

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, JULY, 1922.

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July, 1922, was on the whole favorable for farming operations in most sections of the country, although the first half of the month was rather too cool for warm-weather crops in the more northern States, and moisture was markedly deficient during most of the month in the Southwest. In addition, the latter part of the month was excessively warm in the lower Great Plains section, where moisture was deficient, and in some localities of that area destructive hot winds were experienced. Farm work made good progress generally, except for some delay to harvest in north-central States caused by heavy rainfall, and some hindrance to field work in the Southeast by continued wet soil.

Harvest and threshing of small grains made good progress under favorable weather conditions in practically all of the principal producing areas, and the weather was generally favorable for drying grain in shock, except that considerable damage occurred to oats in parts of the upper Mississippi Valley because of molding, rotting, and sprouting. Spring grains were benefited by showers in many of the more western districts the latter part of the month.

Temperature and moisture conditions were favorable for corn in the central valley States, except for some lack of moisture in parts of the Ohio Valley. It was rather cool for this crop during much of the month, however, in the central Northern States, and there was a serious lack of moisture in Oklahoma and central and western Texas

and late corn deteriorated in that area. The rainfall near the close of the month in much of the upper Mississippi Valley was very favorable for corn.

The weather was mostly favorable for cotton, except where there was a lack of moisture in the more western portions of the belt and where it was too wet in parts of the east. The drought in Texas and Oklahoma had become rather serious at the close of the month and the progress of cotton was poor to only fair and considerable wilting and shedding were reported. Weevil, however, had become generally less active, particularly in the western portion of the belt where the weather had been warm and dry, although they continued numerous in most sections and were doing much damage in many localities. The weather was very favorable for picking in southern Texas, and bolls were reported as opening rapidly in southern Georgia at the close of the month.

There was sufficient moisture for most truck crops in the Central and Eastern States, but rain was badly needed in the Southwest, and moisture was deficient during parts of the month in portions of the Ohio Valley.

Grasses and ranges were rather unfavorably affected by dryness in the central Rocky Mountain States, although considerable rain fell in this area the latter part of the month, and at the same time showers improved the range in the northern and northwestern Great Plains. Ranges were very unfavorably affected by continued dry weather in the Southwest, although there was some relief by showers near the close of the month in much of Arizona and parts of New Mexico. Droughty conditions continued in the far Northwestern States.

CLIMATOLOGICAL TABLES.

DESCRIPTION OF TABLES AND CHARTS.

Table I gives the data ordinarily needed for climatological studies for about 176 Weather Bureau stations making simultaneous observations at 8 a. m. and 8 p. m. daily, 75th meridian time, and for about 37 others making only one observation. The altitudes of the instruments above ground are also given.

Table II gives, for about 35 stations of the Canadian Meteorological Service, the means of pressure and temperature, total precipitation, and depth of snowfall, and the respective departures from normal values except in the case of snowfall. The sea-level pressures have been computed according to the method described by Prof. F. H. Bigelow in the REVIEW of January, 1902, pages 13-16.

Chart I.—*Tracks of centers of ANTICYCLONES*; and

Chart II.—*Tracks of centers of CYCLONES*. The Roman numerals show the chronological order of the centers. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the observations at 8 a. m. and 8 p. m., 75th meridian time. Within each circle is also given (Chart I) the last three figures of the highest barometric reading, or (Chart II) the lowest reading reported at or near the center at that time, and in both cases as reduced to sea-level and standard gravity. The inset map in Chart I shows the departure of monthly mean pressure from normal and the inset in Chart II shows the change in mean pressure from the preceding month.

Chart III.—*Temperature departures*. This chart presents the departures of the monthly mean surface temperatures from the monthly normals. The shaded portions of the chart indicate areas of positive departures and unshaded portions indicate areas of negative departures.

Generalized lines connect places having approximately equal departures of like sign. This chart of monthly surface temperature departures in the United States was first published in the MONTHLY WEATHER REVIEW for July, 1909.

Chart IV.—*Total precipitation*. The scale of shades showing the depth is given on the chart. Where the monthly amounts are too small to justify shading and over sections of the country where stations are too widely separated, or the topography is too diversified to warrant reasonable accuracy in shading, the actual depths are given for a limited number of representative stations. Amounts less than 0.005 inch are indicated by the letter T, and no precipitation by 0.00. The inset on this chart shows the departure of the monthly totals from the corresponding normals.

Chart V.—*Percentage of clear sky between sunrise and sunset*. The average cloudiness at each Weather Bureau station is determined by numerous personal observations between sunrise and sunset. The difference between the observed cloudiness and 100 is assumed to represent the percentage of clear sky, and the values thus obtained are the basis of this chart. The chart does not relate to the nighttime.

Chart VI.—*Isobars at sea level, average surface temperatures, and prevailing wind directions*. The pressures have been reduced to sea level and standard gravity by the method described by Prof. Frank H. Bigelow on pages 13-16 of the REVIEW for January, 1902. The pressures have also been reduced to the mean of the 24 hours by the application of a suitable correction to the mean of 8 a. m.—and 8 p. m.—readings at stations taking two observations daily, and to the 8 a. m.—or the 8 p. m.—observation, respectively, at stations taking but