feet deep in some of the streets; electricity cut off; two deaths and a number of injuries; one lumber yard completely wiped out; heavy damage to stocks in many business houses; two 10,000 gallon oil tanks carried into river; many buildings moved from their foundations and some carried away; estimated damage within city, $200,000.

DYERSVILLE (Dubuque County): Entire west end of town including 100 residences inundated; water one and one-half feet higher than in 1896; Illinois Central and Great Western depots flooded for first time in history; a number of automobiles lifted and carried away; steel bridge 120 feet in length carried 900 feet; garages and other buildings carried away; three cars of lumber lost; 50 head of hogs nearby drowned; business stock ruined; estimated damage within city, $100,000.

CASCADE (Dubuque County): Entire west portion of town comprising about 25 blocks under water reaching almost to the second floor in many instances; water 5 feet higher than that of 1896, the greatest previously known flood in that vicinity; seven residences and stores, a number of other buildings and one church completely demolished, besides a dozen more residences that were damaged; many business houses with stocks flooded; several streets and sewers completely washed out; electricity cut off; an excavation made by the raging torrents where a street had been, measuring from one hundred feet to one-half block wide, several blocks long and fifteen to twenty-five feet deep, the earth at this point being sand which the onrushing waters carried a quarter to half mile and precipitated in great heaps; two deaths from drowning; by far the greatest blow the town had received from any source; estimated damage, $150,000.

ILLINOIS CENTRAL RAILROAD: About two miles of track or roadbed washed out between Dubuque and Manchester; several bridge approaches washed out for long stretches and some as deeply as 15 feet; engine fell partly through bridge east of Manchester; no train service over the line between Dyersville and Manchester till 10 a. m. of June 19th.

CHICAGO GREAT WESTERN RAILROAD: Approximately 60 miles of roadbed between Dubuque and Oelwein had to be rebuilt; 28 bridges out; of which 9 were large; several stations damaged; telegraph poles washed away over greater part of line; automatic block system almost entirely washed out; no trains over line for practically two weeks; service as far as Dyersville resumed June 27th, and through to Oelwein on the 29th.

NORTHWESTERN BELL TELEPHONE CO.: A loss of 55 poles in Dubuque County; 175 telephones in city and 125 outside, out of service till noon of June 15th; country lines restored by the 20th; estimated loss to company, $2,000.

In the city of Dubuque, there was considerable injury to pavements in sections, the damage to streets and sewers amounting to about $15,000. A great deal of debris was carried into the streets and many gardens were washed out. In Dubuque County, as in other counties, there was extensive damage to crops in the creek bottoms, especially just west and north of town, and also to road bridges, the county sustaining a loss or serious impairment of 26 bridges entailing a monetary loss estimated at $150,000, and requiring at least six months for replacements. Large areas of the Swiss Valley, the Rockdale bottoms, and all the lowlands around Sageville and Durango were inundated, resulting in severe damage to growing crops and considerable loss of farm property including livestock. The water covered a long stretch of the Sageville road and reached 6.6 feet deep at the Great Western viaduct, or 0.4 foot high than the previous record made in July, 1919.

The approximate number of highway bridges damaged or carried away in northeastern Iowa is reported as follows: Buchanan County 27; Clayton County, 10; Delaware County, 75; Dubuque County, 26; Winneshiek County, 5; Chickasaw County, 30; total estimated loss from this source, besides extensive damage in some counties to new road fills, is given as $400,000.

A close estimate of the acreage of crops destroyed in the entire flooded area has not been possible, but rough estimates gathered from the counties involved indicate an approximate total loss amounting to $490,000.

Further down the Maquoketa river, the water was not of record-breaking height. The recording river gage of the United States Geological Survey near the town of Maquoketa shows a crest stage of 19.7 feet at noon, June 17. This is 0.1 foot lower than the high water of August, 1924, and 3.8 feet lower than the highest known water.

Rather heavy rains had preceded the storm just described, falling on the 11th and 12th and resulting in the drowning of two persons in Winneshiek county. A third heavy rain came just following the flood period, occurring on the night of the 16th-17th. In this storm the rain also fell at an excessive rate from 1:27 a. m. to 2:03 a. m. amounting to 1.48 inches. This caused another slight rise in the subsiding waters, some additional damage to roadbeds, and interfered with repair work already started. The Chicago, Milwaukee and St. Paul suffered a 100-foot washout east of Garber; also a washout 6 feet deep and 150 feet long, about four miles east of McGregor, resulting in a 12-hour suspension of service. The same company had a bridge at Green Island thrown out of line; estimated loss to road, $2,000. Considerable damage was caused by this storm in the town of McGregor, the water standing 6 inches to 3 feet deep in parts of the business district and injuring stocks in basements. One death from drowning occurred near Monticello.

On the 24th, a fourth heavy rainstorm occurred, amounting to 1.84 inches at Dubuque, but not falling at an excessive rate.

Summary of Losses

Town of Manchester, all losses	$200,000
Dyersville	100,000
Cascade	150,000
Total damage to railways	425,000
Northwestern Bell Telephone Company	2,000
Streets and sewers in Dubuque	15,000
Highway bridges and fills in six counties	460,000
Prospective crops over entire area	490,000
Miscellaneous, not itemized	46,000
Grand total	$1,888,000

TORNADOES IN IOWA, JUNE, 1925

Arthur H. Christensen, Observer
(Weather Bureau Office, Des Moines, Iowa, July 28, 1925)

June, 1925, was marked by an unusually large number of tornadoes in Iowa, some of which caused great damage to property, amounting in the aggregate to nearly two million dollars. Four persons were killed and one died of injuries received, and over fifty persons were more or less seriously injured. While complete information is not available on some of the tornadoes, especially the smaller ones (some of which may have been missed entirely), the following descriptions, arranged in chronological order have been prepared from the available data, and it is believed cover those which caused appreciable destruction. The tornadoes of greatest destruction occurred on the 2d, 3d and 11th.

Tornado Near Milford. On June 1, at a late hour in the afternoon a small tornado occurred west of Milford, Iowa, in Dickinson county. The path was short and about 150 feet in width. It moved from the southwest to the northeast, and caused very little damage. No persons were killed and none injured.

Tornado at Glenwood and Silver City. The tornado which struck Glenwood (Mills county) at 4 p. m., and Silver City at 5 p. m., on June 2, originated in Nebraska. The following is from the Omaha Bee:

"The tornado was first seen near Douglas, Otoe county, and swept northward between Avoca and Weeping Water, passed a little to the north of Murray, went directly over Plattsmouth, and struck with all its violence on the Iowa side of the river, directly opposite Plattsmouth. Plattsmouth citizens saw the twisting funnel pass directly over the main part of the town, its tail whipping about high in the air. The air was filled with flying boards and straw. As it approached the Missouri river, a half mile from the main part of Plattsmouth, the cloud dipped suddenly to earth and the tail struck the water. According to John Richardson, ferryman, the tail of the cloud struck in the middle of the channel, and a column of water leaped 40 feet in the air to meet it. The whirling column swept across the river and then hugged the land as it dashed eastward in the direction of Glenwood, Iowa."

In Iowa the tornado traveled northeastward from its place of entrance, but it did not touch the ground until just before it reached Pacific Junction. After touching the ground for a short distance it lifted again as it passed over the town and struck again on the east side, about two miles from the town. As it lifted again a little farther on, it divided, one smaller cloud going north until it spent itself, and the other passing through the north outskirts of Glenwood and continuing on to Silver City, 7 miles northeast of Glenwood, leaving a path of destruction between the two towns. Its force was soon spent after leaving Silver City. The total distance covered in both Nebraska and Iowa was about 45 miles, and the path when it passed Glenwood was about 200 yards in width, and at Silver City was nearly one-half mile in width. It was accompanied throughout much of its distance by heavy hail and rain. Four persons were injured northeast of Glenwood; none were killed in Iowa but three were killed in Nebraska. The damage in Iowa was estimated at $50,000.

Tornado in Monona and Woodbury Counties. On the same day and nearly at the same time of day a tornado started 4 miles west of Onawa in Monona county, and traveled northeastward to Whiting, then to Ticonic, and then followed the Little Sioux valley northward to Smithland in Woodbury county, and through Oto, thence traveling more to the northeast and striking Cushing, also in Woodbury county at about 5 p. m. An observer at Grant Center in Grant township, Monona county, describes it as follows:

"When we first saw it there were two funnel shaped clouds; they would rise and lower, but one of them never seemed to reach the ground. They traveled north and east and when about one mile west of the township line seemed to rise entirely into the clouds. The clouds then moved east and when just a little east of the township line a cylindrical cloud formed and moved east to the center of the township and then north. When it reached the north side of the township the pendant took on the form of a funnel. Trees blown down were lying either to the north or west."

The length of the path was about 40 miles, and from 200 feet to a half mile in width. The rate of movement was about 40 miles per hour. It is not known whether destruction occurred along the entire path but the following points report damage: Whiting, about $75,000 damage and 2 persons injured. In the vicinity of Ticonic, $65,000 damage and one person injured. At Smithland $50,000 damage, none injured. About $200,000 damage occurred at Oto. The damage at Cushing amounted to $75,000 and one person was slightly injured. At Grant Center the damage was $16,000.

Tornado Near Red Oak. The next tornado on June 2, occurred at about 6:10 p. m. A funnel-shaped cloud first appeared slightly to the west of Red Oak, in Montgomery county, and passed a little to the north of Red Oak, then going northeast toward Wallin, the length of the path being about 11 miles. No destruction occurred in Red Oak, but most of it was in the farming section between the two towns. Five persons were injured and the total damage was probably about $100,000.

Tornado at Adair and Casey. At about 8:30 p. m. on June 2, 1925, a

tornado which had traveled from Anita in Cass county struck Adair, in Adair county, and passed to the east-northeast to the town of Casey. Before reaching Adair no appreciable damage occurred, but the damage was considerable at Adair and Casey, and also on the path intervening. The length of the path was about 20 miles and the width about 40 rods. John Harris, age 75 of Adair, and his two daughters were killed, three persons were severely injured, and the damage is estimated at $100,000.

Tornado in Iowa County. On June 2, at 10:15 p. m., a small tornado developed in the northwest part of Iowa county, traveling in a northeasterly direction for a short distance. The width of the path was 20 rods and the damage was very light.

Tornado at Neola and Persia. About 5:30 p. m. on June 3, 1925, two tornadoes occurred between Neola in Pottawattamie county, and Persia in Harrison county. The first tornado was of short duration and its chief destruction was about four miles north and east of Neola where it caused severe damage to about thirty farms. The following is taken from the Neola Gazette-Reporter:

"The storms broke without much warning and followed a day whose morning was as near ideal for spring and early summer as could be desired. There had been a rather heavy blow the evening before, with a light fall of rain. Wednesday morning was fairly cool, but little wind and no dust. Toward noon the weather turned to sultry and the atmosphere seemed oppressive as the temperature rose. As early as three o'clock, clouds began to mass in the west and southwest, but there was not much indication of immediate storm or rain. At a quarter past five the wind rose and its direction changed, darkness fell and there was a steady shower, the wind lulling to zephyrs. Then without warning hailstones of huge proportions began to fall, crashing on roofs and windows with terrific force and sound. This lasted but a few minutes and the rain ceased. It was then that attention was drawn to the sky where seemingly to the west, a huge funnel-shaped cloud was seen to form and swirl, taking a northeasterly direction. So near to Neola the storm approached that its roar could be distinctly heard by those in the north part of town."

This first tornado had originated a little to the northwest of Neola and moved northeastward, its path being probably five miles in length. No persons were killed by it and none injured. The second tornado occurred about a half hour later and originated southeast of Yorkshire, and northeast of Neola. It moved almost due north and through Yorkshire and thence north to Persia its path being about ten miles in length, and caused destruction along its entire path. The total damage from these two tornadoes was about $750,000. Eighteen persons were injured at Persia and one child of Archie Hammond was killed. A few persons were slightly injured at Yorkshire, and three children injured north of Neola. So many homes were destroyed that army tents were rushed from Camp Dodge, (near Des Moines) to the stricken area between Neola and Persia where about 200 persons were homeless.

Tornado in Greene County. On June 3, 1925, at 9 p. m., a tornado struck in Greene county northwest of Jefferson, and traveled to the northeast passing two miles north of Jefferson. The tornado then divided, the south wing passing more to the east, its path being south of Dana, and disappeared a short distance southeast of Dana, while the other wing continued in a more northerly direction, passing about two miles west of Paton and on in the direction of Webster county, but evidently lost its force before reaching the county line. The length of the path was about 15 miles. One person was injured and the damage was not great, probably not exceeding $10,000.

Tornadoes at Alexander and Vicinity. On June 11, 1925, a series of tornadoes occurred in the following four counties: Franklin, Floyd, Butler and Chickasaw. The greatest destruction was wrought in Franklin county, where the damage amounted to approximately $350,000, the damage being greatest in the town of Alexander, where it was estimated at $150,000. The tornado had the usual funnel-shaped cloud and rotary winds and entered Alexander from the southwest, tearing a path through the town about 150 to 200 feet wide and departing to the northeast, continuing its destruction across country to the locality west of Chapin in the same county. The length of the path was about 15 miles. About 15 persons were injured in Alexander, none of whom were very seriously hurt, and about three or four injured in or near Chapin. Mrs. Margaret Evans, a farmer's wife living west of Chapin died of injuries received. The towns of Hampton and Popejoy were also struck by twisters at about the same time, and it is evident from the location of these towns and the direction of movement of the storms that no single tornado could possibly have traveled in such a manner as to include the towns hit. The only explanation, therefore, is that a series of small local twisters appeared at various places in these four counties at nearly the same time of day, the appearance being earlier in the southwest and later in the northeast. In Butler county, Dumont and Greene reported tornadoes, the one in Dumont occurring at about 4:30 p. m. It was about one mile in length, the damage was small, and no injuries occurred. A little later a tornado struck west of Greene and it is possible that it was a continuation of the one which passed over Dumont. Its direction was from the southwest to the northeast, and its path of destruction 2 miles long and about a half mile wide, the damage amounting to between $50,000 and $75,000. Several persons were slightly injured. At about 6:30 p. m. on the same day, a small tornado occurred at Carrville, which is about 15 miles northeast of Greene, and it is also possible that this was a continuation of the same tornado which may have lifted in the intervening distance. The following account of the Carrville tornado is from the Charles City Weather Bureau Office:

"The funnel-shaped cloud was clearly seen and gave warning of the approach of the storm, so that people had time to seek safety in cellars. No one was injured. The cloud was described as whitish in color. There were also reliable reports of two clouds coming together from the northwest and the southeast. There was a heavy rain before the storm and some afterward. There was considerable hail. The direction of the storm was from the west-southwest to east-northeast. Trees were blown and

debris carried in all directions, but mostly toward the west or east, with most damage by the westerly wind. Trees with several trunks had the several members blown down in different directions. The path of greatest destruction was about 600 feet in width and one quarter mile in length The total damage is estimated at $25,000."

The total damage resulting from this series of tornadoes would probably be near $500,000 and about thirty persons were injured, of whom at least two were seriously injured, one resulting in a fatality as previously mentioned.

As a part of this same series of tornadoes, a small tornado was reported at Nashua, in Chichasaw county on the evening of the 11th, the direction of movement being from the southwest to the northeast. It was seen by a party of tourists at about 6:30 p. m., the funnel-shaped cloud being well defined and alternately swirling aloft and dipping to earth. The damage in this case was negligible and no persons were injured. The path was evidently short.

Tornado at Tabor. At about 2:00 a. m. of June 28, 1925, a small tornado occurred near Tabor, in Fremont county. No funnel-shaped cloud was seen on account of darkness, but evidences of twisting action were sufficient to show that a tornado occurred. The direction was from the northwest to the southeast, and the path was about 6 miles in length. The damage was estimated at $10,000.

JULY

High temperature almost continuously the first half of July, averaging 6 to 8 degrees above normal; and low temperature almost continuously the balance of the month resulted in a monthly mean slightly above normal. Following the cool close of June the temperature rose abruptly on July 1 to the highest readings since August, 1918. The daily range of temperature at some stations was the greatest July range in more than 20 years.

The precipitation was very unevenly distributed. A number of stations in the northeast, southeast, central and extreme northwest portions had an excess. At Dubuque and Lansing the excess was more than twice the normal. Most of the western half had less than half the normal. More than 75 per cent of the precipitation occurred during the first two weeks and over nearly half the State more than half the monthly total occurred on a single day. The last general rain of consequence was on the 14th, after which there were numerous light scattered showers, but only in a few places were the amounts sufficient to be of any agricultural benefit. Over most of the western half of the State and limited areas in the north-central, south-central, and southeast portions a severe drouth developed that caused much deterioration in the corn crop and many pastures to become completely bare. However, the cool weather that prevailed during the last two weeks lessened the damage to corn so that at the end of the month there was only a small per cent that was damaged beyond a partial recovery. The rains generally were almost all taken up by the soil and small streams and wells that failed during the previous dry weather were still dry, and stock water at many places was still scarce.

Several wind squalls and hail storms occurred at frequent intervals from the 3d to the 30th. A severe local wind storm, accompanied by hail occurred at Dubuque on the 3d, causing damage to buildings of about $50,000. On the 6th, hail accompanying wind squalls, occurred over a large area in the northwestern portion and locally in Jasper, Johnson, and Appanoose counties. The greatest damage occurred in Cherokee county where some crops were damaged as much as 80 per cent, or a total of about $150,000. On the 8th hail and wind again occurred in Cherokee county, causing damage to crops and buildings of about $75,000. Also, in Monona county on the 8th, severe hail caused much damage to crops over an area 10 miles long, some fields as much as 50 per cent. Wind and hail storms also occurred on the 8th in Kossuth, Webster, Hamilton, and Woodbury counties, which caused much damage to crops, and blew down many telephone poles and damaged wires from Fort Dodge to Webster City. At Lakota five beet-field workers were injured. Local hail storms occurred at Appanoose, Pocahontas, Jones, and Clayton counties on the 12th, Lyon on the 13th, Jasper on the 14th, Wright and Hancock on the 15th, and Hardin on the 19th, the damage in Lyon county amounting to $25,000 and to $1000,000 in Wright and Hancock counties. On the 24th hail occurred in Cedar, Des Moines, Appanoose, Johnson, Henry, and Scott counties. Crop losses in Scott county were placed at over $125,000, and buildings at $100,000. Local storms occurred in Johnson and Fremont counties on the 25th, and many places in the eastern portion of the State on the 26th, 28th, and 30th, but the damage was generally light except in Fayette county where some crops were damaged as much as 50 per cent.

Conditions were favorable for haying, harvesting, and threshing, more than half of the threshing having been completed at the end of the month.

Temperature. The mean temperature for the State, as shown by the records of 104 stations, was 74.1°, or 0.3° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 72.3°, or 0.4° lower than the normal; Central, 74.4°, or 0.4° higher than the normal; Southern, 75.6°, or 1.0° higher than the normal. The highest monthly mean was 77.8°, at Thurman, and the lowest was 68.4°, at Postville. The highest temperature recorded was 105°, at Ames, Marshalltown, Monroe and Perry on the 1st, and the lowest was 40°, at Milford on the 22d. The temperature range for the state was 65°.

Precipitation. The mean precipitation for the State, as shown by the records of 112 stations, was 2.66 inches, or 1.19 inches less than the normal. By divisions, the means were as follows: Northern, 2.64 inches, or 1.15 inches less than the normal; Central, 2.94, or 0.91 inch less than the normal; Southern, 2.41 inches, or 1.49 inches less than the normal. The greatest amount, 7.93 inches occurred at Dubuque, and the least, 0.80 inch, occurred at Sanborn. The greatest amount in 24 consecutive hours, 4.25 inches, occurred at Fort Dodge on the 9th.

Miscellaneous Phenomena. Aurora: 14th. Fog: 7th, 8th, 13th, 26th, 30th. Hail: 3d, 6th, 8th, 12th, 13th, 14th, 15th, 19th, 24th, 25th, 26th, 28th, 30th. Halos: 9th, 10th, 12th. Rainbows: 5th, 15th, 16th, 19th, 30th, 31st. Thunderstorms: All dates except 1st, 17th, 21st, 22d, 28th. Winds (damaging): 2d, 3d 5th, 8th, 13th, 14th.

Rivers. There was considerable fluctuation on the Mississippi river during the first half of the month and a general falling tendency thereafter, the highest stages occurring, except in the upper reaches, on the first and the lowest stages on the last. On the Missouri there was considerable slight fluctuation till about the middle of the third week and a falling tendency during the rest of the month. On the interior rivers there was a moderate rise at the beginning of the second week and a gradual fall till the end of the month. The lowest stage for the month occurred at all interior river stations on the last day. None of the small streams were out of banks and at Washta, on the Little Sioux river, the lowest stage ever observed occurred.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)					Relative Humidity, %					Wind					Sunshine	
						Mean			Lowest				Maximum				
	Mean	Highest	Date	Lowest	Date	7 a. m.	2 Noon†	7 p. m.		Date	Total movement	Average hourly velocity	Miles	From	Date	Per cent of possible	Departure from normal
Charles City	29.95	30.20	23	29.73	15	84	35	56	23		3,601	5.0	20	nw.	13	76	+ 1
Davenport	29.94	30.19	23	29.74	15	76	33	57	33	†23	4,190	5.6	28	nw.	12	69	— 6
Des Moines	29.94	30.19	23	29.70	6	84	36	58	32	1	4,521	6.1	26	ne.	3	82	+ 9
Dubuque	29.92	30.19	23	29.68	3	79	30	62	36	23	3,848	5.2	32	sw.	3	66	— 4
Keokuk	29.96	30.22	23	29.81	20	76	43	60	35	18	4,334	5.8	35	n.	6	81	+ 2
Sioux City	29.96	30.24	22	29.73	5	74	46	64	25	†16	7,117	9.6	52	nw.	13	80	+ 9
Omaha, Neb	29.9	30.21	22	29.72	6	71	40	46	21	1	5,136	6.9	44	n.	13	84	+10
Means and extremes	29.95	30.24	22	29.68	3	79	32	55	21	1		6.3			52	77	+ 3
Normals and records	29.97	30.47	7th 1892	‡9.37	4th 1905	79	37	¶13	25th 1894			6.7	6	ne.	13th 1905	74	

*Davenport. ‡Charles City. ¶Des Moines. ||Omaha. ‡Local mean time. †And other dates.

COMPARATIVE DATA FOR THE STATE—JULY

YEAR	Temperature				Precipitation					Number of Days			
	Mean	Departure	Highest	Lowest	Total	Departure	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	75.6	+1.8	110	45	1.98	—1.87	5.00	0.37	.....	3	18	8	5
1891	68.5	—5.3	99	41	4.22	+0.37	8.20	1.67	.....	8	13	13	5
1892	73.0	+0.8	104	38	5.29	+1.44	12.86	1.71	.....	9	16	10	5
1893	75.0	+1.2	102	47	3.33	—0.52	8.84	1.49	.....	7	19	10	2
1894	76.4	+2.6	109	39	0.63	—3.22	3.50	T.	.....	3	22	8	1
1895	72.1	—1.7	104	35	3.40	—0.45	10.10	0.45	.....	7	15	12	4
1896	73.6	—0.2	104	42	6.90	+3.05	12.67	1.61	.....	9	14	11	6
1897	75.6	+1.8	106	42	3.26	—0.59	7.60	1.01	.....	6	18	10	3
1898	73.4	—0.4	102	42	2.98	—0.87	12.88	0.55	.....	7	19	9	3
1899	73.1	—0.7	101	38	3.07	—0.78	8.66	0.42	.....	7	16	10	5
1900	73.4	—0.4	102	37	6.15	+2.30	18.45	1.80	.....	9	16	10	5
1901	82.4	+8.6	113	46	2.34	—1.51	5.97	0.27	.....	5	21	9	1
1902	73.1	—0.7	99	41	8.67	+4.82	13.57	4.82	.....	13	14	10	7
1903	72.9	—0.9	100	40	4.83	+0.98	12.72	0.94	.....	9	17	9	5
1904	70.6	—3.2	100	38	4.41	+0.56	11.97	1.28	.....	10	16	9	6
1905	70.6	—3.2	102	40	2.91	—0.94	7.08	0.69	.....	9	14	10	7
1906	70.9	—2.9	102	42	3.04	—0.81	7.05	0.26	.....	8	18	10	3
1907	73.7	—0.1	102	41	7.27	+3.42	13.66	3.97	.....	13	16	11	4
1908	73.0	—0.8	100	42	3.66	—0.19	9.21	0.70	.....	8	16	10	5
1909	72.3	—1.5	102	46	4.77	+0.92	12.20	1.20	.....	10	15	8	8
1910	74.5	+0.7	108	43	1.86	—1.99	5.69	0.12	.....	7	19	8	4
1911	75.5	+1.7	111	38	2.27	—1.58	6.62	0.08	.....	7	18	10	3
1912	74.6	+0.8	103	38	3.71	—0.14	7.56	1.17	.....	10	17	10	4
1913	76.1	+2.3	108	45	1.82	—2.03	6.23	T.	.....	5	21	8	2
1914	76.6	+2.8	109	43	2.27	—1.58	6.50	0.44	.....	5	20	8	3
1915	69.5	—4.3	92	40	8.32	+4.47	15.83	3.68	.....	14	10	12	9
1916	79.7	+5.9	105	48	1.78	—2.07	6.87	0.10	.....	5	23	7	1
1917	74.3	+0.5	106	38	2.27	—1.58	6.06	0.23	.....	7	21	8	2
1918	73.1	—0.7	105	40	3.17	—0.68	8.05	0.26	.....	8	19	8	4
1919	77.4	+3.6	104	41	2.86	—0.99	7.82	0.39	.....	6	22	8	1
1920	72.3	—1.5	102	45	4.22	+0.37	7.49	1.11	.....	9	19	9	3
1921	77.9	+4.1	104	41	2.53	—1.32	7.45	0.42	.....	7	19	9	3
1922	71.5	—2.3	98	40	0.31	+2.46	11.72	3.13	.....	11	14	12	5
1923	76.5	+2.7	102	47	1.75	—2.10	5.54	0.29	.....	5	19	9	3
1924	70.2	—3.6	99	41	3.67	—0.18	8.90	0.57	.....	9	16	11	4
1925	74.1	+0.3	105	40	2.66	—1.19	7.93	0.80	.....	8	19	10	2

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.

AUGUST

The mean temperature for August averaged very near the normal, all divisions being above normal, with the most decided excess in the northwest portion of the State. However, there were several areas in the eastern and southern portions that were considerably deficient. Fluctuations were rather numerous though they did not vary much from the normal. A rather protracted warm spell occurred during the last ten days in the western portion, while in the central and eastern portions it lasted from six to eight days. This was the 6th time during August that the maximum temperature did not reach 100° and at only one station did it fail to reach 90°. The lowest temperature occurred generally on the 21st and one station, Estherville, reported a light frost. Light frost was also unofficially reported from near Alta.

The average precipitation was also very near normal, but there was great variation even within short distances. The principal excess was confined to a strip running diagonally northeastward across the State,

varying in width from over 100 miles in the southwest portion to less than 25 in the central and northeastern portions. There was a deficiency in a large area in the southeast section, but the principal deficient area was mostly north of a line running from the western portion of Pottawattamie county to Winneshiek county. There was very little rain during the last 10 days and this was aggravated by generally high temperatures over almost the entire State. In the northwestern portion the drouth was especially severe. A large area reported less than one inch of rain and the corn crop suffered to such an extent that it will be a complete failure in places. Corn in many portions of the State was injured somewhat by being hastened to maturity too rapidly by the dry hot conditions, and in many places the ground was too dry to plow. Pastures that had been revived by the rains during the early part of the month, were failing in all portions of the State at the close. Large areas in the northwestern portion were completely bare. Late truck crops also were injured. Local flood conditions developed in the southwestern portion following the heavy rains of the 6th-7th, with the worst condition in the smaller streams emptying into the Raccoon river in Cass, Audubon, and Guthrie counties. Some damage also occurred from overflows in the extreme southwestern counties. Hail was reported from a few localities in Dallas county on the 2d, causing no damage: on the 4th rather severe hail occurred in Humboldt county; on the 8th in Hardin and Story counties moderate hail occurred; and on the 16th destructive hail occurred over a large area in Pottawattamie county, causing damage to the extent of $75,000. What is believed to have been the worst hail storm in the history of the State occurred on the 18th. The storm apparently developed in the southeast corner of Poweshiek county and moved southeastward over portions of Iowa, Keokuk, Washington, Jefferson, Henry, Des Moines and Lee counties, and crossed the Mississippi river into Illinois where the damage continued. The approximate damage was $50,000 in Iowa county, $400,000 in Keokuk, $360,000 in Washington, $250,000 in Jefferson, and $1,000,000 in Henry county. The damage could not be approximated in Poweshiek, Des Moines and Lee counties, but the damage in the whole area was estimated as high as $5,000,000, and it undoubtedly amounted to $2,500,000. Another storm occurred on the 19th over a portion of the same area, but no additional damage was reported. Some of the stones were reported of unbelievable size, some disc shaped were four inches across and two inches thick. Many shingle roofs were pierced and stock of various kinds were killed. Passenger trains caught in the storm did not have a whole window glass left, and all windows on the exposed side of homes were broken. Fields of corn up to 75 acres did not have a single stalk standing. The damage to crops was so complete that many tenant farmers abandoned their leases and sought other employment.

The water supply in various parts of the State continued to fail and some railroads were compelled to haul water long distances for their own use. Water trains were run out of Des Moines to towns in the vicinity and some suburban residents of Des Moines were hauling city water by truck.

Temperature. The mean temperatures for the State, as shown by the records of 101 stations, was 72.4°, or 0.7° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 71.5°, or 1.2° higher than the normal; Central, 72.3°, or 0.4° higher than the normal; Southern, 73.5°, or 0.5° higher than the normal. The highest monthly mean was 75.8°, at Ottumwa, and the lowest was 67.5° at Postville. The highest temperature recorded was 99°, at Afton, on the 18th, and the lowest was 39°, at Le Mars on the 21st. The temperature range for the State was 60°.

Precipitation. The average precipitation for the State, as shown by the records of 110 stations, was 3.47 inches, or 0.03 inch more than the normal. By divisions, the averages were as follows: Northern, 2.23 inches, or 1.06 inches less than the normal; Central, 3.61 inches, or 0.08 inch more than the normal; Southern, 4.58 inches, or 1.09 inches more than the normal. The greatest amount, 8.36 inches, occurred at Guthrie Center, and the least, 0.31 inch, occurred at Alton. The greatest amount in 24 consecutive hours, 5.54 inches, occurred at Guthrie Center on the 6th-7th.

Miscellaneous Phenomena. Aurora: 22d, 23d. Fog: 2d, 3d, 11th, 13th, 14th, 18th. Frost (light): 21st; 1 station. Hail: 2d, 4th, 8th, 9th, 12th, 18th, 19th. Halos (lunar and solar): 10th, 21st, 29th, 31st. Rainbows: 4th, 22d, 29th, 30th. Thunderstorms: 1st, 2d, 3d, 4th, 5th, 6th, 7th, 8th, 11th, 12th, 16th, 17th, 18th, 19th, 20th, 22d, 29th, 30th. Winds (high): 18th, 23d.

Rivers. Low stages prevailed on the Mississippi river during the entire month. There was a slight rise following the heavy rains of the 6th-7th and a gradual fall till the end of the month. On the interior rivers low stages prevailed with a moderate rise following the rains of the 6th-7th, except on the Raccoon and its tributaries, where a sharp rise occurred, which diminished rapidly down the Des Moines river. On the Missouri river there was a steady fall throughout the month, from moderate stages at the beginning to rather low stages at the end of the month.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)					Relative Humidity, %					Wind					Sunshine	
						Mean							Maximum				
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon‡	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date	Per cent of possible	Departure from normal
Charles City	30.05	30.36	26	29.78	12	84	53	62	28	31	3,791	5.1	18	s.	22	74	+ 3
Davenport	30.05	30.37	26	29.68	12	80	50	56	28	21	3,513	4.7	30	ne.	19	76	+ 5
Des Moines	30.03	30.34	25	29.69	12	83	54	61	29	31	3,838	5.2	28	s.	17	69	— 3
Dubuque	30.04	30.33	25	29.69	12	83	51	60	28	31	3,290	4.4	17	s.	18	71	+ 7
Keokuk	30.06	30.37	25	29.72	12	79	53	61	33	4	3,305	4.4	35	nw.	18	77	+ 4
Sioux City	30.02	30.39	26	29.75	16	78	50	59	26	25	7,938	10.7	43	e.	16	73	+ 3
Omaha, Neb.	30.01	30.34	26	29.73	11	77	55	58	31	11	4,632	6.2	30	nw.	19	84	+15
Means and extremes	30.04	30.39	25	29.68	12	81	52	58	26	25		5.8	43	e.	16	75	+ 5
Normals and records	29.97	30.43	24th 1909	29.40	10th 1874	82	51	61	6th 1919	6th 1919		6.3	§70	sw.	6th 1916	70	

‖Sioux City. §Omaha. ¶Des Moines. ‡Local mean time. †And other dates.

COMPARATIVE DATA FOR THE STATE—AUGUST

YEAR	Temperature				Precipitation					Number of Days			
	Mean	Departure	Highest	Lowest	Total	Departure	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	68.4	—3.3	102	36	3.41	—0.03	6.44	1.02	.....	8	15	10	6
1891	69.1	—2.6	106	34	4.24	+0.80	13.02	1.23	.....	8	13	12	6
1892	71.4	—0.3	102	40	2.24	—1.20	4.69	0.65	.....	5	18	9	4
1893	69.4	—2.3	101	39	2.32	—1.12	6.22	0.40	.....	5	19	9	3
1894	74.6	+2.9	108	38	1.58	—1.86	4.53	T.	.....	4	21	8	2
1895	71.9	+0.2	103	37	4.43	+0.99	10.63	0.67	.....	7	17	9	5
1896	71.7	0.0	104	34	3.52	+0.08	12.25	0.86	.....	8	15	11	5
1897	68.9	—2.8	104	35	1.86	—1.58	4.93	0.47	.....	6	15	11	5
1898	71.2	—0.5	103	40	3.44	0.00	10.55	0.58	.....	6	17	9	5
1899	74.4	+2.7	100	41	3.68	+0.24	10.45	1.12	.....	7	17	10	4
1900	77.4	+5.7	103	44	4.65	+1.21	10.43	1.26	.....	6	18	10	3
1901	73.8	+2.1	105	40	1.29	—2.15	4.46	T.	.....	5	20	9	2
1902	69.1	—2.6	98	37	6.58	+3.14	15.47	1.57	.....	11	11	11	9
1903	69.1	—2.6	101	41	6.64	+3.20	17.74	2.55	.....	11	12	10	9
1904	69.1	—2.6	97	35	3.43	—0.01	6.75	0.66	.....	7	17	8	6
1905	74.3	+2.6	104	44	4.05	+0.61	8.47	1.04	.....	9	16	9	6
1906	74.1	+2.4	101	33	3.95	+0.51	10.51	0.92	.....	9	17	9	5
1907	71.1	—0.6	99	37	4.33	+0.89	9.67	1.05	.....	9	17	9	5
1908	70.0	—1.7	101	38	4.77	+1.33	10.55	1.35	.....	9	17	9	5
1909	76.1	+4.4	103	33	1.81	—1.63	8.21	T.	.....	5	21	8	2
1910	71.9	+0.2	104	36	3.88	+0.44	11.22	0.37	.....	8	15	10	6
1911	71.7	0.0	107	34	3.22	—0.12	9.47	0.44	.....	9	16	10	5
1912	71.0	—0.7	101	40	3.78	+0.34	7.90	0.89	.....	10	15	10	6
1913	76.6	+4.9	108	40	2.68	—0.76	7.13	0.08	.....	6	17	10	4
1914	73.7	+2.0	103	40	2.19	—1.25	4.90	0.42	.....	7	17	10	4
1915	65.9	—5.8	91	30	2.81	—0.63	9.14	0.27	.....	8	16	8	7
1916	74.0	+2.3	106	35	2.58	—0.86	6.23	0.39	.....	7	18	9	4
1917	69.4	—2.3	102	31	2.29	—1.15	6.31	0.70	.....	7	19	8	4
1918	76.0	+4.3	113	38	3.61	+0.17	8.38	0.54	.....	8	16	10	5
1919	71.5	—0.2	103	38	2.50	—0.85	5.73	0.97	.....	7	19	9	3
1920	69.3	—2.4	98	39	3.35	—0.00	8.52	0.44	.....	7	18	8	5
1921	72.1	+0.4	102	37	5.04	+1.60	9.04	2.29	.....	8	16	11	4
1922	73.8	+2.1	102	42	3.06	—0.38	9.80	0.33	.....	8	19	8	4
1923	70.6	—1.1	102	38	5.42	+1.98	13.14	1.46	.....	12	15	9	7
1924	71.7	0.0	100	40	5.35	+1.91	12.38	1.90	.....	10	16	10	5
1925	72.4	+0.7	99	39	3.47	+0.03	8.36	0.31	.....	8	18	9	4

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.

SEPTEMBER

Abnormally high temperature prevailed during the first ten days of September. While no records for the state were broken, a large number of stations reported the highest maxima for the year, and several stations reported the highest of record for the month. After the first ten days there were numerous fluctuations in the temperature, with the two chief cool periods extending from the 11th to the 15th, and from the 20th to the 24th, but the last cool spell was less pronounced over the eastern portion of the state. The month closed with a rather warm period during the last four days. Light frost was reported from several stations on three days, but the damage, if any, was slight, though a temperature of 32 degrees was reached in the extreme northwest corner. The mean temperature for the State, 69.0° is 4.7° higher than the normal, and with the exception of 1897, when the mean was 70.9°, is the highest mean of record for September.

The precipitation was above normal in all divisions, and was rather uniform in all divisions, but the excess was due mostly to heavy to excessive downpours that occurred over portions of the northern and central divisions on the last day of the month. There were no damaging storms reported, but a severe local electrical storm occurred on the night of the 17th in Taylor county that damaged telephone and electric wires and poles, and a severe local wind storm damaged farm buildings considerably in Clay county. Hail damage was light, with several storms in the southeastern portion of the state on the 8th and 10th, and a rather severe storm occurred on the 16th in Cerro Gordo and Worth counties. Stones one and one-half inches in diameter were reported, but the heaviest hail fell where it could do little or no damage, so the total damage from storms was not over $5,000.

The intense heat during the first week caused corn to dry too rapidly, causing slight damage to the crop in some sections, but in the state generally the effect was beneficial, and by the end of the month the crop was practically safe from frost, and the prospects were that there would be no soft corn. The heat also injured pastures, but rains in the latter part of the month greatly benefited them, and at the end of the month they were generally in good condition. Fall plowing made good progress, but was temporarily suspended in small areas in the southeast portion on account of being too wet, and in the northwest portion where it was too dry in areas. Winter wheat was up in many fields and making good growth. Silo filling was completed in all sections of the state, but the frequent rains delayed clover hulling in the eastern portion and caused dirt roads to be in bad condition most of the time after the first week.

Temperature. The mean temperature for the State, as shown by the records of 105 stations, was 69.0°, or 4.7° higher than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 67.5°, or 4.6° higher than the normal; Central, 69.1°, or 4.6° higher than the normal; Southern, 69.1°, or 4.6° higher than the normal; Southern, 70.4°, or 4.8° higher than the normal. The highest monthly mean was 72.8°, at Keokuk, and the lowest was 64.4°, at Postville. The highest temperature reported was 105° at Inwood on the 2d and Cedar Rapids on the 4th, and the lowest was 32°, at Sanborn, on the 21st. The temperature range for the State was 73°.

Precipitation. The average precipitation for the State, as shown by the records of 112 stations, was 5.04 inches, or 1.39 inches more than the normal. By divisions, the averages were as follows: Northern, 4.76 inches, or 1.33 inches more than the normal; Central, 5.32 inches, or 1.63 inches more than the normal; Southern, 5.05 inches, or 1.22 inches more than the normal. The greatest amount, 9.13 inches, occurred at Washington, at the least, 1.54 inches, occurred at Storm Lake. The greatest amount in twenty-four consecutive hours, 4.65 inches, occurred at Belmond on the 30th.

Rivers. Low stages prevailed on all rivers; the heavy rains that occurred during the month affected the stages very little. A slight rise occurred during the latter part of the first week and the first part of the

second week on the Mississippi and all interior rivers, but the monthly range of stages did not exceed 1.5 feet at any station and on most interior rivers the range did not exceed 0.5 feet. Falling stages prevailed during the last half of the month.

Miscellaneous Phenomena. Aurora: 19th, 20th, 21st, 23d, 24th. Fog: 7th, 8th, 9th, 14th, 15th, 16th, 23d, 27th, 28th. Frost (light): 20th, 21st, 23d. Hail: 8th, 10th, 16th, 19th. Halos (lunar and solar): 10th, 17th, 24th, 25th. Haze: 1st, 2d. Rainbows: 8th, 9th, 10th. Thunderstorms: 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 14th, 16th, 17th, 18th, 19th, 20th, 21st, 22d, 26th, 29th, 30th.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)					Relative Humidity, %					Wind						Sunshine	
						Mean							Maximum					
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon†	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date		Per cent of possible	Departure from normal
Charles City	29.96	30.38	28	29.52	19	86	54	67	29	3	4,271	5.9	32	w.	19		65	+ 3
Davenport	29.93	30.36	28	29.66	19	84	62	69	32	1	4,489	6.2	28	nw.	8		50	−15
Des Moines	29.91	30.32	28	29.56	19	84	58	65	33	4	4,850	6.7	40	sw.	19		57	− 5
Dubuque	29.96	30.36	28	29.57	19	83	54	63	28	4	3,823	5.3	25	se.	30		53	− 6
Keokuk	29.96	30.33	28	29.70	9	82	61	67	32	4	4,370	6.1	44	w.	10		57	− 9
Sioux City	29.94	30.28	30	29.45	19	82	57	59	23	3	7,630	10.6	61	w.	19		63	0
Omaha, Neb.	29.94	30.24	28	29.55	19	80	61	65	32	5	4,600	6.4	34	nw.	20		69	+ 4
Means and extremes	29.96	.....	.....	.....	.....	80	56	66	.....	.....	.....	6.9	.....	.....	.....		59	− 4
	.....	30.38	28	29.45	19	.....	.....	.....	23	3	.....	.....	61	w.	19		.....	.....
Normals and records	30.02	.....	26th	.....	30th	83	.....	.....	.....	28th	.....	7.2	.....	.....	7th		63	.....
	.....	*30.66	1909	29.27	1878	.....	.....	.....	§18	1921	.....	.....	72	w.	1872		.....	.....

*Dubuque. †Omaha. ‡Davenport. §Local mean time. ‖And other dates.

COMPARATIVE DATA FOR THE STATE—SEPTEMBER

YEAR	Temperature				Temperature					Number of Days			
	Mean	Departure	Highest	Lowest	Total	Departure	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	59.3	−5.0	96	23	2.97	−0.68	4.85	1.36	.....	7	13	10	7
1891	67.3	+3.0	104	28	1.33	−2.32	3.60	0.13	.....	4	20	7	3
1892	64.7	+0.4	99	29	1.53	−2.12	4.15	0.16	.....	4	16	8	6
1893	64.7	+0.4	102	18	2.34	−1.31	5.49	0.74	.....	4	20	6	4
1894	65.1	+0.8	100	26	3.57	−0.08	7.43	0.67	.....	8	15	10	5
1895	66.8	+2.5	102	22	3.03	−0.62	7.43	0.85	.....	5	18	8	4
1896	58.5	−5.8	95	22	4.09	+0.44	9.96	1.83	.....	10	11	9	10
1897	70.9	+6.6	106	36	2.04	−1.63	5.88	0.00	.....	4	23	5	2
1898	65.3	+1.0	96	29	2.69	−0.96	8.45	0.41	.....	7	16	9	5
1899	62.5	−1.8	104	15	0.93	−2.72	4.32	T.	.....	4	16	9	5
1900	64.4	+0.1	99	26	4.98	+1.33	8.82	2.48	.....	9	15	8	7
1901	63.3	−1.0	102	26	4.77	+1.12	13.62	1.71	.....	9	13	9	8
1902	59.1	−5.2	88	23	4.35	+0.70	10.41	1.65	.....	9	15	6	9
1903	60.8	−3.5	94	28	3.81	+0.16	8.79	1.42	.....	10	14	6	10
1904	64.0	−0.3	94	30	2.78	−0.87	8.33	0.09	.....	7	13	8	9
1905	65.8	+1.5	96	36	3.81	+0.16	13.18	0.50	.....	8	14	8	8
1906	67.2	+2.9	100	27	4.16	+0.51	11.10	0.64	.....	8	16	8	6
1907	62.8	−1.5	98	25	2.75	−0.90	6.06	1.58	.....	8	15	9	6
1908	67.9	+3.6	98	30	1.20	−2.45	3.46	0.25	.....	3	21	6	3
1909	62.4	−1.9	94	30	3.52	−0.07	7.34	1.39	.....	9	14	8	8
1910	62.2	−1.1	99	30	3.59	−0.66	7.43	1.18	.....	9	14	7	9
1911	65.8	+1.5	103	32	5.12	+1.47	13.73	1.19	.....	10	11	9	10
1912	62.1	−2.2	104	24	3.98	+0.33	10.12	0.28	.....	11	12	8	10
1913	64.5	+0.2	107	19	3.31	−0.34	7.44	0.45	.....	9	15	8	7
1914	64.5	+0.2	99	30	7.88	+4.23	18.24	2.48	.....	10	16	7	7
1915	63.7	−0.6	91	30	6.03	+2.38	12.45	2.88	.....	11	11	8	11
1916	62.5	−1.8	98	21	3.89	+0.24	9.71	1.45	.....	7	17	8	5
1917	62.6	−1.7	97	28	2.90	−0.75	8.68	0.39	.....	7	15	7	8
1918	58.6	−5.7	93	20	1.87	−1.78	4.62	0.48	.....	6	16	8	6
1919	67.5	+3.2	99	33	5.34	+1.69	11.82	1.49	.....	8	16	6	8
1920	66.5	+2.2	98	24	3.30	−0.35	7.21	0.69	.....	8	17	8	5
1921	67.3	+3.0	99	31	6.72	+3.07	11.95	1.72	.....	11	14	8	8
1922	67.1	+2.8	103	21	2.62	−1.02	4.34	0.31	.....	6	20	6	4
1923	64.2	−0.1	92	28	5.79	+2.14	12.14	1.88	.....	11	14	8	8
1924	59.1	−5.2	91	25	3.13	−0.52	5.68	1.01	.....	8	16	7	7
1925	69.0	+4.7	105	32	5.04	+1.39	9.13	1.54	.....	9	14	10	6

T. Indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.

OCTOBER

There was a decided contrast in the weather during October, 1925, and that of a year ago. October, 1924, was, with one exception, the warmest in the history of the State, and this October is by far the coldest ever experienced, being 2.7° colder than in 1917, which was the coldest previous to this year in more than a half century of record. The average snowfall was the greatest ever recorded in the State, ranging from 1.2 inches in the extreme eastern portion to more than 8.0 inches in some northern stations, and over most of the State the amounts were remarkably uniform; the humidity was high, sunshine decidedly deficient, and both the number of cloudy days and days with 0.01 inch or more of precipitation equalled the record for the month; the opposite conditions prevailed a year ago. Aside from a day or two at the beginning of the month, the temperature was continuously below the normal, and "Indian Sum-

mer" was entirely absent. The first light frost occurred at a few northern stations on the 5th and the first killing frost occurred at a number of stations on the 7th, and by the 10th killing frost had visited the entire State. Owing to the advanced state of vegetation there was very little damage to staple crops, but there was considerable damage to truck crops. There was a tendency to warmer weather till the 15th, after which a gradual decline began and culminated during the last week in the coldest weather ever experienced in the State in October. The minimum temperatures were much lower at all stations than the previous record for October, and at a large number of stations the previous minimum was lowered on several days, and zero weather, which heretofore was practically unknown in October, occurred in more than half of the State, reaching a minimum of -15 at Inwood, which is 13° lower than the previous minimum. Zero occurred as far south as the Missouri line.

The precipitation averaged 0.49 inch above the normal, being deficient over the northwest, extreme southwest, and a narrow strip along the northern border, and gradually increasing to the south and east where there was a marked excess. While precipitation was recorded on a large number of days, most of the monthly total occurred on the 3d and 27th. The prevailing moist condition of the atmosphere, excessive cloudiness and lack of sunshine prevented the proper drying of corn, and rendered husking more difficult. The quality of the corn was reduced somewhat by mold and the high per cent of moisture made cribbing difficult and turning was necessary. Many fields were too wet to permit wagons to enter and the heavy snowfall on the 25th and 27th made a large amount of "down" corn, causing it to be covered with mud, and further impaired the quality of the crop. Husking was started generally about the middle of the month, but owing to the unfavorable conditions that prevailed poor progress was made, so that at the end of the month less than 20 per cent had been harvested. The excellent condition of the corn at the beginning of October caused procrastination in seed corn saving. Subsequent moist weather and severe temperature rendered much corn unfit for planting and imperiled the 1926 crop. The weather conditions interfered seriously with the hulling of clover, and it was necessary to abandon many fields ready to hull in the eastern and southern portions of the State. There was considerable loss to tubers where the snow drifted and left bare soil but many fields of turnips and beets that were covered with snow were exposed to zero weather without suffering injury.

There were no storms of consequence during the month. Light hail occurred on the 3d and 7th at a number of stations, and a local storm of limited extent, said to have been a "twister" occurred in the south-central portion of Mahaska county during the early morning of the 3d. It unroofed buildings and destroyed trees in its path.

Temperature. The mean temperature for the State, as shown by the records of 106 stations, was 40.2°, or 11.7° lower than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 38.1°, or 12.2° lower than the normal; Central, 40.3°, or 11.8° lower than the normal; Southern, 42.2°, or 11.2° lower than the normal. The highest monthly mean was 44.5°, at Ottumwa, and the lowest was 36.2°, at Estherville. The highest temperature reported was 78°, at Stockport, on the 2nd, and the lowest was -15°, at Inwood on the 29th. The temperature range for the State was 93°, which is the greatest range of record for the month of October.

Precipitation. The average precipitation for the State, as shown by the records of 114 stations, was 2.91 inches, or 0.49 inch more than the normal. By divisions, the averages were as follows: Northern, 1.93 inches, or 0.39 inch less than the normal; Central, 3.31 inches, or 0.83 inch more than the normal; Southern, 3.49 inches, or 1.03 inches more than the normal. The greatest amount, 5.68 inches, occurred at Burlington, and the least, 0.97 inch, occurred at Alton. The greatest amount in any 24 consecutive hours, 2.70 inches, occurred at Oskaloosa, on the 3d.

Snowfall. The average snowfall for the State was 4.9 inches, or 4.3 inches more than the normal. This is by far the greatest snowfall of record for the State. Most of the snow occurred during a general storm on the 27th but numerous light falls occurred over the northern half of the State beginning during the first part of the 2d week. The northern and portions of the central and southern divisions were mostly snow covered at the close of the month.

Miscellaneous Phenomena. Aurora: 21st. Fog: 2d, 3d, 4th, 13th, 14th, 22d, 30th. Frost: (light) 5th; (heavy) 7th; (killing) 7th, 9th, 10th. Hail: 3d, 7th. Halos (lunar and solar): 5th, 14th, 28th. Sleet: 6th, 7th, 9th, 18th, 22d, 25th, 26th. Thunderstorms: 1st, 2d, 3d, 4th, 14th, 15th, 16th. Tornado: 3d.

Rivers. Low stages prevailed on the Mississippi river throughout the month, though a slight rise occurred during the first part of the month that continued till about the 10th, after which there was a slow, gradual fall. A moderate rise occurred in nearly all interior rivers following the heavy rains on the 3d, but by the end of the first week falling stages were general and low stages prevailed the rest of the month. On the Missouri river there was a slow general rise till near the end of the 3d week and a gradual fall thereafter. Many rivers and small streams in the State were frozen over during the last week. Lakes in the northern portion of the State were also frozen over, a condition unknown heretofore in October.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)				Relative Humidity, %					Wind					Sunshine	
						Mean						Maximum				
	Mean	Highest	Date	Lowest	Date	7 a. m.	2 Noon†	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date	Per cent. of possible	Departure from normal
Charles City	30.08	30.52	9	29.70	26	88	66	77	38	15	4,695	6.5	21	sw.	10	50	—29
Davenport	30.06	30.52	29	29.61	26	87	70	74	34	20	4,564	6.1	24	nw.	19	54	—26
Des Moines	30.07	30.5*	9	29.6*	26	85	61	66	34	20	5,065	6.8	22	sw.	†10	35	—28
Dubuque	30.01	30.52	29	29.64	25	85	66	70	32	17	4,284	5.8	21	nw.	26	54	—31
Keokuk	30.09	30.56	29	29.68	21	85	64	72	34	20	4,744	6.4	29	nw.	29	59	—22
Sioux City	30.11	30.62	28	29.58	25	80	58	64	31	20	8,619	11.6	40	s.	10	44	—18
Omaha, Neb.	30.09	30.56	28	29.62	25	80	61	66	33	20	6,414	8.6	22	nw.	†18	48	—14
Means and extremes	30.08	30.62	28	29.58	25	84	61	70	31	20	7.5	40	s.	10	30	—24	
Normals and records	30.03	*30.60	31st 1913	§28.96	20th 1876	81	62	*17	25th 1895	8.1	*60	sw.	16th 1880	60			

*Davenport. †Omaha. ‡Sioux City. †Local mean time. ‡And other dates.

COMPARATIVE DATA FOR THE STATE—OCTOBER

YEAR	Temperature				Precipitation					Number of Days			
	Mean	Departure	Highest	Lowest	Total	Departure	Greatest	Least	Snowfall	With prec. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	49.2	—2.7	86	16	3.48	+1.06	6.82	1.59	.....	7	11	11	9
1891	50.6	—1.9	92	19	2.77	+0.35	6.53	0.85	.....	6	18	7	6
1892	54.5	+2.0	96	14	1.53	—0.87	2.58	0.03	0.0	4	21	6	4
1893	52.4	+0.5	94	10	1.28	—1.14	4.56	0.02	0.0	4	16	9	6
1894	51.7	—0.2	90	20	2.67	+0.25	5.25	0.03	0.2	8	14	8	9
1895	46.0	—5.9	88	4	0.47	—1.95	1.38	0.00	T.	2	19	8	4
1896	47.8	—4.1	88	12	3.13	+0.71	5.05	1.51	T.	5	18	6	7
1897	56.8	+4.9	97	12	1.14	—1.28	3.30	0.03	0.0	4	17	8	6
1898	47.5	—4.4	88	17	3.56	+1.14	5.75	1.27	3.6	8	7	9	15
1899	56.7	+4.8	95	17	1.73	—0.69	4.64	0.15	0.0	5	17	8	6
1900	59.3	+7.4	90	21	3.91	+1.49	8.00	1.20	0.0	7	16	7	8
1901	54.2	+2.3	88	20	1.98	—0.44	4.23	0.45	T.	6	17	7	7
1902	53.5	+1.6	83	20	2.54	+0.12	6.66	0.28	T.	5	16	8	7
1903	52.2	+0.3	90	16	1.95	—0.47	4.50	0.32	0.0	5	19	6	6
1904	53.1	+1.1	96	19	1.67	—0.75	4.43	0.14	T.	6	15	8	8
1905	49.3	—2.7	95	16	3.40	+0.98	5.36	1.20	1.6	8	16	6	9
1906	50.5	—1.4	87	7	1.96	—0.46	4.23	0.50	0.1	6	14	7	10
1907	50.4	—1.5	85	10	1.50	—0.92	3.71	0.30	0.0	5	20	5	6
1908	51.1	—0.8	89	17	3.88	+0.96	8.83	0.58	2.6	8	16	6	9
1909	49.7	—2.2	97	10	2.22	—0.20	4.70	0.48	T.	6	16	6	9
1910	55.2	+3.3	93	10	0.77	—1.65	1.73	T.	0.1	4	21	4	6
1911	48.7	—3.2	87	14	3.34	+0.92	7.03	0.73	0.6	10	12	8	11
1912	52.2	+0.3	92	16	2.98	+0.56	5.77	1.03	T.	6	21	3	7
1913	49.2	—2.7	89	—2	3.03	+0.61	7.29	0.35	1.2	9	15	8	8
1914	55.9	+4.0	88	14	3.23	+0.81	6.94	0.74	T.	9	16	6	9
1915	54.4	+2.5	86	19	1.31	—1.11	3.25	T.	T.	5	19	6	6
1916	50.9	—1.0	92	6	2.00	—0.42	4.33	0.20	2.0	8	16	7	8
1917	42.9	—9.0	85	0	1.41	—1.01	4.00	0.15	2.2	6	10	11	10
1918	55.1	+3.2	93	21	3.64	+1.22	7.56	1.36	0.8	7	13	7	11
1919	50.7	—1.2	89	8	3.02	+0.60	8.65	0.45	T.	10	11	8	12
1920	57.7	+6.8	90	11	2.13	—0.29	4.64	0.48	T.	6	19	6	6
1921	54.6	+2.7	90	21	1.96	—0.46	3.61	0.21	T.	6	17	8	6
1922	56.1	+4.2	96	14	1.81	—0.61	3.93	0.06	T.	5	21	4	6
1923	48.5	—3.4	81	10	1.22	—1.20	3.67	0.29	1.7	6	18	6	7
1924	58.1	+6.2	89	21	0.87	—1.55	2.58	0.03	0.0	4	22	5	4
1925	49.2	—11.7	78	—15	2.91	+0.49	5.98	0.97	4.9	10	8	8	15

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .06 inch snowfall.

NOVEMBER

Following the coldest October of record, nearly normal temperature prevailed during November but there was a decided deficiency in precipitation over each division of the State. There were numerous fluctuations in temperature so that there were neither protracted periods of warm nor cold weather. The coldest weather prevailed generally on the 7th and 8th, and another cool period occurred during the last week. The warmest period occurred during the third week and another rather warm spell occurred in the second week. Zero weather occurred in each division but a rather singular situation prevailed in that only one station in the northern division reported as low as zero, while six stations in the central division and seven in the southern reported zero or lower.

Conditions were favorable for all out door work, except for short periods following the heavy falls of snow over the eastern and most of the southern divisions on the 7th and the last week of the month. Corn husking which had made very poor progress was pushed rapidly after the first week, and with sunshine considerably above normal and very little precipitation during the rest of the month, only about 15 per cent was still in the fields at the end of the month. Building operations were carried on during most of the month with little interruption but road construction was interrupted by hard freezing weather and was carried on under difficulties and some construction had to be suspended. Plowing, which had been suspended because of frozen soil in October, was resumed when frost left the ground before the middle of November.

There was a decided deficiency in precipitation, and only two stations in the entire State showed an excess. Most of the precipitation was snow, which occurred in two principal storms. The first storm, in the last part of the first week, occurred mostly south of a line running from Mills to Clayton counties, and the other, during the last week, occurred north of a line running from Des Moines to Plymouth counties, leaving a large area in the west-central portion of the state with practically no snow. There is still a shortage of water in portions of the western half of the State, where the drouth had been only partially relieved, and additional wells failed during the month.

Rather strong winds occurred on the 21st and 22nd that blew down some corn and frail buildings and, also, caused some drifting of soil, but the month was generally free from damaging storms and what drifting snow occurred was not sufficient to interrupt railway traffic and caused only slight inconvenience to motor travel.

Because of the unfavorable fall, considerable acreage intended for winter wheat could not be seeded, and considerable late seeded wheat failed to germinate or made little showing above ground. In general, the crop did not enter the winter in resistant condition.

Temperature. The mean temperature for the State, as shown by the records of 106 stations, was 36.1°, or 0.5° lower than the normal. By divisions, approximately three tiers to the division, the means were as follows: Northern, 34.3°, or 0.1° lower than the normal; Central, 36.4°, or 0.3° lower than the normal; Southern, 37.7°, or 1.0° lower than the

normal. The highest monthly mean was 39.6°, at Keokuk, and the lowest was 32.6°, at Northwood. The highest temperature reported was 68°, at Little Sioux on the 20th and Tipton on the 21st, and the lowest was -6° at Thurman and Williamsburg on the 8th. The temperature range for the State was 74°.

Precipitation. The average precipitation for the State, as shown by the records of 110 stations, was 0.71 inch, or 0.85 inch less than the normal. By divisions, the averages were as follows: Northern, 0.86 inch, or 0.66 inch less than the normal; Central, 0.65 inch, or 0.93 inch less than the normal; Southern, 0.62 inch, or 0.95 inch less than the normal. The greatest amount, 2.30 inches, occurred at Maquoketa, and the least, 0.10 inch, occurred at Logan. The greatest amount in any 24 consecutive hours, 1.26 inches, occurred at Decorah on the 4th.

Snowfall. The average snowfall for the State was 4.0 inches, or 1.5 inches more than the normal. The amounts were quite uniform in each of the three divisions, but there was a decided contrast in the eastern and western portions. A rather large area over the western portions of the State reported only traces, while several stations over the east-central and northeastern portions reported more than 10.0 inches. Practically all the snow occurred during two storms, the first on the 6th and 7th and the other beginning on the 27th that lasted in the eastern portion till the 29th. The ground was bare except for short periods following these storms and another at the beginning of the month.

Miscellaneous Phenomena. Aurora: 7th, 8th, 9th. Fog: 1st, 2d, 3d, 5th, 6th, 10th, 11th, 12th. Hail: 12th. Halos (lunar and solar): 17th, 18th, 24th, 25th, 26th, 27th, 28th, 29th. Haze: 23d, 28th. Rainbow: 3d. Sleet: 7th, 15th, 16th, 26th, 28th, 29th, 30th. Thunderstorms: 3d, 4th, 12th. Winds (strong): 21st, 22d.

Rivers. Low and nearly stationary stages prevailed on the Mississippi river during the entire month. Floating ice was present during the first part and again at the close of the month. Low stages also prevailed on all interior rivers, with only slight fluctuations and the extreme stages generally differed less than one foot. On the Missouri river moderate stages prevailed with generally little daily fluctuations except a rather marked rise occurred during the last half of the 3d week and a moderate rise at the beginning of the 2d week.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)				Relative Humidity, %						Wind					Sunshine	
						Mean							Maximum				
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon†	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date	Percent of possible	Departure from normal
Charles City	30.00	30.58	2d	29.56	12	88	59	72	29	20	5,235	7.3	25	nw.	21	60	+13
Davenport	30.11	30.60	28	29.49	12	85	63	72	42	24	5,058	7.0	26	nw.	21	52	+ 2
Des Moines	30.00	30.56	28	29.54	12	82	57	64	26	20	4,932	6.9	26	ne.	47	61	+ 5
Dubuque	30.08	30.58	2d	29.52	12	83	63	70	35	23	4,701	6.5	30	nw.	21	53	+ 7
Keokuk	30.13	30.60	2d	29.52	12	88	56	68	25	23	5,509	7.8	26	nw.	21	61	+ 6
Sioux City	30.13	30.53	28	29.62	12	75	56	57	26	20	7,999	11.1	47	nw.	21	63	+10
Omaha, Neb	30.10	30.53	2d	29.57	12	72	53	53	18	20	5,800	8.1	43	n.	21	58	+ 3
Means and extremes	30.10	.....	.....	.....	.....	80	58	65	.....	.....	.....	7.8	.....	.....	.....	58	+ 6
	.....	30.60	28	29.49	12	.....	.....	.....	18	20	.....	.....	47	nw.	21	.....	.....
Normals and records	0.07	.....	24	.....	28th	81	..70	.....	6th	.....	.....	8.2	.....	.....	16th	52	.....
	.....	*30.96	1890	§29.08	1918	.....	.....	‡16	1916	.....	.....	.....	63	sw.	1919	.....	.....

*Sioux City. §Davenport. †Omaha. ‖Keokuk. ‡Local mean time. †And other dates.

COMPARATIVE DATA FOR THE STATE—NOVEMBER

YEAR	Temperature				Precipitation					Number of Days			
	Mean	Departure	Highest	Lowest	Total	Departure	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	38.6	+2.0	78	-2	1.46	—0.19	3.55	0.71	.....	8	15	8	7
1891	30.5	—6.1	84	-24	1.70	+0.14	3.64	0.66	.....	7	10	8	12
1892	33.3	—3.3	70	-3	1.10	—0.46	3.16	0.05	1.8	4	11	8	11
1893	34.0	—2.6	80	-13	1.17	—0.39	2.56	0.05	4.6	4	16	8	6
1894	32.7	—3.9	72	-5	0.92	—0.64	2.42	T.	0.4	4	9	11	10
1895	34.3	—2.3	86	-12	1.51	—0.05	3.01	0.45	4.9	6	9	8	13
1896	29.6	—7.0	82	-15	1.83	+0.27	4.51	0.16	2.9	6	9	8	12
1897	34.3	—2.3	81	-19	0.60	—0.99	2.24	T.	1.2	5	12	8	10
1898	32.2	—4.4	78	-17	1.50	—0.06	2.61	0.33	8.7	6	14	8	8
1899	42.9	+7.3	86	8	1.29	—0.36	2.97	0.13	0.5	5	12	8	10
1900	33.5	—3.1	79	-6	1.06	—0.59	3.35	T.	3.7	6	12	7	11
1901	35.8	—0.8	77	2	0.86	—0.79	2.30	0.20	2.6	3	18	6	6
1902	41.2	—4.6	79	4	2.13	+0.57	4.19	0.16	1.8	7	9	7	14
1903	34.2	—2.4	76	-5	0.52	—1.04	1.74	T.	1.1	3	13	8	9
1904	41.0	+4.4	80	4	0.15	—1.41	0.50	0.00	0.5	1	20	6	4
1905	38.4	+1.8	70	-12	2.84	+1.28	5.30	0.90	0.6	5	16	7	7
1906	35.4	—1.2	76	-5	2.03	+0.47	3.86	0.35	4.4	8	9	7	14
1907	36.7	+0.1	68	-4	1.08	—0.53	2.27	0.06	0.9	4	17	6	7
1908	39.3	+2.7	80	5	1.56	0.00	3.31	0.21	1.4	6	14	7	9
1909	42.4	+5.8	84	-3	5.39	+3.83	1.48	2.07	6.8	10	10	7	13
1910	33.4	—3.2	76	5	0.34	—1.22	1.08	T.	0.7	3	13	9	8
1911	29.9	—6.7	79	-8	1.42	—0.14	4.99	0.11	1.6	6	11	8	11
1912	40.1	+3.5	77	6	0.98	—0.58	2.38	0.00	T.	2	18	8	4
1913	44.1	+7.5	78	10	1.18	—0.38	3.49	0.20	0.4	6	11	7	12
1914	41.0	+4.4	80	-4	0.22	—1.34	0.95	0.00	T.	2	19	6	5
1915	40.2	+3.6	83	-5	1.94	+0.38	4.86	0.30	1.2	6	11	10	9
1916	37.3	+0.7	80	-8	1.61	+0.05	3.65	0.05	3.6	5	16	6	8
1917	40.7	+4.1	77	3	0.28	—1.28	1.02	T.	1.4	3	14	6	10
1918	39.9	+3.3	76	0	2.11	+0.55	5.10	0.70	4.4	7	13	5	12
1919	32.6	—3.9	68	-12	3.40	+1.84	6.22	1.97	6.3	8	11	7	12
1920	35.4	—1.2	71	5	2.13	+0.62	4.45	0.73	1.2	8	10	5	15
1921	33.6	—3.0	70	-5	0.58	—0.98	1.61	T.	3.4	5	10	5	15
1922	42.2	+5.6	74	11	3.54	+1.98	5.28	1.96	0.3	9	11	6	13
1923	40.1	+3.5	72	9	0.58	—0.98	1.84	0.00	1.2	3	16	6	8
1924	38.9	+2.3	82	0	0.58	—0.98	1.55	T.	0.4	4	15	7	8
1925	36.1	—0.5	68	-6	0.71	—0.85	2.30	0.10	4.0	4	15	6	9

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.

DECEMBER

While the mean temperature for December was slightly more than three degrees below the normal, mild winter weather prevailed most of the month. There was a decided excess in temperature during the first three days and most of the second week, with numerous fluctuations until the 20th, after which a protracted cold period set in that prevailed during the rest of the month. Up until this period there had been a little zero weather over a limited portion of the State but over a large area in the northeastern portion zero was reached on nearly every day of the last ten; and at a few stations on the 27th, the temperature did not rise above zero. The deficiency was quite uniform over each division, but there was a decided contrast in the eastern and western portions of the State. At a few stations in the eastern portion the deficiency ranged from seven to eight degrees, while in the extreme western portion the deficiency was less than one degree at several stations; and two stations in the southwest reported a slight excess.

Precipitation was slightly above normal and the averages were remarkably uniform for all divisions of the State, but there were areas in nearly all portions of the State that had deficiencies. There were three periods of precipitation that were general over most of the State, the first occurred from the 3rd to 5th, the second on the 15th and the third occurred on the 20th. On the 24th another period was general over the northern division. The precipitation was mostly in the form of snow, though there was considerable rain or sleet during the beginning of the first storm. As the cold weather set in during this storm the precipitation changed to snow and the strong wind that accompanied, caused the snow to drift badly and the storm developed into a "blizzard." Deep drifts formed over large areas in the eastern and southern portions of the State, causing many highways to be temporarily blocked and resulting in some delay to railway traffic, but as the snow packed solidly and a heavy crust soon formed the cuts did not fill up again after being opened. The snow that occurred on the 15th drifted very little and resulted in very little inconvenience, but there was considerable drifting in the storm of the 20th with many roads blocked temporarily and some minor delay resulted to railway traffic. Sleet was reported on a large number of days but it was generally light and the only inconvenience resulting was the skidding of automobiles. No glaze was reported that injured trees or wires.

During the most severe weather the ground was well protected by snow except over a few small areas in the southeastern portion, so it is likely that winter grain and grasses have not been damaged. The heavy snowfall interfered with belated corn husking, and there was still some corn to be gathered in the southeastern portion of the State at the end of the month. The ice gradually increased in thickness and over most of the State it was ready to harvest but in places the heavy snow prevented it from freezing sufficiently and unless favorable conditions follow there will be an inferior quality harvested in localities.

Temperature. The mean temperature for the State, as shown by the records of 104 stations, was 21.0°, or 3.1° lower than the normal. By divisions, approximately three tiers of counties to the division, the means were as follows: Northern, 18.2°, or 3.3° lower than the normal; Central, 21.0°, or 3.3° lower than the normal; Southern 23.9°, or 2.6° lower than the normal. The highest monthly mean was 27.0°, at Thurman, and the lowest was 13.8°, at Postville. The highest temperature recorded was 64°, at Clarinda, on the 9th, and the lowest was —25°, at Waverly, on the 29th. The monthly range for the State was 89°.

Precipitation. The average precipitation for the State, as shown by the records of 109 stations, was 1.30 inches, or 0.16 inch more than the normal. By divisions, the averages were as follows: Northern, 1.27 inches, or 0.24 inch more than the normal; Central, 1.37 inches, or 0.20 inch more than the normal; Southern, 1.27 inches, or 0.05 inch more than the normal. The greatest amount, 3.52 inches, occurred at Fairfield, and the least, 0.30 inch, occurred at Red Oak and Corning. The greatest amount in 24 consecutive hours, 1.60 inches, occurred at Fairfield on the 5th.

Snowfall. The average snowfall for the State was 10.6 inches, or 4.4 inches more than the normal. The greatest amount, 24.2 inches, occurred at Sigourney, and the least, 2.5 inches, occurred at Thurman. The snowfall was uniform in all divisions, but there were great differences in the amounts in the eastern and western portions of the State.

An area in the northeastern portion was snow covered the entire month, and nearly the entire State was covered from the 15th till the end of the month. The seasonal snowfall till the end of December, amounting to 19.5 inches for the State, is the greatest in the history of the State except in 1909, when 20.5 inches fell.

Miscellaneous Phenomena. Aurora: 27th. Fog: 1st, 3d, 4th, 7th, 9th, 10th, 15th, 16th, 18th, 19th. Hail: 4th. Halos (lunar and solar): 1st, 12th, 13th, 23d, 25th, 26th, 27th, 31st. Sleet: 2d, 3d, 4th, 7th, 9th, 10th, 15th, 19th, 20th, 21st, 23d. Winds (strong): 2d, 3d, 4th, 5th, 27th.

Rivers. Low stages prevailed on all rivers and there was very little fluctuation. There was running ice on the Mississippi at Dubuque till the 13th, when the channel closed and it remained closed the rest of the month. The Missouri river remained open with considerable running ice till the 21st when it closed and continued closed the rest of the month. The smaller streams in the northern portion of the State were closed most of the month but in the southern portion they did not freeze till the beginning of the last week.

COOPERATIVE OBSERVERS APPRECIATED

At the meeting of the American Meteorological Society at Kansas City, December 28th-29th, a motion was passed expressing the appreciation of the Society for the work of the Cooperative Observers of the U. S. Weather Bureau. The motion was made by Prof. Dinsmore Alter of the University of Kansas, Lawrence, Kansas, and while the motion was pending many favorable remarks were made by members aside from those who are paid employees of the United States Weather Bureau and who have always placed a high estimate on the work of the cooperative observers.

Many scientific investigations would be impossible without these co-

operative reports. Many applications of these reports to the practical affairs of life are made without the knowledge of the observer, through the medium of our monthly publication, Climatological Data, and through correspondence. Many claims for damaged shipments are adjusted on the evidence of cooperative observers' records without expensive court proceedings, to the economic advantage of all concerned. And there are many other uses that cannot be mentioned here.

This meeting of the American Meteorological Society was one section of the American Association for the Advancement of Science which meets annually somewhere in America, during the Christmas holiday week. The next meeting will be in Philadelphia.

Among those in attendance at the Meteorological Section this year were Prof. Charles F. Marvin, Chief of the United States Weather Bureau, the section directors of several States and other officials of the Bureau to the number of twenty-one.

Many interesting papers were presented and there was much free and enthusiastic discussion.

Though young in years, it looks as though the American Meteorological Society would soon compare favorably with the Royal Meteorological Society of Great Britain in variety, technique and number of papers presented. The greatest need is more members and greater financial support. Cooperative observers are very welcome.

PRESSURE, RELATIVE HUMIDITY, WIND AND SUNSHINE

Stations	Barometric Pressure, Inches (Sea Level)					Relative Humidity, %					Wind					Sunshine	
						Mean							Maximum				
	Mean	Highest	Date	Lowest	Date	7 a. m.	12 Noon‡	7 p. m.	Lowest	Date	Total movement	Average hourly velocity	Miles	From	Date	Percent of possible	Departure from normal
Charles City	30.08	30.76	28	29.49	5	90	79	88	59	16	5,068	6.8	27	nw.	4	40	— 4
Davenport	30.08	30.78	28	29.13	4	88	76	82	39	10	5,340	7.2	24	nw.	26	28	—15
Des Moines	30.09	30.81	27	29.46	4	82	70	75	50	16	5,564	7.5	30	sw.	23	52	0
Dubuque	30.05	30.71	28	29.22	5	88	79	80	48	12	4,996	6.7	31	n.	4	40	— 2
Keokuk	30.11	30.80	28	29.21	4	80	67	74	42	24	5,709	7.8	33	sw.	23	45	0
Sioux City	30.14	30.96	27	29.53	3	82	72	75	37	†1	9,804	13.3	48	nw.	4	49	0
Omaha, Neb.	30.11	30.94	27	29.47	19	77	66	68	39	1	7,104	9.5	42	nw.	4	51	— 1
Means and extremes	30.09	----	----	----	----	84	73	77	----	----	----	8.4	----	----	----	44	— 3
	----	30.96	27	29.13	4	----	----	----	37	†1	----	----	48	nw.	4	----	----
Normals and records	30.12	----	29th	----	13th	84	----	77	----	12th	----	8.1	----	----	24th	47	----
	----	*31.09	1917	§29.00	1920	----	----	----	¶18	1922	----	----	*58	nw.	1907	----	----

*Sioux City. §Dubuque. ¶Keokuk. ‡Local mean time. †And other dates.

COMPARATIVE DATA FOR THE STATE—DECEMBER

YEAR	Temperature				Precipitation					Number of Days			
	Mean	Departure	Highest	Lowest	Total	Departure	Greatest	Least	Snowfall	With pre. .01 in. or more	Clear	Partly cloudy	Cloudy
1890	29.1	+5.0	72	-13	0.45	—0.60	1.40	0.00	.....	3	17	7	7
1891	32.3	+8.2	72	-14	2.41	+1.27	4.50	1.21	.....	6	14	9	8
1892	18.9	—5.2	68	-29	1.65	+0.51	3.04	0.20	10.9	8	9	8	14
1893	22.0	—2.1	70	-21	1.31	+0.17	2.80	0.46	7.6	7	10	9	12
1894	30.1	+6.0	73	-17	0.95	—0.19	1.75	0.25	1.3	3	15	6	10
1895	25.4	+1.3	63	-16	1.63	+0.49	5.74	0.00	4.1	5	11	9	11
1896	30.8	+6.7	70	-10	0.65	—0.49	1.79	T.	1.6	4	10	8	13
1897	18.0	—6.1	60	-25	1.65	+0.51	3.22	0.61	15.9	6	11	7	13
1898	18.1	—6.0	60	-25	0.48	—0.66	1.70	T.	3.9	3	15	8	8
1899	22.6	—1.5	75	-19	1.61	+0.47	4.28	0.10	4.3	5	12	9	10
1900	26.9	+2.8	63	-10	0.45	—0.69	2.70	T.	2.4	4	13	6	12
1901	20.5	—3.6	64	-31	0.93	—0.21	2.75	0.05	5.4	6	10	9	12
1902	20.1	—4.0	59	-29	2.23	+1.09	5.51	0.67	12.9	8	9	6	16
1903	19.6	—4.5	58	-27	0.41	—0.73	1.96	T.	3.7	4	11	9	11
1904	23.4	—0.7	67	-19	1.44	+0.30	3.68	0.06	12.3	5	12	7	12
1905	27.0	+2.9	62	-11	0.52	—0.62	1.69	T.	4.2	3	19	6	6
1906	25.7	+1.6	65	-9	1.43	+0.29	2.81	0.37	1.4	6	11	7	13
1907	28.8	+4.7	62	-9	1.00	—0.14	2.38	0.05	4.7	5	10	7	14
1908	27.2	+3.1	67	-17	0.57	—0.57	2.07	0.05	3.8	3	15	8	8
1909	15.1	—9.0	60	-26	2.18	+1.04	6.10	0.89	13.7	11	10	5	16
1910	23.4	—0.7	57	-14	0.37	—0.77	1.39	0.01	3.0	3	15	7	9
1911	27.9	+3.8	60	-24	2.57	+1.43	4.43	0.62	12.6	7	13	6	12
1912	29.2	+5.1	64	-18	0.74	—0.40	1.75	0.10	1.1	3	18	7	6
1913	32.0	+7.9	65	-13	1.02	—0.12	4.73	0.00	1.3	4	15	5	11
1914	15.7	—8.4	63	-31	1.30	+0.16	2.24	0.57	11.1	9	10	6	15
1915	25.0	+0.9	56	-10	0.69	—0.45	1.70	T.	4.6	5	11	8	12
1916	18.7	—5.4	67	-25	1.04	—0.10	2.00	0.35	6.7	6	15	8	8
1917	14.5	—9.6	62	-40	0.56	—0.58	1.70	0.14	6.7	6	10	9	12
1918	32.7	+8.6	68	-7	1.30	+0.16	3.30	0.37	5.1	8	9	8	14
1919	15.0	—9.1	52	-36	0.54	—0.60	1.35	0.08	5.8	4	11	7	13
1920	26.4	+2.3	65	-26	1.16	+0.92	2.64	0.26	7.4	5	10	8	13
1921	28.2	+4.1	69	-22	1.02	—0.12	3.72	T.	2.9	4	14	9	8
1922	24.0	—0.1	65	-25	0.47	—0.77	0.97	T.	2.2	3	16	7	8
1923	33.5	+9.6	68	-21	0.76	—0.38	2.22	T.	4.4	4	14	6	11
1924	15.4	—8.7	62	-33	1.79	+0.65	2.93	0.90	8.1	8	12	6	13
1925	21.0	—3.1	64	-25	1.30	+0.16	3.52	0.30	10.6	5	12	8	11

T. indicates an amount too small to measure, or less than .005 inch rainfall and less than .05 inch snowfall.

MONTHLY STATE DATA FOR 1925

MONTH	Barometric Pressure Inches (Sea Level)					Temperature Degrees, F.				Rel. Humidity, Per Cent					Precipitation, Inches					Number of Days				Sunshine		Wind		
	Mean	Highest	Date	Lowest	Date	Mean	Departure from normal	Highest	Lowest	7 a. m.*	12 noon§	7 p. m.*	Departure from normal¶	Lowest	Average	Departure from normal	Greatest	Least	Snowfall	With .01 inch or more precipitation	Clear	Partly cloudy	Cloudy	Per cent of the possible amount	Departure from normal	Average hourly velocity	Departure from normal	Prevailing direction
January	30.19	30.83	26	29.69	31	19.4	+ 0.9	55	−24	84	67	74	− 2	29	0.40	−0.68	1.23	0.05	4.2	3	17	7	7	58	+ 8	7.4	−1.3	nw.
February	30.03	30.54	11	29.51	7†	28.4	+ 5.8	66	−16	85	66	73	− 1	31	0.82	−0.38	3.60	T.	2.6	4	11	7	10	48	− 7	8.3	−1.0	nw.
March	30.08	30.65	14	29.30	9	40.1	+ 5.4	82	− 6	76	53	55	− 8	14	0.93	−0.82	2.34	0.10	2.9	4	17	9	5	70	+13	9.7	+0.1	nw.
April	29.98	30.43	5	29.37	18	56.5	+ 7.6	95	21	70	46	48	− 8	14	2.20	−0.79	5.34	0.71	T.	8	14	9	7	62	+ 4	8.6	−1.3	se.
May	29.99	30.39	17	29.43	22	57.8	− 2.4	102	20	79	42	45	−10	15	1.16	−3.45	2.62	0.30	T.	6	19	8	4	75	+14	7.6	−1.1	nw.
June	29.90	30.38	30	29.30	2	70.4	+ 1.1	98	38	75	55	58	− 3	22	6.64	+2.11	13.30	2.99	0	12	15	9	6	70	+ 2	8.8	+1.2	s.
July	29.95	30.24	22	29.68	3	74.1	+ 0.3	105	40	79	52	55	− 1	21	2.66	−1.19	7.93	0.80	0	8	19	10	2	77	+ 3	6.3	−0.4	nw.
August	30.04	30.39	25	29.68	12	72.4	+ 0.7	99	39	81	52	58	− 2	26	3.47	+0.03	8.36	0.31	0	8	18	9	4	75	+ 5	5.8	−0.5	se.
September	29.95	30.38	28	29.45	19	69.0	+ 4.7	105	32	83	59	66	+ 1	23	5.04	+1.39	9.13	1.54	0	9	14	10	6	59	− 4	6.9	−0.3	se.
October	30.08	30.62	28	29.58	25	40.2	−11.7	78	−15	84	64	70	+ 6	31	2.91	+0.49	5.68	0.97	4.9	10	8	8	15	36	−24	7.5	−0.6	nw.
November	30.10	30.60	28	29.49	12	36.1	− 0.5	68	− 6	80	58	65	− 3	18	0.71	−0.85	2.30	0.10	4.0	4	15	6	9	58	+ 6	7.8	−0.4	nw.
December	30.09	30.96	27	29.13	4	21.0	− 3.1	64	−25	84	73	77	0	37	1.30	+0.16	3.52	0.30	10.6	5	12	8	11	44	− 3	8.4	+0.3	nw.
Means and	30.03					48.8	+ 0.8			79	57	62	− 3		28.24	−3.98			29.2	81	179	100	86	61	+ 2	7.8	−0.4	nw.
extremes		30.96	Dec. 27	29.13	Dec. 4			105	−25					14			13.30	T.										
Normals and	30.02		Jan. 25		Feb. 28	48.0				81		66			32.22				30.7	85	166	102	98	59		8.2		nw.
records		31.09	1905	28.69	1902			113	−47					5			19.88	0.00										

§Local mean time. *Normal central time. ¶7 a. m. and 7 p. m. observations only. †And other dates.

COMPARATIVE DATA FOR THE STATE—Annual

Year	Temperature						Precipitation in Inches			
	Mean annual	Highest	Date	Lowest	Date		Annual	Greatest annual	Least annual	Average snowfall
1890	48.0	110	July 13	−27	January 22		31.30	45.74	16.00	-----
1891	47.3	106	August 9	−31	February 4		32.90	49.05	23.48	-----
1892	46.6	104	July 11	−38	January 19		36.58	48.77	24.78	34.2
1893	45.7	102	July* 13	−36	January 14		27.59	33.27	19.19	37.2
1894	49.7	109	July 26	−37	January 25		21.94	29.81	15.65	19.2
1895	47.2	104	May 28	−33	February 1		26.77	35.25	18.57	26.0
1896	48.6	104	July 3	−20	January 4		37.23	51.00	28.68	22.6
1897	47.8	106	July* 23	−30	January 25		26.98	36.18	20.21	38.8
1898	47.7	103	August 20	−25	December 31		31.34	55.47	19.51	40.3
1899	47.3	104	September 6	−40	February 11		28.68	42.06	21.79	23.4
1900	49.3	103	August 3	−27	February 15		35.05	47.33	25.05	25.8
1901	49.0	113	July 22	−31	December 15		24.41	37.69	16.35	38.5
1902	47.7	98	July 30	−31	January 27		43.82	58.80	30.14	28.0
1903	47.2	101	August 24	−27	December 13		35.39	50.53	26.41	19.4
1904	46.3	100	July 17	−32	January 27		28.51	38.93	19.34	29.2
1905	47.2	104	August 11	−41	February* 2		36.56	52.26	24.66	38.3
1906	48.4	102	July 21	−32	February 10		31.60	44.34	20.63	32.8
1907	47.4	102	July 5	−31	February 5		31.61	43.90	19.93	24.0
1908	49.4	101	August 3	−18	January 29		35.26	49.98	24.11	22.7
1909	47.4	103	August* 15	−20	February* 15		40.01	53.48	27.20	49.0
1910	48.6	108	July 16	−35	January 7		19.86	27.99	12.11	23.4
1911	49.5	111	July *3	−35	January 3		31.37	46.77	19.74	35.3
1912	46.3	104	September 8	−47	January 12		28.89	33.13	15.25	39.5
1913	49.7	108	July* 16	−25	January 8		29.95	45.18	20.31	25.4
1914	49.1	109	July 12	−31	December 26		31.93	44.11	23.30	27.5
1915	47.8	99	May 14	−32	January 28		39.53	51.15	27.29	31.3
1916	47.2	106	August 4	−34	January 13		28.90	46.34	22.48	29.5
1917	44.8	106	July 20	−40	December 29		27.81	36.00	20.78	32.4
1918	49.2	113	August 4	−36	February 4		32.78	47.53	25.03	33.4
1919	48.6	104	July* 30	−36	December 10		36.76	48.16	26.88	26.6
1920	48.2	102	July 23	−26	January* 4		31.75	44.09	20.95	21.7
1921	52.2	104	July* 11	−22	December 25		32.03	46.47	20.44	30.7
1922	50.2	104	June 23	−29	January 6		29.98	44.20	19.08	13.5
1923	49.0	102	July* 22	−23	February* 3		29.50	37.47	21.36	36.3
1924	46.4	100	August* 21	−36	January 5		31.39	43.85	19.41	37.2
1925	48.8	105	July* 1*	−25	December 29		28.24	45.53	13.77	29.2

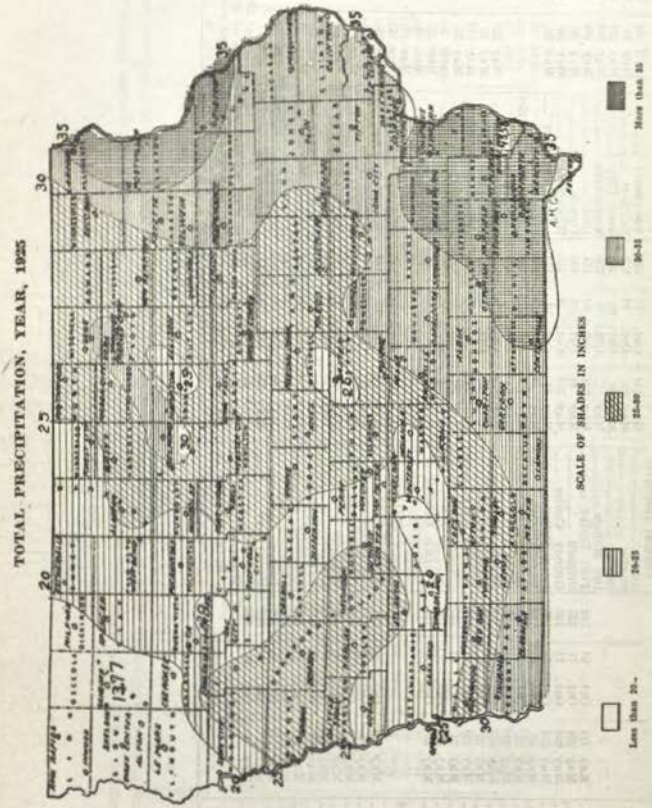
*And other dates.

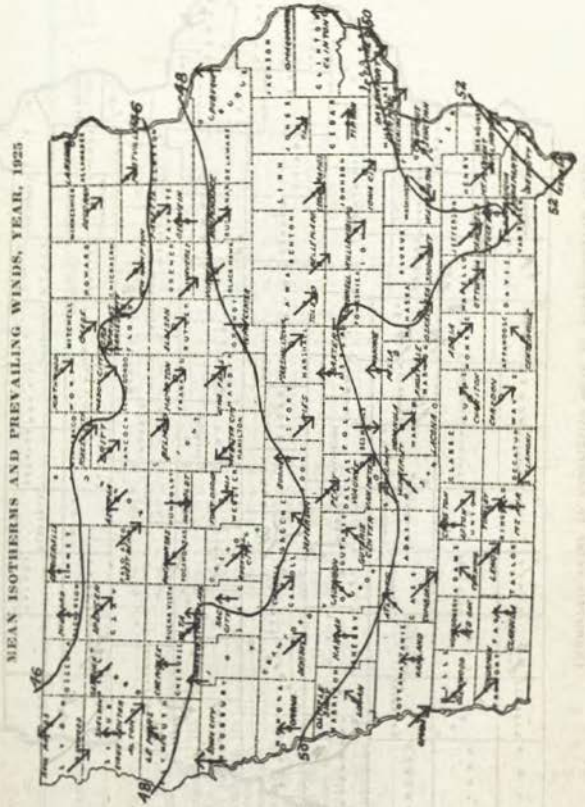
DATES OF KILLING FROSTS, 1925

Charles City, Davenport, Des Moines, Dubuque, Keokuk, Sioux City, Omaha, and Marshalltown excluded from averages because of city influences

STATIONS	Last in Spring	First in Autumn	Days in growing season
Northwest District			
Alta	May 25	Oct. 9	137
Alton	May 25	Oct. 9	137
Cherokee	May 25†	Oct. 6†	134
Estherville	May 25	Oct. 9	137
Inwood	May 25	Oct. 9	137
Le Mars	May 25†	Oct. 7†	135
Milford (near)	May 25	Oct. 9†	137
Pocahontas	May 25†	Oct. 7†	135
Rock Rapids	May 25	Oct. 9	137
Sanborn	May 25†	Oct. 6†	134
Sheldon		Oct. 9	
Sioux Center	May 25†	Oct. 9	137
Spencer	May 25	Oct. 9†	137
Storm Lake	May 25†	Oct. 9†	137
Washta	May 25	Oct. 9	137
West Bend	May 25†	Oct. 7†	135
Rural Average	May 25	Oct. 8	136
North Central District			
Algona	May 25†	Oct. 9†	137
Allison	May 25	Oct. 7	135
Belmond	May 25	Oct. 10	138
Britt	May 25†	Oct. 7	135
Charles City	May 17†	Oct. 10	146
Forest City	May 17	Oct. 7†	143
Hampton	May 25†	Oct. 7†	135
Humboldt	May 25†	Oct. 7	135
Mason City	May 25	Oct. 10	138
Nora Springs	May 25	Oct. 7	135
Northwood	May 25†	Oct. 9	137
Osage	May 25†	Oct. 7†	135
Rural Average	May 24	Oct. 8	137
Northeast District			
Decorah	May 26	Oct. 5†	132
Dubuque	April 5	Oct. 10	188
Fayette	May 25	Oct. 10	138
Independence	May 25†	Oct. 7†	135
New Hampton	May 25†	Oct. 7†	135
Oelwein	May 17†	Oct. 7	143
Postville	May 25†	Oct. 7†	135
Waterloo	May 25†	Oct. 7†	135
Waverly	May 25	Oct. 7†	135
Rural Average	May 24	Oct. 7	136
East Central District			
Belle Plaine	May 25	Oct. 7	135
Cedar Rapids	May 26†	Oct. 10	137
Clinton	May 25†	Oct. 10	138
West Central District			
Audubon	May 17†	Oct. 6†	142
Carroll	May 25†	Oct. 7†	135
Denison	May 25†	Oct. 7†	135
Guthrie Center	May 25†	Oct. 7†	135
Harlan (near)	May 16	Oct. 6	143
Jefferson	May 25	Oct. 7	135
Little Sioux	May 25†	Oct. 9†	137
Logan	May 25†	Oct. 9†	137
Onawa	May 25	Oct. 9	137
Rockwell City	May 25†	Oct. 7†	135
Sac City	May 25	Oct. 7†	135
Sioux City	May 11	Oct. 9	151
Rural Average	May 23	Oct. 7	137
Southwest District			
Atlantic	May 25†	Oct. 9	137
Clarinda	May 25	Oct. 7†	135
Corning	May 25†	Oct. 7†	135
Cumberland (near)	May 25	Oct. 9	137
Glenwood	May 25†	Oct. 9	137
Lenox	May 25	Oct. 7†	135
Oakland	May 25†	Oct. 9†	137
Red Oak	May 25	Oct. 7	135
Thurman	May 25†	Oct. 9†	137
Omaha, Neb.	Mar. 21	Oct. 9	202
Rural Average	May 25	Oct. 8	136
Central District			
Ames	May 11†	Oct. 7†	149
Baxter	May 25	Oct. 7†	135
Boone	May 25	Oct. 10	138
Des Moines	May 7	Oct. 9	155
Fort Dodge	May 25†	Oct. 6†	134
Grinnell	May 6†	Oct. 9†	156
Grundy Center	May 25†	Oct. 7†	135
Iowa Falls	May 11	Oct. 10	152
Marshalltown	May 8†	Oct. 10	155
Monroe	May 25	Oct. 10	138
Perry	May 25	Oct. 7	135
Toledo	May 25†	Oct. 7†	135
Waukee	May 25	Oct. 7	135
Webster City	May 25†	Oct. 7†	135
Rural Average	May 21	Oct. 8	140
South Central District			
Afton	May 25†	Oct. 7†	135
Albia	May 25†	Oct. 10	138
Centerville	May 6	Oct. 9	156
Chariton (near)	May 25†	Oct. 7	135
Corydon	May 25	Oct. 9	137
Creston	May 25†	Oct. 7†	135
Earlham (near)	May 11†	Oct. 7†	149
Indianola	May 25†	Oct. 9†	137
Knoxville	May 25†	Oct. 7†	135
Lamoni	May 25†	Oct. 9	137
Mount Ayr	May 25†	Oct. 9†	137
Ringgold	May 25	Oct. 9	137
Winterset	May 25	Oct. 7	135
Rural Average	May 22	Oct. 8	139
Southeast District			
Davenport	April 6†	Oct. 10	187
Fairport	May 25	Oct. 10	138
Iowa City	May 25†	Oct. 10	138
Maquoketa	May 26†	Oct. 7†	134
Olin	May 26†	Oct. 7†	134
Tipton	May 26	Oct. 10†	137
Williamsburg	May 25	Oct. 7†	135
Rural Average	May 25	Oct. 9	137
Southeast District			
Bonaparte	May 25†	Oct. 10†	138
Burlington	May 25	Oct. 10	138
Columbus Junction	May 25†	Oct. 10	138
Fairfield	May 25	Oct. 10	138
Keokuk	April 5	Oct. 10	188
Keosauqua	May 25	Oct. 10	138
Mt. Pleasant	May 25	Oct. 10	138
Oskaloosa	May 25	Oct. 10	138
Ottumwa	May 25†	Oct. 10	138
Sigourney (near)	May 25	Oct. 10	138
Stockport	May 25	Oct. 10†	138
Washington	May 7†	Oct. 10†	156
Wescott (near)	May 25	Oct. 10†	138
Rural Average	May 23	Oct. 10	139
State Average 1925	May 24	Oct. 8	137
State Normal	May 2	Oct. 5	156

†Date of last temperature of 32° or lower in the spring, or first temperature of 32° or lower in the autumn (as the case may be) when frost was not reported.


TOTAL PRECIPITATION, YEAR, 1925
SCALE OF SHADES IN INCHES
More than 35
30-35
25-30
20-25
Less than 20


MEAN ISOTHERMS AND PREVAILING WINDS, YEAR, 1925

TORNADO PATHS IN IOWA DURING THE YEAR, 1925
(Numerals refer to descriptive data in accompanying table)

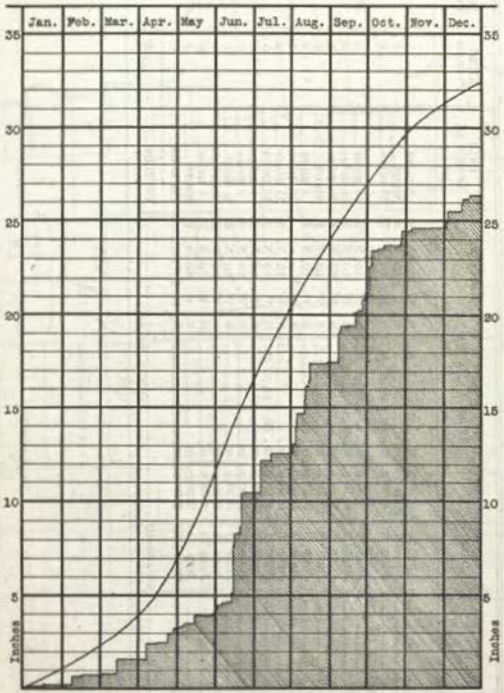
TORNADOES IN IOWA DURING THE YEAR, 1925

Nearest Town	Date	Time	Direction	Path Length of	Killed Persons	Injured Persons	Damage Estimated
1. Cresco (Howard Co.)	April 21	2:30 a. m.	S. W. to N. E.	8 miles	1	2	
2. Milford	June 1	Afternoon	S. W. to N. E.	Short	0	0	
3. Glenwood and Silver City	June 2	4:00 p. m. to 5:00 p. m.	S. W. to N. E.	45 miles	0	4	$ 50,000
4. Onawa (Monona Co.) to Cushing (Woodbury Co.)	June 2	4:00 p. m. to 5:00 p. m.	S. W. to N. E.	46 miles	0	4	480,000
5. Red Oak (Montgomery Co.)	June 2	6:10 p. m.	S. W. to N. E.	11 miles	0	5	100,000
6. Adair (Adair Co.)	June 2	8:30 p. m.	S. W. to N. E.	20 miles	3	3	100,000
7. N. W. part of Iowa Co.	June 2	10:15 p. m.	S. W. to N. E.	Short	0	0	
8. Neola (Pottawattamie Co.)	June 3	5:30 p. m.	S. W. to N. E.	5 miles	0	0	
9. Neola and Persia	June 3	6:00 p. m.	S. to N.	10 miles	1	21½	750,000
10. Jefferson (Greene Co.)	June 3	9:00 p. m.	S. W. to N. E.	15 miles	0	1	10,000
11. Alexander (Franklin Co.)	June 11	4:00 p. m. to 4:45 p. m.	S. W. to N. E.	15 miles	1	18	350,000
12. Dumont (Butler Co.)	June 11	4:30 p. m.	S. W. to N. E.	1 mile	0	0	
13. Greene (Butler Co.)	June 11	5:00 p. m.	S. W. to N. E.	2 miles	0	0	
14. Carrville (Floyd Co.)	June 11	6:30 p. m.	S. W. to N. E.	¼ mile	0	0	150,000
15. Nashua (Chickasaw Co.)	June 11	6:30 p. m.	S. W. to N. E.	Short	0	0	
16. Tabor (Fremont Co.)	June 28	2:00 a. m.	N. W. to S. E.	6 miles	0	0	10,000
17. Davenport	July 24	2:30 p. m.	N. W. to S. E.	Short	0	0	100,000
18. Southwest of Oskaloosa	Oct. 3	2:00 a. m.	N. to S.	1½ miles	0	0	50,000
Totals				180 miles	6	58	$ 2,150,000

PRECIPITATION

Line bounding shaded area shows accumulated depth in inches, 1925.

Smooth curve shows normal.



Total for 1925, 26.42. Normal, 32.49.

WEATHER AND CROP REVIEW, 1925

Read by Charles D. Reed at Annual Agricultural Convention, House Chamber, State House, Des Moines, Iowa, December 9, 1925.

The first five months of 1925 were the driest in thirty-six years in Iowa. Scarcely a day was lost in field work on account of weather. The farmer and his family supplied most of the necessary labor in spring planting. In this respect the season resembled 1895. For the first time in years there was little or no complaint of a shortage of labor on the farms.

June rains fell in a most beneficial way in generous quantities but with sufficient intervals between rains for thorough cultivation.

Oats, winter wheat, spring wheat, barley, rye, pastures and hay suffered greatly from the spring drouth, but all recovered and produced about average or better than average crops, except hay and pastures which did not recover their usual productiveness during the remainder of the season.

Corn thrived remarkably, except in the northwest counties where rainfall had been deficient for more than a year, and during a period of deficient rains in July over much of the State. Unusual care in selecting seed corn under very unpromising conditions, together with generally favorable weather in May, produced a stand that was better than usual. There was a little frost damage to corn on May 25. Just as in 1895, when a remarkably dry winter and spring was followed by a high corn yield for that day and age in Iowa farming, so in 1925 the driest spring of record was followed by the fourth largest corn yield of record, forty-three bushels per acre.

Generally, when a corn crop reaches October 1 in excellent condition, the battle is won, but this year, soon after that date, the real trouble of the year began. October was the coldest, cloudiest and rainiest in more than a half a century. Instead of drying, corn is said to have absorbed moisture, so that not until well into November was it safe to crib in large quantities. Fields were so wet that full loads could not be hauled through them. Much corn was damaged in the fields by the wet conditions and particularly by the six-inch snow that fell over most of the State on October 27.

For a crop that held so much promise on October 1, it scarcely seems possible that so much trouble could result from excess moisture. Much heated in the cribs and had to be spread out to dry. At the close of November much of the crop was of "sample" grade, containing more than twenty-three per cent of moisture. Many samples showed as much as twenty-eight per cent. Elevators and grain trade generally found great difficulty in drying and handling this corn which to some extent accounts for the low price.

As husking advanced, the general report, even in the drouth-stricken northwest counties, was that the corn turned out better than expected.

On December 1, reports received from eight hundred and seventy-one well distributed reporters placed the average yield of corn at 46.3 bushels per acre. Because of the unusual moisture content, it was thought best to adhere to the November 1 estimate of forty-three bushels

per acre. This was equivalent to drying out five per cent of the moisture and placing the crop practically on a basis of No. 4 corn. It was assumed that statistics were wanted on bushels of corn—not water. A further shrinkage would be necessary to make this crop compare strictly with that of last year.

The acreage of corn is estimated at 11,130,000 acres which is the greatest in the history of the State, and amout 1½ millions greater than in 1918 when the farm boys were gone to war. This, with the yield of forty-three bushels per acre makes the enormous total of 478,590,000 bushels—the largest corn crop Iowa ever produced. Of course, only about eighty-five per cent of this has been or will be husked for grain yet the total bushels of grain given above are potentially present.

The average price per bushel on Iowa farms, or at nearest railway station, December 1 was fifty-six cents which makes the total value of the crop $268,010,000, as compared with $284,148,000 in 1924. In other words, one hundred seventy-three million more bushels of corn this year are worth sixteen million less dollars than last year at current market prices. The greatest corn crop ever produced is worth sixteen million dollars less than the poorest crop in twenty-four years.

Objection has been raised to using the December 1 price in placing a value on the corn crop, on the ground that it is often nearly the lowest price of the year, but a little study of the flow of corn to market shows that a large portion of the marketed corn goes to market near the low price.

What about livestock as a market for corn? Will not this vast crop be worth vastly more when consumed by livestock? Well, the pot of gold at the foot of the livestock rainbow is sometimes just as elusive as the fabled pot of gold at the foot of the real rainbow.

In general, an abundance of food for livestock results in rapid expansion of livestock breeding, particularly hogs, so that by the time the livestock reaches the market, the meat market is over-supplied, with resultant low prices.

One of the chief advantages of feeding corn to livestock is in the delay thus introduced into marketing the crop. The larger volume of the crop that is marketed as grain goes to market at a low price in the first ninety days after it is husked. Not much is marketed in the form of meat until after this ninety day period. Feeding to livestock is simply a more orderly method of marketing grain. It would take a far better statistical organization than is now available to work out with any degree of reliability, the value of the 1925 corn crop as fed to livestock and it would require careful tracing of hogs and sheep more than two years and cattle for more than three years to work out the problem completely. By the time all the pork, beef and mutton made from the 1925 corn has gone to market, prices will probably be far different from what they are now and what some people expect.

A careful cost accounting applied to the feeding of livestock, taking due account of the cost of feeds, labor, depreciation and overhead, would, no doubt, show that much of the imagined increase in value of the corn crop through feeding would fade away. In fact, occasionally, the corn would be found to have been fed to the livestock at a loss instead of a gain. The great basic source of wealth in Iowa is staple crops.

Livestock feeding is only a step in the manufacture of field crops into human food just as truly as the making of breakfast foods from grains. The livestock industry has its profit and loss account the same as any other kind of manufacturing, and one of the most important elements of profit is the maintenance of soil fertility by the manure.

How much of the corn is fed to livestock? Nobody knows. Of the 1924 crop fifteen per cent was shipped out of the county where grown, but this was the shortest crop in twenty-five years, and considerable of this fifteen per cent is known to have been shipped from county to county within the State. Probably ninety per cent of that crop was fed to livestock, possibly forty-five per cent to hogs, but this is an extreme case. In years of overwhelming production like this year, thirty-five per cent is shipped out of the county where grown and in such years out of the county is also mostly out of the State. It would not be at all surprising in this extreme of all extreme years, if not more than 60 per cent of the 1925 crop were fed to animals within the State and less than forty per cent to hogs. Most of the forty per cent that will go outside of the State will probably be during the next ninety days at comparatively low prices unless current agitation for corn holding changes the situation.

What is a fair price for corn? The secular trend of the price of corn on Iowa farms on December 1 for the thirty-five year period ending with 1924, is upward at the rate of 1.7 cents per bushel per year. If the trend price had been realized this year, it would have been about seventy-eight cents instead of fifty-six cents.

Our crop correspondents, of whom about one thousand report each month, are mostly actual farmers or retired farmers closely in touch with farming. In numerous inquiries where we have had a census or other standard with which to compare their estimates, we have been truly surprised at the accuracy of our correspondents. Recently they were asked to estimate the cost of producing a bushel of corn in their respective localities. This year the average of more than five hundred replies was sixty-eight cents, and running as high as ninety-three cents in counties where the crop was poor. If this average of sixty-eight cents is as accurate as other statistical data derived from this source, the average loss per bushel, calculated from the December 1 price, is twelve cents or a total loss of more than $57,000,000.

This is not merely a farmer's problem. Every other industry in the State is small compared with the production of field crops. All other industries and businesses in the State are vitally dependent upon agriculture. If this great corn crop is actually worth $57,000,000 less than the cost of producing it, then Iowa is poorer through and through instead of enriched by this great crop. It is a problem for every banker, business-

man, manufacturer and professional man to get together on and present an undivided front. Every cent of rise in the price of corn means approximately five million more dollars for Iowa people or nearly $2.00 more for every man, woman and child in the State to spend for Christmas. Think what that would mean to the merchants of Iowa.

The recent action taken to provide the relatively small sum of $5,000,000 credit to finance corn holding in Iowa is said to have caused a rise of six cents per bushel in the price of corn in Chicago. A six-cent rise in price would add $25,000,000 to the value of Iowa corn alone, not to mention the effect in other corn belt states. It is astonishing, if true, that $5.00 value was created by each $1.00 of available credit.

What of other crops? The total value of all Iowa crops in 1925, based on December 1 prices, is $513,953,000 which is $57,673,000 less than the total value of the 1924 crops. Every crop shows less value except barley, potatoes, clover seed, sweet corn and a few other minor crops. Oats, which stand next to corn as Iowa's most important crop, are valued at $78,913,000 or $29,287,000 less than last year.

Bulletin No. 1, April 7, 1925—

Mild, dry, sunny weather since January 1, brought farm work on with a rush. The soil worked up fine and mellow except in a few localities where it was so dry as to become hard and break up lumpy. Much sod (hay and pasture) land has been broken up, due probably to the over supply of hay and the high price of corn. The only rain of importance in the last three weeks occurred in southwest Iowa on April 2. The protracted deficiency in precipitation is causing a failure in water supply in many sections. Not in many years have Iowa roads been so good in springtime.

Oats seeding is much farther advanced than usual. This work is nearly completed in the southern counties, and about half done in the extreme north. The soil is mostly too dry and cold for good germination, but the seed bed has been well prepared and a warm rain would bring up the oats rapidly. An increased acreage is indicated.

Spring wheat seeding is finished and much has sprouted and will soon show through the ground. The acreage is small. An increased acreage of barley has been seeded somewhat earlier than usual.

More than the usual amount of plowing and other work has been done preparatory to corn planting. The favorable weather has permitted the farmer and his family to distribute the season's work so as to economize in hired labor. The increased acreage of oats is one phase of this labor distribution. The supply of farm labor is greater than usual. Seed corn testing is showing somewhat better results than last year. However, crib corn of the immature kind generally harvested last fall, is giving poor results.

Winter wheat and the younger, well-established grass, clover, and alfalfa, wintered well generally, except where smothered by the glaze storm of December 3-5, mostly in the west-central district, and in a few localities in the southwest district, where the winter drouth was too severe. Newly seeded grasses and clover have suffered seriously from drouth recently. In places the soil has been so dry that the wind has blown it away from the roots of the wheat and grasses, or drifted the plants under with dirt.

Potato planting and garden making has made good progress. Fruit buds have been advanced too rapidly for safety. Peach buds were generally killed by the severe weather in December. The glaze storm of December 3-5 broke down thousands of fruit trees from west-central Iowa northeastward. The worst damage occurred in Shelby county, where 42 per cent of the fruit trees were seriously damaged.

Livestock wintered well. Diseases have not been as prevalent as usual. Farrowing and lambing have proceeded under unusually favorable weather conditions. The number of pigs saved per litter has been large so far, which is fortunate, and will help to make up for the large decrease in the number of sows to farrow. Hens are laying well, and chicks are thrifty.

In general the season is ten days to two weeks earlier than usual, and the outlook is very promising.

Bulletin No. 2, April 14, 1925—

Gentle soaking rains, 7th-9th, over most of the State relieved the prolonged drouth somewhat, but lacked much of making up the unprecedented deficiency since January 1. For the three-month period, January to March, the rainfall for the State averaged only 2.15 inches, the least in 36 such periods. The rains were light in the northeast counties, and not sufficient to help the short water supply much. Temperatures have mounted higher and higher above the normal as the season has advanced. The last week was 12.5 degrees above normal. Such a departure is very unusual.

The dryness and warmth are no cause for alarm. The crop season of 1895, just 30 years ago, opened in a similar manner, and that season stands out as one of the banner crop seasons in the State. However, it had the added advantage of being preceded by the driest, and one of the hottest seasons of record, which almost completely destroyed fungus diseases such as rusts, smuts, and mildews.

Oats that had been seeded came up rapidly to a good stand, except in some northeast and east-central counties, where moisture is insufficient. Seeding is nearing completion in the northern counties. Barley and spring wheat are also up and looking well. Winter wheat made excellent progress in most of the winter wheat area.

Plowing in preparation for corn planting is advancing rapidly. About half of this work has been done. Considerable acreage is ready for the planter but awaiting a safe date, though the ground is warmer and in better condition for planting than it was at the close of May last year. Planting is expected to begin in the southern tiers of counties in a few days. Cut worms are very numerous on sod plowing.

Grasses and pastures made a wonderful advance since the rains. Considerable alfalfa has been sown this spring and it is doing well. In some localities livestock will be put on pasture in a few days, considerably earlier than usual. Farrowing and lambing continued under unusually favorable conditions. The number of pigs saved per litter is large but the number of litters is the smallest in three or four years. The succulent grass and sunshine are fine for the sows and pigs.

Home gardening has progressed rapidly, and considerable potato planting has been done. Commercial onions are up and thriving in the Pleasant Valley region, but seriously need rain in Mitchell county.

Fruit blossoms have advanced much too rapidly for safety. Plums are in full bloom in the southern half of the State, and cherries are opening in the more southern counties. A severe frost is still possible, and if it comes will seriously injure fruit.

Bulletin No. 3, April 21, 1925—

Warm weather continued till the close of the week, though light to killing frosts occurred in the eastern portion of the State, with some freezing temperatures, but no damage, on the morning of the 16th. Rainfall averaged only a little more than half the normal and was not well distributed, ranging from heavy in some counties to almost none in other counties, with further reports of failing wells and water supply. Sunshine

averaged a little below normal. Thundersqualls and considerable hail occurred on the 18th in localities in northeast Iowa.

Corn planting has started in Carroll, Cherokee, Decatur, Dubuque, Lucas, Mahaska, Marshall, Pocahontas, Ringgold, and Taylor counties. The first in Pocahontas county was on April 14 and in Marshall county on April 16, about three weeks earlier than usual. Preparation of corn ground is completed in many localities, and nearing completion everywhere. If the coming week is favorable, much planting will be done.

Oats range from just germinating to three inches tall. The fields look green and fine, but a generous rain would be beneficial in the central and west portions of the State. Winter wheat has been greatly damaged by more or less persistent drouth since seeding time last fall, and by the glaze storm of December 3d-5th. Much has been plowed up this week, and will be planted to oats or corn. As wheat is not an important crop in Iowa, the wheat failure is no cause for alarm. The acreage can yet be devoted to productive crops. Spring wheat and barley are in fair condition, but rain is needed.

Potato planting and general gardening made good progress. Many home gardens are up. Asparagus and rhubarb are yielding bountifully. Sugar beet planting has started in the commercial sugar beet districts considerably earlier than usual. Plums, currants, and gooseberries are in full bloom in nearly all sections of the State. Cherries and early apples are in full bloom in the southern half of the State. Strawberries are starting to bloom in southern Iowa. Warmth and ample sunshine have encouraged daily flights of the bees. Conditions have been unusually favorable for fertilizing the fruit blossoms.

Bulletin No. 4, April 28, 1925—

The fourth consecutive week of warm weather makes April, to date, the warmest of 36 Aprils. Temperatures of the last week averaged 10.5 degrees above normal. On the 22d several stations reported temperatures in the 90's, the highest being 95 at Waterloo. Such conditions are more like July than April. Similar temperature conditions prevailed in April 1915, which proved to be a very poor corn year, though the warm April of 1895 was followed by a very good corn season.

Frosts or freezing temperatures in the northwest and north-central portions of the State on the 27th, and in the northeast portion on the 28th, caused no damage. Good rains occurred in the south-central, southeast, and east-central districts, and in some other localities, but over more than half of the State rain is badly needed and water shortage is serious.

Corn planting is going forward slowly in nearly all counties, though most all corn ground is ready, and the soil warm. The bulk of the planting is awaiting a safe date, or suitable moisture conditions. The earliest planted in southern Iowa is sprouting nicely and in a few cases is up and rows can be seen across the field.

Oats, barley, and spring wheat have been forced ahead rapidly by the unusual heat, but in some cases the growth is not as sturdy as desired. All these grains and winter wheat and rye need moisture badly in much of the State.

Grasses and pastures have made good growth, but seriously need rain. Alfalfa, because of the deep roots, has made exceptional growth. In some localities it will be ready to cut in two weeks if present weather continues.

In central and southern Iowa fruits have passed the most critical blooming stage, with exceptionally good conditions and fertilization.

Young animals never had a more favorable spring. Everywhere in the State they may be seen reveling in the succulent grass and basking in the sunshine.

Bulletin No. 5, May 5, 1925—

Unseasonably cool weather the past week was in striking contrast with the abnormally warm weather of the preceding four weeks. Frosts or freezing temperatures covered much of the State on the mornings of the 30th day of April, and the 1st, 2d, 3d, and 5th days of May. Potatoes, strawberries, tomatoes, and other tender plants were injured on low ground, but tree fruits and field crops generally escaped. Corn was injured in some south-central counties. Grapes were seriously injured in some localities. Showers occurred in nearly all sections of the State, but as a rule, the amounts were much below normal and the deficiency continues to accumulate.

Corn planting was somewhat delayed by the low temperature, though in some localities 50 to 60 per cent of the planting has been done. For the State as a whole about one-fourth is done. Some localities have scarcely made a beginning. Rows can be seen both ways across the earliest fields, as far north as Marshall county. In some of the south-central counties the corn was cut to the ground by frost. Delay has been caused by dry soil also.

Oats look surprisingly well over much of the State, in spite of the deficient rainfall. However, in some localities the stand is thin and the plants not thrifty, due to the unfavorable weather. Winter wheat that is considered promising enough to save is making fair progress, though a considerable acreage has been abandoned. Other small grains are doing fairly well, but all need more rain.

Commercial onions in Mitchell county need rain. Hemp planting in that county is in progress. Sugar beet planting for sugar is well along.

Bulletin No. 6, May 12, 1925—

Cool, dry weather continued the past week. Temperatures averaged lower the last two weeks than in the first two weeks of April. Frosts or freezing temperatures occurred on almost every night. On the 6th temperatures in the 20's were general, the lowest reported being 22 at Pocahontas. Practically all tender young vegetable growth at the surface of the ground has been cut to the ground, except small grains and grasses. Strawberry blossoms have been cut back so often it is doubtful if many more new blossoms will appear. All new growth of grapes, including clusters of fruit buds, have been killed, except in favored locations. However, grapes have been known to put out a second growth of fruit buds, and may do so this season. Hundreds of thousands of tomato plants have been destroyed. In some localities the freezes extended up several feet from the ground and damaged tree fruits, particularly plums, especially in the lower branches. Over most of the southern two-thirds of the State apples and cherries escaped.

Corn planting has been delayed by the cool weather. From Carroll to Hardin counties and southward to the State line, 75 per cent or more has been planted, but in the Mississippi and Missouri river counties, and the extreme north, not more than 25 to 50 per cent has been done. The State average was about 57 per cent, when the reports left the farms, 9th-11th. In recent years the average per cent of corn planted May 15 is 48, so this season's corn planting is farther advanced than the average. Some that has lain in the cold, dry ground for three weeks, is beginning to come up. Much cut worm damage is reported. However, as yet there is nothing alarming in the Iowa corn situation. April rainfall averaged 2.20 inches for the State, which, though deficient, is considerably more than last year. Oats have made good progress, except in the drier localities. Winter wheat, though patchy, is stooling nicely.

Hay and pastures are making slow growth, due to the cool, dry weather. Clover leaf weevil is doing considerable damage to clover, especially in Page county. It is also attacking alfalfa to some extent.

Bulletin No. 7, May 19, 1925—

Well distributed rains occurred the 15th-16th, and in portions of the State on the 13th. In several localities the rain amounted to an inch or more. Only in the extreme northwest counties were the amounts too small to penetrate the soil. The average temperature, 55.2 degrees, though 5.1 degrees below normal, was 6.1 degrees warmer than last week, and 1.2 degrees warmer than the correspondng week last year.

Corn planting made good progress and is about three-fourths done. Many localities have finished. Early fields show rows in nearly all portions of the State. Cutworms and wireworms are becoming very active, particularly on sod. Some replanting has been done where the corn was killed by frost. More warmth and moisture are needed to promote germination, and insure an even stand.

Oats were much improved by the rains, and, in general, are looking well, though in some localities they are yellow and thin, as a result of the deficient rainfall and frequent freezes. Winter wheat made fair progress generally, though rain is needed to promote stooling. A few more unpromising fields were plowed up and planted to corn this week. Barley is doing well.

Pastures and hay were greatly benefited by the rains, but are short for the season. Spring seedings have suffered greatly from drouth. The timothy prospect is not good in southeast Iowa.

Fruits were seriously damaged in northern Iowa by the frosts and freezes, particularly on the 17th and 18th. Grapes are putting out new bloom in some localities. The strawberry outlook is poor. Early gardens have suffered greatly from the frosts, and are generally being replanted. Early potatoes that were up were frozen to the ground. Commercial onions in Mitchell county have made such slow growth, due to the dry weather, that cultivation has been impracticable.

Bulletin No. 8, May 26, 1925—

Record breaking high temperatures the afternoon of May 22 were followed by temperatures of freezing or lower in three-fourths of the State the morning of the 25th. The most extreme change reported was at Cedar Rapids, where the temperature fell 74 degrees, from 102 to 28, in about 63 hours. The lowest temperatures, considerably below freezing, occurred in a curved area from Lyon county east to Kossuth, and southward through Humboldt, Wright, Webster, Greene, Boone, Dallas, Guthrie, Adair, Cass, Adams, Montgomery, and Page counties. The lowest reported was 26, at Webster City. Another area nearly as cold included Allamakee, Winneshiek, Butler, Bremer, Fayette, Clayton, and southward over Iowa and Johnson counties.

The high temperatures were accompanied by a southwesterly gale which withered vegetation and evaporated much of the precious soil moisture. The rainfall April 1-May 26 averages 3.15 inches, or 47 per cent of the normal, compared with 2.88 inches and 44 per cent for the same period last year. The temperature for the same period this year averages about 2 degrees warmer than last year.

Corn is in better condition than a year ago in spite of many adversities. First planting is practically finished; the bulk of the crop is up; and cultivation is well started in the central and southern counties. In the badly frosted areas mentioned, from one-fourth to one-half of the corn will probably have to be replanted, though this is difficult to estimate. For the State as a whole, not more than 5 to 10 per cent of the acreage will be replanted, as compared with 13 per cent last year.

Oats, winter wheat, barley, and rye, though badly needing rain, are by no means in a serious condition. Rye is headed out and winter wheat beginning to head short. Hay lands and pastures are in bad condition, the latter being brown and bare like late summer in many sections. Livestock is being pastured along the roadsides.

Gardens were badly injured by heat, drouth, and frost, all three, during the week. Fruits all perished in many localities, and will be a short crop generally, except apples, in favored locations. The State Entomologist advises spraying for codling moth the first week in June; the first of the week in southern Iowa and the last of the week in northern Iowa.

Bulletin No. 9, June 2, 1925—

The driest May in the 37 years of record was followed by good rains in the south and east portions of the State on June 1. May temperatures averaged about 4 degrees warmer this year than last year. The mean temperature of the past week, 68.1 degrees, is 3.4 degrees above normal, and the average rainfall, 0.6 inch, is 0.6 inch below normal.

Alarming damage to hay and pastures has resulted from the drouth. First cutting of alfalfa which has been in progress for ten days, is showing short yields. Livestock has cleaned up the roadsides and in many localities been turned into the oats fields, which also are almost at the point of destruction from drouth. In some cases stock has been placed on winter feed, but the old hay carried over is being rapidly exhausted, and corn is scarce and expensive. In some localities livestock is being shipped out. Aside from pasturing at a critical stage, which will cause the abandonment of some fields, oats still have possibilities for a remarkable comeback, if June is sufficiently moist and not too warm. As a whole, the oats look remarkably well considering the recent unfavorable weather. Winter wheat has been seriously and permanently injured. The heads are short and the plants have not stooled well. However, winter wheat constitutes less than 2 per cent of the Iowa crop acreage, and is therefore relatively unimportant. Rye is completely headed but is not filling well. Barley still has fair prospects.

Corn looks about as well as the average, June 1. The stand is more uniform than last year, though there is considerable complaint of uneven stand in some western and northern counties. Most of that frosted on May 25 is coming up again, though some replanting, probably amounting to less than 5 per cent of the total acreage, has been, or will be done, on the lower lands. A peculiar effect of the frost is that occasional hills were stricken while adjacent or surrounding hills were uninjured. More than half of the crop has been cultivated once and some the second time. The fields are generally clean of weeds. With future weather favorable, there is no reason why Iowa should not produce the usual corn crop, at least.

Fruits, gardens, and potatoes are generally poor, as a result of the drouth and frost. Honey-producing plants are in poor condition.

Bulletin No. 10, June 9, 1925—

Rains in all parts of the State the past week, averaging 1.6 inches, broke, or greatly relieved, the drouth. This is the first week of the season with rainfall averaging above normal. As usual the rains were excessive and damaging in some areas, and attended by destructive winds and hail in some localities. An unusually destructive storm, probably having tornadic characteristics, devastated 50 to 75 farms in portions of Pottawattamie, Harrison, and Shelby counties. Tornadoes also occurred near Adair, Cass county, Silver City, and Mineola, Mills county, Oto and Cushing, Woodbury county, Red Oak, Montgomery county, and probably others not yet reported. Temperatures were generally high, averaging 75.1 degrees or 8.4 degrees above normal. Strong winds, mostly southerly, were almost continuous, with dust storms in the western portion of the State, particularly on the 5th.

Corn made excellent progress under the influence of the abundant

warmth, moisture, and sunshine. The frosted corn is rapidly catching up. About 900 correspondents of the Federal and State crop reporting services reported, on June 1, that for the State as a whole the condition of corn was 88 per cent compared with 77 per cent last year, and a 10-year average of 90 per cent. On May 15, they report 75 per cent of the planting done, and on June 1, 99 per cent, as compared with 51 and 96 per cent respectively last year, and an average of 48 and 95 per cent in recent years. Cultivation is progressing rapidly, except in the flooded areas. Much has already received the second cultivation.

Early oats were forced to prematurely early heading by the heat and moisture in some localities. The crop has probably been shortened by the recent unfavorable weather, and the same is true of barley and spring wheat. Winter wheat has been injured beyond recovery.

Pastures have revived greatly since the rains, but hay, other than alfalfa, will almost certainly make a short crop.

The dry, hot winds have been unfavorable for commercial onions. There is a shortage of tomato plants to replace those lost through the May frosts and freezes. Strawberries are practically a failure, and other fruits none too promising.

Bulletin No. 11, June 16, 1925—

More than twice the normal amount of rain with temperature and sunshine nearly normal during the past week greatly improved crop conditions, except in limited areas where excessive rains, hail, and wind caused damage. The worst flooding and erosion was in the northeast portion of the State. A kind of damage not sufficiently stressed in previous reports was the drifting of the soil by almost continuous high winds before the drouth was broken. Large areas in corn fields were covered with dirt taken from where it was needed around the roots of plants in other areas. In some cases the wind and sharp sand split the leaves or cut them off nearly to the ground. Replanting from this cause was more than usual, particularly in western and northern Iowa.

For the State as a whole, corn is in very good condition at this time. A little of the earliest and best corn is already "knee high" and will have to be laid by before the end of June. Even the latest, replanted corn, is making wonderful strides. Weeds have appeared with the rain which has interfered with cultivation, but as a rule the fields are clean.

Oats have improved greatly as a result of the rainy and cooler weather. Though early oats cannot fully recover, late oats are in fair condition. Winter wheat is now filling better, but it has been permanently injured.

Pastures are catching up rapidly. Clover is showing marked improvement and may, with favorable weather, make a fair yield of hay, but it is doubtful if timothy can amount to much. Alfalfa has held its own best of all because of its deep root system, but the first cutting is a light crop and is only just completed, and the total yield of the season will probably not come up to the average. That recently cut has been damaged by rains in curing.

Honey producing plants are improving and the bees are busy. Linden blossoms are open earlier than usual. Raspberries and blackberries show considerable improvement. The rains will also help currants and cherries. Gardens were greatly benefited.

Bulletin No. 12, June 23, 1925—

Ample rainfall with sunshine and temperature above normal made ideal weather for growing crops the past week.

Corn made very good progress generally. It is now about two weeks further advanced than on this date last year, and it is also better than the average of recent years. Though several thousand acres have been destroyed by flooding, erosion, dust storms, cutworms, and other adversities, particularly in the Maquoketa River drainage basin, this amounts to but a small fraction of one per cent of the entire crop. Considerable replanting of the devastated areas was done during the week. Several days without rain and with plenty of sunshine, gave farmers a great advantage in the battle with the weeds—an advantage which they vigorously followed up, so that, except in occasional lowland areas, fields are generally clean, as compared with the very weedy condition resulting from the incessant rains a year ago. Corn is now approaching knee high as an average for the State. The earliest fields in the south portion are waist high and must be laid by in a few days. Second cultivation is generally completed and the third is well started.

Oats, barley, winter wheat, and spring wheat all lengthened out appreciably, so that harvesting can mostly be done with a binder, though two weeks ago it looked as though the straw would be so short that a mower would be necessary. The number of kernels per head was greatly reduced by the spring drouth. The June rains have been favorable for filling, but the high temperatures, 19th-21st, were unfavorable. Winter wheat and occasional fields of early oats have begun to turn color. Harvest will begin soon. Late oats are more promising.

Pastures and hay are improving slowly, but it now seems evident that hay cannot make half a crop. First crop alfalfa cutting is still being reported, though it is the usual time for the second cutting. Yields are light. Timothy for seed is in fair to rather poor condition. As yet the rains have not penetrated deeply enough to replenish wells much. In some localities ponds have not been filled for use of livestock.

Commercial tomato acreage has been reduced because of the scarcity of plants to replace those destroyed wholesale by the May frosts. However, the warmth and moisture of June have brought the surviving plants forward rapidly and some are in blossom. Commercial peas for canning were seriously damaged by the spring drouth. Sweet corn has made excellent progress.

Cherry picking has been in progress the past week, with yields generally light. Raspberries have improved. A few home grown strawberries of poor quality were on the market during the week. Bees have been active on linden, and on white clover, alsike clover, and sweet clover.

Bulletin No. 13, June 30, 1925—

Rain the past week was normal or above in the north central, northeast and portions of the east central and southwest districts, but over a belt four or five counties wide extending from northwest to southeast across the State, the rainfall was generally light. Soil moisture from previous rains was generally sufficient except in the extreme northwest counties. Most of the State had ample sunshine. The temperature averaged 6.6 degrees below normal.

Corn made very good progress in spite of the cool weather. Much has been laid by in the south half of the State, being too tall for more than the third cultivation. Much more than the usual amount will be "laid by, by the Fourth of July." There is some complaint in southern Iowa of corn being damaged by grub worms and stalk borer (not European). In general, the outlook for a large production of corn is good. More corn, less dollars.

Small grains, particularly late oats, were greatly benefited by the cool, and mostly sunny weather of the week. Soil moisture was generally ample for these crops except in some of the extreme northwest counties. Late oats are filling well and the straw is of good length. Though the heads and straw are short, the kernels of wheat and late oats are generally plump and promise good quality. Blight and smut have damaged oats considerably in many localities. The earliest wheat and oats are

about ready to cut, in fact, some wheat has been harvested in the southwest counties.

Considerable clover and timothy was cut this week and as a rule the yield was about half of the average. Second crop alfalfa looks more promising than the first crop. Pastures are green and improving but still short.

Commercial onions and tomatoes are thriving and more acreage of commercial cabbage has been set out than was at first expected. Late cherries are being picked and the yield and quality is better than early cherries. Raspberries and blackberries have improved greatly. Honey flow has been disappointing in some localities. The linden flow was short and over with unusually early. Sweet clover is now yielding a fair flow. Late gardens and potatoes made good progress. Potatoes are in bloom.

Bulletin No. 14, July 7, 1925—

The hottest weather in nearly seven years covered all but the northern and portions of the east-central districts on July 1st and 2d. Temperatures above 100 degrees were general in the heated area, the highest reported being 105 degrees at Marshalltown. The average temperature of the week was 78.3 degrees, which is 5.4 degrees above normal. While the rainfall averaged 1.2 inches for the State, which is slightly above normal, it was not well distributed. Some localities are suffering from drouth, while others have had an excess of rain. The driest section is from Plymouth, Woodbury and Monona Counties northward, over Pocahontas and Palo Alto Counties. Sunshine averaged 11 per cent above normal.

Corn has made good to excellent progress. Most of it has been laid by in the southern two-thirds of the State and some has been laid by in the northern tier of counties. The color is generally a deep green and the stand is good, except in some spring plowed fields and where grubs and cut worms were numerous. Some upland corn shows detrimental effects of heat and drouth. Occasional tassels are appearing as far north as the middle of the State. The condition and advancement of the crop is decidedly better than a year ago.

Oats were injured by the scorching sun and considerable wind of the 1st and 2d. Where rain followed, the oats revived somewhat, but in some localities drouth continues and the condition of oats is poor. Early oats are being harvested and a light yield is indicated. In some cases the straw was so short that the oats were cut with a mower. Late oats have developed nearly a normal length of straw and have filled fairly well, except in the drier counties. Winter wheat harvest is well advanced and nearing completion in the southern counties. A fair yield seems probable.

Potatoes are not setting tubers very well, though the tops are mostly strong and vigorous. The prolonged spring drouth, the repeated cutting back by frost and the occasional periods of extreme heat have reduced the productiveness of the plants. Garden truck is generally doing well. Sweet corn in home gardens is producing roasting ears. Flow of honey from sweet clover and white clover has been very good recently.

Bulletin No. 15, July 14, 1925—

Hot weather the past week averaged 79.5° for the state, or 5.6° above normal. Temperatures of 100° or higher occurred in several localities on the 11th, 12th, and 13th. Until Monday night, 13th-14th, the rainfall was generally light and scattered, though a damaging downpour of 4.25 inches occurred in the vicinity of Ft. Dodge, with rainfall approximating one inch in surrounding counties, and there was a rain of more than an inch at Dubuque. The rains of Monday night were quite general, but insufficient in much of the State. For the State as a whole vegetation was wilted and scorched by the extreme heat, particularly where soil moisture was deficient.

Corn made fair growth, but over at least half of the State the leaves showed wilting, rolling, and scorching as a result of the intense heat and lack of moisture. Tassels are appearing throughout the State nearly two weeks in advance of last year, and about a week in advance of the usual. There are some reports of tassels being injured by the heat. Corn can still recover from the heat damage if favorable conditions follow, though it is not too much to say that the final yield would have been larger had corn not passed through the severe test of the past week. The next two or three weeks will be momentous, for each day brings the crop nearer its most critical stage of development.

Oats have been injured by the extreme July heat. Harvest is progressing throughout the State. Shocks are not very thick on the ground, and everything points to a yield below the average. Winter wheat harvest is practically finished, and threshing has begun in the southern counties. Haying is in progress and the yield reported is from one-third to one-half the usual, though the quality is good. Men and horses engaged in field work suffered greatly from the heat, and some deaths of horses have resulted.

Sugar beets in the sugar beet district of northern Iowa have made good growth, and there has been a great battle to keep the weeds down. Shortage of plants has made the acreage of commercial cabbage smaller than it otherwise would have been. Commercial tomatoes have not made good progress during the past week. Early potatoes have suffered greatly from the spring freezes, and the later extreme heat. Late potatoes are more promising, though they have begun to show the effect of the heat and drouth within the last week. Home gardens in general deteriorated; also fruits.

Bulletin No. 16, July 21, 1925—

No rains of agricultural importance occurred since those of Monday night, July 1, except in Hardin, Marshall, and a few Mississippi River counties. Temperatures averaged about normal. There was more sunshine than usual in most of the State. The rains of the 13th were attended by much wind and hail damage in many sections of the State.

Corn has advanced rapidly. Most fields are completely tasseled, except in the northern counties. Ears are shooting and silks appearing over much of the State. Many stalks were broken off or laid flat on the ground by the wind and rain of the 13th, and considerable hail damage is reported. Some corn in the drier localities has not recovered from the intense heat of the preceding week. However, as a whole the condition of the crop continues decidedly better than a year ago and better than the average. A general rain must come soon or the crop will begin to deteriorate.

Small grain harvest is practically finished in the south half of the State and progressing rapidly in the north, with ideal weather. Oats and winter wheat threshing has begun, and while as usual there are occasional reports of large yields, the average of early threshing returns shows yields below the average with fair to good quality.

Haying proceeded with ideal weather for curing. The quality is good but the yield is less than half the usual. Second crop alfalfa harvest is beginning. Second crop red clover is looking well but needs rain. Timothy seed harvest is under way with indications of a light yield. "Wheat-head army worms" are seriously damaging the timothy heads in some localities, according to the State Entomologist.

Pastures are failing rapidly in nearly all sections of the State as a result of the extreme heat, followed by the drouth of the past week. Milk flow has shrunken greatly and cows have been put on feed. Wells are failing and stock water is scarce in southern Iowa.

Gardens and potatoes are wilting for lack of rain. Yields of early potatoes are generally poor. Commercial tomato plants are not thriving. Blackberries are shrinking instead of becoming plump as they would if soil moisture were sufficient. Bees are busy on white sweet clover.

The honey flow during the first half of July was exceptionally good in most of the State.

Bulletin No. 17, July 28, 1925—

Two weeks without rain of agricultural importance in the west half of Iowa, and in some localities in eastern Iowa, have done much to bring corn down to an average condition. Temperatures averaging 5° below normal have greatly mitigated the drouth damage, though corn on uplands and on thin soils has rolled and fired badly. Sunshine was 11 per cent above normal.

More than 75 per cent of the corn is silked and it is now in the critical pollination stage. Every day from now on without rain and with a temperature of 90° will cause deterioration. Such deterioration, if general in the Corn Belt, would, in the light of past experience, be a blessing to Iowa, in that it would bring more total dollars into the State than would a "bumper" corn crop. A moderate general deterioration in corn should be welcomed—not feared.

The driest portion of the State is from Monona, Harrison, and the western portion of Pottawattamie counties northeast to Dickinson and Emmet counties, where the July rainfall is less than one inch. At Omaha only 0.35 inch has fallen, which is the least in 54 years. Scarcely a sprinkle of rain has occurred in the past two weeks in several south-central counties, and in Dickinson and Emmet counties. Severe hail and windstorms occurred in a number of eastern counties, particularly in Scott, Muscatine, Johnson, Henry, and Floyd counties. The total damage to crops in these counties will exceed a half million dollars.

Threshing is progressing rapidly with ideally cool, dry weather in most of the State. While some large yields are reported, the average will be below the usual, though the quality of oats, barley, spring wheat, and winter wheat is generally good.

Pastures have failed in more than half of the State. Roadsides and all available nooks are being pastured. The scant hay crop is already being used for feed. Milk cows are being fed like wintertime to keep them from going dry, and the milk flow has been greatly reduced, particularly in western Iowa.

Commercial onion harvest has begun in Mitchell county, and the first car is being loaded. Yield and price are satisfactory. Gardens are in very poor condition. Commercial sweet corn has made good progress, and with favorable weather, canning will begin in about two weeks.

Bulletin No. 18, August 4, 1925—

Corn made poor progress over most of the State during the third consecutive week of drouth. The unusually low temperature would ordinarily have been considered unfavorable, but in this case it greatly lessened the deterioration that is proceeding in the drier western sections of the State. Except in a few widely scattered localities the only rain of agricultural importance was in the northeast district, and the northern counties of the east central district. The condition of corn ranges from the poorest since 1894 in a good many western counties, to a "bumper crop" in some Mississippi River counties. The advancement and condition of the crop are far better than a year ago.

Threshing made rapid progress, being favored by the dry, cool weather. Nearly 75 per cent has been finished, and many localities report the work completed. There are the usual early reports of large yields of oats on scattered farms, but when full returns are in, the yield for the State as a whole will probably be below the 10-year average. The quality is good. Considerable timothy has been threshed with varying reports as to yields.

Late second crop and early third crop alfalfa is being cut for hay, and a little that is well filled is being saved for seed, which is unusual. The outlook for red clover seed is good. Pastures are burned down and bare over much of the State. Milk cows are on dry feed.

The recent cool weather has benefited potatoes, though rain is badly needed. Gardens are not amounting to much. Commercial sweet corn canning will begin in a few days, though the ears are not very well filled. Onion harvest is well started in Mitchell county, and cabbages are being cut.

Bulletin No. 19, August 11, 1925—

Corn was greatly benefited by the rains August 6th-7th, though in about 15 northwest counties there was no rain of agricultural importance, and damaging drouth continues. From Guthrie county northeast to Story county the rains were excessive and damaging. Guthrie Center reported 5.52 inches. On August 1, 965 well distributed reports to the combined Federal and State crop reporting services, showed a prospective corn yield of 40.5 bushels per acre, and a total production of 449,631,000 bushels, as compared with 28.0 bushels per acre and 304,752,000 total bushels last year. Temperatures of the week averaged nearly normal and were therefore favorable. The ears of corn are not filling well in the dry northwest counties, but elsewhere the crop is making good progress. An excellent crop seems assured in the eastern counties. Most of the corn is in the milk stage and some fields have reached the roasting ear stage.

Threshing has been rushed rapidly to completion over much of the State, though delayed somewhat in the area of heavy rains. The weather has been unusually favorable, and the damage to grain in shock is much less than last year. Reports from hundreds of correspondents of the combined crop reporting services August 1 indicate an average yield of oats of 38.5 bushels, which is about three-fourths of a bushel above the 10-year average. The final yield when threshing reports are complete may change this figure slightly.

Fall plowing and plowing for winter wheat has become more active since the rains. Considerable land is being prepared for fall seeding of alfalfa.

Pastures were saved by the rains from complete destruction, but in the western half of the State it will take several weeks of favorable weather to restore the pastures to productiveness. Clover seed prospects are not believed to have been improved by the rains. New growth has been started from the roots that will detract from the seed development. Honey flow has been surprisingly good in some localities.

Gardens and potatoes show marked improvement, though the rains came too late for many potato patches. Commercial sweet corn is reported damaged 30 per cent by the drouth. Canning is beginning. Commercial tomatoes were greatly benefited by the rains.

Bulletin No. 20, August 18, 1925—

Plenteous rains occurred in most of the State, except in the north portion. In the drouth-stricken northwest counties the rain averaged only about a third of an inch, and afforded very little relief. The temperature was exactly normal and sunshine below normal.

Corn made very good progress. The bulk of the crop is now in the roasting ear stage, while the earliest has begun to dent and the latest is still in the milk. The general condition is good to excellent, except in the northwest where it ranges from a failure to only fair. In the south and east portions of the State, soil moisture is probably sufficient to mature the crop, though the subsoil is very dry.

Shock threshing is practically finished, except in the extreme north. Some stack threshing remains to be done, particularly in the extreme west-central counties. As a rule the oats crop has turned out better than expected, and better than the average. Livestock has been pastured on stubble fields to utilize what little feed these fields afford before plowing.

Pastures are reviving slowly but as yet are generally too short to sustain livestock.

Considerable timothy was threshed during the week. The yields varied from half a crop to five or six bushels per acre. Reports were received from sections that do not usually produce timothy seed which may indicate increased acreage to offset the decreased acreage in the usual heavy producing sections. Third crop alfalfa is nearly ready to cut in the eastern portion of the State where the moisture through the season has been sufficient.

Bulletin No. 21, August 25, 1925—

Temperatures averaging 1.0° above normal, with ample soil moisture, except in the northwest and extreme north counties, and above normal sunshine, brought corn forward satisfactorily to about the state of development usual at this time of year, and about three weeks in advance of last year.

The bulk of the corn is beginning to dent; the earliest is well dented; and the latest is still in the milk. In the northwest counties not enough rain has fallen to relieve the extreme drouth, and corn has continued to deteriorate. Less than an inch of rain has fallen in these counties so far in August.

During the last two weeks the drouth has spread eastward through the northern tier of counties, and corn is "firing" considerably.

Reports received during the week indicate that the hailstorm in southeastern Iowa, on August 18, was remarkably severe. It extended from the southwest corner of Iowa county southeastward across portions of Keokuk, Washington, Jefferson, and Henry counties. In some localities the stones were rough, jagged chunks of ice as large as goose eggs, completely destroying all corn and other crops in the path of the storm. Roofs and window glass were beaten to pieces, and livestock killed. Though the destruction to crops was appalling, it of course constitutes a very small fraction of one per cent of the total crops of the state. The total damage to all classes of propertywill probably reach nearly $2,000,000.

Fall plowing and preparations for winter wheat seeding have made good progress where soil moisture is sufficient. There are indications of a general increase in winter wheat acreage. Considerable alfalfa has been seeded.

Commercial tomatoes have shown considerable improvement in the last two weeks. Commercial sweet corn canning is progressing rapidly, though a shortage of water supply has handicapped some of the factories. Melons have made excellent progress during the recent favorable weather. Gardens and late potatoes are improving. Pastures are beginning to provide a little feed, except in the northwestern counties where they appear to be permanently injured. Honey flow has kept up remarkably well. Grapes and other late summer fruits are being harvested.

Bulletin No. 22, September 1, 1925—

Warm and mostly dry weather with abundant sunshine hastened the advancement of corn toward maturity. The crop continued to deteriorate in the northwest portion of the State, and is now past help from rain. Deterioration has extended eastward through the northern counties during the last two weeks. There is considerable complaint of corn being rushed to maturity too fast. On the other hand, there is complaint that corn has been at a standstill and is yet in the milk stage in some counties, particularly in Floyd county. Over at least half of the State, field examination shows many ears poorly filled as a result of drouth during the season. Very little of the earliest corn is already safe from frost.

Fall plowing has been much hindered by the dry, hard soil. However, in the principal winter wheat producing sections in southern Iowa, soil moisture is mostly sufficient, and preparations for seeding are progressing. Recently seeded alfalfa has not germinated well. Third cutting of alfalfa is short in much of the State, though a good crop is being harvested in the southwest counties. Threshing returns from timothy seed in southern Iowa were rather disappointing. The late potato crop has been much shortened by drouth. Commercial tomatoes need rain badly. Commercial sweet corn canning is progressing rapidly, and some factories are nearly through.

Pastures are beginning to deteriorate again in the north and west portions of the State. Scarcity of water for livestock is alarming in many places.

Bulletin No. 23, September 8, 1925—

An average temperature of 80.5°, or 13.1° above normal, made the past week one of the warmest September weeks of record in Iowa, and also the warmest week of the year, 1925. On five days many stations in widely distributed areas reported maximum temperatures of 100 or higher. The highest reported was 105 at Inwood on the 2d, and Cedar Rapids on the 4th. Showers were mostly light and scattered, though a good rain fell in Waterloo and surrounding territory on September 4th-5th. Sunshine was much above normal. Good rains, in some cases exceeding one inch, occurred in northwest Iowa Monday night, September 7—too late for corn, but helpful to pastures, meadows, and fall plowing.

Corn was hurried too rapidly for best results by the excessive heat and dryness. Reports from more than 900 correspondents of the combined Federal and State crop reporting services, September 1, showed that with normal weather they expected 63 per cent of the corn would be safe from frost September 20; 80 per cent, September 30; and if frost would hold off till October 15, 93 per cent would be safe. The abnormally, hot, dry weather since September 1 has probably increased these per cents considerably, and at the same time shortened the yield. Most of the corn that was in the milk and roasting ear stage September 1 will be chaffy. Nearly half of the crop is now safe from frost.

In the extremely dry northwest portion of the State, fodder cutting and silo filling have been pushed rapidly for the last 10 days. Corn standing in the fields is dry and withered, as though a frost had struck it. Many new silos have been constructed. About 3 or 4 times as much corn as usual will be cut for fodder and silo. This will take the place of the very short hay crop, which in some localities is selling for $20 per ton in the field, unbaled.

Water shortage has continued to grow more and more serious in large areas of the State. The rains now falling and in prospect will be insufficient to replenish the water supply, though they will greatly aid fall plowing and preparations for winter wheat seeding, which have been brought to a halt by the dry, hard soil.

Bulletin No. 24, September 15, 1925—

Moderate to very heavy rains occurred in the south and east portions of the State during the past week, but only light rains in the northwest portion, where there is still great need for rain. Sunshine was very deficient. Temperatures averaged about normal, though somewhat below normal toward the close of the week. Corn made good progress. The average of reports that left the farms between the 12th and 14th shows 71 per cent of the crop safe from frost, though they range from 30 per cent to 90 per cent. Further reports from many sections of the State emphasize the damage by drouth and heat of late August and early September. Silo filling and fodder cutting are going forward rapidly in the north and west portions of the State. More than the usual amount of the crop will be harvested in this way to make up the hay shortage.

Fall plowing became general over much of the State, having been suspended on account of the hard, dry condition of the soil. Considerable ground is ready for winter wheat seeding. The State Entomologist will probably announce the Hessian fly-free date soon. The "fly campaigns" of the last two years have greatly reduced the number of flies.

Late potatoes were greatly injured by the heat and drouth. The yield of early potatoes was light. Shipments of potatoes into the State have already started.

Pastures are improving slowly as a result of the cool and rainy weather. Fall-seeded alfalfa failed in many cases and has been reseeded, though such late seeding does not usually give good results.

Bulletin No. 25, September 22, 1925—

Extreme temperatures were the feature of the week, ranging from well up in the 90's on the 17th and 19th to low in the 30's on the 21st. The highest reported was 96 at Washta, and the lowest, 34 at St. Ansgar. Heat records so late in the season for 47 years were broken at several stations. The average temperature was 5.2° above normal. Light frosts occurred in the extreme north-central counties on the morning of the 21st. Showers covered most of the State toward the close of the week. Sunshine was about normal. Strong, drying winds were prevalent, particularly on the 19th.

Corn made good progress. Eighty-eight per cent is now safe from frost, though some localities show as little as 75 per cent. Silo filling and fodder cutting have been pushed rapidly to completion in many localities. More than the usual amount of corn has been harvested by these methods to make up for the short hay crop. Considerable seed corn has been gathered.

Considerable winter wheat was seeded this week. The rains aided plowing and preparation of the seed bed, and rapid germination is assured. The acreage is increased.

Pastures, meadows, and new seedings were greatly benefited by the rains, though much further improvement will be needed to bring them back to normal. As yet the rains have been insufficient to replenish the water supply for livestock, and other uses. A month or more of frequent, heavy rains would be needed to restore the supply. Hog cholera broke out rather violently in a number of localities this week. Energetic methods of suppression are being applied.

Late gardens and truck crops have improved much recently. Tomatoes are yielding much fruit of good quality. The rains came too late for potatoes. Reports from digging are mostly disappointing.

The hemp crop in Mitchell county was somewhat shortened by the July and August drouth, yet the total production is twice that of 1924. This is a new and growing industry in Iowa. Some clover was cut for seed during the week, and some was hulled. The yield is generally light.

CROP SEASON WEATHER, 1925, BY WEEKS

Average rainfall, mean temperature and mean sunshine, with departure from the normal, as derived from records of selected stations.

Week Ending	Rainfall (Inches)		Temperature (Deg. F.)		Sunshine	
	State Average	Departure	Mean	Departure	Per Cent	Departure
April 7	0.0	—0.6	51.0	+ 7.0	81	+25
April 14	0.3	0.0	39.5	+12.5	60	+ 3
April 21	0.5	—0.2	54.3	+ 4.3	51	— 6
April 28	0.5	—0.2	62.4	+10.5	68	+10
May 5	0.5	—0.3	48.6	— 6.7	62	+ 4
May 12	0.1	—0.8	49.3	— 8.7	66	+ 7
May 19	0.6	—0.5	55.2	— 5.1	60	0
May 26	0.2	—1.0	64.2	+ 1.5	89	+28
June 2	0.6	—0.6	68.1	+ 3.4	79	+16
June 9	1.6	+0.4	75.1	+ 8.4	75	+11
June 16	2.4	+1.3	68.3	— 0.3	63	— 3
June 23	1.5	+0.5	74.1	+ 3.8	71	+ 3
June 30	0.7	—0.3	65.1	— 6.6	69	— 2
July 7	1.2	+0.3	78.3	+ 5.4	84	+11
July 14	0.9	0.0	79.5	+ 5.6	72	— 2
July 21	0.2	—0.6	73.9	— 0.5	77	+ 3
July 28	0.3	—0.5	69.1	— 5.0	84	+11
August 4	0.4	—0.4	65.6	— 8.4	73	0
August 11	1.6	+0.3	73.7	+ 0.6	67	— 5
August 18	1.2	+0.4	71.9	0.0	63	— 7
August 25	0.5	—0.3	71.6	+ 1.0	78	+ 9
September 1	0.1	—0.7	75.0	+ 5.9	88	+21
September 8	0.4	—0.4	80.5	+13.1	84	+19
September 15	1.8	+0.9	65.6	+ 0.2	38	—25
September 22	0.7	—0.1	68.6	+ 5.2	62	+ 2
For the season	19.2	—2.9	66.8	+ 1.9	71	+ 5

WEEKLY NOTES ON WEATHER AND CROPS IN IOWA

Week Ending September 29, 1925—

Rainfall, temperature and sunshine, were nearly normal during the past week.

Corn continued to mature in a satisfactory manner and now averages 94 per cent safe from frost, with many localities practically 100 per cent safe. Considerable new corn is being fed to livestock, which relieves the near famine of old corn in some sections of the State. The earliest corn is nearly fit to crib, and, in fact, a little has already been cribbed. With favorable weather cribbing will become general by the middle of October. Considerable seed corn has been saved, and an abundant supply of excellent seed is available.

Some stack threshing of small grain, mostly oats, was done in the western and northern counties this week. Clover seed hulling was quite general, though delayed somewhat by rains. The yields run from one-half to one and one-half bushels per acre. Buckwheat threshing was in progress in the buckwheat section of northeast Iowa. A good crop is reported.

Pastures and newly seeded grasses, clover and alfalfa have been greatly improved by the rains. In some localities in southwest Iowa a good fourth cutting of alfalfa is in progress, or contemplation.

Creeks are beginning to run that have been dry for months, and there is a general improvement in the water supply. However, the water shortage is still serious in northwest Iowa.

Commercial sweet corn canning has been finished at most of the can-

neries. A large pack of good quality is reported. Commercial tomato canning continues. The recent warmth and moisture have been favorable for late tomatoes. There is much complaint of apples dropping.

Winter wheat seeding made good progress though delayed by rains. Some localities have finished and some have not yet begun. The earliest seeded is up and growing fine.

Week Ending October 6, 1925—

Frequent rains fell this week throughout the State, being heavy in the south and east and light in the northwest, where the moisture is still seriously deficient. In Hamilton and adjoining counties the rains of September 30 exceeded four inches, causing small streams to overflow. Sunshine was deficient and temperature about normal.

Corn in shock was damaged by the rain and the soil was too wet for hogging down or hauling wagons through the fields. Down corn is molding. Practically all is safe from frost on this date, October 6, which is the average date of first killing frost in Iowa, and only light frost has yet occurred. A wave of freezing temperature is advancing southeastward across the State this morning.

Winter wheat seeding and fall plowing was nearly stopped by the wet condition of the fields. Considerable intended acreage remains to be seeded. That which has been seeded is making a fine growth.

Pastures, hay lands, and new seedings of alfalfa and clover are looking fine. A fourth cutting of alfalfa which was in progress has been suspended by the rains. The mild, wet weather has been favorable for "retting" the hemp in Mitchell county, and the crop is about ready to lift. Potato digging and sugar beet harvesting has been delayed by the rains. The yields of potatoes are disappointing.

Week Ending October 13, 1925—

The past week was abnormally cold. The mean temperature was 42.9 degrees which is 12.2 degrees below normal. Freezing temperatures and killing frosts occurred throughout the State, the most severe being on the 10th when temperatures low in the 20's were general. Cloudy skies with frequent rains prevailed. The first snow of the season occurred in the northern counties this week, wihch in some cases is the earliest snow of record.

Corn suffered some further damage from rotting and molding, especially down corn, and corn in shock. The wet, cloudy weather greatly delayed the drying of the ears so that very little cribbing has so far been possible. The abnormally cool weather was beneficial in that it largely prevented sprouting; and the severe freeze of the 10th will greatly aid drying. Practically no damage resulted from the frosts and freezes. The ground is too wet for hogging down the corn, and considerable waste has occurred.

Wet weather has delayed all other farm work. Some acreage intended for winter wheat will not be seeded. That which has been seeded is making excellent growth.

Sugar beet harvest and potato digging were delayed by the rains.

Hog cholera continues in many counties, though vaccination is checking the disease somewhat.

Week Ending October 20, 1925—

Another cold, cloudy, damp week with snow flurries on the 18th, further delayed the drying and husking of corn. Frequent freezes, with a severe freeze low in the 20's on the mornings of the 17th and 18th, helped to dry the corn and the amount of rainfall was below normal and less than the two preceding weeks.

While a little corn husking has been done in nearly all portions of the State no extensive cribbing has been done, except in the northwest counties where the weather has been drier. While some further damage to shocked corn and down corn is reported, the cold weather has had a tendency to arrest this damage. The present outlook for fair and cold weather will speed up the corn husking.

Winter wheat seeding has been stopped by wet soil for three weeks and this will reduce the contemplated acreage somewhat, though some farmers intend to seed yet if conditions improve soon.

Clover cut for seed and in windrows or shock has been damaged by germination. The continued damp weather and damp soil have made it impossible to handle or hull this clover.

Potato digging made better progress the past week, but the yields continue to be disappointing. In the principal producing counties of northern Iowa the crop has mostly been sold at good prices, and a potato shortage is indicated.

Roads are generally very bad for the season, particularly in southern Iowa.

Week Ending October 27, 1925—

The third consecutive week of abnormally cold, cloudy and damp weather closes with a very unfavorable situation on Iowa farms. Considerable snow fell in the northern counties, and the outlook is for more snow throughout the State. October, 1925, will set a new record for cold and cloudiness.

Scarcely a beginning has been possible in harvesting Iowa's great corn crop, except in the northwest and extreme west-central counties, where considerable has been cribbed at the risk of heating, and a little has already gone to market at a price of 55c for 70 pounds. Most of the reports show that corn is not much drier than it was three weeks ago. Some who have started to crib regardless of consequences, have found the corn spoiling in the cribs. Recent high winds have blown down much corn which is rotting and molding. A 20 per cent loss of this sort is reported from Mahaska county. Fields are too wet to pull wagons through in much of the State.

Considerable intended winter wheat acreage will not now be seeded, for the fields are still too wet to work, and it is getting too late. Early seeded wheat has thrived on the abundant moisture, but the late seeded has not germinated, or has made very little growth, because of the cold and lack of sunshine.

Much clover cut for seed has not been hulled nor can it be hulled as long as the dampness continues. Where hulling has been possible, the yield has been small, mostly about three-fourths of a bushel per acre.

Some late potatoes remain to be dug, but the yields are so small that they are hardly worth digging. Prices have gone up sharply during the week.

Week Ending November 3, 1925—

Unprecedentedly cold and snowy weather for so early in the season at the beginning of the week was followed by more sunshine than during the three preceding weeks, with a slow return to nearly normal temperature. The average temperature of the week was about 27 degrees, or 17 degrees below normal. Zero temperatures or lower occurred in much of the State on October 29th and 30th. The lowest reported was 15 below zero at Inwood in Lyon county on the 29th, and 13 below at Washta, Cherokee county, on the 30th. Zero readings were reported at Mt. Ayr and Centerville in the extreme south. Six inches of snow fell over much of the State on the 27th, and as much as 8 or 9 inches in some localities, but it had practically disappeared by Monday, November 2.

Corn husking was practically at a standstill till Monday. Some that was

cribbed heated so that it had to be rehandled. Frost is leaving the ground and the fields are too soft to haul full loads of corn through them. Considerable down corn is being damaged by the wet ground.

With the fine outlook for sound dry corn on October 1, many farmers concluded to select seed corn while husking. But the wet weather kept the corn moist, and it is now feared that the unprecedented cold has injured the germ so that there will be a scarcity of good seed corn when planting time comes.

Livestock had to be put on heavy winter feed, which may lengthen the feeding period considerably and reduce the corn surplus.

Considerable quantities of onions, beets, cabbage, pumpkins, and other such late truck crops were caught in temporary storage and damaged by freezing. Occasional fields of potatoes were left undug in the fields.

Most all hope of completing the winter wheat seeding has been abandoned. Considerable clover intended for hulling has been ruined by the wet weather.

Week Ending November 10, 1925—

Excepting one or two days, the past week was colder than normal, with frequent rains or snows. Several inches of snow fell in some eastern and southern counties on Saturday, November 7.

Corn has dried very little and contains about as much moisture as it did a month ago. There are further reports of corn heating in the cribs. The fields are too muddy to haul wagons through them. Only about 75 per cent of the crop will be husked for grain, the rest of the acreage being cut for silo and fodder or hogged and grazed off. The fields have been too wet for hogging economically.

Usually by this time of year many husked fields are available for grazing, but this year very few are available. This shortage of stalk fields is causing farmers considerable inconvenience and loss. Only about 20 per cent of the intended husking has been done.

The low price of corn and the danger of damage in cribs is causing farmers to increase livestock feeding for market, in order to consume the corn about as fast as it comes from the fields.

Tests show in some cases 90 per cent of the field corn will not germinate because of the action of the recent zero weather on the moist corn. Much less than the usual amount of seed corn was saved early. A scarcity of dependable seed corn for the 1926 crop seems certain.

Winter wheat has been benefited by the excessive moisture. Ample protection by snow cover generally preceded the severe temperatures. Most all hope of late seeding of the intended acreage has been abandoned.

Week Ending November 17, 1925—

With temperature about normal, precipitation below normal, and sunshine nearly up to normal, the past week was the most favorable of the season for corn husking, which was pushed rapidly, though the moisture in the ears, and especially in the cobs, is so great that there is much complaint of souring and heating in cribs. Fields, though still wet, have dried sufficiently to haul wagons through them.

In the drier northwest counties, as much as 70 per cent of the husking has been done, while in the wet central and eastern counties less than half has been done. Fields as well as ears and stalks have been too wet for successful use of corn husking machines in many localities.

Because of the high moisture content much of the new corn brought to market is of "sample grade" selling for as little as 47 cents per bushel, or 54 cents for 80 pounds, which is considerably below the cost of production.

Week Ending November 24, 1925—

Dry, sunny weather with temperature averaging about normal the past week, was the most favorable of the season for corn husking which was pushed to the limit. Fields are dry enough to haul full loads through and ears are dry enough so that there is little danger of spoiling in the crib. More than half of the husking has been done, though in some localities only a beginning has been made. Some was hauled from field to market this week at a price of 57 cents per bushel.

Further investigation brings still more alarming reports as to seed corn for the 1926 crop. It appears that the main reliance will be in old seed. Patient ear testing of vast quantities of this year's corn may result in the discovery of an occasional ear of fair to poor seed. Most of the germs have been killed by the severe temperatures acting on the unusual amount of moisture in the corn, even in corn hung up in out buildings to dry unless artificially heated.

Winter wheat is looking well, but it is now definitely known that the considerable increase in acreage intended to be seeded will not be realized because of the unfavorable weather at seeding time. It is probable that the acreage will not be greater than last year.

Week Ending December 1, 1925—

Excepting heavy snow in the northern and eastern portions and light snow elsewhere in the State on the 28th and 29th, there was very little precipitation during the week. Sunshine and temperature were both below normal.

The increased moisture caused an increase in the complaints of corn spoiling in the cribs. Husking is about finished in the drier northwest counties but considerable remains to be done in the central and eastern districts. For the State as a whole, about 85 per cent is done. Labor has been plentiful due to the slow season and the increased use of husking machines. Considerable corn was marketed during the week at 48 to 50 cents for 70 pounds. Corn grading No. 2 would be worth about 55 cents on the Iowa farms, but none of it will grade No. 2 and much of it is of only "sample grade."

Many cornstalk fields became available for grazing during the week, which simplifies the livestock problem somewhat.

Some clover hulling was done and more is in contemplation. The unusually damp weather of the fall greatly delayed the work. Considerable of the clover intended for hulling would have been abandoned altogether but for the high price of clover seed.

MONTHLY PERCENTAGE CONDITION OF CROPS AND YIELD PER ACRE, 1925

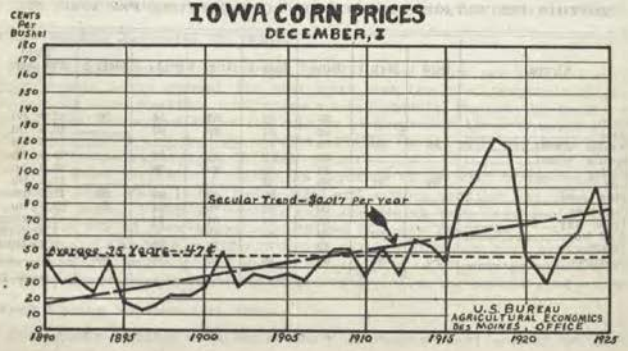
Crops	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Yield Per Acre
Corn	.....	.....	88	95	90	88	90	43.0 bu.
Oats	.....	.....	82	81	89	93	.....	40.5 bu.
Winter wheat	86	82	73	77	.....	.....	.....	17.0 bu.
Spring wheat	.....	.....	81	82	85	82	.....	15.0 bu.
Barley	.....	.....	83	85	89	90	.....	31.0 bu.
Rye	91	91	85	88	.....	.....	.....	16.4 bu.
Flax seed	.....	.....	.....	90	90	89	88	10.5 bu.
Potatoes	.....	.....	80	86	86	64	61	63.0 bu.
Tame hay	.....	86	66	64	64	74	.....	1.30 tons
Wild hay	.....	89	69	65	65	.....	.....	1.00 tons
Alfalfa	.....	.....	73	75	78	84	.....	2.45 tons
Pastures	89	87	00	76	76	70	80	.....

THE TREND OF IOWA CORN PRICES

The average price per bushel for corn in Iowa for the past thirty-five years is (47) forty-seven cents, based upon the reported prices on farms on December 1, each year. The general trend of corn prices has been upward gradually at the rate of 1.7 cents per year.

The size of the corn crop largely governs the price. Although the entire crop is not sold at the December 1 average price, a study of prices during the past will show that the December 1 price is not always the low price of the year. When the total production is five per cent below normal an average winter market price of about one per cent above normal may be expected. If the crop amounts to five per cent above normal, it is expected that the average winter market price will drop to about seven per cent below normal. A corn crop that is fifteen per cent above normal in size may be indicative of an average winter price of twelve per cent below the normal, and if the farmer expects an average winter price that is as much as sixteen per cent above the normal, he will have to reckon with a crop that is at least fifteen per cent below the normal production.

On December 1, 1925, the average price per bushel of corn on Iowa farms was reported as 56 cents. The highest December price was reported in 1918 as $1.23 per bushel. The lowest price reported was in 1895 and again in 1897 when it was as low as 17 cents per bushel. In 1890 it was 41 cents. An average of 23 cents per bushel is shown in the records for the years 1898 and 1899. On December 1, 1914, the average price was 55 cents and it dropped to 45 cents for the price in the following year. The full force of the war period demand was not shown in the December prices until the year 1918 when it reached $1.23. After that year it immediately started downward and reached the low point, since that time, at 30 cents per bushel in 1921. The increase to 93 cents in December, 1924, was due to the small crop of that season. The actual price peak was reached early in 1920 at about



$1.80 per bushel and in limited areas some corn changed hands at the extreme low point of 18 cents per bushel late in October and early in November, 1921. In following these price changes the reader may refer to the accompanying chart of corn prices.

A general discouragement accompanied the price level of 56 cents at the first of this month. This was due to five significant facts; first, Iowa farmers produced the largest corn crop in the history of Iowa corn production, as recorded by the State and Federal Crop Reporting Service; second, the United States crop is not much above average size; third, the December 1, 1925, price was 22 cents below the trend line price of the last 36 years as shown by the accompanying chart; fourth, this price was 12 cents below the cost of production as reported by the Iowa correspondents on November 1, 1925; fifth, the demand for feeding corn is not expected to increase much this winter. One thing is certain, that a corn reserve on farms to guard against the repetition of last year's shortage of summer feeding corn is suggestive of a more favorable price to the farmer whether marketed as corn or as livestock.

TREND OF IOWA OATS PRICES

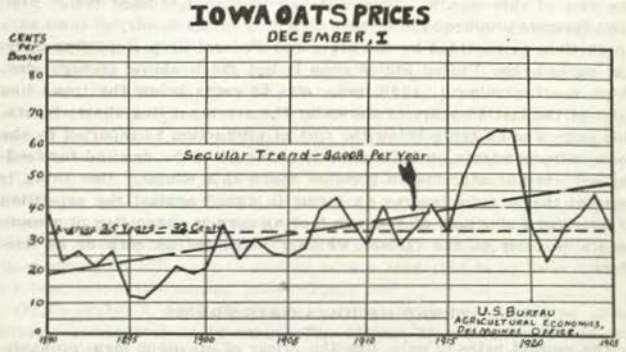
The market price of oats, like the prices of all other farm products, change from year to year, season to season, month to month and day to day. It is commonly recognized that these price changes are caused by changes in supply or demand or both.

The average price per bushel for oats in Iowa for the past thirty-five years is 32 cents, based upon reported farm prices on December 1. The trend of oats prices has tended upward from 1890 to the present time at the rate of only 0.8 of a cent per year. In 1890 the price of oats on farms was 39 cents and the average December price moved downward to the low point of 12 cents in 1896. After that the price has been gradually upward although violent changes have occurred from the low point of 16 cents per bushel in 1897 to the high price of 64 cents in 1918 and again in 1919.

It is commonly said that a large crop may often be worth less than a small crop. This idea has been borne out by a study made by the United States Bureau of Agricultural Economics and reported in the United States Department of Agriculture Bulletin No. 1351, September, 1925, in which it was noted that a decrease of 10 per cent from the normal oat crop of the entire country is accompanied by an increase of 13 per cent in price, whereas an increase of 10 per cent above normal is accompanied by a decrease of 11 per cent in price. These conclusions may be applied by actual data by comparing the values of the large crops of 1902, 1904, 1905, and 1906, with the values of the small crops of 1901, 1903, 1907, and 1908. After the prices in those years were adjusted for changes in general price level, the total value of the four large oat crops was $69,000,000 less than the total value of the four small crops.

The price of oats is subject to seasonal varieties resulting principally

from the fact that the supply becomes available for market during a short period of the year and must be carried at some expense throughout the crop year to meet the demands of consumers. The size of the crop also has an important influence upon the seasonal trend of prices.



FINAL IOWA CROP REPORT, DECEMBER 1, 1925

A final review of Iowa's crop production in 1925 shows an estimated value of $513,953,000 as compared with a value of $571,626,000 in 1924, or a decrease of $57,673,000. These valuations are based upon average prices on farms on December 1, of each year. Although comparatively lower prices for certain crops accounts for a share of this differential, the total production of the various crops was smaller than a year ago, excepting for corn and barley. The average price per marketable unit on December 1, 1925, was smaller than a year ago for five crops: corn, oats, barley, rye and flax; and was greater than a year ago for six crops; winter and spring wheat, timothy seed, clover seed, potatoes, and hay.

The largest increase in total production was shown in corn, which increased 173,054,000 bushels over the 1924 crop, and the largest decrease was in potato production, which decreased by 5,515,000 bushels.

In commenting on the season's corn crop the State and Federal Crop Reporters were very consistent in their reports during the entire season in showing the general progress of the growing crop. The weather and soil conditions over nearly the entire state were favorable for early planting and for putting in the largest acreage of corn ever estimated by the combined State and Federal Crop Reporting Service. Favorable rains and temperature hastened the progress in eastern and southern sections of the state.

The entire northwestern quarter of the state viewed the corn crop with no small amount of alarm during the entire season. Soil moisture was deficient from the very beginning of the season and continued to be a factor of apprehension even to the time of harvest. Some farms composed of the lighter types of soil experienced total failures as to corn production. Heavier bottom land soils in the same localities on the other hand, produced corn of almost normal yield and quality.

The average farm price per bushel for corn on December 1, 1925, was 56 cents, reflecting the large production of 478,590,000 bushels. The early fall freezes and continued damp weather during the husking season causing damage and loss in the fields and preventing early cribbing were factors which brought about some change in the market situation and gave a brighter outlook to those who had good corn and were able to hold it. Many corn producers look with some degree of satisfaction to the late spring market and expect to sell at a profitable margin over their holding expenses. Others who have experienced losses from damage to their cribbed corn have not been so optimistic and will be forced to feed out, or market at a loss, some of their season's crop.

Potato growers in Iowa capitalized their 1925 crop at $12,288,000 based upon a December 1 average farm price of $2.35. This is an increase of $6,379,000 over the valuation of the 1924 crop, at an average of only 55 cents per bushel when the total crop amounted to 10,744,000 bushels, or about 48 per cent greater than the 1925 crop. The total valuation of potatoes does not usually fluctuate as widely as do some

other crops. Although in the past a large production has meant a relatively low price per bushel and a decreased production has been accompanied with a higher price per unit the aggregate value has, in a certain degree, remained near a constant level.

Tame hay production declined from 5,709,000 tons in 1924 to 4,098,000 tons in 1925. The drouth conditions of northwestern Iowa are responsible for a large portion of this decreased production. Other sections favored with plentiful rainfall reported normal yields of all hay.

Further details of production and valuation are shown in the following table.

County Estimates: The usual county estimates of acreage, average and total yields of the various crops, which have heretofore been published in December, must be omitted this year due to the fact that State Census figures, which must serve as a basis for these estimates, are as yet not available.

IOWA CROPS, 1924 AND 1925 COMPARED

Acreage, Average and Total Yield, Average and Total Value

	1924 Revision*						December 1, 1925, Estimates†					
	Acres	Average Yield	Total Yield	Av. Price Dec. 1	Total Value	Acres	Average Yield	Total Yield	Average Price	Gross Value Per Acre	Total Value
Corn	10,912,000	28.0 Bu.	305,536,000	$ .93	$284,148,000	11,130,000	43.0 Bu.	478,590,000	$ .56	$ 24.08	$268,010,000
Oats	5,555,000	42.0 "	245,910,000	.44	108,200,000	6,040,000	40.5 "	246,904,000	.32	12.96	78,913,000
Winter wheat	429,000	29.4 "	8,702,000	1.27	11,115,000	380,000	17.0 "	6,592,000	1.36	23.12	8,964,000
Spring wheat	26,000	17.2 "	447,000	1.27	568,000	20,000	15.0 "	300,000	1.30	19.50	397,000
Barley	136,000	31.0 "	4,216,000	.70	2,951,000	184,000	31.0 "	5,704,000	.57	17.67	3,251,000
Rye	38,000	18.9 "	702,000	1.02	716,000	35,000	16.4 "	574,000	.80	13.12	459,000
Flax seed	282,000	10.7 "	1,825,000	2.36	2,781,000	180,000	10.5 "	730,000	3.15	11.07	2,297,000
Timothy seed	66,000	0.7 "	46,000	15.20	699,000	76,000	1.0 "	76,000	16.00	16.00	1,216,000
Clover seed	79,000	136.0 "	10,744,000	.55	5,909,000	83,000	61.0 "	5,629,000	2.35	148.05	12,288,000
Potatoes	3,302,000	1.78 tons	6,564,000	11.40	68,218,000	3,122,000	1.30 ton	4,098,000	13.50	17.55	55,323,000
Hay (tame)	318,000	1.26 "	401,000	8.70	3,489,000	300,000	1.00 "	300,000	10.50	10.50	3,150,000
Hay (wild)	10,290,000			6.00	61,740,000	10,125,000			5.66		57,510,000
Pasture and grazing	48,000	1.43 tons	69,000	12.00	828,000	97,000	3.1 ton	177,000	11.50	35.65	2,605,000
Sweet corn (Com'l crop)	21,000	1519.0 lbs.	31,710,000	.03	951,000	38,000	2000.0 lbs.	76,000,000	.03	60.00	2,280,000
Pop corn	6,000	15.0 Bu.	90,000	1.08	92,000	5,000	17.5 Bu.	88,000	.90	15.75	79,000
Buckwheat (estimated)					9,000,000						7,500,000
Fruit crop (estimated)					5,750,000						5,750,000
Garden truck (estimated)					2,250,000						4,250,000
Miscellaneous (estimated)											
Total value, not including livestock products, for the year 1925											851,265,000
1924											671,695,000
1923											578,701,000

*Subject to further revision when final census figures become available.
†Subject to revision when assessors' figures become available.

AVERAGE FARM PRICE OF IOWA'S PRINCIPAL CROPS AND PER CENT OF CORN HUSKING DONE DECEMBER 1, 1925, BY COUNTIES

Districts and Counties	Corn		Winter wheat per bushel of 60 lbs.	Spring wheat per bushel of 60 lbs.	Oats per bushel of 32 lbs.	Barley per bushel of 48 lbs.	Rye per bushel of 56 lbs.	White potatoes (Irish) per bushel of 60 lbs.	Sweet potatoes per bushel of 50 lbs.	Flax seed per bushel of 56 lbs.	Apples per bushel of 48 lbs.	*Tame hay (loose) per ton of 2,000 lbs.	Wild hay (loose) per ton of 2,000 lbs.	Timothy seed per bushel of 45 lbs.	Clover seed per bushel of 60 lbs.	Pop corn per pound shelled	Honey (per lb.)		
	Per cent husking done Dec. 1	Per bushel of 70 lbs. in ear or 56 lbs. shelled															Comb in sections	Extracted (less cost of container)	In bulk
Northwest—																			
Buena Vista	94	$ .52	.....	.....	$ .32	$ .52	.....	$ 2.48	.....	.....	.....	$17.43	$13.18	$ 2.50	$13.27	$ .03	$ .22	$ .25	$ .18
Cherokee	96	.54	.....	.....	.32	.53	.....	2.42	.....	.....	.....	15.93	13.51	3.25	73.27	.03	.20	.18	.14
Clay	90	.55	.....	.....	.31	.54	$ .74	2.52	.....	.....	.....	18.68	14.44	2.50	14.27	.04	.25	.16	.14
Dickinson	90	.51	$ 1.27	$ 1.20	.30	.52	.74	2.57	.....	$ 2.44	.....	15.18	11.84	6.00	20.27	.04	.22	.20	.15
Emmet	82	.48	.....	.....	.31	.49	.61	2.53	.....	2.07	.....	13.23	12.16	5.00	.....	.10	.20	.16	.15
Lyon	98	.58	.....	.....	.30	.50	.....	2.21	.....	2.22	.....	19.43	15.26	.....	.....	.....	.....	.....	.....
O'Brien	98	.55	.....	.....	.30	.55	.74	2.68	.....	2.07	.....	16.14	14.31	4.00	29.27	.05	.20	.14	.25
Osceola	95	.54	.....	1.45	.30	.52	.74	2.47	.....	2.19	.....	15.14	12.01	4.66	15.77	.05	.18	.15	.15
Palo Alto	80	.57	.....	.....	.31	.54	.....	2.61	.....	2.24	.....	12.43	9.66	5.00	16.27	.06	.20	.14	.14
Plymouth	97	.56	1.45	1.37	.32	.54	.69	2.50	.....	.....	.....	14.72	14.51	3.08	20.60	.04	.16	.14	.12
Pocahontas	90	.53	.....	.....	.30	.51	.....	2.62	.....	2.07	.....	13.29	8.01	3.50	15.27	.06	.20	.12	.....
Sioux	97	.59	1.25	1.25	.31	.60	.....	2.56	.....	.....	.....	18.05	14.44	4.00	19.27	.03	.17	.10	.....
For District	93	$ .55	$ 1.32	$ 1.31	$ .31	$ .54	$ .70	$ 2.51	.....	$ 2.10	.....	$15.82	$12.86	$ 4.13	$18.43	$ .04	$ .21	$ .16	$ .15
North Central—																			
Butler	96	$ .51	.....	$ 1.30	$ .31	$ .54	$ .65	$ 2.26	.....	.....	.....	$13.93	$ 9.84	$ 4.50	$20.27	$ .06	$ .20	$ .15	$ .10
Cerro Gordo	82	.51	.....	.....	.31	.55	.....	2.23	.....	.....	.....	13.43	10.16	.....	.....	.....	.19	.13	.....
Floyd	90	.50	$ 1.47	.....	.31	.55	.74	2.18	.....	$ 2.24	.....	11.29	8.84	3.00	15.94	.10	.18	.12	.14
Franklin	90	.56	.....	.....	.32	.54	.....	2.07	.....	.....	$ 1.89	15.29	10.91	3.62	20.77	.07	.22	.14	.18
Hancock	84	.53	.....	1.17	.31	.53	.....	2.61	.....	1.82	1.54	13.53	9.63	3.00	15.27	.04	.23	.17	.21
Humboldt	88	.54	.....	.....	.31	.52	.....	2.46	.....	.....	1.99	19.18	12.39	.....	.....	.08	.19	.16	.16
Kossuth	88	.54	.....	.....	.31	.54	.....	2.23	.....	2.32	.....	13.98	10.55	4.00	14.27	.08	.20	.16	.15
Mitchell	94	.53	.....	.....	.31	.58	.....	1.80	.....	2.12	.....	8.93	6.68	3.01	13.60	.05	.19	.14	.12
Winnebago	87	.51	1.07	1.10	.30	.52	.69	2.09	.....	2.00	1.59	9.14	7.11	2.50	10.77	.06	.20	.22	.16
Worth	94	.53	1.32	1.30	.32	.59	.84	1.60	.....	2.45	1.24	10.18	7.84	2.85	.....	.....	.20	.25	.19
Wright	87	.52	1.07	1.07	.31	.60	.64	2.47	.....	2.08	1.97	14.35	10.42	3.75	16.27	.08	.20	.20	.15
For District	88	$ .53	$ 1.22	$ 1.17	$ .31	$ .55	$ .72	$ 2.20	.....	$ 2.20	$ 1.81	$13.23	$ 9.71	$ 3.29	$16.40	$ .07	$ .20	$ .16	$ .16
Northeast—																			
Allamakee	89	$ .64	$ 1.30	$ 1.32	$ .35	$ .56	$ 1.09	$ 1.84	.....	.....	.....	$ 1.70	$14.05	$ 7.51	$ 3.38	$16.02	.....	$ .17	$ .17	$ .14
Black Hawk	89	.54	1.27	.....	.32	.55	.63	2.26	.....	.....	.....	1.42	13.13	8.45	2.97	16.77	.06	.19	.13	.12
Bremer	93	.55	1.31	1.25	.32	.58	.66	2.42	.....	.....	.....	1.89	13.43	9.01	3.20	17.02	.06	.21	.17	.17
Buchanan	86	.54	.....	.....	.31	.40	.84	2.50	.....	.....	.....	1.52	10.29	6.37	3.18	13.27	.05	.23	.16	.25
Chickasaw	89	.49	.....	.....	.30	.62	.81	2.13	.....	.....	.....	.....	10.76	8.26	3.18	17.52	.09	.21	.19	.15
Clayton	93	.55	1.22	1.05	.34	.56	.....	2.06	.....	.....	.....	1.34	12.22	.....	3.50	16.48	.06	.24	.17	.18
Delaware	88	.58	1.35	1.27	.34	.60	.83	2.00	.....	.....	.....	1.66	10.16	6.26	3.13	17.02	.06	.19	.14	.13
Dubuque	94	.67	1.27	1.23	.36	.63	.84	2.27	.....	.....	.....	1.49	15.68	.....	3.94	16.52	.....	.20	.16	.....
Fayette	84	.58	1.37	1.23	.36	.77	.97	2.23	.....	$ 1.92	1.81	11.18	8.11	3.14	16.87	.06	.28	.16	.18
Howard	91	.50	.....	.....	.30	.54	.84	1.90	.....	2.32	.....	9.43	5.51	2.75	16.77	.05	.20	.14	.12
Winneshiek	94	.60	1.22	1.27	.34	.53	.....	1.68	.....	.....	.....	8.83	6.01	3.75	19.27	.....	.20	.12	.15
For District	89	$ .58	$ 1.27	$ 1.23	$ .33	$ .59	$ .81	$ 2.15	.....	$ 2.12	$ 1.64	$11.82	$ 7.55	$ 3.20	$16.64	$ .05	$ .21	$ .16	$ .16
West Central—																			
Audubon	90	$ .55	.....	.....	$ .32	$ .58	.....	$ 2.64	.....	.....	.....	$11.35	$ 8.26	$ 3.02	$16.97	.....	$ .18	$ .16	$ .14
Calhoun	85	.57	$ 1.27	.....	.32	.55	.99	2.49	$ 2.76	.....	$ 1.95	16.57	12.01	3.50	18.77	$ .07	.21	.23	.20
Carroll	96	.57	1.45	$ 1.20	.32	.60	.81	2.02	.....	.....	.....	16.43	16.16	3.00	17.77	.02	.20	.18	.15
Crawford	88	.56	1.39	1.37	.33	.53	.69	2.32	.....	.....	.....	16.62	10.84	3.00	14.27	.02	.20	.....	.....
Greene	91	.56	.....	.....	.31	.48	.....	2.22	.....	.....	.....	13.76	12.51	4.00	19.27	.08	.21	.16	.20
Guthrie	88	.53	1.33	1.30	.31	.56	.76	2.36	2.51	.....	2.24	13.72	10.11	2.72	15.27	.05	.22	.20	.20
Harrison	88	.57	1.38	1.32	.33	.56	.71	2.49	.....	.....	2.33	13.43	11.71	.....	14.27	.07	.19	.11	.15
Ida	93	.56	1.32	1.25	.31	.56	.....	2.40	.....	.....	.....	15.81	14.11	3.67	17.60	.03	.17	.15	.14
Monona	85	.56	1.37	1.33	.34	.61	.84	2.34	.....	$ 2.07	.....	9.93	8.09	3.00	11.27	.04	.19	.13	.12
Sac	90	.56	.....	.....	.32	.58	.....	1.70	.....	.....	2.14	14.08	13.01	3.50	23.77	.03	.18	.14	.16
Shelby	88	.58	1.32	.....	.31	.62	.74	2.19	.....	.....	.....	16.76	13.76	3.35	16.27	.....	.18	.18	.15
Woodbury	92	.56	1.27	1.19	.33	.65	.....	2.15	.....	2.32	.....	16.23	14.01	.....	15.27	.03	.14	.10	.....
For District	89	$ .56	$ 1.39	$ 1.32	$ .32	$ .58	$ .79	$ 2.32	$ 2.59	$ 2.20	$ 2.15	$14.57	$11.45	$ 3.22	$16.75	$ .04	$ .19	$ .16	$ .16
Central—																			
Boone	88	$ .52	$ 1.22	$ 1.05	$ .32	$ .56	$ .89	$ 2.52	$ 2.51	.....	$ 1.80	$18.96	$15.30	$ 3.91	$19.84	$ .08	$ .25	$ .20	$ .19
Dallas	86	.56	1.34	1.25	.31	.58	.....	2.52	3.13	.....	2.24	13.98	10.51	3.57	15.60	.06	.22	.20	.17
Grundy	91	.52	.....	.....	.32	.56	.64	2.17	1.36	.....	1.75	10.43	7.51	3.52	18.27	.....	.20	.25	.....
Hamilton	91	.56	1.42	1.33	.31	.48	.71	2.46	2.94	.....	1.80	16.03	11.51	4.19	16.80	.06	.22	.21	.15
Hardin	90	.56	.....	.....	.32	.48	.....	2.09	2.01	.....	1.91	15.43	14.51	.....	17.27	.05	.20	.18	.....
Jasper	86	.54	1.39	1.30	.32	.75	.79	2.54	2.59	.....	1.52	14.43	10.11	3.59	19.48	.06	.22	.22	.19
Marshall	90	.50	1.42	.....	.32	.47	.....	2.40	.....	.....	1.54	18.18	.....	3.12	16.52	.04	.20	.20	.18
Polk	83	.52	1.43	1.38	.34	.50	.99	2.73	2.51	.....	2.24	16.79	11.51	3.67	18.94	.08	.24	.19	.17
Poweshiek	84	.56	1.39	1.33	.31	.60	.....	2.52	.....	.....	1.99	13.18	.....	2.92	15.27	.03	.22	.15	.15
Story	86	.54	1.27	.....	.32	.62	1.07	2.49	.....	.....	2.00	14.35	11.51	3.82	18.60	.07	.21	.22	.16
Tama	84	.54	1.25	1.23	.32	.61	.71	2.66	.....	.....	1.80	15.03	11.51	3.44	18.60	.....	.21	.14	.14
Webster	93	.54	1.42	1.35	.31	.60	.83	2.71	.....	.....	.....	15.03	.....	4.00	.....	.07	.22	.14	.....
For District	87	$ .54	$ 1.36	$ 1.30	$ .32	$ .59	$ .83	$ 2.48	$ 2.60	.....	$ 1.88	$15.35	$11.94	$ 3.60	$17.91	$ .06	$ .22	$ .19	$ .17

AVERAGE FARM PRICE OF IOWA'S PRINCIPAL CROPS AND PER CENT OF CORN HUSKING DONE DECEMBER 1, 1925, BY COUNTIES—Continued

Districts and Counties	Corn																	Honey (per lb.)		
	Per cent husking done Dec. 1	Per bushel of 70 lbs. in ear or 56 lbs. shelled	Winter wheat per bushel of 60 lbs.	Spring wheat per bushel of 60 lbs.	Oats per bushel of 32 lbs.	Barley per bushel of 48 lbs.	Rye per bushel of 56 lbs.	White potatoes (Irish) per bushel of 60 lbs.	Sweet potatoes per bushel of 50 lbs.	Flax seed per bushel of 56 lbs.	Apples per bushel of 48 lbs.	*Tame hay (loose) per ton of 2,000 lbs.	Wild hay (loose) per ton of 1,000 lbs.	Timothy seed per bushel of 45 lbs.	Clover seed per bushel of 60 lbs.	Pop corn per pound shelled	Comb in sections	Extracted (less cost of container)	In bulk
East Central—																				
Benton	90	$ .54	$ 1.38	$ 1.30	$ .32	$ .55	$ .79	$ 2.21	.....	.....	$ 1.43	$11.60	$ 7.51	$ 3.18	$17.02	$ .06	$ .20	$ .14	.....
Cedar	83	.56	1.22	1.30	.31	.72	.69	2.68	$ 3.01	.....	1.16	10.76	.....	3.01	12.27	.06	.18	.15	.....
Clinton	83	.57	1.43	1.42	.34	.59	.79	2.26	.....	.....	1.60	13.03	9.61	3.16	17.10	.04	.18	.17	$ .18
Iowa	89	.52	1.21	1.00	.32	.57	.89	2.37	2.51	.....	1.18	14.05	11.01	3.07	12.41	.06	.18	.12	.....
Jackson	88	.65	1.43	1.36	.39	.65	.80	2.51	.....	.....	1.58	11.81	4.51	3.16	17.77	.05	.19	.16	.16
Johnson	85	.60	1.31	1.28	.34	.72	.89	2.42	2.01	.....	1.41	12.00	.....	2.79	15.27	.04	.21	.16	.16
Jones	80	.64	.....	.....	.36	.57	.77	2.40	.....	.....	1.49	10.85	.....	3.12	16.60	.....	.19	.14	.....
Linn	81	.53	1.28	1.23	.32	.60	.79	2.35	2.76	.....	1.24	11.18	8.01	3.49	16.14	.08	.25	.22	.23
Muscatine	86	.57	1.42	1.40	.33	.56	.59	2.35	1.26	.....	1.16	14.81	6.51	3.25	12.27	.08	.20	.18	.....
Scott	91	.60	1.40	1.37	.34	.62	.81	2.06	.....	.....	1.47	15.68	13.01	2.83	18.19	.07	.30	.17	.16
For District	86	$ .57	$ 1.39	$ 1.30	$ .34	$ .64	$ .79	$ 2.31	$ 2.09	.....	$ 1.39	$12.54	$ 8.75	$ 3.09	$15.94	$ .06	$ .20	$ .17	$ .17
Southwest—																				
Adair	91	$ .54	$ 1.31	$ 1.26	$ .32	$ .50	$ .69	$ 2.42	.....	.....	$ 2.09	$14.43	$11.01	$ 3.00	$13.67	$ .06	$ .24	$ .12	$ .12
Adams	84	.56	1.24	1.15	.34	.....	.....	2.27	$ 2.51	.....	1.91	15.03	10.51	3.06	13.47	.03	.20	.20	.20
Cass	91	.57	1.35	1.33	.32	.68	.74	2.40	.....	.....	1.98	14.03	11.51	3.02	17.27	.06	.23	.18	.15
Fremont	78	.57	1.35	1.30	.35	.....	.....	2.40	2.01	.....	1.91	11.43	8.51	.....	13.77	.....	.25	.....	.....
Mills	82	.56	1.39	1.20	.35	.....	.....	2.79	2.01	.....	1.81	13.32	9.71	3.00	16.77	.05	.18	.16	.15
Montgomery	76	.58	1.42	1.40	.37	.50	.99	2.52	1.18	.....	1.97	14.73	.....	3.56	13.00	.06	.22	.18	.15
Page	83	.58	1.44	1.35	.36	.62	.74	2.40	1.92	.....	2.10	13.18	12.51	3.33	15.27	.05	.22	.20	.17
Pottawattamie	89	.58	1.43	1.44	.34	.62	.76	2.42	2.26	.....	2.24	14.80	11.01	3.06	16.44	.07	.20	.14	.12
Taylor	80	.60	1.31	1.35	.33	.70	.77	2.44	2.43	.....	2.09	12.10	8.51	3.20	13.87	.....	.25	.20	.25
For District	85	$ .57	$ 1.38	$ 1.34	$ .34	$ .55	$ .76	$ 2.45	$ 1.94	.....	$ 2.04	$13.89	$10.51	$ 3.42	$14.82	$ .06	$ .22	$ .17	$ .16

South Central—																				
Appanoose	49	$ .60	$ 1.40	$ 1.32	$ .35	.....	$ .84	$ 2.72	$ 2.09	.....	$ 1.41	$12.68	$10.84	$ 3.28	$14.87	$ .04	$ .23	$ .16	$ .17
Clarke	64	.56	1.34	1.25	.34	.....	.....	2.33	3.89	.....	1.61	10.57	8.51	2.82	13.83	.06	.26	.....	.22
Decatur	56	.60	1.30	.....	.35	.....	.79	2.19	1.76	.....	1.71	12.72	5.51	3.19	11.77	.03	.23	.17	.15
Lucas	70	.67	1.27	1.10	.35	.....	.....	2.59	2.01	.....	1.72	11.76	9.51	2.82	13.98	.08	.23	.14	.12
Madison	84	.60	1.40	1.35	.32	.55	.....	2.70	.....	.....	1.85	15.63	11.51	2.78	13.35	.....	.23	.20	.25
Marion	73	.56	1.40	1.34	.33	.55	.74	2.32	2.58	.....	1.45	13.68	11.51	3.00	17.89	.....	.21	.18	.15
Monroe	58	.61	1.31	.....	.34	.....	.....	2.69	2.40	.....	1.39	11.99	.....	2.80	15.57	.05	.22	.....	.....
Ringgold	72	.61	1.24	1.13	.35	.98	1.11	2.47	2.47	.....	2.17	12.37	9.51	2.78	12.77	.....	.24	.18	.18
Union	73	.55	1.18	1.05	.32	.....	1.14	2.48	3.01	.....	2.64	10.15	7.84	2.80	11.70	.06	.24	.21	.20
Warren	75	.58	1.30	1.40	.34	.48	.74	2.57	2.51	.....	1.80	13.25	11.51	3.15	15.52	.05	.23	.16	.14
Wayne	60	.59	1.39	.....	.33	.....	.....	2.32	1.81	.....	1.74	10.99	7.51	2.70	12.98	.07	.28	.24	.16
For District	68	$ .59	$ 1.33	$ 1.27	$ .34	$ .51	$ .91	$ 2.52	$ 2.51	.....	$ 1.77	$11.27	$ 9.45	$ 2.99	$14.18	$ .05	$ .24	$ .18	$ .17
Southeast—																				
Davis	54	$ .66	$ 1.39	.....	$ .38	.....	$ .89	$ 2.59	$ 1.91	.....	$ 1.24	$ 7.43	.....	$ 3.17	$14.00	$ .08	$ .29	$ .22	$ .15
Des Moines	57	.66	1.43	$ 1.30	.34	$ .70	.79	2.26	2.00	.....	1.41	12.18	.....	3.12	18.27	.06	.28	.....	.....
Henry	70	.58	1.36	1.25	.33	.....	.84	2.70	3.01	.....	1.61	12.83	.....	3.11	17.07	.05	.22	.16	.20
Jefferson	47	.61	1.30	1.20	.34	.75	.89	2.64	2.01	.....	1.10	10.81	.....	3.10	14.27	.06	.18	.13	.12
Keokuk	79	.59	1.33	1.30	.34	.54	.84	2.40	1.89	.....	1.29	11.18	.....	2.52	14.52	.05	.18	.18	.18
Lee	64	.62	1.45	.....	.38	.....	.92	2.82	2.18	.....	1.90	12.60	.....	3.00	18.27	.06	.21	.15	.17
Louisa	65	.54	1.36	.....	.35	.55	.74	2.55	1.96	.....	1.31	12.43	9.51	3.12	16.94	.05	.21	.16	.15
Mahaska	80	.62	1.37	1.45	.34	.50	.....	2.36	2.76	.....	1.41	12.79	8.51	4.06	17.94	.05	.23	.19	.18
Van Buren	45	.63	1.21	.....	.35	.....	.99	2.70	3.05	.....	1.06	10.15	9.51	2.99	15.27	.10	.19	.18	.13
Wapello	62	.58	1.41	1.45	.35	.....	1.29	2.48	2.39	.....	1.16	12.10	10.01	3.46	16.20	.06	.19	.16	.13
Washington	76	.59	1.44	1.35	.35	.....	.....	2.30	2.01	.....	1.42	10.86	.....	3.25	17.07	.05	.20	.15	.16
For District	61	$ .60	$ 1.37	$ 1.25	$ .35	$ .53	$ .90	$ 2.54	$ 2.25	.....	$ 1.28	$11.65	$ 9.51	$ 3.19	$16.36	$ .06	$ .20	$ .16	$ .16
For State	83	$ .56	$ 1.36	$ 1.30	$ .32	$ .57	$ .80	$ 2.35	$ 2.30	$ 2.39	$ 1.70	$12.50	$10.50	$ 3.15	$16.00	$ .03	$ .21	$ .17	$ .16

*Tame hay includes alfalfa.

WINTER WHEAT IN THE UNITED STATES

Area sown this fall is 39,540,000 acres, which is 1.0 per cent less than the revised estimate of 39,956,000 acres sown in the fall of 1924. The sowings in the fall of 1923 were 38,664,000 acres. Winter damage during the past 10 years has caused an average abandonment of 10.9 per cent of the acreage sown to winter wheat. The abandonment has ranged from 1.9 per cent to 28.9 per cent in different years during that period. The condition on December 1 is 82.7 per cent, against 81.0 and 88.0 per cent on December 1, 1924, and 1923 respectively, and a ten-year average of 84.9 per cent. On account of unfavorable weather for plowing and seeding, farmers have been unable to sow as much wheat as they intended.

State	Area Sown			Condition Dec. 1		
	Autumn, 1925, Preliminary	Autumn, 1924, Revised	Autumn, 1925, Compared With 1924	1925	1924	10-year Average, 1915-1924
	Acres	Acres	P. Ct.	P. Ct.	P. Ct.	P. Ct.
New York	280,000	308,000	91	77	83	92
New Jersey	62,000	59,000	105	87	82	89
Pennsylvania	1,217,000	1,159,000	105	88	82	91
Delaware	110,000	105,000	105	88	85	89
Maryland	554,000	528,000	105	79	83	88
Virginia	694,000	643,000	108	82	86	88
West Virginia	151,000	142,000	106	85	84	89
North Carolina	437,000	412,000	106	89	88	89
South Carolina	50,000	48,000	104	87	84	88
Georgia	113,000	104,000	109	88	85	90
Ohio	1,946,000	2,070,000	94	79	80	88
Indiana	1,756,000	1,973,000	89	70	81	87
Illinois	2,019,000	2,269,000	89	67	87	89
Michigan	905,000	830,000	109	81	83	89
Wisconsin	72,000	76,000	95	90	90	92
Minnesota	182,000	202,000	90	85	90	92
Iowa	382,000	424,000	90	87	89	91
Missouri	1,261,000	1,752,000	72	63	85	87
South Dakota	109,000	167,000	65	60	90	86
Nebraska	3,047,000	3,078,000	99	88	78	85
Kansas	11,402,000	10,740,000	107	84	76	80
Kentucky	262,000	271,000	97	85	82	88
Tennessee	406,000	390,000	104	82	79	85
Alabama	7,000	7,000	95	86	70	87
Mississippi	7,000	8,000	90	82	70	86
Texas	1,780,000	1,780,000	100	91	75	79
Oklahoma	4,748,000	4,479,000	106	87	84	80
Arkansas	29,000	33,000	89	77	81	86
Montana	485,000	650,000	75	89	85	81
Wyoming	34,000	34,000	100	87	93	88
Colorado	1,404,000	1,327,000	105	90	88	87
New Mexico	216,000	173,000	125	91	75	83
Arizona	33,000	33,000	100	94	89	93
Utah	152,000	148,000	103	96	86	87
Nevada	2,000	2,000	120	97	95	96
Idaho	478,000	478,000	100	92	82	88
Washington	955,000	1,240,000	77	68	77	85
Oregon	920,000	1,000,000	92	82	87	91
California	788,000	804,000	98	90	88	89
United States	39,540,000	39,956,000	99.0	82.7	81.0	84.9

UNITED STATES CROP SUMMARY, 1925

The December estimate of the Crop Reporting Board of the United States Department of Agriculture of the ACREAGE, PRODUCTION, PRICES PAID TO FARMERS ON DECEMBER 1, and TOTAL FARM VALUE of the important farm crops of the United States, 1924 and 1925 based on the reports and data furnished by crop correspondents, field statisticians, and cooperative State Boards (or Departments) of Agriculture and Extension Departments, are as follows:

Crop		Acreage	Production			Farm Value December 1[a]	
			Per Acre	Total	Unit	Per Unit	Total
Corn	1925	101,631,000	28.5	2,900,581,000	Bu.	$ 0.674	$ 1,956,326,000
	1924	101,076,000	22.9	2,312,745,000	"	0.982	2,270,504,000
Winter wheat	1925	31,209,000	12.7	398,486,000	"	1.479	589,504,000
	1924	35,489,000	16.6	589,632,000	"	1.316	776,227,000
Spring wheat	1925	20,931,000	12.9	[c]270,879,000	"	1.323	358,489,000
	1924	16,875,000	16.2	[c]272,995,000	"	1.262	344,560,000
All wheat	1925	52,200,000	12.8	669,365,000	"	1.416	947,993,000
	1924	52,364,000	16.5	862,627,000	"	1.299	1,120,787,000
Oats	1925	45,160,000	33.3	1,501,909,000	"	0.381	571,768,000
	1924	42,756,000	35.6	1,522,065,000	"	0.478	727,171,000
Barley	1925	8,243,000	26.4	218,002,000	"	0.586	127,653,000
	1924	6,858,000	26.0	178,322,000	"	0.739	131,704,000
Rye	1925	4,088,000	11.9	48,696,000	"	0.781	38,026,000
	1924	4,019,000	15.9	64,028,000	"	1.066	68,260,000
Buckwheat	1925	776,000	18.9	14,647,000	"	0.892	13,058,000
	1924	738,000	18.0	13,277,000	"	1.030	13,673,000
Flax seed	1925	3,012,000	7.3	22,007,000	"	2.263	49,842,000
	1924	3,469,000	9.2	31,711,000	"	2.273	72,094,000
Rice	1925	904,000	27.6	33,950,000	"	1.539	52,246,000
	1924	849,000	39.2	33,249,000	"	1.382	45,956,000
Grain sorghums[b]	1925	4,120,000	17.2	71,050,000	"	0.757	53,801,000
	1924	3,813,000	21.1	80,443,000	"	0.852	68,501,000
Cotton	1925	45,945,000	[c]162.3	15,608,000	Bales	[c]0.182	1,419,888,000
	1924	41,360,000	[c]157.4	[c]13,628,000	"	[c]0.226	1,540,884,000
Cottonseed	1925	----------	----------	6,928,000	Ton	27.64	191,490,000
	1924	----------	----------	[c]6,051,000	"	33.57	203,132,000
Hay, tame	1925	59,398,000	1.46	86,474,000	"	13.99	1,209,496,000
	1924	61,451,000	1.60	98,086,000	"	13.76	1,349,528,000
Hay, wild	1925	14,746,000	0.88	13,049,000	"	8.46	110,334,000
	1924	15,060,000	0.98	14,731,000	"	7.83	115,365,000
All hay	1925	74,144,000	1.34	99,523,000	"	13.26	1,319,830,000
	1924	76,531,000	1.47	112,817,000	"	12.98	1,464,893,000
Clover seed	1925	789,000	1.3	1,029,000	Bu.	14.86	15,288,000
	1924	809,000	1.1	907,000	"	14.51	13,455,000
Beans, dry edible[b]	1925	1,579,000	12.1	19,109,000	"	3.27	62,388,000
	1924	1,545,000	9.6	14,856,000	"	3.72	55,239,000
Potatoes, white	1925	3,113,000	103.8	323,243,000	"	1.873	605,327,000
	1924	3,348,000	127.0	425,283,000	"	0.626	266,047,000

UNITED STATES CROP SUMMARY, 1925—Continued

Crop		Acreage	Production			Farm Value December 1[a]	
			Per Acre	Total	Unit	Per Unit	Total
Sweet potatoes	1925	778,000	80.3	62,494,000	"	1.389	86,554,000
	1924	691,000	79.0	54,564,000	"	1.222	70,500,000
Tobacco	1925	1,747,000	772.6	1,349,669,000	Lbs.	0.183	247,413,000
	1924	1,706,000	728.3	1,242,456,000	"	0.207	256,854,000
Sugar beets	1925	667,000	10.39	6,932,000	Tons	----------	----------
	1924	817,000	8.66	7,075,000	"	----------	----------
Beet sugar	1925	667,000	1.34	895,000	"	----------	----------
	1924	817,000	1.33	1,090,000	"	----------	----------
Sorghum sirup	1925	377,000	67.6	25,492,000	Gals.	0.948	24,168,000
	1924	385,000	68.3	26,284,000	"	0.944	24,921,000
Apples, total	1925	----------	----------	164,616,000	Bu.	1.262	207,820,000
	1924	----------	----------	171,250,000	"	1.181	202,326,000
Apples, Com'l	1925	----------	----------	31,909,000	Bbl.	3.68	117,284,000
	1924	----------	----------	28,063,000	"	3.66	102,823,000
Peaches	1925	----------	----------	46,565,000	Bu.	1.398	65,086,000
	1924	----------	----------	54,119,000	"	1.269	68,679,000
Pears	1925	----------	----------	19,920,000	"	1.410	27,944,000
	1924	----------	----------	18,868,000	"	1.415	26,693,000
Grapes	1925	----------	----------	1,967,160	Tons	34.04	66,960,000
	1924	----------	----------	1,763,742	"	41.52	73,228,000
Cabbage	1925	107,800	8.1	869,200	"	[c]20.20	17,560,000
	1924	108,670	8.8	961,700	"	17.00	16,349,000
Cantaloupes	1925	96,080	151	14,013,000	Crate	1.32	18,483,000
	1924	90,510	148	13,432,000	"	1.48	19,865,000
Corn, sweet	1925	403,150	2.5	993,000	Tons	16.09	15,980,000
	1924	329,230	1.8	589,500	"	18.19	10,672,000
Cucumbers	1925	135,870	87	11,886,000	Bu.	1.21	14,414,000
	1924	121,300	62	7,473,000	"	1.49	11,145,000
Onions	1925	56,960	302	17,173,000	"	1.15	19,702,000
	1924	60,200	296	17,852,000	"	.94	16,823,000
Peas, green	1925	259,100	0.9	242,300	Tons	68.04	16,486,000
	1924	247,900	1.1	268,500	"	64.67	17,364,000
Strawberries	1925	134,000	1,504	209,586,000	Qts.	0.17	36,105,000
	1924	151,230	1,829	276,502,000	"	0.13	37,329,000
Tomatoes	1925	456,000	4.8	2,188,200	Tons	27.72	60,656,000
	1924	433,080	3.7	1,606,700	"	33.21	53,362,000
Watermelons	1925	156,400	[b]325	50,838	Cars	222.00	11,802,000
	1924	168,150	[b]318	53,488	"	172.00	9,181,000
Total	1925	[f]353,021,170	----------	----------	----------	----------	[g]$8,611,829,000
	1924	[f]347,217,390	----------	----------	----------	----------	[g]$9,182,501,000

[a]Minor crop prices mostly for November 15. [b]Principal producing states. [c]Pounds. [d]Census. [e]Per pound. [f]Includes DURUM (prod. 4 states, 66,503,000 bu. 1925 and 67,567,000 bu. 1924). [g]Average price for season paid to growers. [h]Number. [i]Acreage and total value of all crops, including several minor crops not listed in table.

INDEX