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WEEKLY STATION REPORTS

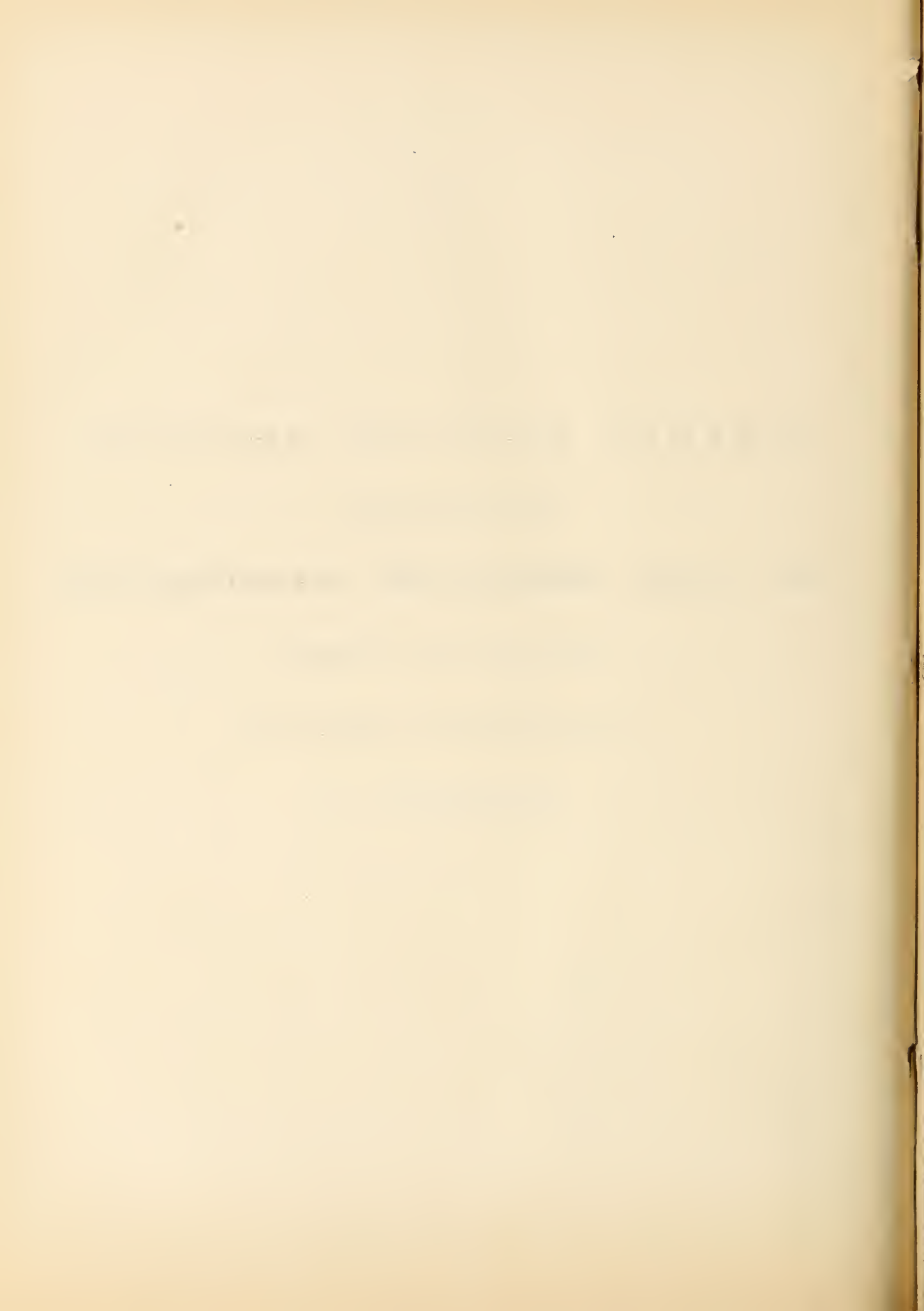
OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

AUGUST 3



REPORT FOR WEEK ENDING AUGUST 3, 1918.
(Except where otherwise indicated).

Akron:

The past week has been hot and dry. The barley and winter wheat on the rotations were threshed Tuesday and Wednesday and the winter wheat varieties the last of the week. Yields of barley and winter wheat on the rotations were low, the highest yield of barley being 11.3 on the M. C. summer fallow, and the highest of winter wheat was 14.5 bu. on the M. C. fallow.

Corn, cane, and beans are suffering from drought again.

Maximum temperature for the week, 96°, minimum, 52°; precipitation, .33".

Amarillo:

Weather continues dry and crops are making very little growth, merely holding their own awaiting rain. Two small showers early in the week netted us .56 inch, but rain in sufficient quantities to wet down around the plant roots will be required for genuine relief. The small grain stubble plats were double disked during the week and the work of hoeing over the row crops plats is still in progress.

The writer spent the first half of the week at the Big Spring Station returning here the latter half of the week to wind up his work at Amarillo, preparatory to leaving the first of next week to take charge of the Big Spring Station. Supt. Ross and his family leave today for a vacation trip over into New Mexico to be gone for about a week.

Weather for the past week was: - Maximum temperature, 98° on the 2nd of August; minimum, 58° on July 30. Avg. hourly wind, 6.6 miles. Evaporation, 2.495 inches. Precipitation, .56 inch. For the month of July the total precipitation was 2.69 inches - about the same as last year and practically up to normal for July in this locality.

Bellefourche, (Report for week ending July 27):

The month of July has contained the greatest number of rainy days of any July on record. The amount of precipitation to date is 3.41 inches, a higher July precipitation than has occurred any year except 1915.

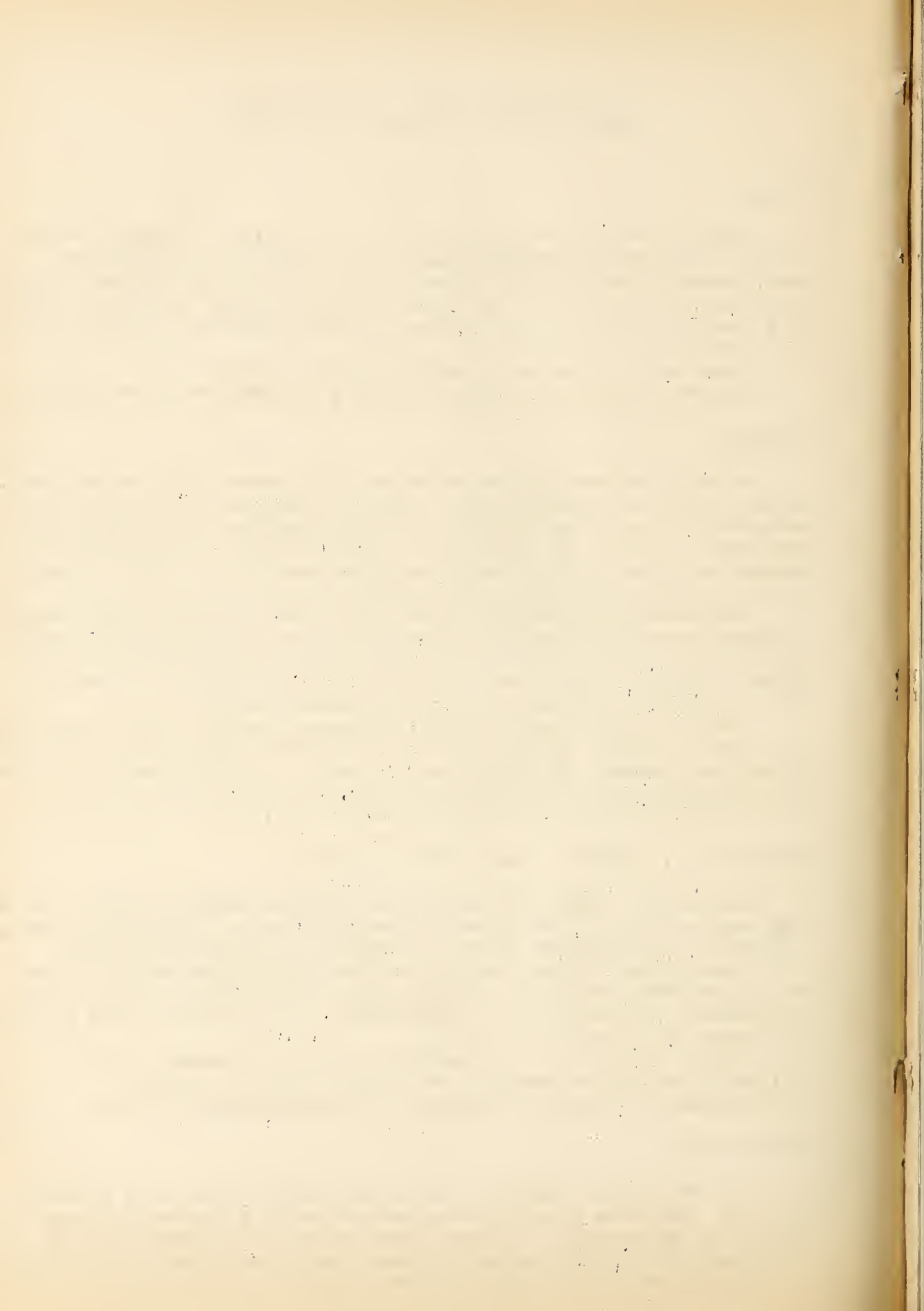
Small grains had been injured very badly by drought earlier in the season and were commencing to ripen. As a result they were not helped materially. Corn has made an exceptionally good growth and gives promise of a very good yield.

All oat plats are now harvested and wheat is ripening. Yields of all small grain plats except those on fallow will be very low.

Maximum for week, 90°; minimum, 44°; precipitation, .30 in. "

Bellefourche:

Hot dry weather during the entire week caused grain crops to ripen rapidly. All plats of small grain, except the M. C. Series of winter wheat, are now harvested. Summer fallow showed up remarkably well as a preparation for small grain this year. Grain on fallowed land will more than double the yield of grain on corn ground.



Bellefourche, continued:

Corn has commenced to suffer a little from drought on the hottest days, but there is still a considerable amount of moisture in the soil.

The week as a whole has been the hottest of any since the early part of June. On two days the temperature reached 100°, and on several others it approached that point.

Maximum, 100°; minimum, 49°. Precipitation, .0.

Big Spring:

Maximum temperature for the period, 99°; minimum, 73°; wind velocity, 7.4 miles per hour; evaporation, 3.02 inches; precipitation, .02 inch.

The weather conditions still remain dry and prospects for a change for the better soon are rather remote. Crops on many of the plats are beginning to burn. Corn on fallow land is beginning to tassel out and broomcorn on plat C, which was fallowed last season, is heading out and the brush will soon do to pull. The other plats of these crops are suffering for moisture and a chance for a crop from them is very slight. Cotton in a number of the plats is setting on squares and will soon be in bloom, though the plants are still small for this season of the year. Crop conditions in general throughout the county are bad and the farmers are badly discouraged.

Colby:

High temperatures have prevailed all week. There has been no rain, but occasional hot winds. Listed corn and that after summer fallow are still looking good. That on the plowed plats is not very promising. A number of ears in the roasting ear stage are visible. All the early fall plowing was done during the week, and the wheat in the fields threshed.

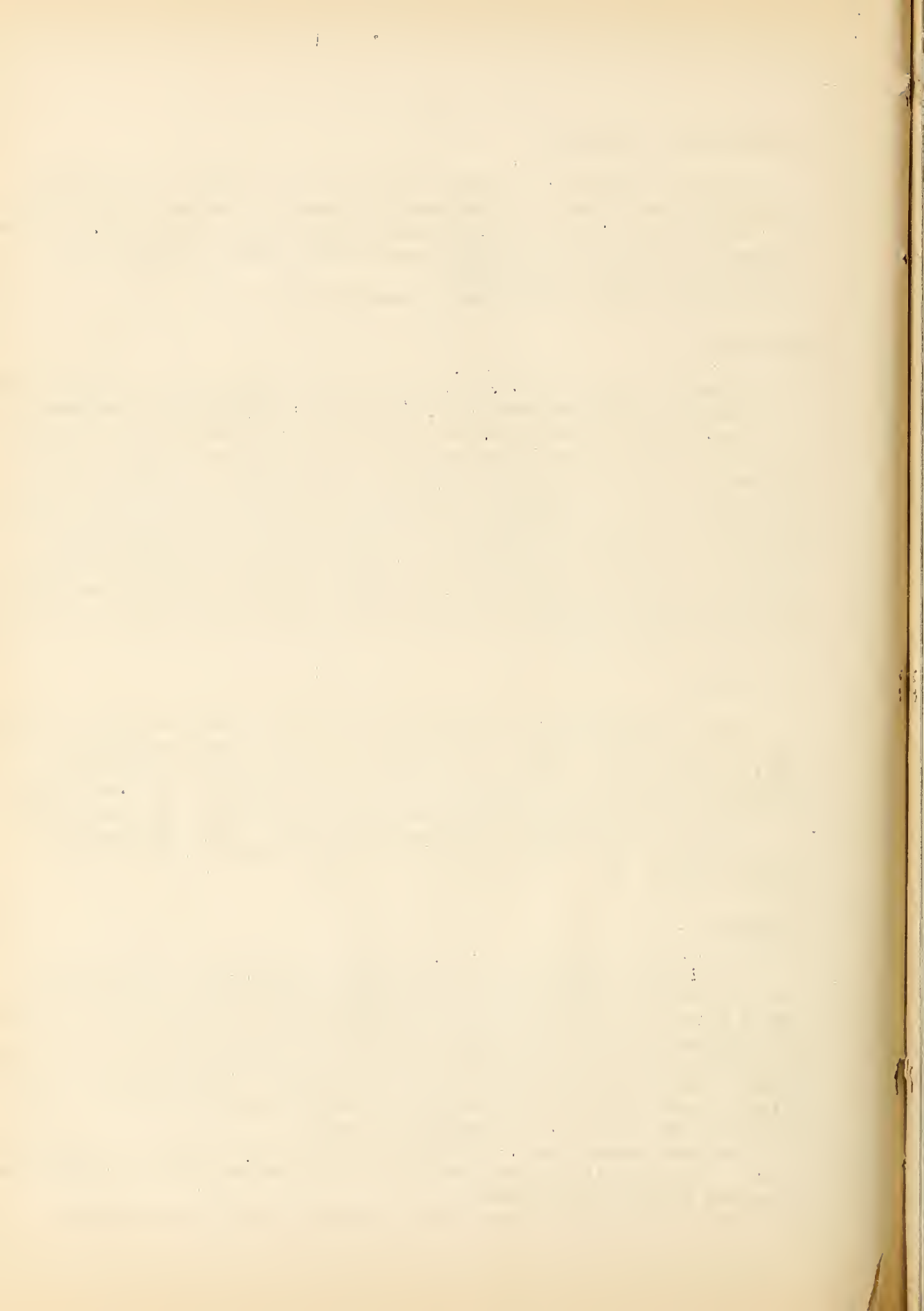
Weather for the week: - Maximum temperature, 103°; minimum, 57°; precipitation, .0. Precipitation for July, 1.85", normal, 2.65", 1917, 3.07".

Dalhart:

Crops have ripened rapidly during the past 10 days on account of the dry weather which has prevailed. The cowpeas on the rotation plots and a few of the corn plots have been harvested, but the yields are small. The sorghum plots are beginning to suffer from drought, but not enough to effect the yields materially should it rain within the next week or ten days. With rain the prospects are that several of the milo plots would yield as much as 40 bushels per acre. Without rain the yield will probably not be over 15 or 20 bushels per acre.

Maximum temperature for the week, 100°; minimum, 60°; precipitation, none. Precipitation since January 1, 11.15 inches. 10-year average for the same period, 10.65 inches.

Mr. E. F. Chilcott from Woodward visited the Station Friday.



Edgeley:

The barley crop has been harvested on all cooperative plots. The continued drouth during the growing season for barley severely injured the crop and will cut the yields badly. Oats will be ready to cut by the middle of next week. Some of the wheat will do to cut about the same time. Barley on summer fallow land will make a fair crop. Some of the wheat and oats on fallow land will be very good. Where corn and fallow are used in four-year rotations, the resultant crops will be good, but one three-year and six-year rotations the drouth badly injured the crops. Flax on brome grass sod will be a failure. All crops were suffering for want of moisture up to July 20, but as two and one-half inches of rain fell between the 20th and 25th of that month, the corn and some of the cereal crops were helped materially. The past week has been hot and dry and the corn crop is beginning to need rain. All fallow land was plowed during the fore part of July. Hay crops on the plots were cut and yields recorded at the proper season for harvesting the crop.

Garden City:

The past week has been a trying one on the growing crops, due to the severe hot winds which occurred on several days during the latter part of the week. Corn and the sorghams are rolling badly and in some cases have begun to fire.

Spring wheat was threshed on the 2nd and, as expected, the yields were very light. Grain yields were from one-twelfth bushel to two and one-quarter bushels per acre, with straw yields of 340-pounds to 1320-pounds per acre.

Fall plowing of small grain plats was done during the week. Small grain plats to be fall listed are being disked to kill the heavy growth of Russian thistle before listing; small grain stubble to be spring plowed is also being disked.

Plowing of roadways and trimming of plats was also completed during the week.

Maximum temperature, 105°; minimum, 60°, evaporation, 2.367"; precipitation, .32"; wind velocity (8' anemometer), 9.4 miles per hour, (2' anemometer), 7.3 miles per hour.

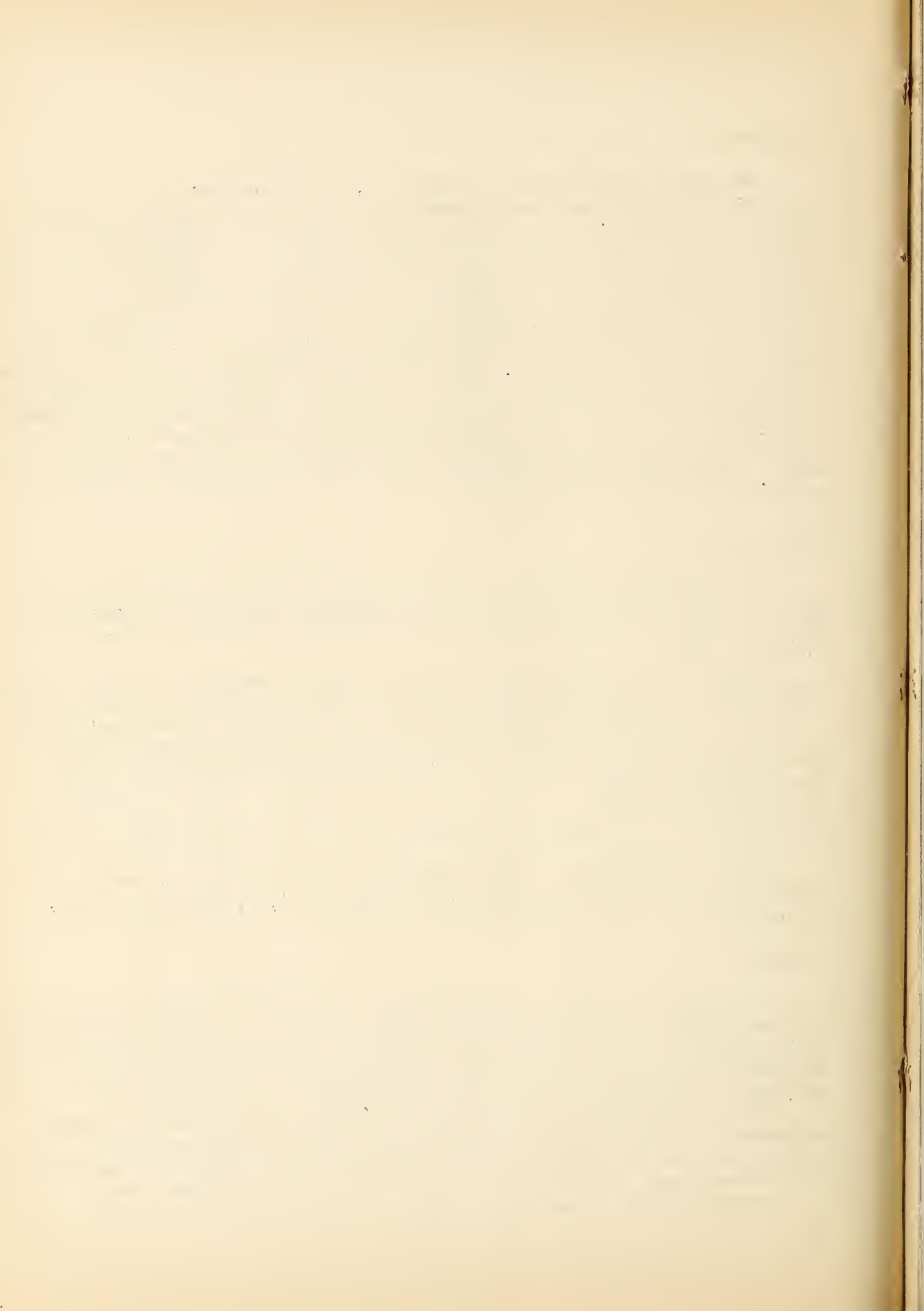
Huntley:

Hot weather prevailed throughout the week and the remaining small grains ripened rapidly and were harvested. Corn on many of the plats, especially those that were spring plowed, is beginning to show marked signs of drought. The leaves are curling up and beginning to burn. A good set of ears is in evidence, but considerable rain will be needed to fill the grain.

Plats on which crops were plowed under for green manure were disked and weeds along the boundary fences were pulled. A vigorous growth of Russian thistles is starting in the stubble of the harvested grain plats.

Temperatures for the week: Max., (twice), 100°; minimum, 47°.

Precipitation: None



Judith Basin (Report for week ending July 27, 1918.)

Cool cloudy weather has prevailed here during the past week. .8 in. of rain fell on the night of July 23, and fairly good crops are now expected in the Judith Basin. Maximum temperature for the week, 92°; minimum, 37°; precipitation, .89", evaporation, 1.10".

Considerable time was spent pulling mustard during the week. Flax plats were particularly bad. Wild buckwheat or bindweed is also very thick in the continuous cropping plats of flax. Flax canker has done some damage in spots.

Other work at the station included disking and harrow summer fallow land, cutting sweet clover for hay, and harvesting winter rye on the cereal variety testing plats. The rye was about three feet in height.

Winter wheat will soon be ready for harvest, and early varieties of oats and barley are beginning to ripen.

Judith Basin:

Warm dry weather has been the rule during the past week. Maximum temperature, 89°, minimum, 47°, evaporation, 1.280, precipitation none. The rainfall for July was 2.98 in., while the average July precipitation for the past 21 years is 2.50 in. July is the first month since February to have a precipitation greater than the average. The seasonal rainfall for this year amounts to 7.63 in., while the average seasonal rainfall is 9.20 in.

The warm weather has hastened the ripening of winter wheat and early varieties of oats and barley. Part of the winter wheat plats in the rotations, and one plat of oats in the cereal variety tests have been harvested, and more will be ready to harvest Monday. Other work at the station during the week included cultivating corn, pulling wild oats, and cutting some grain hay for the Forage Crop Office.

Harvesting will soon be general through out the Judith Basin, and better crops are expected than were obtained last year. Arrangements have been made to bring homesteaders down here from drought stricken counties in the northern part of the State, to help with harvesting and threshing. In this way it is hoped to avoid any serious shortage of labor.

Lawton:

We have not had anything but hot, dry, parching weather during the last two weeks. Maximum temperatures during the last two weeks have ranged from 98° to 104°, and most of the time the temperature has been 100 or above.

All crops have suffered immensely and the prospects of producing more than an extremely limited amount of forage this year are usually slight. Much of the sorghum crops throughout the surrounding country has been cut in order to save what little was left. With but very few exceptions the crops have been so severely burned that further growth was not to be hoped for. Cotton is very small and only a few bolls have been formed in the tops of the plats. M. C. C. Corn; M. C. P. Milo, M. C. A. and B. Potatoes were harvested on the 2nd. In the cooperative projects Brown Holling and Red Amber planted on the 15th of April and First of May were harvested on the 2nd. Sudan grass planted

Lawton, continued:

in rows 44" apart on June 1 was also harvested on the 2nd. A very good crop of hay was produced on this planting within 50 days.

Messrs. Horton and Satterthwaite from the Entomology Field Stations at Wichita, Kansas and Chulavista, Mo., have been looking over the chinch bug infestation at this place for the last three days.

Maman.

Horticulture

Subirrigation and heating was completed.

The last of the Greenhouse fruit crosses have been planted.

Small cherries were harvested.

Field stocks are being prepared for all new plantings.

A number of greenwood cuttings were planted in propagating beds in the greenhouse.

Seeds are being collected and washed out.

Tomatoes are ripening and vegetables are yielding well.

Budding of fruits was commenced and about 600 buds were set on various stocks.

Agronomy

Barley varieties for the Office of Cereal Investigations were harvested during the week; also some of the later varieties of oats and two plots of flax. Wheat in the rotations will be ready to harvest early next week.

The second crop of Alfalfa for the Office of Drought Resistant Plots was cut during the week, and also the Alfalfa in the rotations. Alfalfa in the South Field did not make much growth for the second crop.

Corn has made rapid growth since the rains of last week; it was all fully tasseled the first of the week.

The total precipitation for July was, 2.47 inches, as compared with the 40-year mean of 2.15". The total yearly precipitation to date is 8.97 inches as compared with the 40-year mean of 11.93 for the same period.

Maximum, 96°; minimum, 43°; precipitation, none.

Cooperative Grazing Experiment.

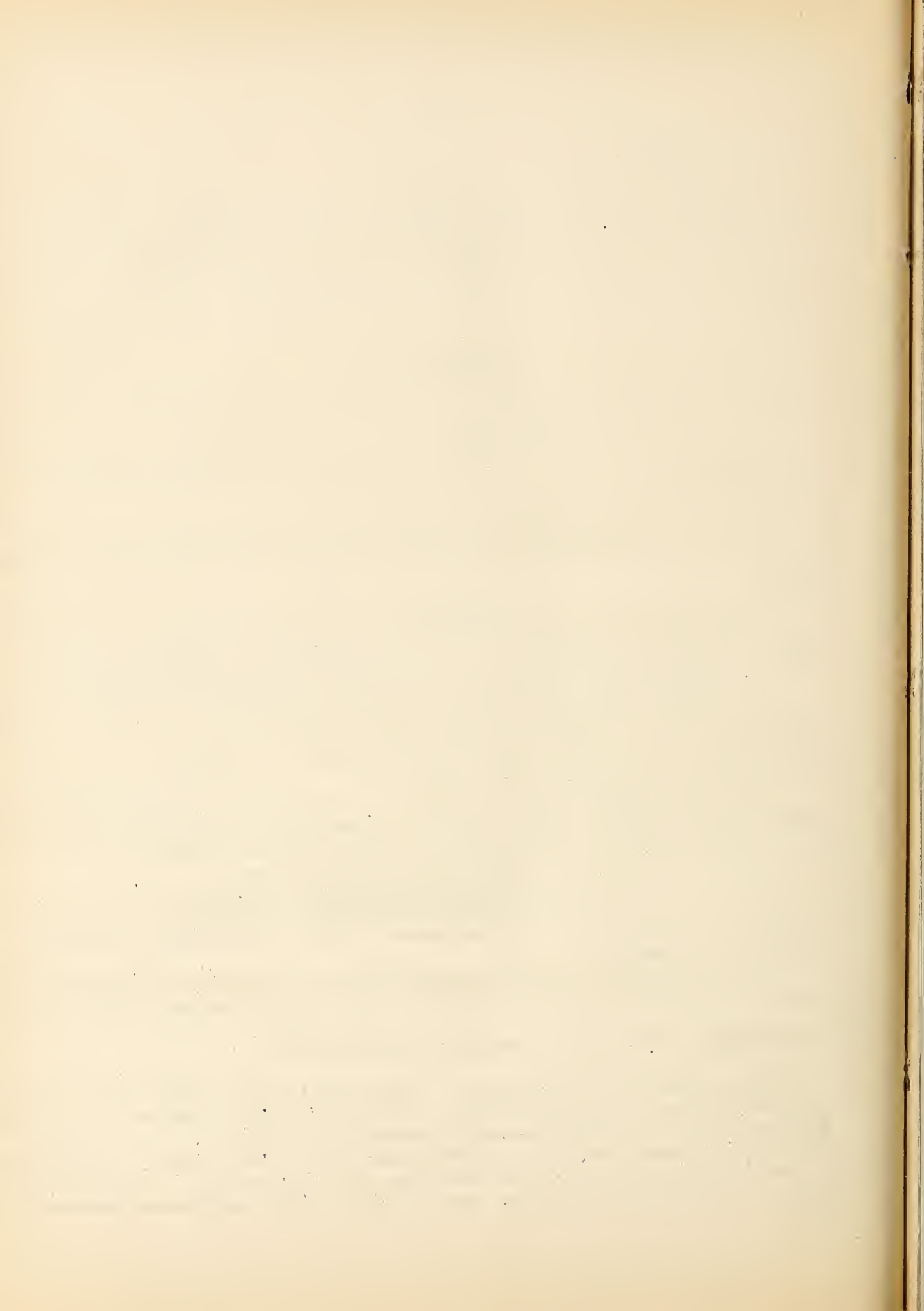
Cattle were weighed the first of the month. All made good gains for the month of July except those in the 30-acre pasture, which made a total gain of about 150 pounds.

Grass has greatly improved since the rains of last week. Quadrats which had not made enough growth to clip for several weeks have not a fair growth.

North Platte: (Report for 2 weeks ending August 3).

Dry weather continues with us. July closed with a total of 1.93 inches of precipitation as compared with a 2.82 normal. This moisture came in nine showers, only one of which exceeded one-half an inch.

Corn, however, has held on remarkably well. Only within the last two or three days has severe injury been apparent. The crop is quite well eared and a fair crop would still be made if supplied with sufficient moisture.



North Platte, continued:

Threshing is under way. Grain yields are very disappointing, being considerably less than we had estimated. Some plats are scarcely returning the seed put on them.

Summer tillage is having an inning. Yields are running from three to four times as much as those on continuously cropped plats.

Scottsbluff:

During the past week we have experienced the most severe weather conditions of the present season. On three days of the week we had hot winds which caused all crops to suffer. Corn in particular was affected; many plats began to fire quite badly. The maximum temperature of the season so far was recorded during the week and also the highest evaporation for any single day. Only a trace of precipitation was recorded.

Grasshoppers still abound in large numbers, migrating over the entire project and doing much damage to corn and sorghum varieties.

Summer fallow plats were double-disked during the week to keep down weed growth. Dry Land flax also was harvested. The yield will be light.

Supt. Aune of Bellefourche was a Station visitor for the first of the week.

Maximum temperature for the week, 99°; minimum, 55°. Precipitation, T; Evaporation, 1.660 inches.

Sheridan:

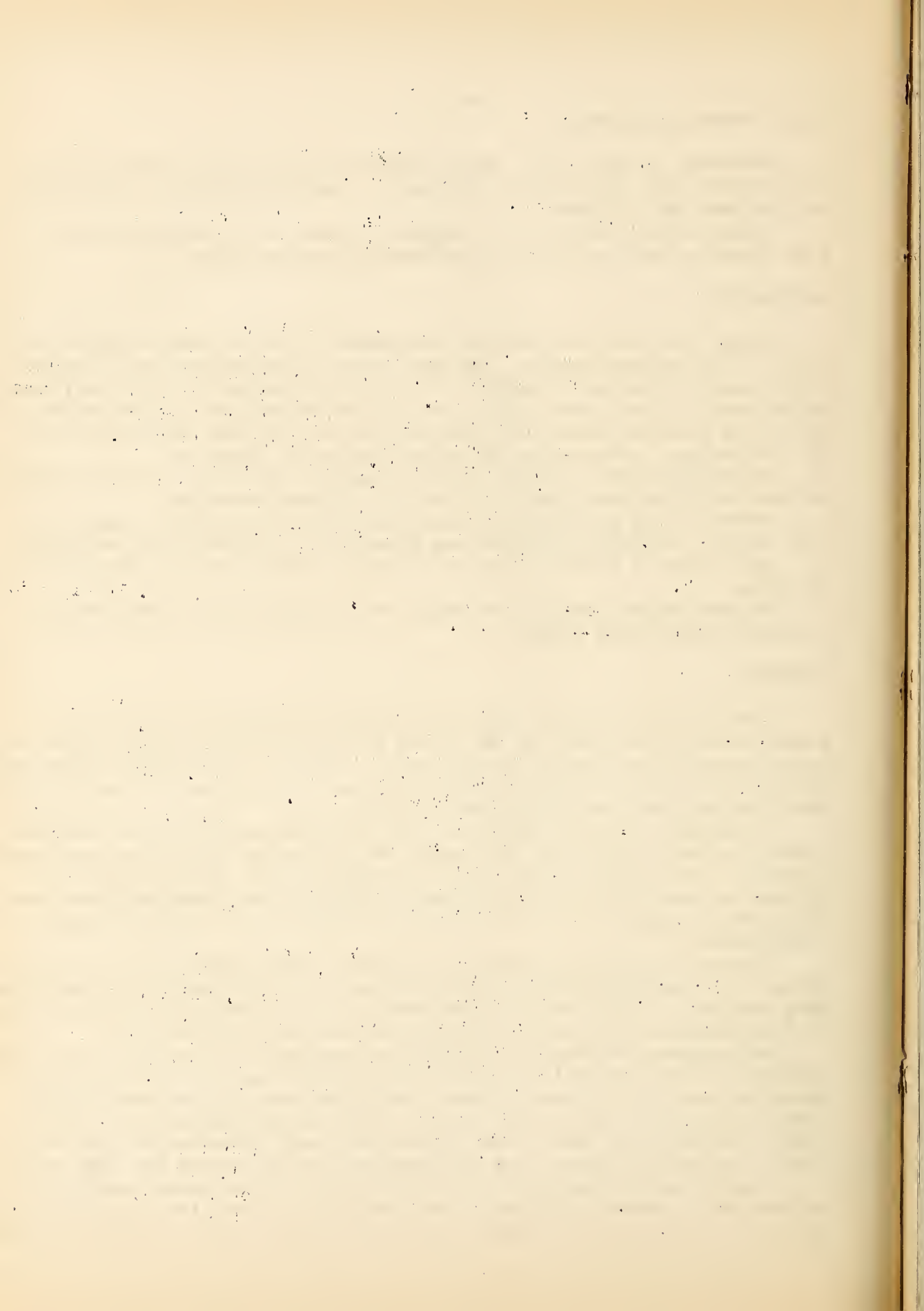
Fine weather for field work has prevailed during the week, but it rained during last night and put an end to field work for today. Oats and barley on rotations are now in the shock. The oats is very well filled and the heads are heavy, but the barley straw was short, making it very hard to bind, but the heads are fairly well filled.

Harvesting of spring wheat and oats on the cereal field was continued during the week as they come on, while that of barley and winter wheat was finished. The spring wheats on both rotations and the Cereal fields are filling out very well, and in the case of some of the durum varieties, the heads are so heavy that there is danger of lodging, as they are hanging considerably.

Corn on rotations stands 60 to 70 inches high, while some of the varieties are considerably higher than that and ear development is taking place very rapidly. With a normal frost free period, all varieties should mature. Sorghum stands as high as the rotation corn and is fully headed.

Sudan grass was harvested during the week with a hay yield of 2.33 tons per acre. There are still a few plats which were harvested yesterday on which weights have not been gotten. Field peas were all harvested with a mower, special pea guards being used to raise the prostrate vines to sufficient height to be cut. These guards did a very satisfactory job; in fact, considerably better than any other methods the writer has ever used.

Temperatures during July were below normal, and we experienced no really hot weather. Precipitation was above normal by .14 in., the total being 1.16 in. To the first of August the rainfall has totalled 12.09 in., on the



Sheridan, continued:

Station while the normal is 10.03 in. This excess of precipitation with a moderate temperature accounts for the bright prospect of a good grain crop in this section.

The weather for the past week was as follows: Max., 99°, minimum, 43°; precipitation, .20 in.; evaporation, 1.954 in.; wind vel., 3.4 miles.

Tucumcari:

Another good shower the forepart of the week has enabled practically all of the row crops to start growth in good shape. Excellent stands have been secured on all of the plats except cowpeas, and possibly beans, in the main plat field. Cowpeas in the new plat field upon which sorghums will be planted next year have for the most part emerged with a good stand. A better more vigorous stand has been secured with the Early Buff Variety than with the other varieties planted.

The main work for the week consisted in cutting out weeds on the plats in the main field which we were unable to get with the cultivator; and planting of several acres of sudan grass and cane for feed. Some cultivating was also done, and this work will now continue until we have the weeds on the station under control.

Grass is greening up on the range, but we will need a great deal more rain to make any permanent showing.

Mr. E. F. Chilcott of the Woodward Station was a station visitor today, the third.

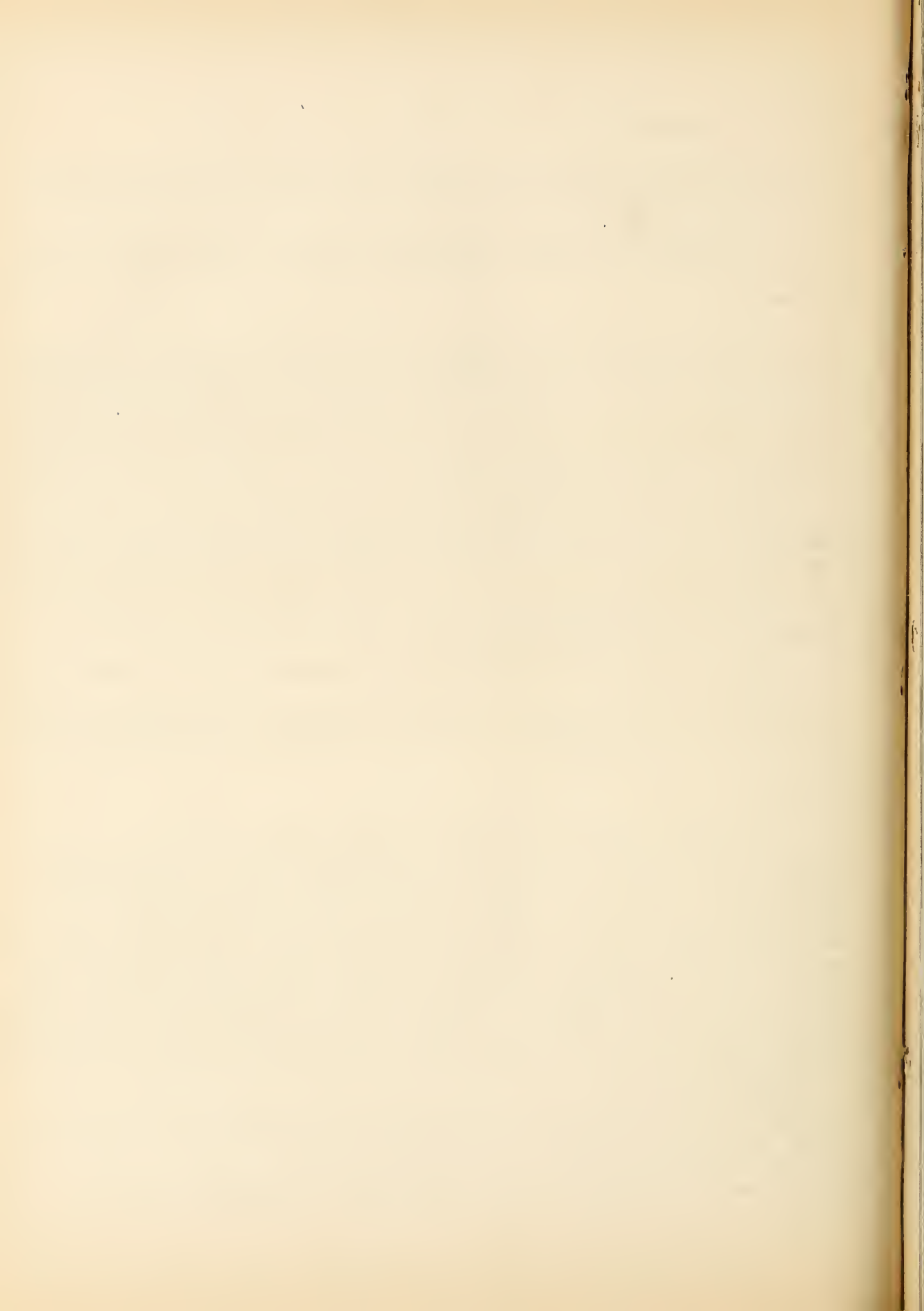
Maximum temperature for the week, 99°; minimum temperature, 63°. Wind velocity, 4.9 mil. Evaporation, 2.358". Precipitation, .43"; Precipitation for the year to date, 5.13".

Woodward:

The weather continues dry and hot in the southwest. In fact, a good rain is badly in need all over the western part of Okla. In some places a little farther east the farmers are cutting their sorghums before they dry up entirely. According to reports crops are looking better around Woodward than any place as far east as Oklahoma City. Our crops are still looking good outside of the burning of the lower leaves... Things are needing rain but they are not suffering like the crops farther east and south. We have harvested the field corn and the broom corn will be harvested the first of the week on the rotations. We have a very good quality of brush this year and it is maturing in good shape, having good length and color. We have the plowing done for the M. C. Winter Wheat, but the ground was dry and the soil turned over in clods.

Visitors in looking over the Station say that crops are looking better out here than any they have seen, and that it is a treat to look over our crops after seeing crops in the surrounding country.

We have been having a series of hot winds lasting over a period of more than a week. The temperature has been ranging from 100° to 105°.





WEEKLY STATION REPORTS

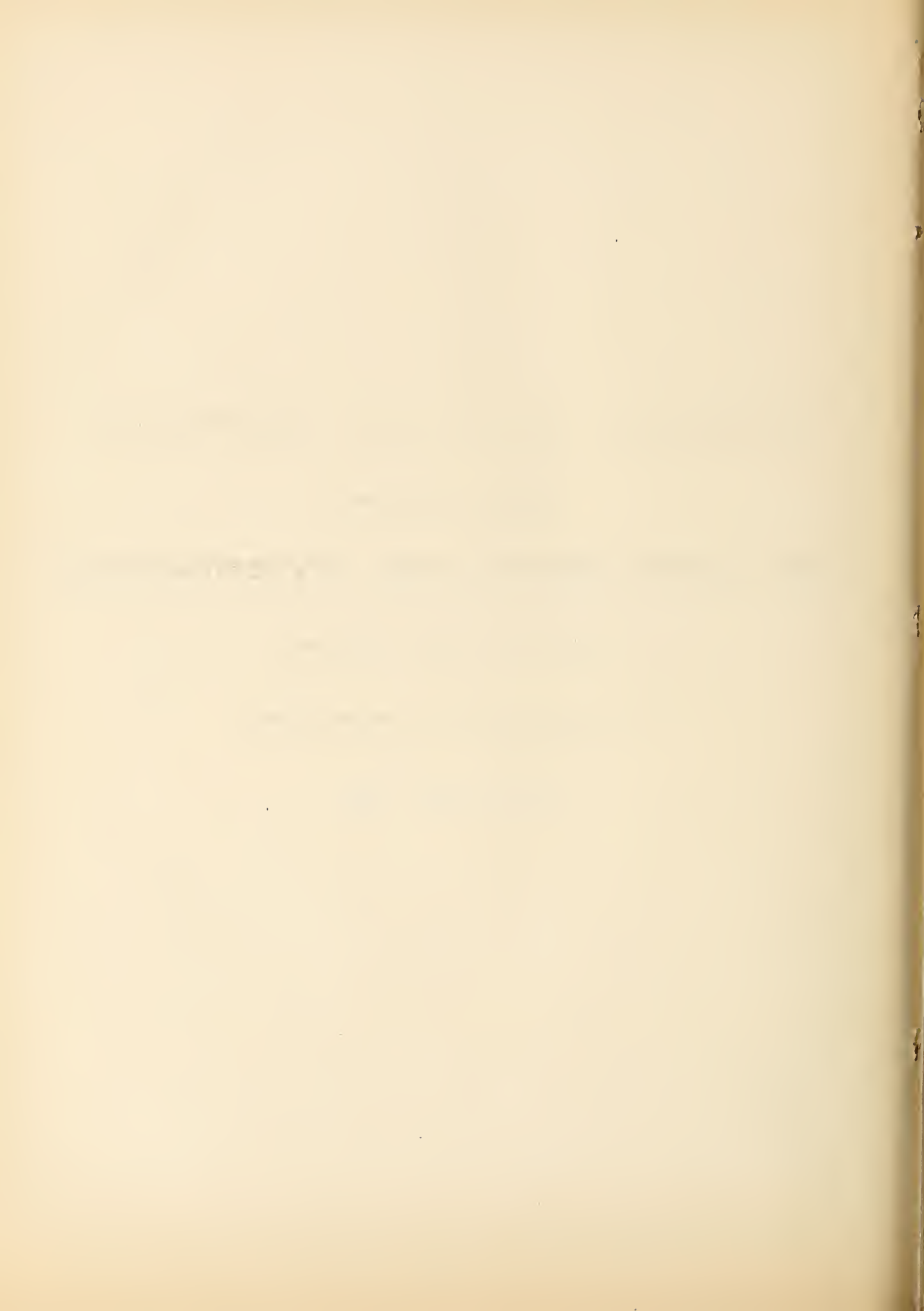
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U. S. DEPARTMENT OF AGRICULTURE.

AUGUST 10



REPORT FOR THE WEEK ENDING AUGUST 10, 1918.
(Except where otherwise indicated).

Big Springs:

Weather continues uniformly hot and dry with winds steady from a southerly direction. With but few exceptions all through the month of July to date temperatures have ranged from around a minimum of 72° to 74° up to a maximum in the neighborhood of 97°, the daily range being thus generally about 25°. Maximum for the two week period was 100° on the 7th of August and minimum 63 on the 31st of July, which was the lowest since early in June. Average hourly wind was 4.6 miles last week, and 7.9 miles this past week. Evaporation last week was 2.971 in. last week and 3.257 in. this week. Absolutely no precipitation during the past two weeks. The effect of these climatic conditions on the crops can readily be surmised and still most of the crops are holding up remarkably well under the ordeal. The sorghums have fired considerably in places this past week, while on fallow plats and in streaks, patches and borders of other plats the crops are making an heroic effort to head. The cotton generally is blooming and setting with squares. This and the cowpeas and peanuts do not show severe effect from the drouth. Broomcorn only on the C fallow plat will be worth while pulling for brush, this to be done early next week. We are waiting for rain after which to seed the millet in rotations 217 and 218.

Mr. J. E. Munnell and wife left the Station the evening of August 2 for extended leave at Colorado Springs. Mr. L. N. Jensen arrived to take charge of the Station on the morning of August 6. Work the past week consisted of finishing hauling dirt and sand for the roadway connecting the new garage building with the main thoroughfares of the station yard. The row test and variety cotton and variety cowpeas west of the building yard were cultivated. Also the milo in field No. 2 was cultivated. All fields and plats on the Station are now quite free from weeds. Moving the building yard, watering trees and shrubs about the place were among the odd jobs attended to during the week.

The outlook for the farmers in this section of the country is decidedly to the bad. Unless rains come in copious draughts before long, there will be no incentive to preparing land for any fall seeding. Seed for this would practically all have to be shipped in. The drouth is so severe that many of the mesquite bushes are dying out around here.

Colby:

A rain of .73" in the middle of the week and a shower today have relieved the droughty conditions very materially. All the fallow and early plowed plats which are to be seeded to wheat were double disked and are in excellent shape. The milo, kafir, and feterita plats were cultivated for the second time yesterday and are free from weeds. Since the rains these crops are making good growth. Weeds that had escaped the cultivators and other tillage implements were hoed out.

Weather for the week: - Maximum temperature, 92 degrees; minimum, 58 degrees.

Precipitation, .95 inch.

Dalhart:

One and forty five hundredths inches of rain has been recorded during the week and as a result most of the crops are making a splendid growth. Practically all of the sorghum plots are heading and the indications are that the rest of them will make sufficient growth to cut with the row binder. This rain will insure a fair crop and with additional precipitation the crops will be exceptionally good. The rains will probably make the harvest about two weeks later.

Maximum temperature for the week, 98°; minimum, 60°; Precipitation, 1.45"

Edgeley, (Week ending August 3, 1918):

The precipitation for the week was .84 inch which came in three light rains. First shower, .47 in; second, .29 in.; and third, .08 in. With the exception of two or three plots, which are too green, harvesting will be completed today. Harvesting was completed on the Chas. Schulz land on the seventh. The quality of most of the grain will be good, especially that grown on corn ground or summer fallow land. Corn is looking good on most of the plots and has made rapid growth during the past week.

Considerable difficulty has been experienced in cutting the grain with a binder on account of the heavy under growth of Russian thistle. Where grain is heavy, very little thistle is present.

Garden City:

Hot dry weather continues and the hot winds are telling on the crops. Milo, broomcorn, corn, red amber can, and Mexican beans are firing badly. Kafir, Freed's Sorgo, cowpeas, and Tepary beans seem to be withstanding the severe condition better than other crops.

Sudan and Kursk millet were cut on the 8th, and will yield a fair tonnage.

Corn is in silk; milo and kafir are heading; Freed's Sorgo is beginning to ripen, and pods have begun to form on most plots of cowpeas.

Third cutting of alfalfa under irrigation will be made the first of next week. The two previous cuttings made an average total tonnage of 2.7 tons per acre and this cutting will likely average better than 1.5 tons per acre.

Threshing of irrigated winter wheat was completed today and a fair yield of No. 1 wheat was obtained. The exact yield per acre has not been computed yet, but will be given in next week's report.

Maximum temperature, 105°; minimum, 66°; precipitation, .147"; Evaporation, 2.590"; wind velocity (8' anemometer), 11.2 miles per hour; (2' anemometer), 8.0 miles per hour.

Hays:

Maximum temperature, 108°; minimum, 64°; Precipitation, - the total of three rains, .25 inches.

The weather generally has been very hot and dry with hot winds most days. Two cloudy days during the middle of the week broke the monotony, but did little good to crops.

Days continued:

Corn is rapidly drying up, and kafir is practically standing still. Milo appears to be a little better than the kafir.

Grasshoppers continue to come in on the project and all are hungry. During the season not less than 800-pounds of bran has been used in making poison mash for the hoppers. The last 100-pounds used a week ago today was very effective as may be shown by the fact that in places where the hoppers congregated after eating the poison as many as 103 dead grasshoppers were counted on one square foot of ground.

During the week Nitrate samples were collected on the M. C. Corn plats, rotations 349 and 350. Soil moisture samples were taken on the Moisture Conservation plats of corn and kafir, also on all the kafir plats in rotations 501 and to 510, and some specials on double spaced corn.

The stand of corn is being counted today. If present weather conditions continue it looks as if it may become necessary to harvest the corn next week.

A trip was made Tuesday by auto about 55-miles west from Hays. It was observed that very little preparation is being made for seeding of winter wheat in Trego and Gove Counties.

The Station is busy threshing and plowing. Another crop of alfalfa is ready to harvest. However, it is very short.

Huntley:

Showers early in the week necessitated opening up the shocks of grain to enable it to dry out and be in shape for threshing. Re-shocking and tagging of the grain was done Friday. Stand counts were taken of the corn plats and harvesting of garden produce was continued.

The separator and engine have been overhauled and put in shape for threshing, which we expect to start next week. Threshing is in full blast throughout the dry-land section and very good yields are being reported for winter wheat.

Temperature for the week: Max., 96°; Min., 41°. Precipitation, 48 in.

Judith Basin:

Cloudy weather prevailed during the past week and a number of light showers fell. As a consequence grains have been ripening slowly. Maximum temperature for the week, 80°; minimum, 42°; precipitation, .59"; evaporation, .988 in.

All winter wheat, most of the oats, and some barley have been harvested on the rotations. The barley and some of the oats were very short and difficult to tie with a binder. Early oats, about half of the barley varieties, most of the winter wheat, and Prelude spring wheat, in the cereal variety test, have also been harvested.

Sweet clover and grain hay plats have been weighed. The former averaged about 3,500-lbs. per acre, and the latter a little over a ton. Oat hay yielded a little more than barley hay. It now appears that there will be a second cutting of alfalfa here this year.

Judith Basin:

Harvesting is in full progress in the Judith Basin. Yields of winter wheat are generally better than anticipated and reports indicate that 10 to 25 bu. per acre are being obtained.

Mandan:

Horticulture

Cultivation and hoeing was continued throughout the week.

Budding of fruit stocks was continued both for propagation of desirable varieties and for the newly started stock and scion investigations. All budding stocks are in excellent condition and a good stand is anticipated.

Considerable time was spent in the tomato breeding blocks. Ninety selections were made out of the 10,000 plants growing. At this date there are about 10 bushels of ripe tomatoes in these blocks.

Excellent yields are gotten from all vegetables in season, including beans, peppers, egg plants, peas, cabbage, and cucumbers.

Opata plums are beginning to ripen. Sand cherries are ripe and the "Sioux" gave 25 pounds from 10 plants.

Everything is making a rampant growth.

Agronomy

The entire week has been spent in harvesting small grain. Wheat in the rotations was cut the fore part of the week. There will be some fair yields for the season. Part of the wheat varieties were also harvested for the Office of Cereal Investigations. Some rust has appeared on the wheat, but it has come so late that no damage will be done.

Barley was cut in the rotations today. Some of the larger fields of Barley for feed were cut during the week. Barley will be a better crop on the Station than it was in 1917.

Small grain will be a better crop over this area than was thought possible before the rains the latter part of July. Grain is now about half harvested. While labor is short, the use of headers has greatly aided in the care of the small rains.

The second crop of alfalfa was hauled in and gave some very good yields for the season. The best plat yielded better than two tons per acre for the two cuttings this season.

Maximum, 96°; minimum, 48°; precipitation, .11.

Messrs. J. M. Stephens and W. A. Peterson left for Montana to be gone some time on War Emergency Work. They will be joined by Messrs. Warburton, Cardon, and Morgan in Montana. They are to determine areas where farmers need aid in the way of money for the planting of the winter wheat crop.

Dr. H. V. Harden visited the station on his way to the Experiment Station at the University of Minnesota Farm.

Mr. Stewart Lockwood, Special Field Agent, in charge of grasshopper control work for North Dakota spent two days at the station.

Mr. C. H. Clark who has been here for some time looking after flax work, left for a trip through Minnesota.

Cooperative Grazing Experiment

Grass has made good growth during the week and the cattle have been making further gains. The grass in the small pasture cannot make quite enough

Mandan, continued:

growth to furnish feed for the cattle at this time, and it will be necessary to remove them to the reserve pasture the fore part of the week.

Arboriculture.

(For two weeks ending August 10)

All fields of trees have been hoed and those that needed it, cultivated. The weeds have begun to grow abundantly again since the rains, necessitating constant attention.

Blister beetles have appeared on the seedling ash and seem to be a slightly different species than those that were on the caragana a few weeks ago. They are not bad enough, however, to make it necessary to spray.

The caragana seed was threshed and fanned and we obtained 16-pounds of very fine seed, which will be planted for shelter-belt work in the spring.

The western Yellow pine 2-0 stock received from the Savonac Forest Nursery, Haugen, Montana, and planted this spring was counted August 1, and showed a 90.2 % stand.

Mr. Henchel left for the Montana inspection trip July 29, going to Minot and working west through North Dakota to Montana. He is at present in the Plentywood district and will proceed to Richey, Wolf Point, Glasgow, Malta, Havre, and the country west to the Rocky Mountains.

Mr. Danson finished work in central South Dakota, returning from the White River district in the southern part of the State on August 6. He will leave with Mr. Cobb in the car for Glendive and Miles City where they will make inspections in the district back 125-miles from the railroad toward the Missouri River. Mr. Danson will continue by train from Sumatra into the Judith Basin, Winnett district, Great Falls, and west, meeting Mr. Henchel at Fort Benton. Mr. Cobb will work by car to the Yellowstone Valley and to Huntley. From here he will visit Sheridan and Bozeman by train in the interest of the shelterbelt work, returning by car to Mandan from Huntley.

Sheridan:

Threshing has been begun and all winter wheat on rotations has been threshed, with the following results.

Avg. for method of Preparation or Tillage.	No. Plats.	Maximum	Bushels.
Disked corn land.	3	37.8	36.9
Disked corn land with sweet-clover	1		33.3
Disked oats	1		36.3
Disked winter wheat	4	30.8	29.8
Summer tillage	4	47.7	42.0
Rye turned under	1		35.7
Peas turned under	1		40.8
Sweet clover turned under	1		41.3
Fall plowing early	2	33.5	32.6
Fall plowing late	1		34.5
Subsoiled	1		23.5
Fall listed	1		23.0

Sheridan, continued:

While the above yields seem high, they have been exceeded considerably in the Rate and Dates of seeding of winter wheat on summer tilled land, threshing of which has just been started. The maximum yield so far recorded is 59.3 bushels on a plat of one-fortieth acre, and we believe that there are plats in this block which will go still higher. The writer has never seen better filled or more uniform winter wheat. The variety is Turkey Red.

Harvesting has been continued this week. The spring wheat on rotations has been harvested with the exception of a couple of plats. Most of the increase fields of spring wheat are now in the shock and six of the varieties of spring wheat.

Another week will see all of the harvesting of small grains finished with the exception of two late dates of seeding and a field of increase spring wheat.

During the last two weeks hail has been striking, on nearly all sides of the Station, and has ruined many fields.

Weather for the week was as follows: Max., 93; min., 52; Evapoartion, 1.503 in.; Avg. wind vel., 3.7 miles; and precipitation, .53".

Tucumcari:

We received one shower of .46" during the week, but it was followed up with such severe winds and temperatures the good effects which it would have afforded have been largely lost. Cowpeas are doing fairly well, but the sorghums are barely holding their own, and unless rain comes soon there will not be much raised in this section of New Mexico. Farmers say that this is the third consecutive season characterized by drought which has occurred in this section, and, therefore, they have good reason to leave the country. Some of the sorghums in the date work are fully headed and will probably produce some grain, but these are located in a part of the field in which soil blowing did not occur. Practically every available acre on the Station has been planted to some crop in an endeavor to produce enough feed to supply the live stock on the Station during the coming year. During the week we shipped 13,248 pounds of yucca. Field work consisted for the most part of thinning crops in the plat fields, and cultivating.

Maximum temperature, 98°; minimum, 64°; evapoartion, 2.716; wind velocity, 8.4 miles; precipitation, .47 in.

Woodward:

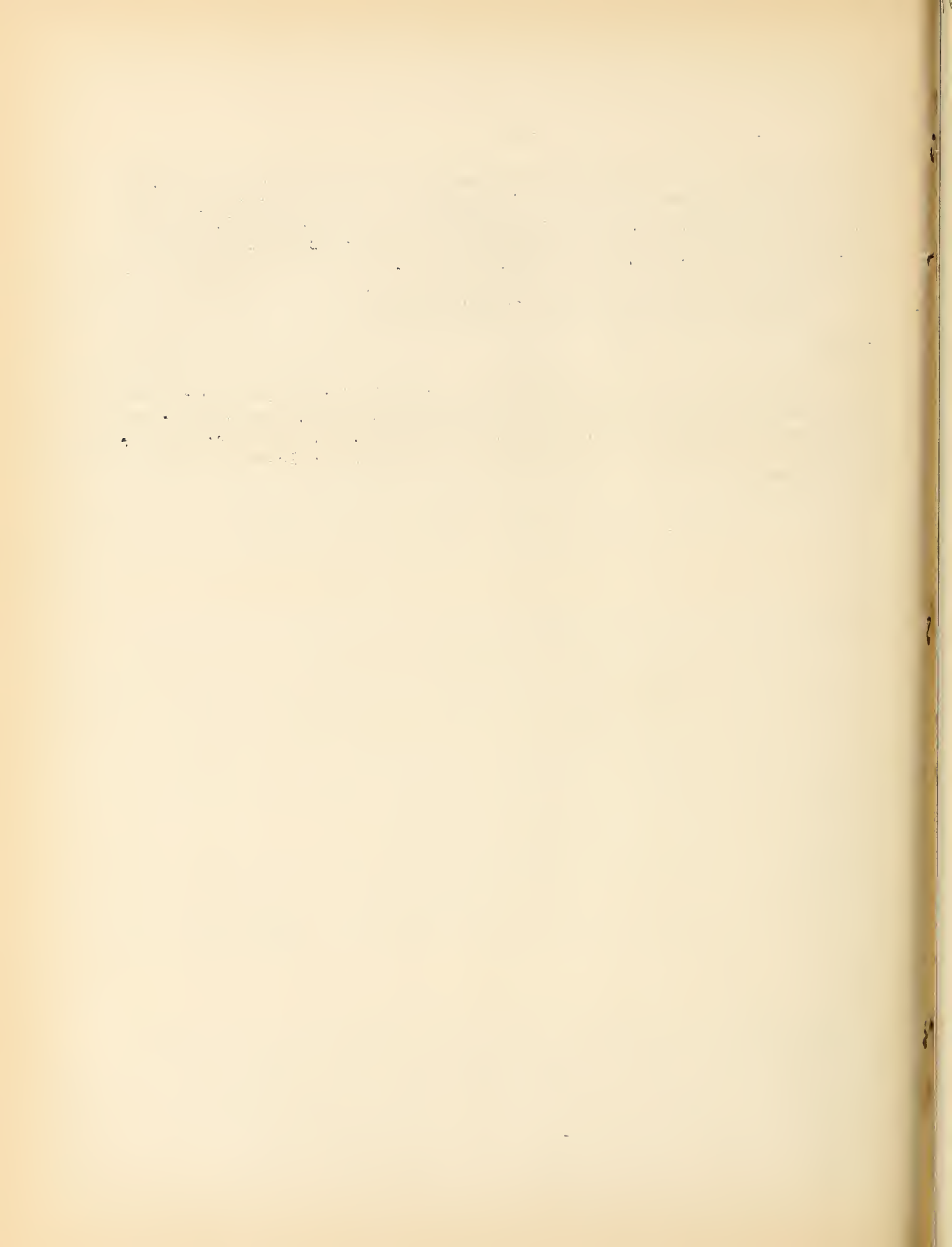
The weather continues hot and dry. We have had hot winds regularly for several days. Crops generally over the country are suffering from the drought, some being badly burned. The crops on the Station are holding up in good shape in spite of the dry weather. The kafirs have not started to burn yet, and the milo is showing only a slight damage. A good rain is in demand at this time in order to fill out the kernels in the sorghum heads. Some of the earlier planted milo is nearly mature at this time. We harvested the broomcorn on all the M. C. Plats the first of the week, excepting plats A, F, and G. These

will be ready to harvest within the next few days and then we can bind the stalks for feed. Two plats of cowpeas in the cowpea variety test have been harvested. These are early blackeye and early buff. The cowpeas on the following rotations were harvested this week: Rotations Nos. 84A, 87A, 88A, 89A, 201B, 202B, and 203B. The yield was much lower than that of last year, but the quality was good.

Maximum temperature for the week is 103°.

Note:

The attention of field men is again called to the instructions that they must not pay the salaries of men under appointment, and claim reimbursement on Form 4 vouchers and 4-A subvouchers. Persistence in this practice in violation of instructions may result in the loss of the money so advanced.





WEEKLY STATION REPORTS

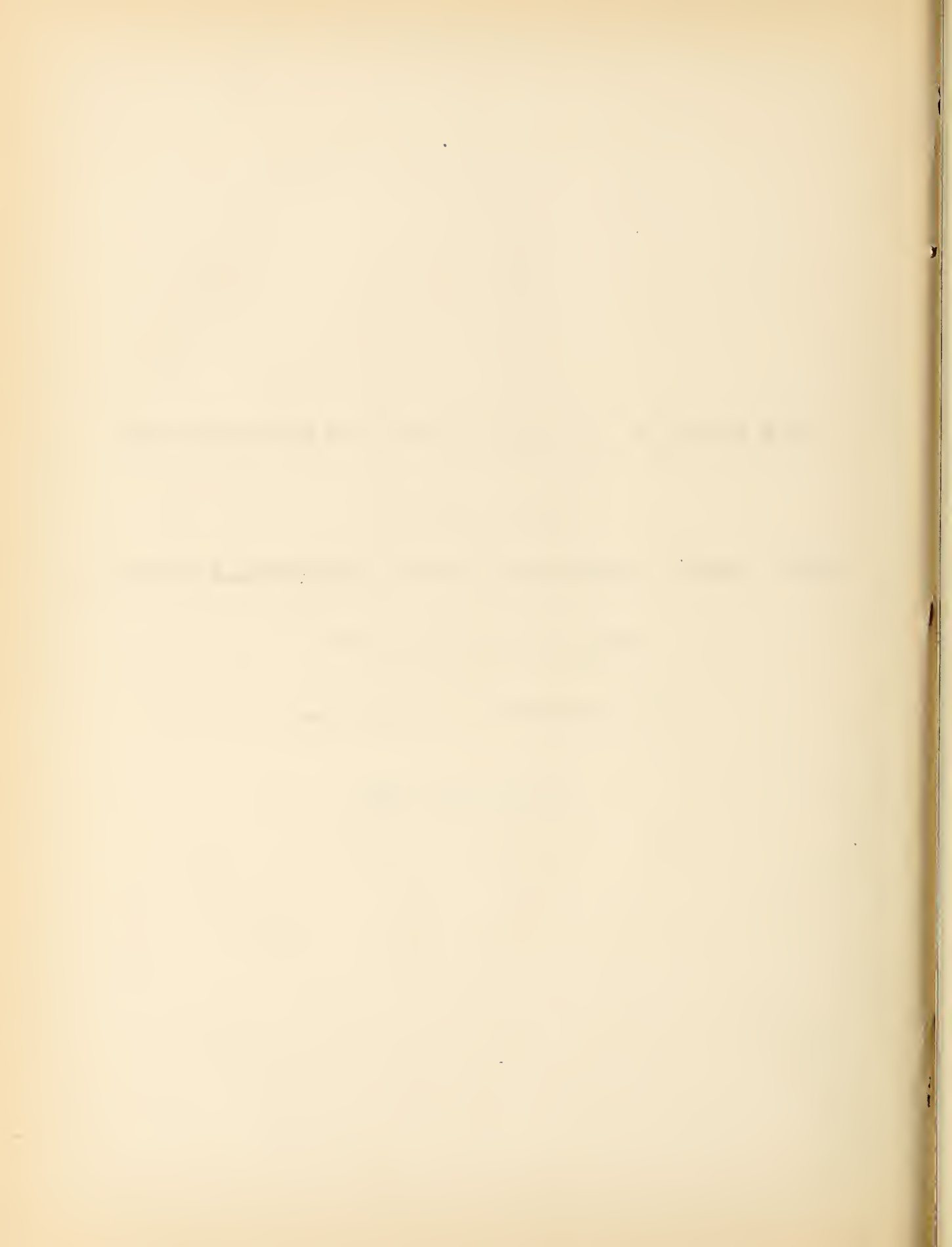
OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

AUGUST 17



REPORT FOR THE WEEK ENDING AUG. 17, 1918.
(Except where other indicated)

Big Springs:

No change in weather to report for the past week. The extreme heat was slightly moderated by two small showers on the 13th and 14th amounting to .24 of an inch. Watering trees and shrubs about the yard is continued to keep them going. Broomcorn on plat C of the C.C.'s was pulled early in the week. It does not seem likely there will be any to pull on any other plat. Corn on all but three plats was cut with a row binder as it was beyond recovery. The three remaining plats may still produce a few nubbins. Sudan grass in Rot. 208 was bound and other patches were mowed, not being tall enough to bind. Mere harvesting will be on directly unless it turns damp soon. Cotton in the rotation field was cultivated during the week. A round of note taking on the station crops was made. The sorghum crops are making a desperate effort at heading out on the more favored plats or portions of plats, but a large percentage of these crops are so badly wilted and dried that no heading is likely regardless of conditions from now on. Some Freed sorgo and plats of Wht. Milo on the station attract attention by being nicely headed out - the latter at 2 ft. and the former at 4 ft. in height. The cotton and legume row crops are holding up remarkably well, not showing drouth effect so much only in checked growth. A few bolls are beginning to appear on the cotton. The Mexican beans are not doing as well as the cowpeas and peanuts. The fallow ground in field No. 2 after considerable cultivating and a thorough double-disking a while back still presents a growth of amaranthus weeds and the Sheep's head or sand burr weeds and these are being cut out with a hoe. Following the showers of the past week, Kursk millet was seeded in Rots. 217 and 218.

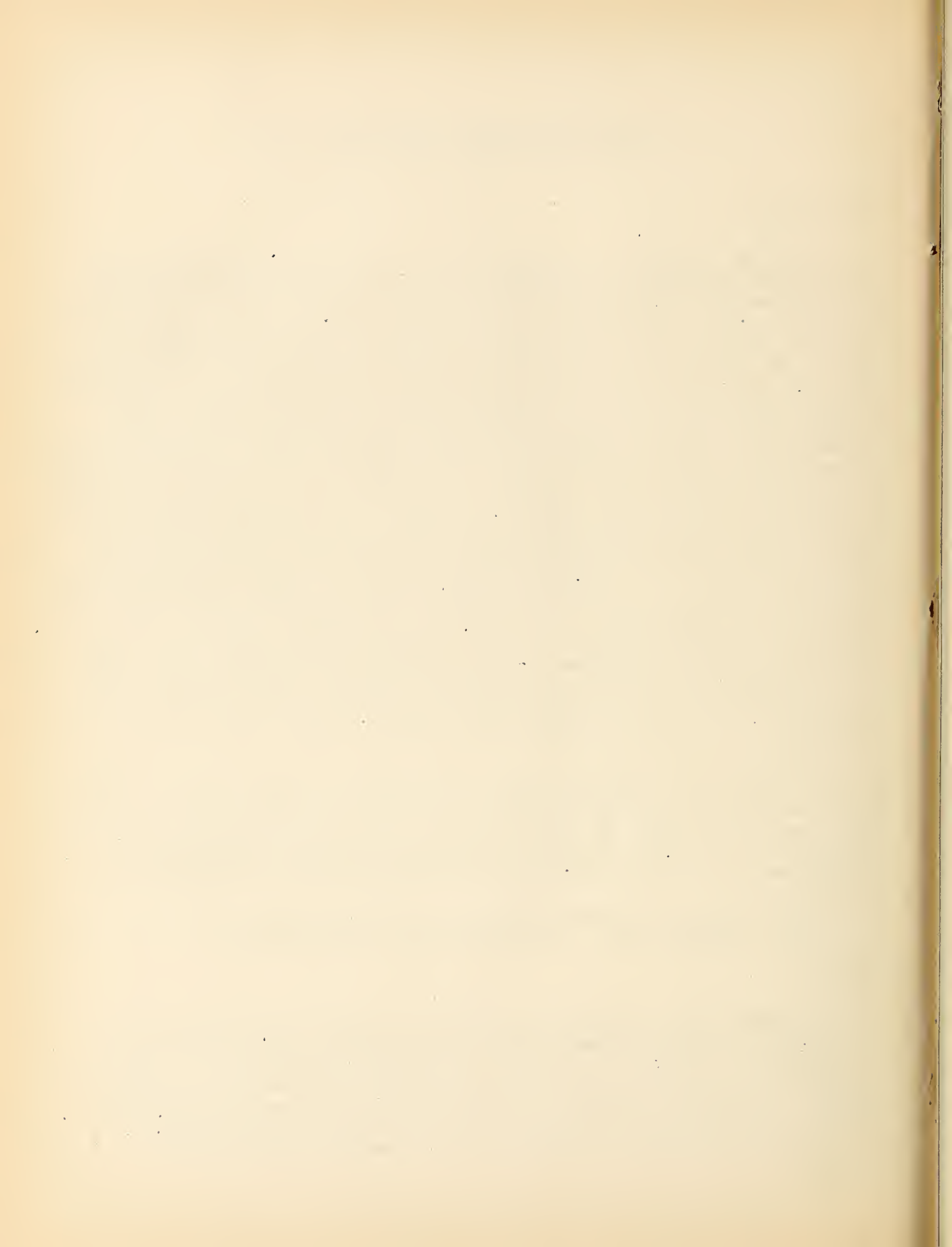
The new Fordson tractor was tried out on the station one day last week, but cut soil was too sandy and loose for the plow to do any kind of a decent job. On firmer land on another farm the work was more satisfactory. Due to high prices and scarcity of feed interest in tractor power thruout West Texas is considerable. A few farmers around here are going ahead in spite of the conditions and preparing land for wheat seeding to have it in shape if it rains.

Weather data is - Maximum temperature 97; minimum, 66; Avg. hourly wind 6.9 miles; Precipitation, .24 in.; Evaporation, 2.521 inches.

Dalhart:

The rains which occurred last week have delayed the ripening of the crops about two weeks and have stimulated weed growth. They have also made a considerable increase in the yields. The present indications are that the yields of all crops with the exception of the corn will be good. A public sale of miscellaneous articles was held yesterday, but was very poorly attended. The twelfth annual picnic will be held at the Station on Aug. 24.

Maximum temperature for the week, 97; minimum, 61; precipitation, 69 inches.



Edgeley:

The precipitation for the week was .60 inch. Evaporation, .80 in. The precipitation came in two light showers; first, .43 in., and second, .17 in. The highest temperature was 89 degrees above zero on the 10th and the lowest was 44 above on the same date. The fore part of the week was generally clear, while the latter part was cloudy with some mist. Corn is beginning to need rain.

Harvesting of all small grain crops was completed on August 16. Considerable rush showed on the late cut plots. All fallows were double-disked on August 15 to destroy weed growth.

Dr. Trobridge, Professors Shepperd and Donoghue visited the Station on August 15.

Garden City:

The hot dry weather continues and the past week has been a severe one on the growing crops. Kafir seems to be withstanding the dry weather and hot winds better than any of the other crops. Corn is burning badly and most of the plats will have to be harvested the first of the week.

Kursk millet harvested on the 8th was threshed during the week and yielded at the rate of 18 bushels of seed and one and one-half tons of straw per acre. First cutting of Sudan average 3,132 $\frac{1}{2}$ of hay per acre. The highest yield was 4,680 $\frac{1}{2}$ per acre, and the lowest 2,100 $\frac{1}{2}$.

Third cutting of alfalfa under irrigation was made during the week and a good tonnage will be secured.

Messrs. Grace and Kuska accompanied by Prof. L. E. Call, acting Dean of the Kansas Agricultural College, were Station visitors on the 16th.

The writer, in company with Mr. Kuska, Prof. Call, and Mr. Knapp, superintendent of the Garden City Station, visited the State substation at Tribune, Kansas on the 17th. Tribune is some ninety miles to the northwest of Garden City and the crops there were found to be in much better condition than those in this vicinity.

Maximum temperature, 101; minimum, 64; evaporation, 2.936"; precipitation, .02"; wind velocity, (8' anemometer) 13.1, (2' Anemometer), 8.6 miles.

Hays:

The week has been dry, hot and windy, even though showers on the 17th and 18th gave a total of .83 inches of rain, which slightly broke the monotony for those days.

Corn continues to burn up. Milo is making better development than any of the other row crops on the project. Though damaged by drouth it bids fair to make considerable grain. Kafir is suffering a retarded growth and development. It is heading very slowly.

A soil moisture run on kafir plats was completed this week.

Counting of Corn stands was finished, and various other odd jobs were cleaned up during the week.

Maximum temperature, 103; minimum, 65.

Huntley:

Threshing of the Dry-Land crops started during the week. All of the winter wheat and spring wheat except for three plats of the latter was done. Yields of the winter wheat plats varied widely, the maximum being 37.3 bu. per acre on disked bean ground and the minimum 4.0 bu. on MC E. The average yields obtained were as follows:

Fallow-----	21.5 bu.
Green manure -----	18.1 "
Disked Corn -----	10.3 "
Wheat after wheat (12 plats)-----	5.7 "
Avg. of all winter wheat on Rots.---	13.6 "

The average yields obtained for spring wheat so far as threshed are as follows:

Fallow -----	27.6 bu.
Green Manure -----	22.6 "
Disked corn -----	8.0 "
After small grain -----	6.1 "
All spring wheat threshed -----	14.8 "

The maximum yield was obtained from Rot. No. 570 - 34.8 bu.; and the minimum yield was 1.5 bu. from MC A. Fall plowing is averaging over twice as much per acre as spring plowing. All grain is of good quality and has an average test of 61 pounds per bu.

Temperature for the week: Max., 90; minimum, 40; Precipitation, .01".

Mandan:

Horticulture

Cultivating and hoeing was continued during the week.

Fruit budding was continued and about 500 more buds were set.

In spite of the drouth it is remarkable how well the stocks peel.

The picking of sand cherries for seed was continued and several bushels have been harvested.

The tomato selections were picked and the seed is being washed out. A good crop of tomatoes is being harvested. After the Mess and the Station Employees have been supplied, the surplus of vegetables and fruits will be turned over to the Red Cross.

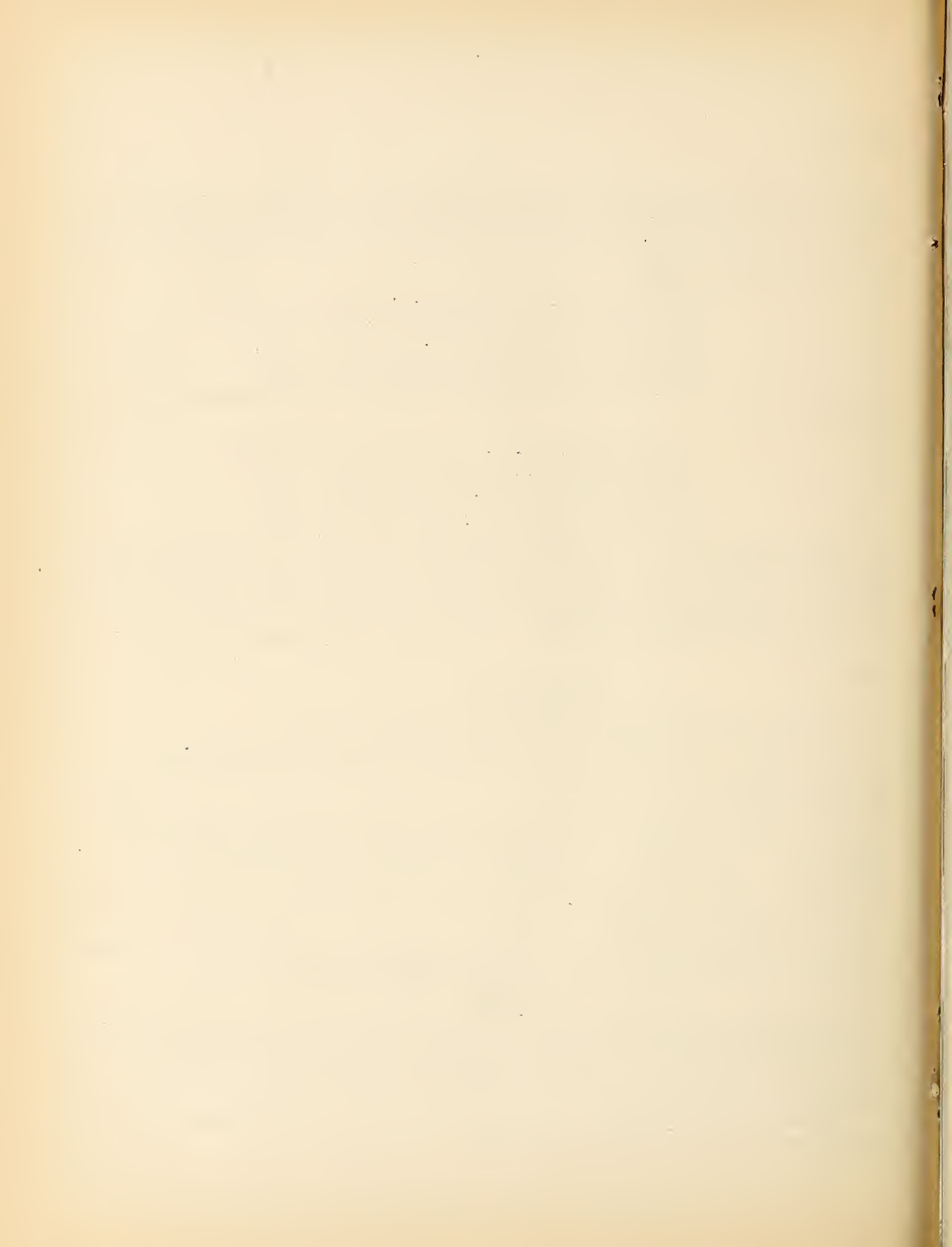
All the hedges in the sample blocks were given the third trimming and are now in excellent condition.

The Station is being put into the best possible condition for the Meeting of Official Horticulturist to be held here August 23 and 24.

Agronomy.

Harvesting of small grain was practically completed this week. Grains ripened fast and uniformly. Several acres of barley was harvested during the week. Thrashing of oats started this week. Some bulk oats for feed was thrashed and run about 12 bushels to the acre in one field and about 20 bushels in another field.

One-half days' thrashing was done on the oats in the rotations. Rain has delayed further thrashing this week.



Mandan, continued:

Twenty-two plats were threshed and run from 17 bushels on fall plowing to 57 bushels on manured fallow. The oats are light and run from 22 to 30 pounds to the bushel.

Maximum temperature, 90; minimum, 47; precipitation, .26".

Mr. Cobb and Mr. Panson left the fore part of the week for an inspection trip into Montana.

North Platte: (report for past two weeks)

Weather conditions for the past two weeks have been a continuation of what we have had for the season. The first six days of the month were dry and some near hot winds occurred. Since that time several showers have taken place. Corn which had begun to fire somewhat has freshened up. Nearly every stalk has an ear, but many of them will be small.

The shortage of labor and the necessity of keeping up outside work has prevented our computing yields of grain. We hope to have these summed up by the next report.

Scottsbluff: (for the week ending August 10.)

During the past week we received .94 inches of rainfall which has broken up the dry spell and has put the corn in good condition.

The hot dry winds which preceded the rains were causing the corn to fire badly and reports from the Eastern part of the state indicate very serious damage. Heat records for many years back were broken in the eastern part of the State during the week. A slight hail storm occurred but did no damage on the Station.

The second cutting of alfalfa is being harvested throughout the valley. The crop is much lighter than the first cutting.

Repairs for the engine and thresher were received during the week and we will probably commence threshing during the coming week.

However, we are very short of help and the scarcity of labor here is becoming quite serious.

Maximum temperature for the week, 95; minimum, 51; precipitation, .99; minimum, 51; precipitation, .94"; Evaporation, 1.735".

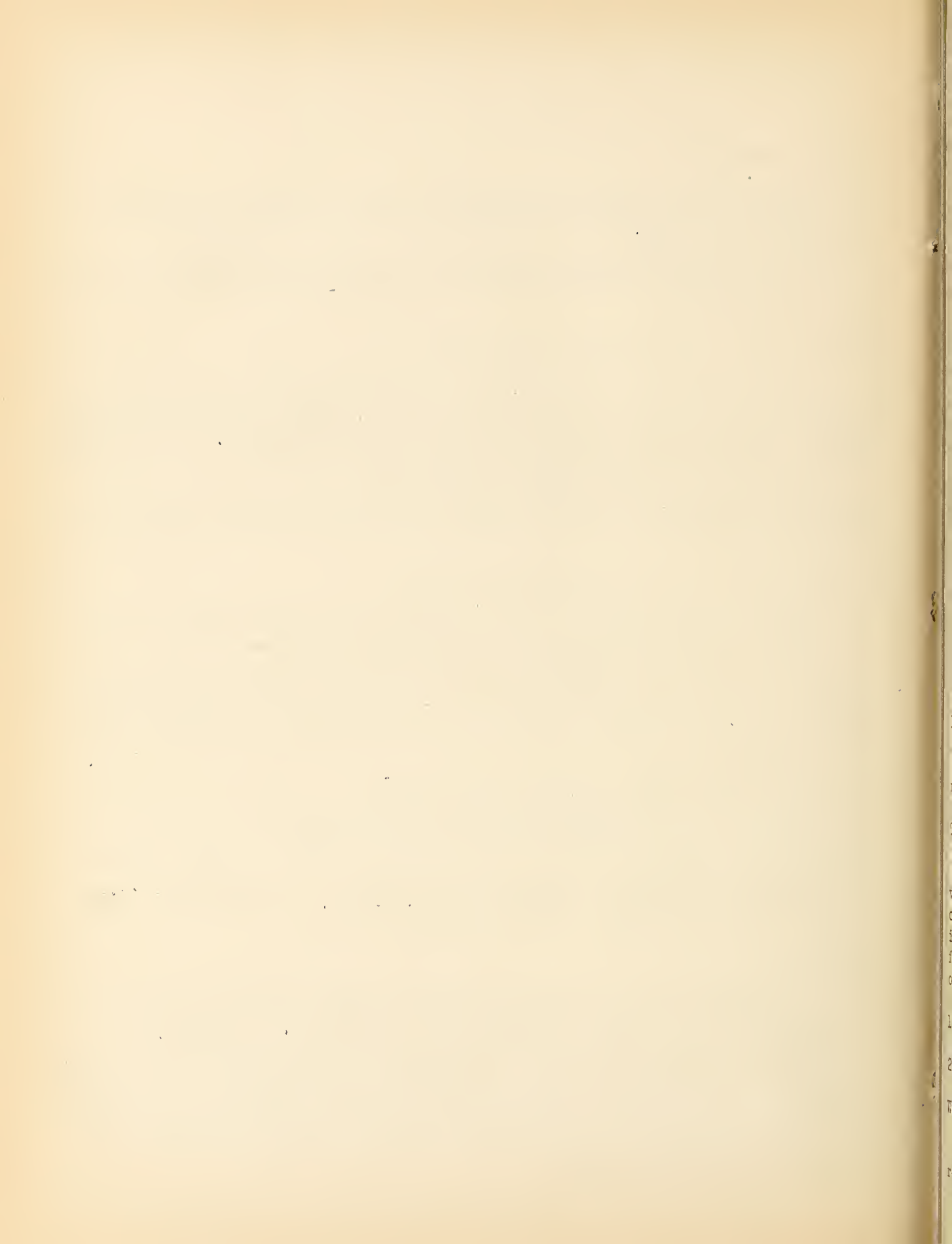
Scottsbluff:

The greater part of the week was damp and cloudy with very little or no sunshine. Two small showers totalled only .13 inches of precipitation.

Corn is firing quite badly, especially that in the C. C. serious. That on the fall plowing plats seems to be standing the dry weather somewhat better.

Work for the week consisted of killing weeds; cleaning up around the place; and doing various odd jobs. Threshing did not start, due to the unfavorable weather. If the weather permits it is planned to thresh the coming week.

Maximum temperature for the week, 89; minimum, 55; precipitation, .13"; and Evaporation, 0.504 inches.



Sheridan:

We have been threshing steadily for the past week on winter wheat and oats. The maximum yield for winter wheat was 69.3 bushels per acre.

Following are the average yields of oats on rotations grouped according to method of tillage:

Method	No. Plots	Max.	Avg.
Spring plowing	8	61.1	55.1
Fall plowing	10	62.0	56.1
Disked corn land	9	63.3	59.1
" " " with S. C.	1		61.9
" outland	4	66.3	61.2
Summer tillage	5	61.2	57.7
Rye turned under	2	54.1	53.3
Peas turned under	2	69.4	64.3
S. Clover turned under	1		52.2
Brome sod	1		62.8
Alfalfa sod	1		53.9
Subsoiled	1		52.5
Fall listed	1		54.5

The last spring wheats in the variety field were harvested during the week as well as the last of the oats. Flax is turning fast and will be cut soon; that in the rotation field being far superior to that in the variety field. Millet is also turning and will soon be ready to harvest. Plot B of winter wheat M. C. Series has been plowed and disked.

Corn is filling rapidly, but is burning slightly although not enough to hurt it.

J. Allen Clark of the Cereal Office inspected the Station on the 13th.

The weather for the week was as shown by the following data: - Max., 94; minimum, 49; Avg. wind vel., 4.2 miles; evap., 1.605", and precipitation, .06".

Tucumcari:

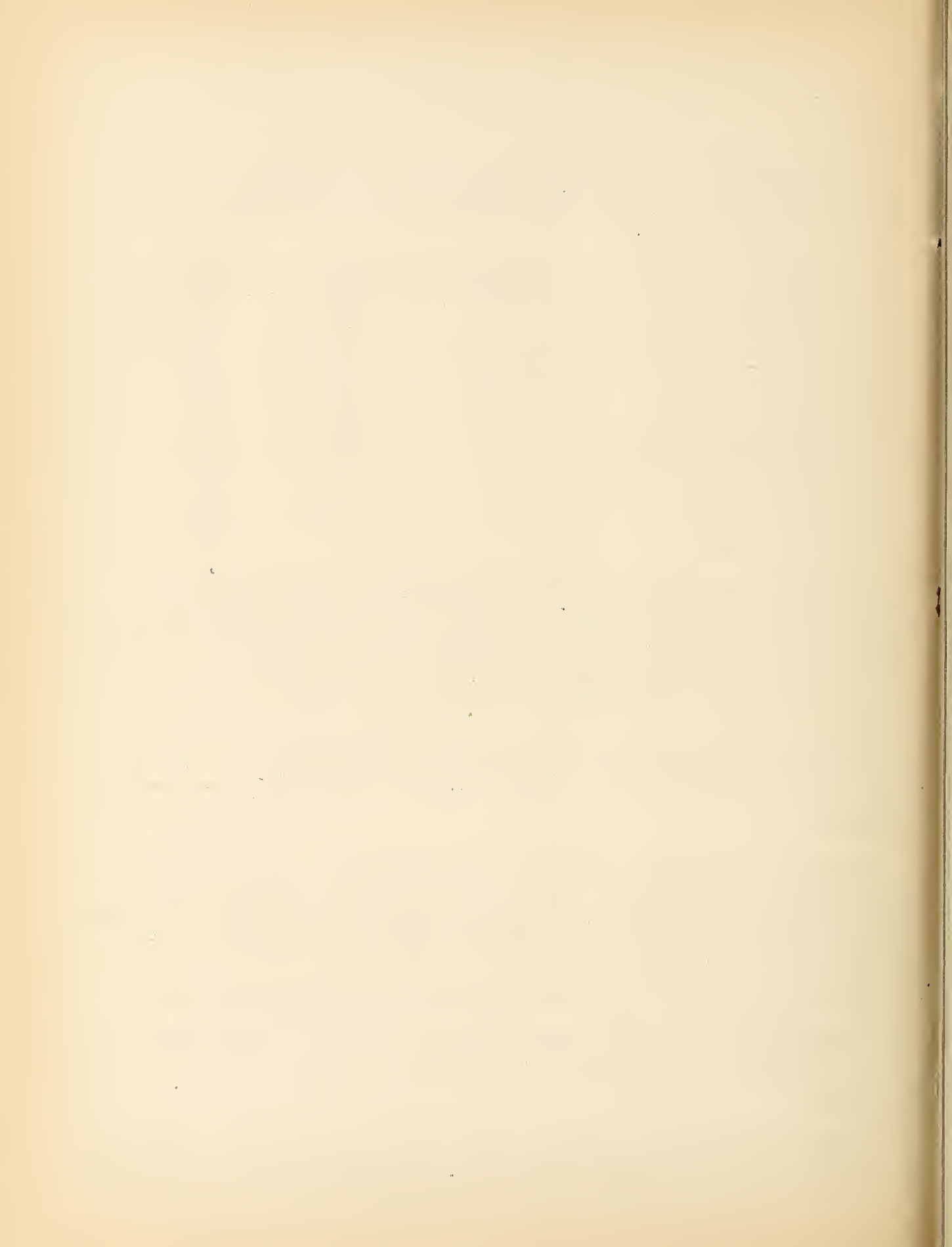
No rain of importance occurred during the past week and crops have made very little growth. On several days the wind velocity was similar to that characteristic of early spring. Field work for the week consisted of cultivating and thinning of stands on the experimental plots. The latter work was finished today (the 17th). We now have the weeds pretty well under control on all the station fields.

Mr. John Sieglinger of the Cereal Office was a station visitor on the 11th.

Maximum temperature, 93; minimum, 62; wind velocity, 8.3 mil; evaporation, 2.499"; precipitation, 12" - in two showers.

Woodward:

Another week has gone by without rain. There have been rains in the surrounding country, but not here. Crops are still holding up well on the Station.



Woodward. continued:

The milo seems to be burning worse than any of the other crops this year. Some of it in the Cereal plantings is nearly burned up. All the milo we have on our rotations is looking good except for having the larger part of the leaves burned. It has headed in good shape and the heads are good sized. The kafir on the rotations is burning only slightly on the lower leaves; it is headed and the heads are of good size and well filled. Some of it is nearing maturity. A good rain would still bring it out to some extent and would more than likely cause it to put out numerous side branches.

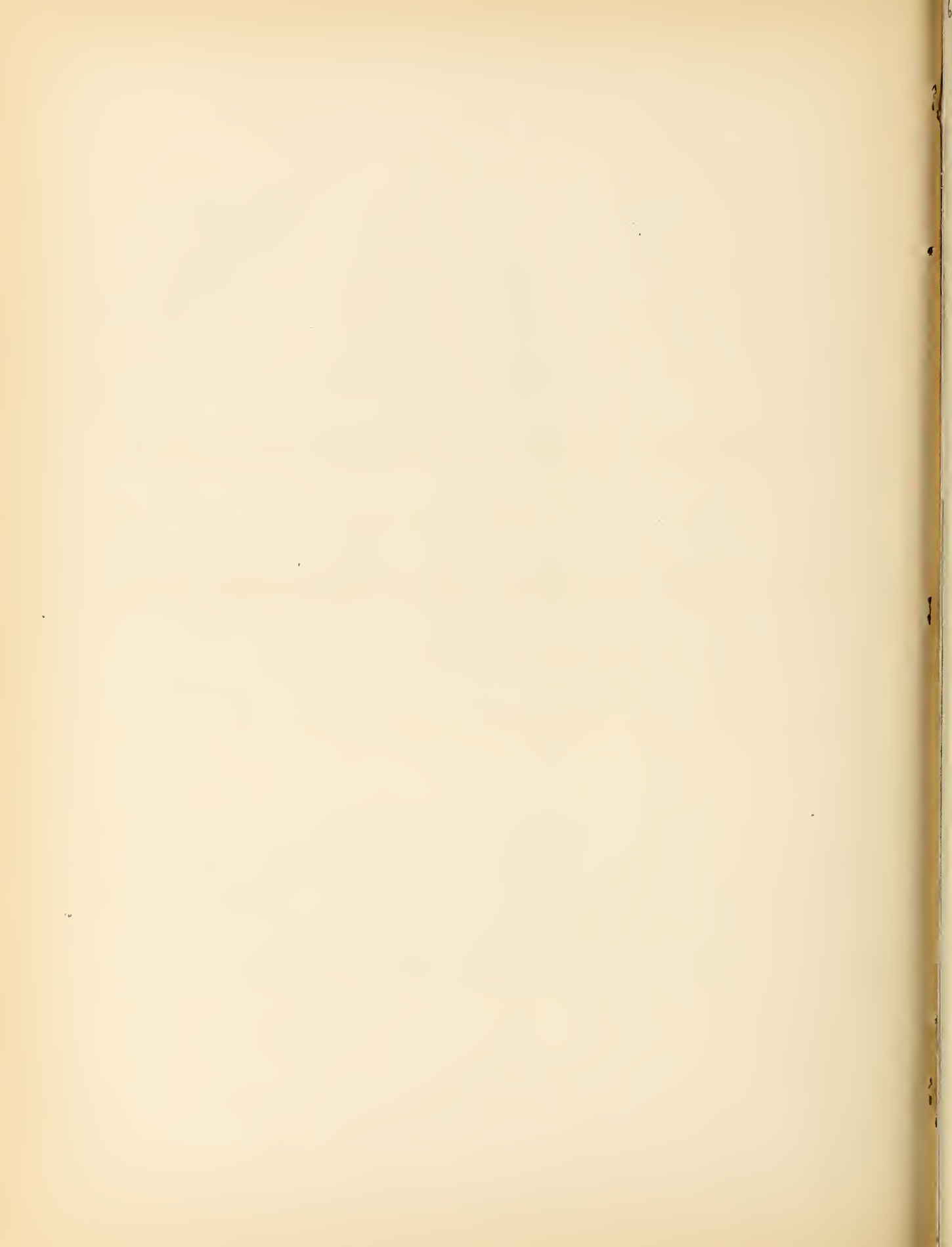
If it does not rain soon there will be a lot of idle land this winter as farmers say they will not risk their high priced seed wheat in a dry seed bed and one that they could not get well prepared. Only a few farmers have gone ahead with the seed bed preparation and they have not been able to do good work. We plowed our H.C. plats for wheat sometime ago, but the ground was so dry that it burned over in large clods and will be hard to handle without a good bit of rain.

We have harvested the cowpeas on the new rotations and in the southeast field which was occupied by the Cereal plats last year. The cowpeas were put up in good shape and will make excellent hay. The sudan was cut this week and if it ever rains the second growth will come on and make a good crop for a second cutting, providing the rain comes within a reasonable time before frost.

Mr. Chilcott is on a tour of the stations, having gone to Big Springs from Wichita, Kans., where he went to attend a meeting. Mr. W. F. Fletcher will leave for the meeting in the north about Tuesday of next week. He will resign August 31 to accept a position as manager of a fruit farm in Utah, also manager of a fruit packing plant at the same place. The two are owned and operated by the same company.

Note:

A cablegram announced the safe arrival in Paris, August 23, of E. C. Chilcott, C. S. Scofield, T. H. Kearney, and R. F. Whelen. They will visit Algeria, Tunisia, and Morocco to examine into conditions there and to give such advice as their observations may suggest in regard to increasing the agricultural output of these colonies. This work was undertaken at the request of the High Commissioner of France. It is expected that they will be absent from this country for some months. John S. Cole, Agriculturist, is Acting Agriculturist in Charge of the Office of Dry Land Agriculture during the absence of Prof. Chilcott.





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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

AUGUST 24

1875

1876

REPORT FOR THE WEEK ENDING AUG. 24, 1918.
(Except where otherwise indicated).

Ardmore:

The weather continues dry and hot. The precipitation for the month to date has been only .40 inch. The effect on corn crops has been quite noticeable and yields have been materially reduced.

Threshing of rotation plots of small grain has been completed. The average yield of oats was 64.6 bus. per acre; the highest 94.8 bus. per acre on plot M. C.; the lowest 36.6 on plot 248 A.

The average yield of winter wheat was 19.4 bus. per acre; highest yield 27.3 bus. on plot 119 B; lowest 11.7 on plot 117 D.

The average yield of spring wheat was 35.2 bus. per acre; highest 46.3 on plot 17 D; lowest 22.5 bus. on plot 3 B.

The average yield of barley was 40.0 bus. per acre; highest 60.6 on plot 6 A; lowest 27.5 bus. on plot M. C. A.

Millet made from 3 to 4 tons per acre and varieties of sorghum about the same yield per acre. A field of sweet clover containing 13 acres has been harvested for the second time: The total yield from this field for this season was 54 tons. Alfalfa has yielded from two to four tons per acre for the season.

The station employees are now engaged in putting up 250 tons of ensilage. Corn is yielding from 4 to 8 tons of ensilage per acre.

Mr. C. W. Mendenhall of the Geological Survey office visited the station August 25th. Mr. B. H. Rawl visited the station August 27th.

Big Springs:

Another week has passed without rain and the drouth situation continues in this locality. A round of soil samples have been taken from C C milo, corn, cotton and from rotation # 570. Except in fallow plats the soil samples extremely dry and hard. For the work it was found necessary to have a tube puller made as the dry sand filled in around the tubes and bound them so they could be extracted only with great difficulty. Cowpeas in the general field were harvested with pea cutter and bunched up with forks. Hoeing out weeds from fallow patches in fields outside the rotations was completed. Alfalfa hay baled is selling for \$40 per ton in this locality. The peach crop on the station is rather light again. Due to the drouth the peaches do not seem to ripen normally but dry up about as much as ripen. June bugs and birds attack the fruit to a considerable extent. Blue bugs in great numbers infest the chicken houses on the station and we are making a desperate effort at their eradication. They do not seem to respond to ordinary spray treatment.

Mr. B. E. Rothgeb in charge of the Grain Sorghum work visited the station on Aug. 19 and 20. Mr. E. F. Chilcott from Woodward was here the 20 and 21st. It is noted that the species of ants known as Termites are much in evidence. They enclose themselves with mud cover surrounding fence posts and dead vegetation and where a portion of this cover is destroyed they hurriedly build up a wall to shut out the light.

Weather data for the week is—maximum temperature 101 on the 23rd, minimum 70. Hourly wind 4.8 miles. Precipitation none. Evaporation 2.806 inches.

Dalhart:

Crops have ripened rapidly during the week and several plots of cane, peas, and sudan grass were harvested. Practically all of the forage work will be ready to harvest next week but it will require about two to three weeks to mature the grain sorghums. All of the crop yields with the exception of the corn will be good but no heavy yields are expected. The

Dalhart, report for week ending Aug. 24, cont:

birds have arrived in considerable numbers and are doing a great deal of damage to the grain sorghums especially the white milo and feterita. A number of local rains have occurred in the vicinity of Dalhart during the past week but only a very light precipitation has been recorded. The farm labor situation is rather serious and the indications are that there will be a considerable shortage at harvest time.

Maximum temperature for the week 96. Minimum 57. Precipitation .13 inches.

Garden City:

Continued dry weather and four days of hot winds the past week have damaged the growing crop materially and unless relief comes soon all crops will be beyond recovery.

Freed's sorgo on moisture reduction plats was harvested during the week. It has matured normally and a good yield was secured on the 44" and 22" inch plantings. There will be but very little grain on the eight inch planting.

Common millet on moisture reduction was also harvested and a fair yield obtained altho it will hardly equal the yield of Kursk millet that was planted on the same date as the common and was harvested fifteen days earlier.

It was necessary to harvest the eight inch planting of corn on moisture reduction as it was beyond recovery.

The irrigation plant broke down again on the 23rd and will necessitate a delay in the irrigation of alfalfa and other crops with which the State is doing experimental work. The pump will be pulled the first of the week and repairs made as quickly as possible.

Maximum temperature 103; minimum 59; precipitation .03"; evaporation 2.661"; wind velocity (8' anemometer) 11.2 miles per hour, (2' anemometer) 7.6 miles per hour.

Huntley:

Thrashing of the Dry-Land grain was completed Tuesday. As was the case with spring and winter wheat, oats and barley yields varied widely. Summer fallowed and green manured plats averaged considerably higher than other methods. Disced corn ground was next and fall plowing gave generally heavier yields than spring plowing.

Oats ranged from 4.7 bu. per acre on MCA to 93.4 bu. per acre on fall plowing in rotation 69. The average yield was 24.1 bu. per acre.

Barley averaged 9.4 bu. per acre, the maximum being 19.0 bu. on MCC and the minimum 3.5 bu. on MCA. Considerable barley was lost in harvesting as it was necessary to mow and rake the plats the straw being too short to bind.

The average yield obtained for flax was 7.3 bu. The highest yield was from fallow, 12.7 bu. and the lowest yield was from MCA, 3.9 bu. For spring wheat, oats, barley and flax the minimum yields were obtained from the A plats of the MC series.

Temperatures for the week, max., 94, min., 45.

Precipitation .69"

Mandan:

Horticulture.

Cultivation and hoeing was continued throught the week.

Fruit seeds were collected and washed out.

Plums are ripe and ready for picking.

The meeting of the Official Horticulturists of the Northern Great Plains which was held here on August 23 and 24, was well attended and resulted in the formation of the "Great Plains Official Horticulturists Association".

Agronomy.

No thrashing was done the past week due to wet weather. On the night of the 22, 1.10 inches of rain fell in less than thirty minutes, accompanied by a high wind and some hail. Very little damage was done to crops on the station. A large amount of runoff took place and in the coulees around the place the fences were washed out. Fallow plats were packed. Further south a good deal of damage was done by the hail.

Messrs. Warburton, J. A. Clark, and C. H. Clark spent one day at the station. Mr. J. M. Stephens was here for two or three days, but returned to Montana for further work on the loans for winter wheat plantings. Mr. Baird from Moccasin was down to attend the Horticultural meeting.

Maximum 89, Minimum 53, Precipitation 1.66 inches.

Aboriculture.

Cutting of the few remaining thistles in the tree fields consisted of the field work for the past week.

Mr. Cobb returned from Montana to attend the horticultural meeting held at the station Friday and Saturday, and will go to Huntley Sunday night to finish up the work as outlined. Mr. Henchel is continuing inspection work west of Glasgow, and Mr. Danson is working towards the Judith Basin. The heavy rains in those sections have somewhat delayed driving in the country, but have materially helped the range for fall and winter grazing and late hay. Despite the fact that sections of Montana had no rain up till the 14th of July, the trees have made a good growth where proper cultivation has been given them.

Moccasin:

Weather conditions for the week have been variable, clear skies and sunshine alternating with cloudy weather and light showers. Maximum temperature for week 83, minimum 36, precipitation .10 inches, evaporation 1.334 inches.

Barley plats in the rotations were harvested on July 13. The barley was too short to handle with a binder, so a mower with a buncher attachment was used. Almost all varieties of oats and barley in the cereal variety tests have been harvested. Flax will soon be ready to cut, and some varieties of spring wheat are also starting to ripen.

Alfalfa, both in plats and in the large field, was cut during the week. This makes the second cutting this year, which is unusual as only one cutting is ordinarily obtained.

Mr. J. M. Stephens made a short stop at the station on Aug. 14.

Mr. Woodward arrived here on Aug. 15 to look after forage crop work.

Newell:

Threshing on the dry land rotations is now almost completed. Yields of all crops are low except on summer tilled land. The yields on summer tilled land are high enough to materially effect the average of all plats. The maximum yield of wheat was 35.0 bu. per acre. This was obtained upon the C plot of the M. C. Series. Wheat on rotation 2 gave the minimum yield of 2.5 bu. per acre. The average for all plats was 11.9 bu.

Continued rainy weather has seriously hindered work in this section of the country. Up to the present time there has been a precipitation of 2.52 in. This exceeds the total August rainfall for any year except 1912.

Maximum for week, 90°, Minimum 53°, Precipitation .59 inch.

Scottsbluff:

Hot days and cool nights have characterized the past week. Considerable hard wind also occurred. Corn while far from being matured is drying up rapidly and the leaves beginning to fall off.

A hail storm on Aug. 20, did some damage; stripping the leaves quite badly. Unless rain comes the corn will have to be harvested shortly in order to save the leaves.

Threshing of small grain crops was begun but we were hampered very much by separator trouble and a lack of help. The labor problem here is becoming quite serious. Four of the Station Force, being in the Draft, expect to leave shortly. It is almost impossible to get help which gives any satisfaction.

Maximum temperature for the week 92; Min. 43.

Precipitation .20 inches, Evaporation 1.651 inches.

Sheridan:

Threshing has been continued this week and is not yet finished. A few rates of seeding of wheat oats and barley, all of the flax, two varieties of millet, and the last of the wheat except a date of seeding have been harvested.

Barley from rotations is threshed with the following results:-

<u>Method</u>	<u>No. Plats</u>	<u>Maximum</u>	<u>Average</u>
Disked corn land	1		42.3
" flax "	1		42.8
Spring plowing	2	40.5	34.6
Fall plowing	1		26.4
Summer tillage	1		47.9
Subsoiled	1		40.6
Fall listed	1		34.4

Threshing of wheat on rotations has been begun, and indications are for a high yield for spring wheat. Barley varieties are threshing with Svanhals yielding an average of 35.1 bushels in triplicate. Of the spring wheat varieties Marquis was high with an average yield of 31.1 bushels. Of the oat varieties tested Silver Mine averaged 59.4 bushels. Of winter wheats Crimean and Kharkov tied with an average of 44.5 bushels.

Corn is beginning to ripen normally, and seed will have to be selected within 10 days or two weeks. Indications are that it will fill very well, and make a high yield, as most of the ears are uniformly developed. Sorghum is ripening now, and will soon have to be cut.

The weather for the past week was as follows:- Max., 93, Min., 43, Ave. wind 4.3 miles, evaporation 1.781, and precipitation .03 in.

Tudumcari:

There has been no change in the weather since the previous report. All crops are holding out well and making a slight growth. Showers in July started vegetation to growing on the range but this is now rapidly drying up.

Field work for the week consisted of hoeing out weeds which we were unable to get with the cultivator, cutting out weeds about the buildings, cutting yucca, and cultivating.

Woodward:

We got a rain at last altho it was not general over north western part of Oklahoma. At this place we got 1.05 inches. It rained for about two hours. We had done some plowing during the day and it did not look as if it would rain for a month. About four o'clock a little shower came up amounting to .18 of an inch. Then about six P. M. it began to rain for sure for nearly two hours. This rain netted .87 of an inch.

The ground was DRY when we plowed and turned up in good sized clods. Since the rain these clods are all soaked up and a once over with the harrow will leave the plats in good shape for seeding. We will not however do any seeding this early. We have some more plowing to do for rye and alfalfa which will be done now as rapidly as we can get to it. The rain came late for most crops as they are too far along toward maturity. This will cause them to send out side branches if not harvested before long. The standing crops will no doubt green up a little now and make a little more forage than they would have.

North Platte: Report for two weeks ending August 31, 1918.

Climatic conditions remain about the same. The last half of August has been without rain except a half inch shower on the 24th. Total precipitation for the month is 2.02 inches, or .35 inches below normal. The June, July, and August deficiency amountd to 2.68 inches or 32% of the normal for that period.

Corn is drying rapidly on the plats and some of the fields. Silo filling is beginning to-day. Several days time have been lost in an attempt to use the new Ronning combined harvester and ensilage cutter. The machine will doubtless be a labor saver when perfected, but in its present stage it has so many imperfections that we have abandoned it for the old equipment.

Plats plowed during the week have broken up very cloddy. Unless considerable rain comes before seeding, it will be difficult to prepare a good seed bed.

Following is a summary of the wheat yields secured this year on the D. L. A. project:

Crop	Yield			
	No. Plats	Average	Maximum	Minimum
Spring Wheat	19	5.2	18.5	1.2
Winter Wheat	61	7.0	18.3	2.2

North Platte, Report for two weeks ending Aug. 31, cont:

Average Yields.

Summer tilled land, spring wheat, 17.5.
Late fall plowed, spring wheat, 3.6.
Early fall plowing, spring wheat, 3.6.
Disked land (chiefly corn) spring wheat, 3.9.

Summer tilled land, winter wheat, 13.2.
Late fall plowed, winter wheat, 3.9.
Early fall plowing, winter wheat, 6.3.
Disked land (chiefly corn) winter wheat 7.1.

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SEP 13 1916
U.S. DEPT. OF AGRICULTURE
WASHINGTON, D.C.

WEEKLY STATION REPORTS
OF THE OFFICE OF
DRY LAND AGRICULTURE INVESTIGATIONS
BUREAU OF PLANT INDUSTRY
U. S. DEPARTMENT OF AGRICULTURE.

AUGUST 31

STATION

DATE

1880

REPORT FOR THE WEEK ENDING AUG. 31, 1918.
(Except where otherwise indicated).

Big Springs:

The regular program of hot, dry and rainless weather continues. Since the first of January to date 6.66 inches of precipitation have been recorded, at the station. Of this 3.53 inches came the first week of June. In July we had .18 and so far in August we have had .24 inch.

Crops in the CC and rotation field were planted May 18 to the 23 and are showing the drouth effect by wilting and firing considerably more than crops in the Variety plots and general fields which were planted immediately following the June rains from June 11 to 17. The sorghums in the rotation field as one looks over them look badly wilted and fired with irregular patches interspersed which are still more or less green and in headed or heading condition. These best portions stand generally about 3 ft. in height while the poorer parts average only half as high. Birds are damaging or destroying much of the sorghum crop that is headed. Cowspeas during the past week or ten days have fired badly and have been cut. Besides plot C of Broom corn no other plot developed any brush and the crop was harvested during the week. Cotton maintains a healthy green color but has made little progress in growth for the past two weeks. It has been shedding a good deal and there has been considerable of top blossoming. Indications are the crop will be very light.

The fallow land on the station has been hoed and cultivated for weed growth and is now in fine shape. The heavy weed growth that occupied Field #1 was given a double disking with the Clark double action cut away machine. This is now in good shape for plowing if we can get a good rain. The grape vines were given a seed watering. Practically all of our trees and shrubs are holding up quite well in spite of drouth. Maximum temperature was 99, minimum 61, Hourly wind 5 miles, Precipitation none. Evaporation 2.861 inches.

Colby:

The week has been dry and windy. The sorghums, being poor stands, are standing it pretty well but corn is drying up without producing many ears. The sorghums have all headed but will have to hurry if they ripen before frost. Grasshoppers are still plentiful. Some farmers have been seeding wheat. We do not expect to begin on the station before about the tenth altho the rate and date of seeding test has been started.

Weather for the week:- Maximum temperature 96, minimum 50, precipitation .15". Precipitation for August 1.88", average 2.30", 1917 5.74".

Dalhart:

Several plots of sorghum and sudan grass have been harvested but owing to the fact that the recent weather has been cool the later varieties are not ripening as rapidly as they were a few days ago. The grain sorghum yields will be good and the different methods of cultivation are showing a considerable difference in yields. The indications are that the double spacing will out yield the single row spacings while the fallow plots will yield much heavier than the plots continuously cropped.

Maximum temperature for the week 95. Minimum 57. Precipitation .08 inches.

Edgeley:

The precipitation for the week was .07 inch. Evaporation 1.40. Maximum temperature for the week was 91 degrees above zero and the lowest was 41 degrees above. Clear weather prevailed during the fore part of the week followed with cloudy weather during the latter part. Corn is filling fairly well, but is in need of rain.

Soil samples were taken the fore part of the week and are now being dried and weighed to determine the moisture content. No threshing has been done on the Station, but if good weather continues it will be started next week.

Garden City:

The dry weather continues and the crops are rapidly drying up. Milo was harvested during the week. Kafir and cowpeas will be harvested the first of next week if the dry weather continues. Milo produced practically no grain and only a small tonnage of forage. Kafir is somewhat better than milo but a large percentage is affected with kernel smut which will reduce the grain yield.

Maximum temperature 100; minimum 45; evaporation 2.405"; precipitation none; wind velocity (8' anemometer) 15.2 miles per hour, (2' anemometer) 10.1 miles per hour.

Havre:

Weather conditions during August have been very favorable for the development of the crops that were not entirely injured by the extreme conditions of the early summer. Precipitation amounting to 2.04" fell during the month, .46" of which fell on the night of the 31. The balance was recorded on 10 different days.

Corn has made a much better growth, where a stand was secured immediately after planting, than it did last season. However very little germination occurred on spring plowing until after the rain on June 28. The plants that germinated after this date are about knee high at present. That planted on fall plowing has made a very satisfactory growth and will probably mature some seed.

Crop conditions in the western part of this country are very severe, with only occasionally a field of grain that is worth cutting while the eastern half is somewhat better. In certain localities mostly all grain has been headed and is threshing from 2 to 10 bushels per acre. Many farmers in the county have exhausted their entire credit with the failures of the past two years. Federal aid is being extended to this class. Mr. G. I. Cristie, assistant to the Secretary, and Mr. Warburton of the Office of Cereal Investigations have charge of the work for Montana and North Dakota, having headquarters at Great Falls, Mont.

Threshing of the plats was completed yesterday. We still have the commercial fields to thresh. This grain was headed and is in the stack.

Havre, report for week ending Aug. 31, cont:

The following table gives a summary of the yields from the rotation plots:

Crop	Number of plats	Ave. yield per plot pounds	Ave. yield per acre bu.	Max. yield per acre bu.	Rot.No.
Winter wheat	38	33	5.5	11.3	118
Spring Wheat	39	51	8.5	11.8	" " 9
Oats	59	33	10.3	18.6	" " 63
Barley	22	33	6.9	11.5	" " 7

All winter grains were weedy due to the reduced stand due to winter killing. All spring grains were badly infested with Russian thistle with the exception of spring plowing. This has resulted in a decided increase in the yields following spring plowing. The August rains have held the Flax on the rotations green and the thistles have grown so rapidly that it is doubtful if the results will be dependable if the plats are threshed.

Huntley:

Fall plowing has been started on the rotations and the the soil is generally very dry, good progress is being made. Winter wheat and flax stubble plats are breaking up considerably finer than other crops.

Corn on the rotations is ripening up rapidly and will soon be ready for cutting. Ears on most of the stalks are rather small but are well filled and uniform throughout the plot. Corn on the pastured rotation, 652 is not as good as that on the rotations, and the pasture period will probably be shorter than usual. A small amount of corn smut has made its appearance this season.

Thrashing of beans in the variety and cultural tests is being done. The crop was somewhat damaged by hail but yields will be fair and the quality good.

Temperatures for the week, Max. 91, min. 41, precipitation, none.

Judith Basin:

Clear warm weather has prevailed during the week. Maximum temperature 85, minimum 35, precipitation .18 in., evaporation 1.671 in.

Oats and winter wheat, grown on the rotations and c. c. Series, were thrashed on Aug. 24. The highest yield of oats (54.1 bu. per acre) was obtained on the fallowed plot of the c. c. Series, while the lowest yield (16.6 bu. per acre) was obtained following Brome Grass on Rot. 10. The average yield of oats was 38.5 bu. per acre.

The highest yield of winter wheat (26.8 bu. per acre) was obtained in Rot. 53, following a green manure crop of winter rye, and the lowest (8.3 bu. per acre) was obtained from the listed plot of the c. c. Series. Winter wheat gave an average yield of 17 bu. per acre on the rotations.

A header attachment is being used on the binder to harvest the barley in the increase field. It was too short to tie with a binder.

Spring wheat varieties, in the cereal variety testing plats, were harvested on Aug. 27, and spring wheat in the rotations and in the main field will be ready to harvest in a few days.

The greater part of the winter wheat and oats, in the Judith Basin has been harvested, and harvesting of spring wheat is starting. Labor is scarce, but the shortage has not been serious as yet.

Judith Basin, report for week ending Aug. 31, cont:

Mr. N. C. Donaldson returned here on Aug. 20 to look after the work being conducted by the Cereal Office at this station.

Mr. R. O. Danson, who is inspecting shelterbelts in this part of Montana, was a visitor at the station on Aug. 26.

Mandan:

Horticulture.

The budding of fruit stocks was continued. Seedling plums selection were made.

Twelve bushels of plums were picked in the seedling blocks, these will be planted this fall.

Twenty five bushels of tomatoes were picked in the breeding blocks.

Miscellaneous vegetables were harvested, including watermelons and muskmelons.

Mr. Max Pfaender spent two days at Edgeley, N. D. making plum selections in a twenty acre seedling orchard near Edgeley; nine selections were made and budding material was secured for budding on plum stocks here in the nursery.

Acronomy.

The entire week has been spent in thrashing. All feed fields were thrashed and the balance of the oats in the rotations, as well as the wheat and barley.

The best barley was about 30 bushels per acre and weighed 50 pounds per bushel.

The best wheat was a little over 30 on MC fallow and weighed 61 pounds per bushel; the poorest was less than ten bushels per acre. Grain varieties for the Cereal Office are being thrashed to-day.

Mr. Mathews and Mr. Dillman, from Newell, arrived by automobile Wednesday. Mr. Dillman is looking after the work in connection with his office here; Mr. Mathews is leaving to-day for the return trip accompanied by Mr. Sarvis, who will go on to Ardmore in connection with the grazing work at that point.

Maximum 88, minimum 44, precipitation, none.

Cooperative Grazing Experiment.

The cattle were weighed the last of the month and have made good gains for the past month. The cattle in the small pasture were removed to the reserve pasture as they had gained but little during the past month.

The cattle in the rotation pasture were moved into another division of the pasture.

Scottsbluff:

The past week has been hot and dry without a sign of rain. Corn and beans while not fully matured have dried up and will be harvested as soon as we can get to them. Sorghum plats still remain green. They are heading out and promise to make a good yield.

The entire week was spent threshing the small grains. All Dry Land crops were threshed the fore part of the week but the yields have not yet

Scottsbluff, report for week ending Aug. 31, cont:

been computed. They will be given in next week's report. Threshing of irrigated crops took up the remainder of the week. Being extremely short of help the work goes very slow. With a couple more days of favorable weather next week we will finish up all the threshing.

Maximum temperature for the week 94; minimum 46, precipitation 0, evaporation 1.935 inches.

Tucumcari:

The weather continues very dry and many of the sorghums are heading at a height of 12" to 2 ft. Some of the sorghums are drying up and we do not give promise of holding out much longer. The condition of growth on practically all of the plats is spotted. Cowpeas to be alternated with sorghums are blooming and setting on pods; and the Early Buff variety gives promise of producing some seed. The vine growth on all of the varieties is very small. Field work for the week consisted of lining out roadways in the plat fields, repairing a wind mill, and hauling yucca preparatory to baling.

Maximum temperature, 98. Minimum temperature, 57, evaporation, 2.702", precipitation, .36", wind velocity, 6.4 miles.

Summary of climatic measurements for August.

Average maximum temperature, 92, average minimum temperature, 64, precipitation 1.02"-distributed in 7 showers, evaporation, 11.639", wind velocity, 7.1 mi., total precipitation for the year to Sept. 1, 6.15".

Mr. B. E. Rothgeb of the Cereal Office visited the station on the 31st.

Woodward:

We were in receipt of another rain on the 30th which amounted to .26 of an inch. Every little bit helps to get the soil in better shape for seed bed preparation for wheat this fall. Some of the farmers are preparing to plant their wheat right away so as to get it in while there is some moisture present to germinate it and to get some early pasture for the stock.

The rains did not come in time to help our sorghums to any great extent since they were too far advanced. We have begun our harvest already. All the sorghums on the rotations and M. C. plats are harvested except the sumac sorgo on the M. C. plats. This will be benefited by the rains as it was not very far along. It is not in full head yet. We have our seed selected for next year and hung up in the head. All selections were made from the field and the seed secured in good shape. This we will leave in the head until next spring. Everything is labeled so that it can be easily found by whoever is here to plant it at that time, in case some of us have been selected to help win the war from another angle. Harvesting on the Cereal block is in full swing and will be mostly finished next week. Mr. Sieglinger says that he will have only a few plats of late stuff that will not be harvested at the end of next week, otherwise he will have everything else in the shock.

Mr. W. F. Fletcher has returned from Mandan where he attended the meeting of the Horticultural Society. Upon his return to Woodward he tendered his resignation to take effect the 31st of August. He expects to leave at once for his new position.

