WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JUNE 16, 1917.

REPORTS FOR WEEK ENDING JUNE 9, 1917.

Akron:

The past week has been quite favorable for field work and plant growth. The sorghum and millet varieties were planted during the week and a part of the plats trimmed. The ground is badly crusted and the listed corn is being cultivated. Corn and potatoes are coming up. Forest trees will soon be out in leaf. Grass on the range is very good. Maximum temperature for the week 78, minimum 32, precipitation .16 inches.

Amarillo:

This rounds out another week of drouthy weather. The thermometer has run up in the neighborhood of 90 degrees during the afternoons and this with brisk winds daily has told materially on the crops and vegetation. It is now assured that small grain harvest will be very short if there will be any at all. Row crops are needing rain badly. The kafir planting on the D:L.A. project is not coming thru with much of a showing. Replanting of the A plats and F & G listed was done both for milo and kafir. Cultivation of corn and other row crops was commenced during the week. The problem of pasturage is getting to be a serious one for the ranchers throughout the Panhandle. Weather for the week was: maximum 94-4th, minimum 43-6th, hourly wind 8.8 miles. Precipitation none, evaporation 2.594 inches.

Archer:

The entire week has been suitable for field work. Soil samples were taken the first two days. Plat F of the M.C. corn was listed and planted. All sp ring plowed summer tillage plats except N of the Fallow Methods were plowed and harrowed. The roads are being seeded to brome grass to prevent wind blowing. There were several showers the fore part of the week, but there has been drying winds the latter part and the ground is crusted. Temperatures: maximum 72-4th, minimum 34-6th, means 66 and 40. Precipitation .03-3d and a trace on four other days.

Big Springs:

Maximum temperature for the period 106, minimum 58, wind velocity 8.1 miles evaporation 2.82, precipitation, none. The crop conditions remain unchanged from previous reports. All farm operations are at a standstill in this section at the present time. The winter wheat in the C.C. plats was harvested the fore part of the week. Soil samples taken immediately after the harvesting the wheat indicate that the soil was very dry to a depth of six feet or over. The work of the week has consisted of surfacing the roads about the buildings with 'caliche', which consists principally of carbonate of lime and sand. This material makes fine roads after being packed down. Several years ago the county surfaced twenty miles of roads with this material, and though the roads thus surfaced have been given very little care, most of the twenty miles is still in good condition. Owing to the continued drouth, many of the stockmen are shipping out large numbers of their cattle to pastures.

Colby:

The week started with one of the most severe hail and wind storms that has ever visited this country. At about one o'clock Tuesday morning those sleeping in north and west rooms were rudely awakened by falling glass and hail stones, as large as hen's eggs bouncing on the floor about the room.

Colby: (continued)

Where there were no screens not a window light was left unbroken in town on the north and west sides of buildings. Most of the leaves and fruit were stripped off the trees and the branches were badly scarred. All crops were beaten down badly, but fortunately none except scattering fields of winter wheat were advanced so far but what the recovery will be almost complete. The sorghums which were planted before the storm will have difficulty in penetrating the hard crust which has formed. The storm covered most of this county and a considerable portion of the state to the eastward. The rest of the week has been rather warm and pleasant. The Dry Land plats are all in good condition. The sorghums appear to be germinating very well. The ground was harrowed today to break the crust so that the young plants can come through. Maximum temperature: 82, minimum, 32, precipitation .98".

Dalhart:

Work on the new cottage was started during the week and a larger part of the basement walls and the foundation has been poured. The weather has been warm but windy and dry. The most of the crops that were planted before the last rain and were not up at the time will have to be replanted on account of not being able to break through the crust that was formed.

Garden City:

The character of the weather for the week was of a varied nature; on the 5th one of the worst hail storms visited this section, old timers say that has been seen here for a great many years. They refer of course not to the injury in this particular locality, but to the general destructiveness of the storm. The storm had its origin about 18 miles west and a little north of Garden City and traveled many miles to the Eastward. The hail stones which fell in this locality were generally small; but they came down very thickly and were accompanied by a strong northwest wind. The duration of the hail storm here in Garden City was about one half hour. Practically every garden in the City was hailed out, but of course many of the vegetables will again start growth. A great many window lights were also knocked out. A passenger train caught by the storm 8 miles north of Garden City had very window on the west side smashed, and the passengers were forced to take refuge in the baggage car. Alfalfa wad damaged probably all the way from 30 to 75 %, winter wheat was completely destroyed, but spring sown small grains will soon recover from the injury done. Corn was also cut down close to the ground but is starting up again in good shape. The damage at the station was slightly less than in some of the surrounding territory. Practically all of the sorghum crops had to be replanted, and this work was finished this week. The bean plats spoken of, in the last news letter had to be replantedwith the exception of the listed plats which were not up yet at the time of the storm. There will have to be considerable replanting done in this section, and it is doubtful whether there will be sufficient seed to go around. Soil samples taken on the M.C. wheat and corn plats showed that the second foot is fairly well filled on the continuously cropped plats. Max. temp. for the week 94 which is the highest recorded so far this season. Precipitation, 66" which occurred on the afternoon of the 5th, in the form of hail.

Havre:

Weather conditions have been about the same as for the previous three weeks. There have been several small thunder showers but only on the 5th amounting to .37" that has been of real benefit to growing crops. On fall plowed and fallowed land this shower moistened the soil through the dried soil, but on the spring plowed land there is still about two inches of dry soil. Flax is emerging with a good stand and the corn is all well sprouted. Showers have been very local, and in some localities there have been heavy beating storms of short duration. Ten plats of winter wheat, those on green manure and on corn land, were seeded during the week to Marquis. The stand which was very much reduced by the winter, has been gradually getting thinner, due to the dry windy weather. The fallow plats have been plowed since the shower and the land has worked very well.

Hays:

Weather during the past week has been warmer than for some weeks, especially the past three days, including today. Maximum temperature, 84.5, minimum, 46, precipitation, .24", on the 5th and .32" the 6th, or a total for the week of .56". Winter wheat is heading, perhaps about 30% is headed on the most forward plats. Oats is beginning to show a few heads. Corn and kafir is beginning togrow. Both these crops were cultivated during the week, also milo and cane. Thinning of kafir was commenced. A very thick stand was secured which will require much thinning. Stand of corn is not so good and some replanting by hand was necessary. There will be but little thinning required in the corn. Soil moisture work has been pushed on the wheat plats during the week. Moisture determinations have been made on most of the winter wheat plats during the past ten days. During the week 160 miles was covered in Ellis and adjoining Counties in the interest of cultivated crops and encouraging the building of silos for storing feed crop. During thetrip thousands of acres of row crops were seen, most of which are in good condition. Weeds are coming and growing rapidly so that a great deal of work will be necessary to keep the crops clean. But few fields of winter wheat were seen that will be worth harvesting.

Mandan:

The rainfall of .82" on the fifth relieved the drouth conditions temporarily, at least. All grain crops are making a good growth. The summer fallow rotation plats have all been plowed, and some breaking done. The balance of the poplar and willow cuttings have been planted. Also the boxelder and green ash seed. The elm seed has been gathered and will be planted the first of the week. Mr. Stephens left on the night of the 7th for Sheridan, and Mr. Sarvis for Ardmore. Maximum temperature, 75, minimum 37, precipitation 1.03".

North Platte:

The week has had the greatest amount of sunshine and conditions for growth of all crops has been the best of any week for some time. Corn is practically all up and stands are quite good. A heavy rain fell Monday night but only one day of field work was missed. Max. temp. 83, min, 35, pre..85"

Sheridan:

The past week with its .68" of rain and two hail storms has not favored rapid crop growth, although all the moisture that fell was saved. The hail storms did no serious damage but they beat small grains into the ground, and broke off a good deal of corn that was just coming up. We have been able to do but very little field work. A team has been plowing the lightest summer tilled land that we have, the heavier soil which is on the rotation field still being too wet. The corn which came up on the 30th is being cultivated to day. All of the alleys have been cleaned out by being cultivated, and a start has been made on grading roads on the plats. Potatoes, sudan grass, sorghum and millet which were planted between May 15 and 20 are just coming up. There are very few plats of any of the crops grown on the station where a poor stand was obtained, with the exception of winter wheat.

Méssrs. Sarvis, Dillman and Stephens visited the station on the 4th, the two former leaving the same day for Ardmore, and Mr. Stephens going to Ardmore the following day. Following are the weather conditions for the past week: max. 75, min, 35, precip. 68, evap. .930, ave. wind velocity, 6.2 mi.

Tucumcari:

Prevailing wind direction S.W., average condition of sky, clear. Average hourly wind velocity, 7.9 miles per hour. Maximum temperature 93, minimum 49 on the 5-6th. Evaporation 3.169". Precipitation, none. The daylight hours during the week have been quite warm, windy, and drying. The nights have been cool and calm. Moisture is going out of the ground very fast and the soil is blowing badly in some cases. Practically all crops are up and looking nicely except where covered or burned by sand. This year, at least, sand is the limiting factor. Cowpeas seem to be damaged by the drifting sand more than other crops. Cotton seems to be standing it the best of all. We have not had a drop of precipitation since the trace, recorded on the 12th of May. From all indications it is due to be dry for at least a few days longer. Work for the week has consisted of plowing the orchard and planting melons there, of planting corn, beans, etc. in a garden, and of miscellaneous work. It was noted during the week that over 75% of the trees set out this spring are still alive. They are not all leaved out yet and the percentage may be higher yet.

Woodward:

There has been no rain over the past week and several hot days. The spring wheat and oats and barley will amount to nothing except on summer fallow, where they are looking very fine. This season will probably show a great advantage of summer fallow over other methods, on winter wheat as well as on the spring grains. All of the planting of plots to sorghums, cotton, etc. except cowpeas has been completed. Over the country very few good stands of the sorghum crops have been obtained due to the continued blowing of the soil, and now farmers must wait for a rain before replanting. This will make the crop very late in getting started. As a result many people are substituting milo for kafir.

Bellefourche:

Warm weather during the last week has caused crops to start growing rapidly. Winter rye has come to head. The other crops are all much later than usual but are looking well. The weather has been dry during the week and many farmers are just completing their seeding. Many of those who intended to sow wheat have substituted oats. Soil samples show that cropped land is saturated with moisture to a depth of two feet. Maximum temperature 92, minimum 40, precipitation .49 inches.

Edgeley:

The dry weather was finally broken by rains occurring on the fifth, sixth and eighth of this month. The first was a slow rain of about .9 inches falling in a little over a day, all of it consequently going into the soil in good shape. The second, on Friday, was of a local nature and came in a quick dash. The grass and grain crops are showing a marked improvement over their condition during the last week, although the grain still seems to be growing very slowly. A week ago, a trip was made about twenty miles east of here, and it was noticed that the greater part of the fields showed the effects of a lack of moisture to a marked extent. Maximum, 84, minimum 48, precipitation 1.40 inches.

Huntley:

Continued precipitation during the week has kept the teams out of the fields until this morning. A little more plowing has been done on the rotations and the corn planter was again started on field G. A few soil samples were taken between showers and from observation the upper two feet seem to be well filled with moisture on all plats sampled. On stubble plats the moisture extends to a depth of 26 inches and on plats fallowed last year the moisture depth appears to be but 28 inches.

Mr. J. M. Stephens, Mr. A. C. Dillman and Mr. John Sarvis visited the station last week. Max. temp. 77, min. 34, precip. 2.31 inches.

Williston:

The drought was broken the night of June 2, and to date .74" of precipitation was received in four showers. The rain came in much needed time, and has resulted in greatly improving crop conditions. The moisture connected with the lower moisture, which is still quite sufficient due to the showers of winter and rains of last fall. Corn on all plats emerged, and is doing well. All grains, excepting flax, making good growth. Trimming of plats was started, to be finished next week. Rye in green manure series short and thin, and starting to head. Maximum temperature for week 81, minimum 38.

Scottsbluff:

The weather finally cleared up during the latter part of the week and conditions are very favorable for both field work and crop growth. The variety tests of potatoes, sorghum and beans were planted during the week. Corn is coming up and all grain crops are making good growth. Hail storms occurred on the 3rd and 4th. Only slight damage was done by the first storm but the second one was much more severe, .60 of an inch of rain and hail falling in less than 15 minutes. Alfalfa on the station was almost completely destroyed and all alfalfa plats were clipped with a mower. Field peas also suffered quite seriously. The past three weeks have been ones of exceedingly heavy precipitation, 5.73 inches of rain having fallen during this period. The total rain fall for the month of May amounted to 4.86 inches which is greater than that recorded for any month since precipitation records have been kept. Soil samples taken May 19 on plats A, C, and D of the M. C. wheat series and those taken June 7 show the moisture content of the soil to have increased down to the 6th foot but no change having taken place in the 6th foot except on the summer fallowed plat. The following table shows the increase in per cent of moisture at the different depths for these three plats.

	Plat A.	Plat C.	Plat D.	Average of 3 plats.
1 ft.	2.3%	2.8%	2.3%	2.5%
2 ft.	1.5%	3.6%	0.5%	1.9%
3 ft,	5.3%	6.5%	0.1%	3.8%
4 ft.	9.0%	8.8%	3.6%	6.5%
5 ft.	3.7%	3.1%	5.9%	4.2%
6 ft.	0.1%	0.2%	4.3%	1.5%

Maximum temperature 92, minimum 33, precipitation .97 inches, evaporation 2.275 inches, average hourly wind velocity 9.8 miles.

Mr. C. S. Scofield and Mr. F. D. Farrell are visiting the station.

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JUNE 23, 1917.

REPORT FOR WEEK ENDING JUNE 16, 1917

Akron:

The past week has been very favorable for the growth of all crops with the possible exception of corn. From present indications it would seem that the station will not have more than a 75% stand of corn. We must attribute this to the excessive wet weather during the last two weeks of May. Grass also is green and vigorous. Work about the station has consisted mainly of shaping up the station grounds. The roads have been graded and all the plots trimmed. The station was visited on Thursday by Professor W. J. Morrill, State Forester, and Mr. Johnson of the Denver Office of the Forest Service. We can report that the forest trees are now out in full leaf. They have been very slow about coming out of dormancy this spring. Maximum temperature 90, minimum 36, precipitation .13.

Amarillo:

All row crops were gone over the first time with the cultivator during the the week. Weeds that escaped the cultivator on the D. L. A. plats were cut out with the hoe. The plat ends and alleyways were cleaned of weeds and trimmed and the roadways are being put in shape. As a result of the continued dry weather weeds are giving us a minimum amount of trouble. Winter wheat, except in spots burned out, is fairly well headed out and has fill remarkably well under the conditions. The spring small grains that have succeeded in heading out at all are making a desperate attempt at filling. What the final result will be cannot definitely be told yet. They are however, too far along to be benefitted much by any rain that might come from now on. Two days of the past week-the 10th and 12th. came with a temperature of 102 and the strong wind along with a humidity that dropped as low as 3% withered the foliage and cooked the heads of much of the wheat and barley. The effect on oats was not so apparent. Thistles and other weeds on the plats are badly withered and ground cracks are much in evidence. Drouth emergency soil sampling was conducted during the week on several winter and spring wheat plats. Corn and milo are making good growth except in the listed plats where the stands are very broken, especially with the milo. Kafir is not doing well on any of the plats. There are fair stands on plats B and D of the C. C. series but very little on any other plats is to be seen. Replantings lie unsprouted in the dry soil. This completes the 5th week of continuous drouth. Weather for the week was-maximum temperature 102 on the 10th and 12th, minimum 44 on the 14th, hourly wind was 9.7 miles, precipitation, a trace, evaporation 3.223".

Archer:

The entire week has been favored with fair and good growing weather. There has been an unusual lack of wind, except for the first two days. A nine tenths inch rain fell Tuesday evening and softened the crust which had been keeping the flax and corn from coming up. The corn plats were harrowed just after the rain, and the plants are beginning to appear with prospects of a good stand. The flax plats were harrowed just before the rain, but both the harrowing and the rain were too late for it, as many of the little plants were dying beneath the crust. The flax plats were reseeded yesterday. There is plenty of moisture to start immediate germination if warm weather follows. Flax seeded in a date of seeding test after the crust had started to form has been up for several days. The field plats were trimmed with hoes, and along the roads with a surface cultivator. Temp: max. 83, on the 10th and 11th, min. 32 on the 13th. precipitation .09 inches.

Bellefourche:

The past week has been very warm and dry. All crops have been growing rapidly and so far none have shown any lack of moisture. Winter rye is headed and will soon be ready to plow under. Barley is the farthestt advanced of any of the spring seeded crops. It is now about eight inches high. Alfalfa is beginning to get a little dry. Water has now been turned into the canal and many farmers are starting to irrigate. The first cutting of alfalfa on dry land is much better than usual. Max. temp. 90, min. 37, precipitation, none.

Colby:

During most of this week we have had cold nights and forenoons with rather hot afternoons with no precipitation and moderate winds. Corn grew some but the other crops did not do much. All of the small grains, except winter wheat, are firing. All the plats except the M.C.A. the fallow, and the corn ground plats are turning brown quite rapidly. The peas have made practically no growth since the hail storm of two weeks ago. Winter wheat is still looking good, mainly because the stand is so thin. The corn was cultivated Wednesday and the listed feterita and milo were replanted Friday. The surface planted milo and kafir came up during the week, but the crust in the listed furrows had become so thick and hard that the young plants could not come through. A few acres of pinto beans planted on the station two weeks ago came up with a good stand this week. All the roads and alleys were disked or cultivated during the week. Weather for the week: max. temp. 99, min. 43, evaporation 1.949", precipitation, none.

Dalhart:

Maximum temperature for the week 101, minimum 41, precipitation, none. Precipitation since Jan. 1st, 3.11", for same period last year 7.04. On account of the dry windy weather a great many of the farmers in this vicinity have discontinued farm work until it rains. Last Sunday and Monday we had hot winds which dried up the range grass until it looks almost as dry as it does during the winter. Tuesday night we had a severe wind storm which lasted all night, and while no record was made it must have reached a velocity of at least 35 miles per hour. About 90 per cent of the listed crops which were at that time just coming up were sanded in so deep that they will have to be replanted. No damage has been reported to buildings but general neighboring windmills were badly damaged. A few plots on the station were sanded under and will have to be reseeded. The ground is getting dry and replanting unless it rains soon will be difficult work. There is also likely to be a scarcity of seed for replanting on such a large scale. Work on the new cottage is progressing satisfactorily. Practically all of the cement work has been finished and the building will be ready for the carpenters next week.

Edgeley:

Another light rain occurred the first of the week. Since then, the weather has been fair, but cold, and high winds have been prevalent. A light frost occurred Friday morning, which hurt some of the corn and tender garden truck The recent rains put the ground in condition so that small grains have made a rapid growth during the last few days. It is getting rather dry again, now however. Grass has grown some, but not as rapidly as the grain. The cold weather has prevented any apparent growth at all of corn. Winter rye is now about all headed, but the stand is very poor. Kowliang, Amber Cane, Sudan

Edgeley: (continued)

Grass, and varieties of millet seeded May 25 are now just nicely up, while Feterita and Kafir Corn seeded at the same time have not emerged. The grasses and alfalfa seeded in the alleys on Nine are also coming up in good shape. All of the corn plats were weeded yesterday. Mr. J. M. Stephens visited the station Tuesday. Maximum temperature 74', minimum 34', precipitation, .35",

Garden City:

The forepart of the week was very hot, and on Sunday, the 10th, we had the first hot wind of the season-the maximum temperature recorded on this date being 101. The ground was dried out rapidly and all small grains except those on fallow are needing moisture very badly. Small grain on fallows are the only ones that fully recovered from the effects of the hail storm two weeks ago. All other rowed crops that are up are growing nicely. The weather for the latter part of the week was rather cool for the sorghum crops that are just emerging. Most of the stuff that was replanted seems to be coming up to a good stand. Reports indicate that 50% to 75% of the sorghum crops planted before the hail had to be replanted. During the week the remainder of the sorghum reseeding was finished; all corn plats cultivated; and all summer tilled plats double disked or cultivated with the lister cultivator. Six plats of the moisture reduction series have also been sampled. Samples are being taken to a depth of 10 ft. this year. Minimum temperature for the week, 41, wind velocity, 8' anemometer 12.4 mi 2' anemometer 9.1 mi. precipitation, .12".

Havre:

Drouthy conditions here were temporarily relieved the first of the past week, by rain recorded on three days with a total precipitation amounting to .99". Medium low temperatures accompanied the rain. The past three days have been warm and rather windy. All crops have made very rapid growth and are now reaching the stage of development where they will need considerable moisture. Rye is headed and will be turned under for green manure during the coming week. Winter wheat is well along in the boot, barley is showing the boot and other spring grains are shooting. Corn planted nearly a month ago is coming up with a fair stand. Flax will be only a fair stand, owing to rather deep seeding, accompanied by dry cool weather after seeding. Potatoes are just coming up with very good stands. All plats of regular fallow in the rotations were plowed during the week. Maximum temperature 86, minimum, 40.

Judith Basin:

Cool rainy weather still continues making plant growth very slow. Rain has occurred on five days out of the seven this week, and corn planted on May 24th, is not up and part of the kernels have not even sprouted. Some warm sunny weather would be desirable at this time. All seeding at the station has been finished with the exception of twenty acres, which will be seeded to alfalfa as soon as weather conditions will permit. Maximum temperature for the week, 77, minimum 34, precipitation 1.48".

Lawton: Report for two weeks ending June 16:

We have had all kinds of weather during the past two weeks and some of it has been pretty disastrous to the production of such crops as cotton and the various sorghums. On the evening of 7th, the southwest part of the county was visited with a disastrous wind, rain and hail storm. High winds followed this rain causing the soil to blow before it was dry enough to cultivate and hundreds of acres of cotton were destroyed by blowing soil. Hot winds were recorded on the 5th, with a maximum temperature of 99. During the past six days we have had several windy days and soil blowing has been the most disastrous that I have seen since the station was started. On the 13th, a heavy wind from the north blew at the rate of 21 miles per hour from 5.30 a.m. until about 1.30 p.m. On only one little patch on the station has soil blowing occurred and that was on the 13th. A great many farmers are replanting some of the cotton land regardless of the fact that it is getting very late. Feed crops will also be replanted. Hot winds were again recorded on the 10th, 11th & 12th. The maximum temperature on those dates were 101, 101, 102 respectively. All of the winter wheat except two plats was harvested from the 12th to the 15th. One plat of oats 8B was harvested on the 15th. We have been able to bind all of the wheat plats except M.C.A. and 1330. These will have to be cut with the mowing machine and buncher attachment. The barley plats were harvested in the same way during the week. Winter barley seeded on the 6th, 15th of Sept. Oct. 2d, and 17th was harvested on the 7th. Winter barley seeded on the 1st and 15th of Nov. was harvested on the 11th. Harvesting of all grains will be completed now with in a few days as the oats is now ripe. Chinch bugs are about as numerous as they were last year and promise to be about as destructive. Mr. G. W. Barber of the U. S. Entomology Laboratory has been here during the past week trying to devise methods to combat the infestation. Up to the present time, results are not very encouraging. A 5% solution of kerosene emulsion will kill a large percentage of the numphs but the corn is so far advanced in growth that it is difficult to reach them with the solution. They also continue to come in about as fast as we can spray them. To do the work thoroughly makes it impossible to cover very much ground is one day. Mr. Barber leaves for other parts of the state on the 18th. A few tassels are appearing in the corn plats that have been manured. The corn on the whole is considerably further advanced in growth than it was at this time last year and I believe that this will be of considerable advantage with reference to the infestation of chinch bugs. The corn ear worms are pretty much in evidence and it may be necessary to make some attempt to control this damage. Mr. F. V. Cardon visited the station during the first half of the week and attended to the thinning of the cotton experiment. As a general statement I should say that the crop prospects on the station are far in advance of those on the upland of the surrounding country.

Mandan:

A rainfall of .43" was followed by two days of windy weather. On the 13th the Bismarck weather bureau station reported a wind velocity of 50 miles. Mr. Sarvis returned from a trip to Ardmore on the 14th. He reports that the crops at Mandan look fully as well as those seen anywhere on the trip. Mr. N. R. Mueller, of the Office of Drug and Poisonous Plant Investigation spent two days at the station, Plantings of Lallamentia Manchurian hemp, sunflowers, and perilla have been made for this office in order to determine their value as oil producers. Max. temp. 92, min. 39, precip. .43".

North Platte:

The week has been warm and dry with considerable high wind. Crops have made a good growth but the reserve moisture is being rapidly exhausted. Russian thistles are becoming troublesome. The first cutting of alfalfa has begun. The crop will be fair, probably 15 or 20% below normal. Max. temp. 96, min. 42, means, 65, precipitation, none, evaporation, 2.862.

Scottsbluff:

The weather has continued to be warm and favorable for crop growth. Alfalfa is recovering rapidly from the damage done by the hail last week and field peas have also regained their vigor. Fall rye was turned under early in the week and the summer fallow plats plowed. All plats were trimmed and the roads and alleys cleaned up. Maximum temperature, 94, minimum, 36, precipitation .20", average hourly wind velocity 7.2 miles, evaporation 2.517". Mr. O. J. Grace visited the station on the 11th.

Sheridan:

The last three days of this week have been particularly favorable for crop growth, and all crops have advanced considerably during the week. Wheat oats and barley are showing about 4 leaves now, and are beginning to joint. Winter wheat is jointing although the stand is very poor. Winter rye is heading and now stands about 24" high. A 5 acre field of summer tilled land was plowed and disked during the week, and a team is now busy plowing the summer tilled plats of the rotation field. All of the corn on the rotation and variety fields has been cultivated, and cultivating is progressing on the forage field. Following are the weather conditions for the week: max. 88, min. 37, wind vel. 5.1, evap. 1.17, precip. .58.

Tucumcari:

Prevailing wind direction S.W. Most of the week has been clear. Average hourly wind velocity 7.9 miles per hour. Maximum temperature 101 on the 10th. Minimum temperature 48 on the 13th-14th. Evaporation 3.557". Precipitation .01 falling on the night of the 14th. It is needless to state that no run-off occurred. On the 10th, when the temperature was up to 101 the wind averaged 16.6 miles per hour during the daylight hours. It was 97 at noon and 97 at 5:00 P.M. Such crops as are not covered by sand are looking fine and, of most, perfect stands have been secured. While some blowing has occurred this week, the blow area has spread but little. It has been too dry to do any field work, such as cultivating, as the ground is already so dry and powder-like that it is feared any further stirring before rain would cause the whole field to start in blowing. Except for the .01 of 1 inch mentioned above, we have had no precipitation for five weeks. The principle work for the week has consisted of work on an earthen water storage tank and of cutting the flower stalks from the Yucca growing on the place to prevent their going to seed.

Williston:

Heavy winds during the week have greatly dried up the small amount of precipitation which came since June 1st, and the drouth situation is again becoming serious. To date, only slightly over an inch of precipitation

Williston: (continued)
has been received since late in April. Early sown grain is not yet showing up bad, but all later sown fields are very spotted, thin, and unthrifty. While it is too early to kill the crop yet, it seems practically certain that more than normal yields will not prevail this year. Maximum temperature 38 degrees, precipitation, .15". Winds very high, night of June 21 and 3d doing damage, which resulted in loss of life and property in the adjacent Montana territory.

Woodward:
We have harvested the wheat on the M.C.plats and the rotations also some of the wheat in other fields. We were able to bind all of it but three plats, A.F.&C. which was too short to bind. There will be an unusually small yield of wheat in this county this year. The wheat is mostly too short to head and some of the farmers are mowing it. Crops in general are badly in need of rain. We have had several days of hot winds which caused the corn to wilt considerably. The milo, kafir and broom corn seems to stand the hot winds better. We have begun the thinning and hope to complete it by the end of next week if nothing happens to hinder. The first thinning of cotton is completed. Mr. Cardon is here today looking after the interests in cotton work. He says the cotton looks unusually good for this country. He finds that there is a difference in the foliage of cotton here than farther south. Mr. Cardon will leave for Tucumcari Sunday night. Weather report: Maximum temperature for week 110-in shade minimum 45-13th, average hourly wind velocity, 9.5 miles, evaporation 3.103.

Hays:
The past week has been generally dry, hot and windy at times. Hot winds last Sunday from about noon until six oclock. Maximum temperature for the week, 100, minimum, 47. Small grain crops, especially the spring grains, are suffering extremely from drouth and heat. Most of the spring grains are now past recovery should rains come immediately. Winter wheat on the best plats still has a chance to make profitable yields. Thegrain crops on fallow plats is very much better than that on any other plats. Corn and sorghums are still looking good, making good growth. Surface planted corn, kafir and milo was cultivated during the week. Kafir is being thinned. Moisture determinations were made on about 25 plats of winter wheat. Plowing of fallow plats has been commenced. Prof. L. E. Call, Agronomist, Kansas State Agricultural College escorted a party of ten delegates from the Interstate Cereal Convention at Kansas City to Hays last evening for the purpose of visiting the experiment station today. During the day the visitors have been shown over the various projects and the general fields.

Huntley:
Field work has been possible every day this past week as the weather has been hot and dry. Soil sampling was completed early in the week. Plowing desking and harrowing for corn was finished and the seed planted on the 13th and 14th. Plowing of summer fallow is in progress and will be completed today. Roads are staked out preparatory to plowing, and the alleys on the rotations are being hoed. All crops are making a rapid growth and it is hoped they will smother out the new weed growth that has started in the plats. Hogs on rye pasture have been unable to keep the rye from heading and as a result the daily gains on the pasture now are considerably less than when the forage was more succulent. For the last 14 days the

Huntley: (continued)
average daily gain was .53 lb. On the brome grass pasture the average daily gain was .68 lb. and on alfalfa .86 lbs. Maximum temperature for the week, 87, minimum 36, precipitation .06 inches.

DEPARTMENT OF AGRICULTURE
Office of Secretary
Washington, D. C.

June 9, 1917.

MEMORANDUM NO. 207.
Amendments to the Fiscal Regulations.

Paragraphs 45, 75, and 78 (h) of the Fiscal Regulations are hereby amended so as to read as follows:

"Paragraph 45-All telegraph messages relating to the business of the department should be indorsed 'U.S. Official Business, Government Rate.' Messages sent from or to Washington, D.C., must not be paid for by the persons sending or receiving the same, except where payment is demanded as a dondition to the transmission or delivery of the message. Telegrams not prepaid should have the additional words 'Charge Department of Agriculture, Bureau of....' written or stamped upon the face thereof, and the agent, operator, or messenger should be directed to have the same included in the company's monthly bill. Telegraph messages between points in the field should be prepaid at the Government rate by the employee, where payment is demanded as a condition to the transmission or delivery, and a copy of each prepaid message should support the claim for reimbursement. Identification cards for presentation to agents may be obtained upon application, through the chief of bureau, to the chief clerk of the department. These identification cards must not be used for telegrams reserving hotel or Pullman accomodations by employees receiving per diem allowances while traveling, as such telegrams are not official.

"Paragraph 75.-Employees authorized to received per diem allowances will not be reimbursed, in addition, for meals, lodging, fees to hotel employees waiter fees, fees to dining-room stewards on steamships, bath, laundry, telegrams reserving hotel or Pullman accommodations, or other subsistence expenses; but, in addition to the per diem allowance, may be reimbursed for expenses actually and necessaryily incurred for railroad and steamboat fares, including fees to cabin and deck stewards, sleeping berth, stateroom on steamboats, seats in parlor or chair cars, street cars, transfer coach, and omnibus fares, transfer of baggage, livery hire, stage fare, and other means of conveyance between points not accessible by railroad, fees for checking baggage at depots and docks, fees to Pullman, depot, and dock porters, and other expenses of transportation: Provided, That reimbursement for the paument of any fee herein mentioned will not be allowed in any State in which payment of such fee is prohibited by law. (See Appendix G.)

"Paragraph 78 (h).- Except as provided in paragraph 78 (v), customary charges for subsistence expenses, not to exceed in the aggregate $5 for any one day, may be allowed and will include all expenses incurred for meals, lodging, bath, personal use of room at hotel during the daytime, waiter fees not exceeding 30 cents in any one day, fees for checking and porterage of baggage upon arrival at and departure from hotels not to exceed 10 cents for porterage of, and 10 cents for checking, each piece, telegrams reserving hotel accommodations (but not telegrams reserving Pullman accommodations), laundry not exceeding 20 cents a day, to be included in subsistence expenses for the date on which it is paid, and all other subsistence expenses. Charges for laundry must include all expenses incurred for that item during the period for which the voucher is rendered and must not include laundry items brought foward from previous periods. Charges incurred for laundry at official headquarters at the termination of a trip will not be allowed. Receipts for laundry must be submitted or a written statement filed with the account showing the impracticability of obtaining such receipts. A charge for lodging at a hotel and a charge for sleeper berth for the same night will be allowed only when accompanied by a definite statement of necessity; Provided, That reimbursement for the payment of any fee herein mentioned will not be allowed in States in which the payment of such fee is prohibited by law. (See Appendix G.)"

NOTE:

Attention of the Field men is invited to the fact that transportation requests issued for the fiscal year 1917, cannot be used after the termination of June 30, 1917, and that all unused transportation requests should returned to this office as soon as possible, thereafter.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JUNE 30, 1917.

REPORTS FOR WEEK ENDING JUNE 23, 1917.

Akron:

The past week has been very favorable for plant growth. Winter rye headed during the week. Corn has been cultivated once and is growing rapidly. A part of the listed corn was replanted as water had stood in the furrows and a thick crust had formed. Some of the small grain is wilting during the middle of the day but is not suffering seriously from drought.

Mr. C. R. Ball visited the station on Wednesday and Mr. N. R. Mueller on Friday. Maximum temp. for the week, 92, min. 45, precipitation 0.16 inch.

Amarillo:

As a result of the drouth an early harvest is on here this season. It was started on the station yesterday-rye, barley and an early variety of wheat. (Neb. hybrid #28) being cut. All winter grains and probably most of the spring will likely be cut during the coming week. Drouth continues uninterrupted except for a couple of small showers, one of which came Tuesday night amounting to .47 inches and the other Friday p.m. .18". Row crops present poor or broken stands and are not making much growth. The station was visited during the week by Mr. Cardon of the Cotton office and by Messrs. Carleton, Ball and Hothgeb of the Cereal office, On some trips made in company with these men over the surrounding territory it was observed that for the most part wheat fields look thin and short giving promise of very low yields while an occasional wheat was passed that looked good for perhaps 8 or 10 bushels. Very little small grain besides winter wheat is in around here, there being a few patches of oats and barley that will probably pay to harvest. Row crops for the most part present rather poor stands and are making slow headway in growth. On a trip made the latter part of the week to Sweetwater, Big Springs and Chillicothe it was observed and learned that the same generally poor crop conditions prevail throughout all of west Texas. Pastures and water holes are dried up and a good deal of stock is dying. Much stock is being shipped out of the country due to these conditions. The best streak of country passed through was down around Plainview where several fairly good fields of wheat are in the process of being headed. It is surprising to note how many fields throughout the South Plains country there are infested with Johnson grass, the horse nettle and blue weed. It is noted here on the station and elsewhere this season there seems to be only a very few grasshoppers. Our experience with poor and broken stands or row crops resulting from listing appears to be confirmed by what we observed on trips made over the country during the week. Very few fields of listed in crops seem to have much of a stand while generally fair stands obtain after surface planting. Just why listing as a method of planting has become popular in this Western country is something the writer has yet to learn. It has always appeared to me that there is a rather narrow margin of proper conditions for good results after lister planting. A little too wet or a little too dry following this method of planting and poor stands result. Weather for the week was:-max. 98 on the 22d, minimum 52 on the 17th, hourly wind 10.8 miles. Precipitation .65", evaporation 2.871", cloudless skies, brisk winds and more or less dust are the fill of fare for weather.

Archer:

All field crops have made a good growth this week. The winter rye has headed out and is about three feet high. The corn is up and shows a good stand, except on plats which were wet in places when planted. They were replanted by hand. The brome grass is headed out. Part of the brome grass seeded in the road is up, but there are places where the ground is too dry and hard to germinate the seed. That which is up is beginning to need rain. Flax which was reseeded on the 15th is not up yet. It has been partly cloudy most of the week. Temperatures, max. 90, min. 41, means 81 and 46, precipitation 0.05 inches.

Ardmore:

Maximum temperature for the week, 90, minimum 42, precipitation .26" in three small showers. The weather during the week has been favorable for plant growth. All grasses are beginning to bloom and alfalfa is beginning to bloom. Winter rye is headed. Winter wheat except on summer fallow is a complete failure and plats have been re-seeded to spring wheat. The prospects for alfalfa, brome grass and sweet clover crops are the best since the establishment of this station. Native pasture and native hay is excellent. Corn and all cultivated forage crops are two or three weeks behind normal development. Work on all building has progressed without interruption during the past two weeks, but the exceeding wet weather in the early part of the season has so delayed that work that it will be impossible to complete all building before July first, however, the dairy barn, milk house and dairy stock shed and hog house will be ready for occupancy within a week. The herdsman's cottage for the Dairy division is not quite completed, and the bunk house cannot be completed during the current fiscal year. Work on the beef cattle stock shed has been stopped because of shortage of funds. Sixteen miles of fence has been completed, and 120 acres of sod broken and put to crops. A ten-twenty tractor has been kept in operation twenty four hours a day for the past two weeks.

Bellefourche:

The past week has been dry and warm. Dry Land crops have commenced to suffer from lack of moisture. Soil samples show that the first foot of soil is dry and that only a small amount of available moisture is left in the second foot. Winter rye made an excellent growth and was plowed under on the 21st. Barley is now heading. Wheat and oats have just commenced to form straw. Roads were plowed and plats were trimmed during the week. Owing to the shortage of labor and to sickness among the horses at the farm, field work is still far behind what it usually is. Max. temp. 93, minimum 44, precipitation, .73",

Big Springs: Report for week ending June 16.

The fore part of the week was very hot, the highest temperature of the season being recorded during that time. Maximum temperature 108, minimum 51, wind velocity 9.5 miles, evaporation 3.52 inches, precipitation, none. The farming conditions remain unchanged in this section, and many of the people are feeling blue over the poor prospects of a crop this season.

Big Springs: Report for week ending June 23:

The weather has been somewhat cooler than the previous week, and the prospects for rain more encouraging. Maximum temperature 99, minimum 64, wind velocity 9.0 miles per hour, evaporation 3.29 inches, precipitation, late Saturday evening .98". This rain lasted more than an hour and very little runoff occurred. It is believed that sufficient moisture will be available to plant the various crops, which will be put in as rapidly the coming week as possible. Mr. B. E. Rothgeb visited the station on Monday. Mr. L. N. Jensen of Amarillo on Saturday.

Colby:

Although .30" of rain fell during the week this has been a very disastrous period for all the small grains. The weather has been so dry, hot, and windy since the hail storm on June 5th that practically none of the crops except corn have made an recovery. The plat of peas has dried up beyond recovery. Only the summer fallow plats and the M. C. A. plats promise any sort of a crop under normal conditions from now on. There is still hope for the small grains on disked corn ground plats, and those on spring plowing in the rotations are still hanging on, though not showing up as well as the M. C. A. plats. The M. C. A. plats of oats, barley, and spring wheat are heading as are also all the rye plats. Winter wheat will be heading soon. Rotation 257 A, winter wheat on milo stubble, is the only plat of this crop that promises even a fair yield. The only other plat with as much as half a stand, 574 A, winter wheat stubbled in on spring wheat stubble, has never recovered from the effects of the hail and is drying up. Corn and the sorghums are promising. Good stands have been secured. Maximum temperature, 98, minimum 46, precipitation .30".

Dalhart:

On Monday and Tuesday of this week we had two showers which netted .92" of precipitation. This was not as much as was needed but has served to put the soil in good condition for replanting and has started crops that were up at the time to growing. The most of the farmers in this community are busy replanting. It is estimated that about 60% of the crops will have to be replanted on account of the severe drought and frequent sand storms that have prevailed up to a week ago. The pastures are unusually short for the time of year and some of the stockmen are still feeding with prospects good for feeding to continue throughout the year. This on account of the high price of feed is going to be very expensive. All of the small grain plots have dried up and a number of them have been disked to prevent sand drifting. Two increase plots of winter rye seeded on land previously fallowed have dried up and are being cut for hay. Corn is about eight inches high. A good stand of peas and corn has been secured but with the very heavy seeding of the grain sorghums only a fair stand has been secured. Practically all of the replanting has been finished. Maximum temperature 99, min 55, pre.92

Edgeley:

The weather continued dry throughout the week. Several times there were indications of heavy storms, but a precipitation of only from .04 to .05" would result. There were heavy winds at times too. The most of the grain on summer fallow is still in fair condition, but nearly all other grain is suffering badly. Corn has started to grow a little, but not very much. There was a light frost on the 21st, but corn did not seem to be injured by it. Several pieces of grain were noticed just south of Jamestown yesterday where even the grain seemed to have been frozen in the low spots. All of the corn was cultivated once. The roadways were mowed, and a part of the narrow alleys cultivated. The Non Partisan League held a picnic on the station Saturday. It was estimated that there were over 4000 people present. A number of the fallow plats in wheat, especially those alternately fallowed and cropped, are so badly infested with Frenchweed that it is doubtful whether the wheat will come through or not. Maximum temperature 95, min, 33, precipitation .19".

Garden City:

The week has been hot, dry and windy. All small grains except those on fallows are practically dried up, and another week of such weather as we have been having of late will probably mean the complete failure of all small grains on the Dry Land Project. Soil samples taken on the M.C. Spring Wheat plats during the week, shows that on plats A and B practically all available moisture has been used up, while in plat D the available moisture has been used up, while in plat "D" the first three feet are pretty dry. The fallows still have about two feet of moisture to draw on. All rowed crops are growing nicely, and excellent stands were secured on nearly all the sorghum plats replanted. Pinto and teperay beans are making a rapid growth, and a special effort is being put forth to prevent damage from jackrabbits. Very few rabbits have been seen on the project this year, and these were usually promptly killed. Field work for the week has consisted of completing the first round of sampling on the moisture reduction plats, hoeing the weeds off these plats; and dyking them up to prevent runoff of rainfall. The irrigated mulch plats were given a thorough irrigation, today, the 23d, and soil moisture work on these plats will begin the first week in July and continue the remainder of the season. Maximum temperature for the week 103, accompanied by hot wind which lasted from 11 A.M. to 3 P.M. Minimum temperature for the week, 53, average wind velocity, 2' ane. 8.6 mi., 8' ane. 12 mi. evaporation, 3.026", precipitation, .03".

Harre:

The weather during the week has been dry with moderate temperatures and wind velocity. Grain continues to make rapid growth due to the rain of nearly 2 weeks ago, but there are indications of a lack of sufficient moisture for the good development, especially on land cropped to small grain last season. Winter rye is in the bloom and winter wheat and barley are heading. Barley especially is very short. Very good stands of corn have been obtained, even though some of the seed was in the ground nearly a month before it emerged. The stands of flax on the rotation, with the exception of that on corn land is very uniform and on some plats poor due apparently to too deep seeding followed by dry cool weather. Breaking operations on the station were suspended Friday due to the dry condition of soil. Most of the breaking outfits in the locality have stopped work altho there are a few that are still working and in some cases flax is being seeded even tho the soil is very dry.

Hays:

Maximum temperature, 101, minimum 49, precipitation .59. The week has been for the most part, hot, dry and windy with hot winds at times. All spring small grains have been about ruined by the prolonged drouth. It now looks like about the only plats of spring wheat, oats and barley that will be worth harvesting are where the grain was seeded on fallow. Spring wheat is especially badly burned. Corn is not being damaged yet, but is wilting, and kafir is also wilting a little in places. During the week kafir and milo on plats and borders was cultivated, and also the corn on reserve plats was cultivated. Thinning of kafir and milo was finished. A trip was made today to Quinter, (55 miles west of Hays), by auto to inspect crop conditions and assist out District adviser with a canning demonstration. It was noted that crop conditions are very discouraging. Quite a good many farmers have planted corn and sorghums a second time and failed to get a stand. The ground is now too dry to germinate sorghums. Occassionally along the route a fair field of wheat was seen which might yield 5 to 19 and now and then a small patch of barley that is still green, though poor. Gardens, not irrigated, are drying up. I forgot to mention that the peas on rotations 54, 56 and 92 were plowed under June 21. A very thin light growth about 6 inches high was made. Alfalfa on rotation 142 was harvested earlier in the week was about 6" high and very light.

Huntley:

Alleys on fields H and G were hoed during the week and the weediest roads were plowed. Roads where the weeds are small are being worked over with a road grading machine insted of being plowed. Corn is up on all rotations now, that on fall plowing coming up two days ahead of any other method of soil preparation. Winter wheat on corn ground is beginning to head at a height of 15 inches. Rye and brome pastures were mowed as the forage was getting too coarse for grazing and the hogs were not eating much of it. Maximum 87, minimum 43, precipitation .27 inches.

Judith Basin: Report for the week ending June 16.

With the exception of some rainy weather in the fore part of the week, good growing weather has prevailed here. The corn is just coming up and the other grains are beginning to grow more rapidly. All the plats have been trimmed up, the roads disked, and the alleys cultivated. Weeds are not as bad this year as they formerly have been according to the foreman, but they are quite bad in the flax plats. It has been definitely decided to hold the annual picnic here on July 27th. Maximum temperature for week, 82, minimum 34, precipitation .21 inches, evaporation 1.303 inches.

Judith Basin:

Clear, sunn and at times windy weather has prevailed during the past week. The rye has headed out, but is rather thin on some of the plats, due to a certain amount of winter killing, and averages about a foot in height. The corn plats were cultivated in the latter part of the week, and some of the plats will be gone over to pick out weeds in the near future. Maximum temp. for week 75, minimum 40, precipitation .05", evaporation 1.544 inches.

Lawton:

The past week has been hot and a few windy days have had a telling effect on the corn. A maximum temperature of 102 for the week occurred on the 22nd. Hot winds have been recorded on the 22d and 23d. Threatening clouds several evenings during the week have resulted in two heavey but brief wind storms and .17" of rain. We have been very busy the entire week fighting chinch bugs, harvesting and thinning the sorghums crops, and hoeing weeds. All of the small grain has been harvested except one spring wheat plat and a couple of late dates of winter oats. Cotton has made fairly good growth during the past week. M.C.H. corn which had a top dressing of manure early in the spring has suffered more noticeably during the week than any other plat. Other manured plats seem to have stood the grief pretty well so far. Much of the late cotton planted throughout the surrounding country during the two previous weeks has not germinated on account of the lack of moisture. Mr. B. E. Rothgeb visited the station during the week.

North Platte:

The week has been a severe one on grain crops. Temperatures and wind velcities have been high and there has been only .44" of rain in the past 18 days. All plats continuously cropped to grain and all plats in which grain follows grain in the rotation are fireing badly. Grain following corn is holding up fairly well and on the fallowed plats no injury is yet apparent. Oats following alfalfa in Rotation 42 is beyond recovery. Maximum temperature 97, mean maximum 88, mean 69, precip. .44, evaporation, 1.796.

Scottsbluff:

With the exception of two small negligible showers, the past week has been very dry and warm. Spring wheat, oats and barley are beginning to show the effect of the continued hot, dry weather of the last half month. Winter wheat has headed out and brome grass it blossoming. Potatoes and beans are up but the stand of sorghum on the rotation plats is very poor. Maximum temperature 92, minimum temperature 47, precipitation .14", evaporation 2.077", average hourly wind velocity 6.9 miles.

Sheridan:

Following are weather conditions for the past week; max. 85, min. 45, precip. .05", evap. 1.563", ave. wind vel. 5.0 miles. The weather has favored crop development, greatly during the past week. Winter wheat and white Smyrna barley, which is the one used on rotations are in the boot, but none of the other barley varieties are so far advanced. All of the row crops on the station were cultivated during the past week, and considerable howing to keep weeds in contral was done. The fallow plats on rotation have all been plowed and disked, as well as all other fallow fields on the station. All the station roads are being graded and will probably be finished today. Weeds of considerable variety are appearing on the station, and an effort is being made to at least keep the most harmful ones killed out.

Tucumcari:

Wind direction variable. Sky condition would average partly cloudy. Average wind velocity 6.3 miles per hour. No severe winds occurred during the week. Highest temperature 100 degrees on the 22nd. Lowest 54, night of 19th-20th. Evaporation 2.858", precipitation .33" as follows: .15 on the 18th, .16 on the 19th and .02 on the 21st. Work for the week has consisted of work on earthen water storage tank, of running between rows of all crops on the plat field with two row planter equipped with furrow openers with the planting mechanism thrown out to stop blowing, of replanting many crops on the plat field and of measuring fields and fences on the station preparatory to having pland made of the whole. The contractor has finished the septic tank and has the plastering on the implement shed about ½ completed. Mr. Rothgeb visited the station morning of the 23d. Mr. M. A. Carleton and Mr. P. V. Cardon visited the station on the 20th in the interest of the work of their respective offices. The showers of the week have sufficient moisture to replant some of the plats which had blown out. We need more rain to finish replanting. Except for about two plats on the rotations and four rows on the variety testing, cotton has all been killed out by sand and drouth. Other crops which are up and not covered are looking very well. Holes sunk in various parts of the plat field this week show plenty of moisture to a depth of about 3 feet. The surface is quite dry down to 6 or 8 inches.

Williston:

Precipitation of .80 inches on the evening of the 21st relieved the drouth situation. This moisture came at a much needed time, and altho it is very likely that no large yields will be received in this section, there are now hopes for fair prospects. Maximum temperature 92, minimum 35, with the week generally cool and cloudy. Winds have been heavy, resulting in some soil shifting which did practically no damage. Mr. John Stevens inspected the station yesterday.

Woodward:

The drought has at last been broken. This week we received 1.09" as follows on the 19th .16, on the 20th, .64, and on the 22nd .29. The rain did not come in time to help the wheat but it will aid the late planting of rowed crops. Many of the farmers delayed the planting until it rained as it was too dry to insure good germination. There will be a large acreage planted to milo and kafir for feed this winter. Many of the farmers are up against it for feed for the stock. Some are without pasture grass and the stock is terribly thin. Some of the pastures are as brown as in winter. The crops on the station are looking good and growing rapidly. Some of the earliest planting of sorghums are knee high at this time. Corn on the rotations is better than knee high and the sorghums are about eight inches in height. We did not get quite all of the thinning done as expected but it will not take long now to finish. We are not quite thru planting milo and kafir for winter feed. There is about eight acres to plant yet. This was delayed on account of the lack of moisture in the soil. We have had several days of hot winds that caused the corn to wilt severely on the highlands but did not effect the corn on the station so much. The corn curled much more than the sorghums. We have kept a very close watch for chinch bugs on all of the crops but have been unable to find a trace. A few adults were found earlier in the season but none have been seen for the last 30 days. By this time last year the milo was covered with the nymph stages of the chinch bug. Max. 101, min. 60, precip. 1.09", average hourly wind vel. 10.0 miles, evap. 2.358".

Mandan:

The week has continued dry and as a result the crops do not appear at all promising in the vicinity of Mandan. Small grains will apparently head early and will have unusually short straw. All poplars and willows have been spr sprayed a second time to destroy the larvae of the poplar beetle. Beetles have also been unusually numeroud and destructive on the caragana. Arsenate of lead is the insecticide that is used for all insects that eat the foliage of plants. Mr. Norman O. Henchel, Assistant in Dry Land Arboriculture, reported for duty on the 21st. He will assist in the inspection of shelterbelts during the summer months. Maximum temp. 93, min. 36, pre. .10", winter rye was turned under during the week. Some of the oats is starting to head at a height of about 10".

NOTE:

Field men will kindly forward at once all unused transportation requests issued for the fiscal year 1917.

NOTE:

Under date of June 25th, the Office of Records advises "that transportation charges are chargeable to the fiscal year in which the shipment originates, irrespective of the date on which the order for the articles transported was placed, i.e., if a requisition is drawn during the month of July 1917, the cost of the article is chargeable to the appropriation for the fiscal year 1917, but if shipment of the article purchased is not made until during the month of July 1917, the transportation charges should be made against the fiscal year 1918."

NOTE:

DEPARTMENT OF AGRICULTURE
Office of the Secretary
Washington, D. C.

June 16, 1917.

MEMORANDUM NO. 209
Amendment to the Fiscal Regulations

Appendix G of the Fiscal Regulations is hereby amended so as to read as follows:

"Payment of tips, fees, or gratuities to any steward, waiter, porter, or other employee at any hotel, restaurant, cafe, eating house, or to any porter or other employee of any sleeping-car company, corporation, carrier is prohibited by law in the States of Arkansas and Iowa.

"Payment of tips, fees, or gratuities to any person in the employ of any hotel, restaurant, cafe, dining car, railroad company, or sleeping-car company is prohibited by law in the States of South Carolina, Mississippi and Tennessee.

"Payment of sleeping-car or parlor car p orters' tips while enroute to a point in an anti-tipping State will not be allowed."

(Signed) D. F. Houston,
Secretary.

DEPARTMENT OF AGRICULTURE
Office of the Secretary
Washington, D. C.

June 21, 1917.

MEMORANDUM NO. 211

Preparation and Dispatch of Telegrams.

In memorandum No. 181 of the Office of the Secretary, entitled "Preparation and Dispatch of Telegrams" issued December 13, 1916, attention was directed to paragraph 43 of the Fiscal Regulations of the Department, reading as follows:

> "The telegraph must be used sparingly, and only when the delay in using the mail would be injurious to the public interests. Care should be taken to omit all unnecessary words. In a message from one employee to another, titles should not be used, and in a great many cases the names of the parties in both address and signature may be limited to single words. Numbers should be expressed in words, not in figures; ordinal numbers should not be abbreviated."

and also to the fact that careful inspection of outgoing telegrams indicated clearly that sufficient care was not being taken to eliminate unnecessary words. Chiefs of Bureaus, Divisions, and Offices were requested to give the matter immediate and careful consideration and to take such action as might be necessary to insure the careful and economical preparation of all telegrams. The following statements also appeared:

> "Telegrams should be employed only when it is absolutely clear that letters will not serve the purpose. The use of straight telegrams should be restircted and advantage taken whenever possible of the day or night letter rates." (The words "day or night letter rates" should be changed to read "night rate".)

The above statements, with the other points touched upon in memorandum No. 181, cover generally the whole question of the use of telegrams by the Department, and outline the procedure to be followed.

Further investigation indicates that the instructions given in memorandum 181 have not been followed. Telegrams frequently are presented for my signature where it is quite clear that letters would serve the purpose. This is an important matter, and Chiefs of Bureaus, Divisions, and Offices are requested to read memorandum No. 181 carefully, to bring it specifically to the attention of the chiefs of offices, and to direct them to see that it reaches every employee of the Department having anything to do with the preparation of correspondence."

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JULY 7, 1917.

REPORTS FOR THE WEEK ENDING JUNE 30, 1917.

Amarillo:

This has been harvest week on the station. Practically all winter grains have been cut and on the D.L.A. project oats and barley also were cut except on a few fallow and green manure plats of last year. The D plat of winter wheat was still a little green and was left. The spring wheat is in the soft dough stage. Under the drouth conditions still persisting the grains are drying more than ripening. Corn is making fair growth being now one foot in height. Milo is up 6 inches and holding up in fair shape on all but the listed plats. But kafir is doeing no good at all except that plats B and D of the C.C. series are making something of a showing for stand and growth. Replantings of milo and kafir are not coming up much on account of the drouth. The row crops were gone over the second time with cultivator this week.

The OZARK TRAIL convention was held in Amarillo this week in celebration of the of the event of completing an automobile road from St. Louis, Mo. via Oklahoma City and Amarillo to Albuquerque, N. Mex. where the trail connects with the Santa Fe trail. A city of nearly a thousand tents was built up to accomodate the thousands of people from all along the route in Texas and neighboring states. The locating committee for the West Texas A & M college it is reported has decided upon Abilene as the place for this institution. Amarillo was in the race for this plum offering as the most likely site the section of land cornering the station grounds on the northeast. Weather for the week: maximum temperature 98-23d, minimum 58-24th, 25th, hourly wind 9.7 miles, precipitation, none, evaporation was 2.932 inches.

Archer:

All crops have made a good growth this week, and none of the plats show need of rain. A shower Tuesday night did much good. On all the small grain plats sampled for moisture determination, the ground is very hard just below the surface. There is still a good supply of moisture in the second foot and lower. The brome grass plats, C, And D. in rotation 41 were harvested this week. The yields on the plats were 2450 and 3100 lbs. per acre respectively. No bloom is showing on the alfalfa. There has been more wind this week than for some time previous, and this evening we are having the highest wind we have had since last March. Temperatures: maximum 92-30th, minimum, 50-24th, means, 83 and 51, precipitation .28, wind velocity, 12.4.

Bellefourche:

The weather during the past week has been dry and hot. Barley that had commenced to head last week is still in the boot and the heads probably will never fully emerge. In some spots the barley is drying up. Oats and wheat are not so far advanced and has not suffered as much. The plats of oats following brome grass and alfalfa are the only ones that have been badly damaged. All grain will be short. Corn has been growing rapidly and is now as large as it usually is at this season of the year. Maximum 100 degrees, minimum 46, precipitation .06.

Big Springs:

Maximum temperature for the week 101, minimum 64, wind velocity 8.0 miles per hour, evaporation 2.74 inches, precipitation .98". This precipitation fell late Saturday evening on June 23, and was reported in last week's report. This shower wet the ground sufficiently to enable us to plant the experimental plats and part of the north field. Milo, Kafir, sorghum, and cotton planted on Monday and Tuesday is emerging rapidly and we expect a good stand with most of these crops, except on late spring plowed land. The above rain only covered a small section of the country and was heaviest a few miles to the northwest of the farm. Winter wheat yields on the C.C. plats ranged from 6 to 11 bushels per acre.

Dalhart:

The weather continues dry and we are having considerable wind. During the month of June but 1.03 inches of precipitation has been recorded. The total precipitation recorded from the first of January until the first of July (unless rain falls tonight) has been 4.26 inches. This is .48 of an inch less than has ever been recorded for a similar period. It has been necessary to replant most of the crops, and in some cases a few of the increase plats have been planted as much as three times. Some of the later plantings are coming up but the stand on most of it is rather poor. Pastures have made but very little growth but are not green. The most of the trees are looking well but the corn which is about 16 inches high is beginning to suffer from drought. Maximum temperature for the week, 98, min. 59, no pre.

Edgeley:

A number of local showers have occurred since the last report, and the droughty conditions were temporarily relieved over a few isolated areas. Over an inch of water fell in a shower which took in the town and the station on the 27th. Over the most of this part of the country, however, the dry weather still continues, and even where showers fell, it is getting dry again now. High winds have also blown nearly every day, but fortunately for the grain, the temperature for the most of the time has been comparatively low. A large part of the crop will be short even though there should be plenty of moisture from now on. Wheat and barley have both begun to head. In many fields the heads of both grains are coming out only a few inches above the ground. Hay is also very short, and will be generally poor here. The alfalfa on the plats, except around the edges and in spots, has dried badly. It is being cut today. The sweet clover on Nine for hay was cut last week. The stand was very poor and mostly weeds. On the station the sweet clover is good. The temperature for June was slightly below the average, but was warmer than during the past two years. The rainfall for the month on the station was 3.00 inches, and for the most of the country immediately around here but 2.00 inches, as compared with an average of 3.46". Maximum temperature 83, minimum 46, precipitation 1.14 inches.

Garden City:

There were no indications during the week of let-up in the drought we are having. There were hot winds nearly every day, and maximum temperatures for the week ranged from 94 to 103. On the 29th, we had very severe hot winds which damaged all crops. Small grains are now practically all dried up with the exception of some of the fallows, and it is pretty certain these will dry up too if hot winds continue every day as they have been. Corn still has a little moisture but the crop cannot last much longer without rain. Late planted sorghums, were up are being injured to some extent, as they have not developed sufficient root system to prevent firing by hot winds. Sorghum crops that had a fair start when the drought came are making some growth, but none are over 6" in height. Corn plats, which were very weedy were given the second cultivation. A number of the rowed crops were also cultivated. Most of the plats on the project are cleaner this year than usual; on the corn plats however, and a few plats devoted to other rowed crops, the hail set the crops back to such an extent that weeds grew almost as fast as the crop thus making a good job of cultivating impossible. The Superintendent's cottage is now nearly ready for shingling. Forty pounds of poisoned bran mash was scattered about over the project for grasshoppers, and very good results obtained. Grasshoppers had not yet migrated far from their hatching places and it was therefore not difficult to distribute the poison so that large numbers of hoppers would have access to it. Minimum temperature for the week 61, wind vel. 2' ane. 11.2 mi., 8' ane. 15.4 mi., evaporation 3.5.3", no precipitation.

Havre:

Adverse weather for crops has continued through the past week. Temperatures have been mediumly high, with the wind velocity high during at least a part of each 24 hour period and with only a trace of precipitation. Our records show the total precipitation since January 1st to be 3.65", while the Weather Bureau records for Havre show 5.16". The difference in the total is m mostly for the months of Januray and February when the precipitation was mostly in the form of snow. There is no regular snow gauge in the station instruments. From 37 years record the fallowing years, which arethe lowest show a total precipitation for the first 6 months of between 4 and 5 inches; 1885, 1890, 1900, 1905, 1910 and for the station records, 1917. Maximum temperature 89, minimum 42, total evaporation 2.242" with over .5" on each of two days. Rye for green manure was turned under during the week at a height of about 2'. As there has been but little tillering of this crop, the tonage turned under has been light. All spring grain after grain crops and flax, are very badly burned. If the present weather continues for a few days longer all these plats will be practically failures. All grains on fallow and corn land are still in fair condition but are starting to burn. With rain in the near future the result may be a fair crop on these plats. Two trips were madewith the County Agent to different parts of the county. Many of the fields are now entirely gone with the exception of a few localities that have had local showers. Fallow is still looking fairly well especially sod land broken early last season. The yields of brome and alfalfa harvested during the week will be light. Both of these crops seeded in rows have a decided advantage over ordinary drilled seeded in other tests on the station. Fallowing on the commercial fields was finished during the week. All cropped land under ditch is being irrigated as rapidly as possible.

Huntley:

Cleaning up of roads and alleys was completed during the week and the cultivation of corn and other row crops is now in progress. Potato bean and sorghum varieties are up. Alfalfa and brome grass on rotations 42 and 41 was mowed during the week and also the plats of alfalfa, brome grass and sweet clover on field G which are not being pastured. Rye on the green manured plats was plowed under early in the week. The soil was very dry and plowed up lumpy. Winter wheat on most of the fallow plats is beginning to fire badly; that on corn ground is still looking fresh. All the winter wheat is now fully headed and the barley on the MC fallow plat is heading. Spring grains are showing no signs of drought. Max. 89, min. 43, pre. .11".

Lawton:

Threshing small grain consumed about four and one half days of our time during the past week. The last plat of spring wheat and the last dates of seeding of winter oats were harvested on the 25th. Chinch bugs have continued to do considerable damage in various places on the farm. A 10% solution of kerosene emulsion does not seem to have any effect on the mature bugs. Up to date we have plowed underabout one acre of kafir corn on the west end of the farm in an effort to save the remainder of the field. The infestation from an adjoining oats field was unusually heavy. So far we have only partly succeeded in checking this damage. Continued work may be of some benefit for the present at least. The weather during the past week has been hot and warm winds were recorded on the 29th and 30th. A good many fields of corn throughout the country seem to be burned beyond recovery. Hot winds on the 23d and 24th, produced the most serious damage that we have had during the entire season. All corn plats on the station are severely burned. Many of the leaves are now entirely white. Maximum temperature for the week 103, average maximum for the week, 96.6, average minimum for the week, 66.5, average or rather total precipitation for the month of June amounts to 1.09" which is 2.62" below normal. The winter wheat yields for 1917 are as follows:

Preparation:	Yield				
Late fall plowed----------	5.9	bu.	per	acre	)
Early fall plowed----------	12.3	"	"	"	) Continuous
Single listed with out manure------	14.8	"	"	"	) cropping.
Double mallur and manure----------	20.6	"	"	"	)
Summer tilled----------	16.6	"	"	"	
Summer tilled and top dressed------	23.0	"	"	"	
Disked corn land----------	14.8	"	"	"	
Disked sorghum land----------	3.8	"	"	"	
S. Clover turned under----------	10.1	"	"	"	

Average yield under all methods -- 14.1 bu. per acre.

OATS

Fall plowed wheat land----------	20.1	"	"	"
Spring plowed " "----------	18.8	"	"	"
Fall plowed barley land----------	14.4	"	"	"
Disked corn land----------	17.0	"	"	"
Spring plowed corn land----------	27.6	"	"	"

Summer tilled-24.4, fall plowed-alfalfa-.7, S. Clover-turned under-.6, fall plowed cotton land-.5, disked sorghum land-.5. General ave. oats-14.8 per bu.

Lawton: (continued)

The spring barley has not yet been threshed but the yields will be light. But very little difference was obtained in the yields of winter wheat in the rate and date of seeding test where the rates ranged from 3 to 6 pecks per acre and the dates from September 1 to November 15th.

Mandan:

A rainfall of one inch relived the drought situation for the present. As a result of the previous dry weather, the small grains are heading out with very short straw. From observations made while on a trip through the county on the twenty-sixth, it is doubtful whether the yields this year will be more than one-half of normal. Reports indicate alike condition over a large part of western North Dakota. Some sections report that crops will be a total failure. Mr. Cobb and Mr. Henchel left on the twenty-fourth by auto for northern Montana points where considerable time will be spent in shelterbelt inspection work. Mr. Stoa, who is in charge of the flax investigations of the North Dakota Experiment Station, visited this station on the 26th, and Mr. Bigger, of the office of Corn Investigations arrived today. Corn has been cultivated this week and alfalfa and brome grass cut. Precipitation one inch, maximum, 88, minimum 43.

North Platte:

Another week has been added to the dry spell. .22" of rain fell on the night of the 27th but this was practically all exhausted by the sunshine and rain of the following day. Prospects for a spring grain crop have declined about 40% during the week. All plats except those following summer tillage are badly fired. Corn is too small to require much moisture and is making an excellent growth. Stands have been thinned to count on the plats during the week. June closes with a total rainfall of 1.48" which is only 45% of the 42-yr. averages.

Scottsbluff:

The past week has been quite warm with two beneficial showers on the 26th and 27th. Barley and a few plats of spring wheat are heading out. Field peas and flax are beginning to blossom. Corn was thinned and cultivated during the week, brome grass cut and sorghum plats on the rotations reseeded. Maximum temperature 97, minimum 47, precipitation .78", evaporation 2.256", average hourly wind velocity 6.3 miles.

Sheridan:

The following weather conditions obtained for the past week; max. 90, min. 45, precipitation .03, evaporation, 1.725, average wind velocity, 4.4. With the warm, dry weather of the past week, crops have made rapid growth. A few oat varieties are heading, and that on the rotations is about all headed. Barley on rotations is all headed, and several varieties are also heading. The first winter wheat heads came in sight on the 29, and one variety of spring wheat, Prelude, came in sight on the 27th, peas have been blooming for the past few days and winter rye is in full bloom, and is ready to turn under. Very little disease of any kind is apparent on the crops to date. About the only kind of insects that have appeared are two kinds of potato bugs, and they are in small numbers. Rain would be welcomed in this section at the present time although no crops are suffering, but the pastures are drying out.

Sheridan: (continued)
Corn has been cultivated the second time, and all of the roads have been graded. An attempt is being made to keep down weeds, although they are coming very rapidly and in considerable numbers. Teams are now at work hauling dirt for filling in the implement shed, and working on the entrance road to the station.

Tucumcari:
Wind direction has been mostly souteast and southwest. Average condition of sky partly cloudy. Average wind velocity 6.9 miles per hour. Highest temperature 99 degrees on the 25th. Above 90 every day. Lowest temperature 62 degrees on the night of the 26th. Precipitation ,56 of one inch of rain on night of the 26th. This rain came in intermittant showers and did good on plowed ground and especially where ground had been planted with lister or with furrow openers. Evaporation 3.246". The entire week has been very favorable to crop growth. No severe winds occurred during the week. Plastering and pebble-dashing the addition to the implement shed has been completed. Several large cracks in outside walls of some of the buildings have been chinked or patched. Replanting on all ground requiring replanting has been finished and some of the stuff is already up. The earthen water storage tank has been completed except for a little finishing up work. The septic tank was completed last week. Sand and pebble filters were installed during the week and the tank is now being connected with the sewage system. Weeds on all plats and fields are getting a good start and will be difficult to control after cultivation can be begun. No regular cultivations have been given yet both on account of the smallness of the plants and for fear that the ground would blow badly again if the weeds were removed. I expect to have the sled cultivators started on the fields during the coming week to remove the weeds close to the rows of the crops, but we will leave the weeds in the middle of the rows until more rain is received or until the crops get up high enough to protect themselves from the blowing.

Williston:
Grains on the plats headed during the week, head and straw very short. All early grain in the locality is in the same condition. Late sown grain looks well, and indications are that its yield will be fair. Generally, yields may be estimated as considerable below normal. Cool weather and dry condition is keeping everything back. Corn is only a few inches high, and in parts of the county has been frozen off twice in this month. Maximum temperature for the week 85 degrees, minimum 45 degrees. .60" rain with hail on June 24. No damage. 2.53" precipitation occurred in June, or 1.2" below normal. This makes 3.5 inches deficiency since January first. Messrs. Cobb and Henchel have been working out from the station the past two days on shelterbelt work.

Woodward:
The thinning of the rowed crops was finished Thursday. The sorghums are about knee high and growing rapidly. Corn is about 30 inches high. We are still in need of rain but the crops on the station do not seem to be suffering. Harvesting is in full swing amoung the farmers. Altho the wheat is

Woodward: (continued)

short they are able to get most of it with the header. The wheat was hauled in off the rotations Thursday and the separator put in order to thresh. All of the plats were thrashed Friday but the wheat has not been fanned. We expect to put it through the fanning mill the first of the week and get the yields. The wheat from the increase plats will be hauled in and thrashed as soon as possible. Weather report: Maximum temperature, 103, minimum 64, average hourly wind velocity 9.5 miles, evaporation 2.962.

Judith Basin:

June has been a month of unusually light precipitation and rain is badly needed here at the present time. Only 1.81" has fallen during the past month, while the average June precipitation for the last 19 years is 3.27" or nearly twice as much. Only two very light showers occurred during the past week, and the weather has been warm and windy. Maximum temperature for week 82, minimum 40, precipitation .07 inches. The brome plats were mowed under on the 26th. In both cases the growth was lighter than it usually is. Some fan weed was found on the flax and winter wheat plats of the continuous cropping series, and an effort will be made to exterminate it before it gains a foothold on the station grounds. The corn, alleys, and roads have been hoed, and but for the dryness things appear to be in good shape here.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JULY 14, 1917.

FOR WEEK ENDING JULY 7, 1917.

Akron:

Small grain has suffered considerably from drought during the last week in June and some fields have fired badly. Oats and spring wheat have headed but the oats especially are short.

The Akron Farmer's Merchants & Mercantile Co. had a picnic at the station on June 30th. Music by the Sterling orchestra, talks by Director French and Prof. Clark of the Colorado Extension service, and a ball game were the more important entertainment features. 221 automobiles and 30 teams were counted on the grounds at one time.

The precipitation from the first of June to the 30th totaled .56". A rain of 1.06 on the 2d improved crop conditions. Maximum temperature for the past two weeks 97, minimum 45, precipitation 1.08".

Amarillo:

Cultivation and thinning of row crops have been the main order of business during the week. Winter emmer and spelt and winter grains on the cereal nursery were harvested. Harvesting of small grains on the D.L.A. plats was completed today all but 13 plats of spring wheat not yet quite ripe. As usual the stubble plats after winter wheat are clean of weeds but after the spring grains there are more or less of thistles. After the spring wheat and barley there is as a rule a scant cover of thistles while after oats there is usually a medium thick stand of thistles. However in oats stubble where oats were disked in this spring there is only a thin cover of thistles at this time. We had two light showers during the week, one of .12" the night of the 2d, and the other of .54" the night of the 3d. The benefit from these is slight, the ground being dry as it is and clear, windy weather following immediately. The row crops continue to make good growth. The oil and drug plants which are being experimented with for Stockberger's office, are not doing much. Seed of these was replanted during the week in hopes that a better stand may result than from the first planting.

Weather for the week was:-maximum 100 on the 5th, minimum 57 on the 4th, hourly wind velocity 10.5 miles, precipitation .66", evaporation 2.893".

Weather summary for June.

Max. temp. 102 on 10th and 12th. Avg. Max. 90, Ten yr. normal 88.
Min. " 35 " 2d. " Min. 57 " " " 60.
Total wind 6.942 miles, Avg. Hourly 9.6 miles, Ten yr. normal 8.9 miles.
Precipitation .66", station normal for June 2.03"
" since Jan 1st 4.31", station 10-yr. normal for period 7.91,
making a deficiency of 3.60" to date, for the year.
Evaporation by 6 ft. tank 12.478 inches, 10-yr. normal 9.925 inches.
" " 8 ft. " 12.237 "
Mean vapor pressure, .287, ten year normal, .422.

Archer:

Some of the plats show the need of rain and appear somewhat spotted, due to uneven distribution of moisture. The winter rye in rotations Nos. 15, 14, 114, & 115 were plowed under for green manure this week. The average height was 42" and the stand was very good. The ground was in fair condition for plowing, but would have been hard in a few days with no rain. The rye was

Archer: (Continued)

just beyond the blossom stage, but was beginning to fire in places. The alfalfa was cut and the yields were 1050# and 1600# per acre on the second and third year plats respectively. The brome stubble plats were single disked to loosen the surface. All the corn plats were cultivated. The corn is growing well and is sixto eight inches high. The barley is starting to head. Squirrels are working on some of the barley plats, gnawing off the culms and leaving them where they fall, apparently to get water from the plants. They will be combatted with CS_2. The precipitation for the week was .09". A rain is threatening from the southwest at present, but will probably go around. Temperatures: maximum 90-7th, minimum 38-1st, means 82 and 47, wind velocity 5.3.

Ardmore:

Maximum temperature for the week, 90, minimum 46, precipitation .01", the total precipitation for the month of June was 1.71". This precipitation fell on thirteen days out of the month, and no single continuous rain contained more than .5 of an inch. In other words, the distribution was so very poor, that it had very little beneficial effect upon crops. The precipitation for the same month last year was 2.68".

A severe hail storm was recorded in this section on June 28th, this storm lasted eight minutes, but did a great deal of damage. 80% of the winter rye on this station was knocked to the ground, and this crop has been cut for hay. Corn, spring wheat, and oats suffered considerably, but are recovering very nicely. A field containing twenty-five acres of sweet clover which was just coming through the ground, was entirely killed out.

The prospects for a crop on this station are the poorest they have been in the last six years. Compared with the average rainfall, the rain fall this season has been above normal, but the spring was so late, and so exceedingly cold, the crops have made but little progress. Sixty day oats which normally obtain a height of two feet in this section is headed out, some of it as low as four inches. It is likely the oats crop will be a complete failure. Spring wheat at the best can only yield four or five bushels per acre. Corn is very late and backward, and will not produce a crop unless the weather conditions are very favorable from now on. Due to the exceedingly wet weather we had during the months of April and May, it was impossible to properly prepare ground for millet, sorghum and other forage crops, and as a result these crops were planted nearly a month later than usual on this station. Sorghum is doing very nicely under present conditions, but the weather will have to be extremely favorable in order to produce a good crop. One hundred and fifty acres of sod land has been planted to sorghum on this station.

Big Springs:

The week has been rather warm and a period of relatively high evaporation. Maximum temperature 100, minimum 65, wind velocity 7.9 miles per hour, evaporation 3.00 inches, precipitation .33 of an inch. The light shower Tuesday morning was a great help in securing a stand on many of the plats. Practically all the plats planted with the lister will probably have to be replanted, before a good stand can be secured. This is due in most cases to the

Big Springs: (continued)

shallow penetration of the moisture on the unlisted land from the rain of the 23d of June, which amounted to .98". This rain is the heaviest received at one time this season. The total precipitation since Jan 1st to date amounts to 3.20". This is the lowest amount recorded in any one year for a 17 year period. Planting of the variety plats was finished during the week.

Colby:

Crops have improved considerably this week because of almost an inch and a half of water which fell Monday and Tuesday. Most of the winter wheat and some of the barley will make grain as a result. On the D.L.A. field, however, all but the fallow plats were too far gone to be helped any. Corn is growing rapidly, and the sorghums which seemed to be almost at a standstill have made considerable growth since the rain. The rye and pea plats were plowed under yesterday. The rye was about eighteen inches high. One of the plats was in bloom while the other two of rye had headed but turned white before blooming. The peas had completely dried up when about six inches high. The surface planted corn was gone over a second time with a cultivator and the weeds which escaped the cultivator were hoed out. Weather for the week: max. 102, minimum, 53, precipitation, 1.30 inches.

Dalhart:

Five small showers which fell during the week has netted 1.19 inches of rain and has given temperary relief to the more advanced crops. The later planted crops some of which are only about two inches high have been very much benefitted and are growing nicely. On account of the very dry weather which has prevailed weeds have not made much growth and so far have been easily controlled. Work on the new house is progressing satisfactorily, but rather slow on account of the scarcity of skilled workmen especially carpenters.

Edgeley:

There have been a number of local showers around this territory, but only one light one came near here. Where showers have occurred, however, the relief seems to have been but temporary, and the condition of the grain generally has been growing steadily worse. With good rains now, only a small yield will be possible with almost any grain, while many fields are now practically dried up. Many of the experimental plats are still in fair condition, but the stand is generally quite thin. Nearly all of the Dry Land plats and the most of the earlier grain around here is now headed. Corn has been growing rapidly. That on Nine is much better than on the station, except where manured, or in a grass rotation. Flax is good, and that in rotation 12 is now in blossom. All of the corn was cultivated during the week. Manure was spread on the fallow plats to be manured, and plowing the fallow and green manure plats was begun. The alfalfa and clover plats were cut, and those on the station hauled. The clover gave a yield of 1300# per acre, and the alfalfa 1300# and 1850# per acre. The clover, however, was largely weeds and trash, the stand of clover being very poor. Maximum temperature 88°, minimum 34° (frost in some places) precipitation .24 inches.

Garden City:

The drought was effectively broken on the station by a rainfall during the week of 1.94". 1.76" of this amount came on the evening of the 3d. The rain was rather general in this portion of the state but the amounts received varied considerably in Garden City only ,82" was recorded . There is a considerable acreage upon which a sufficiently good stand of sorghums was not secured that would now be planted if seed could be had. All sorghum crops and corn are making a rapid growth, but all dry land small grains except those on fallows were too far gone to be helped any by the rain. Before the rain, beans were making a better growth than any other crop on the project. The second crop of alfalfa is light-probably from $\frac{1}{2}$ to $\frac{3}{4}$ of a ton per acre will catch the average. Field work for the week consisted principally of lining out all roadways, scrapping all weed growth off with a grader and then grading the roads level with the plats. Soil samples were taken on four plats of M.C. corn and wheat. The corn plats have sufficient moisture to supply their needs for sometime. Some soil temperature work on the M. C. corn plats was also started. The past week has been the most favorable for plant growth of any that we have yet had this season.

Hays:

Weather has been hot and dry. Maximum temperature 103, minimum 55, precipitation, trace. A few days of part cloudy weather, but it apparently cannot rain. Corn and sorghums are wilting daily but as yet are not damaged much, if any. Spring small grains were dried up, on all plats except on fallow and were mowed July 2d. A few plats of winter wheat were harvested on the same day. The remainder of the winter wheat was harvested July 6th. All the small grain that remains unharvested is two plats of spring wheat, both on fallow ground. Nitrade determinations were made on a number of the winter wheat plats, on corn plats and on green manured plats during the week. All listed sorghums on the project was cultivated July 3d. Three foot soil moisture determinations have been made on practically all the winter wheat plats on the project.

Grasshopper poison is being generously applied every few days for the millions of hoppers which are finding the Dry Land project.

Huntley:

Weather during the week has been very hot and dry with practically no wind. Crops are all suffering for want of moisture and winter wheat is burned badly on all rotations and cultural methods. Spring grains though dry are still in fair shape. Oats and barley is headed and flax has finished blossoming. Corn is 8 to 10 inches high and on some plats is beginning to curl badly. A hail and rain storm totalling .30 inches of precipitation fell the evening of July 4th. Little damage was done to the small grain crops but corn and the dry-land garden was rather severly cut down. The moisture that fell was of small benefit to crops as it fell too rapidly to be absorbed by the soil. Maximum temp. 95, min. 49, precip. .30.

Judith Basin:

Dry, warm weather has continued to prevail here during the last week, and crops are badly in need of rain. The grain crops at the station still present a healthy, green appearance, but are very short, and will soon head out. In fact some of the barley on the cereal plats has already headed. The alfalfa plats at the station, were cut during the past week, except a few which were left for seed. The alfalfa was beginning to burn and turn brown, in spots, when cut. Alfalfa yields will average higher than last year, according to Moomaw, the forage crop man. Maximum temperature for week 86, minimum 45, precipitation .07", evaporation 1.766".

Lawton:

Last Sunday July 1, hardly a breath of air stirred during the day light hours and the maximum temperature for the day was 104". Monday, Tuesday and Wednesday followed with cool weather, mostly cloudy and a few inconsequential showers. Hot winds on the three succeeding days with maximum temperatures of 100, 103.5 and 104 have injured many corn fields thru out the country beyond recovery. Corn on the station is in very bad shape and it now seems that it can not survive much longer unless there is a change in the severe climatic conditions in the near future. All of the sorghum crops on the station are holding their own and a good many of them have made some growth during the last ten days. Many fields through out the country where the plants are thick in the row are suffering intensely. Corn on the station has been in tassel during the last ten days and some of it is showing a few silks. Sweet clover and alfalfa manage to remain alive and that is about all. Cotton has made a pretty good growth. The condition of the cotton on the station is far above the average throughout the surrounding country. Threshing of small grain was completed during the week and we have been busy hoeing weeds, using a 14 tooth harrow in the rowed crops and doing some early stubble disking. The first picking of early buff cow peas planted April 1 was made on the 6th. A part of the plats were also cut for a hay test. The next date of planting will be ready to pick and cut Monday. Cow peas are not nearly so promising as they were last year and soy beans present a very poor prospect. Precipitation during the week fell as follows, July 2d, trace, July 3d, 0.31, July 4-.02, July 5th-trace.

Mandan:

Dry weather with more or less wind has prevailed during the past week. The crops throughout the county, with the exception of the southern part, will be very short, and in many sections a total failure. There will also be a short hay crop as most farmers still depend upon the native prairie grass for their hay. Corn and other cultivated crops are doing well. Corn is as far advanced as it was last year at this time. Most of the varieties of garden vegetables have made a satisfactory growth. Winter injury notes on shelterbelt, fruit and ornamental trees, and other plants, show considerable loss through winter killing. Practically all of the Chinese poplars and willows either froze back to the ground or were killed out entirely.

Mandan: (continued)

The Norway poplar, which has been extensively planted in North Dakota, was badly injured. Many sections report that even large trees were an entire loss. The Northwest poplar laurel-leaf and Russian Golden willows were uninjured and appear promising for shelterbelt plantings in this section. Most of the apple and plum varieties were frozen back. Precipitation .15", maximum temperature 92, minimum 40.

Scottsbluff:

The past week has been warm and favorable to crop growth. Spring wheat, oats and barley have headed out, corn is growing very rapidly and the sorghum seeded on the rotation plats last week is up, with a very good stand. Sorghum on the variety tests, beans and corn were cultivated during the week. Maximum temperature 94, minimum 43, precipitation-none.

Sheridan:

The following weather conditions obtained for the past week. Maximum temperature, 95, minimum 49, precipitation .09", evaporation 1.845, and wind velocity 3.9 miles.

Although there has been but little wind this week, it has been very warm and the soil has dried out fast. Small grains are beginning to burn, although not seriously, to date. Wheat oats and barley are nearly all headed out and flax is beginning to bloom. Very little disease has appeared in any of the small grains with the exception of two plats of barley and one of flax. One barley is badly smutted and the other has leaf strip while the flax has some wilt. Potato bugs are numerous on the potatoes and paris green is being used to combat them. At various places about the field are ant hills about which no vegetation will grow because the ants nip it off. We are trying to combat them with carbon bisulfide. Green manure peas and rye were turned under during the week, both of them having bloomed. Teams have been busy during the week, moving dirt from a cut by the railroad track, in order to make the crossing safe. All of the necessary dirt has been hauled into the Implement shed, bringing the floor up to about 3 inches of the top of the foundation.

Tucumcari:

Prevailing wind direction southwest. Condition of sky would average partly cloudy. Average hourly wind velocity 6.9 miles. Max. temp. 100, min. temp. 62, precipitation.42, .39" on the night of the 3d and .03"-4th. Evaporation 2.901". Weather conditions the past week have been much more favorable for crops than the records above would indicate. Although the days as a rule, have begun with cloudless skies, before night the sky has generally been cloudy and scattered showers over the section have occurred nearly every day. Several small showers, too small in amount to be recorded have occurred here. Crops have all made good growth-also the weeds. All replanted stuff except some of the millets on the plant field and except some kafir in the crop field are up and growing fine. Work for the week consisted of cultivating weeds out of the rows, only, of a number of the plats; of digging ditch for pipe line to connect up earthen storage tank with iron tank; of lining up ends of plats and of cultivating roadways which run in a north and

Tucumcari: (continued)

south direction through the plat field. Most of the crops are now getting large enough to protect themselves from blowing and probably the cultivators will be started in everything the latter part of the coming week. On account of the extremely dry windy weather and on account of the sandiness of the soil we have had to handle our field this spring and summer much the same as some sand dune areas are handled, that is, by envouraging anything to grow on the land which would grow. Judging by results in other years, if we receive a good supply of rain any time within the next three or four week we still have a good chande for large yields of our adaptable crops. Corn, cotton, small grains and possibly millet do not promise much although most of the corn looks very well so far. None of the row crops have been thinned to stand so far as it was thought best to wait until the sand finished its part in the thinning operations. Thinning of corn and some of the grain sorghums will probably be started next week. All small grains are absolutely failures this year. In the wheat sections to the north and south of us, yields of from 3 to 10 bushels are being secured, but the crop is a failure in the general sense.

Recently, in looking over some weather records from 1864 to date, for one or more W.B. Stations and army stations which have taken more or less complete records for this period within 60 to 75 miles of this point, it was noticed that out of all the years I have a record of 1864 appears to have been the only year in which the precipitation came so unfavorably distributed that at least feed crops could not be grown, if the ground had been so prepared that planting could be done just as soon as the rains occurred. Indications for grain crops have not been so good, as it appears that in only about 3 years out of five has rain come at the right time so that grain crops, such as corn and grain sorghums, could be planted in time to mature. Of course grain and forage sorghums and cowpeas, which are best crops, are only rather recent introductions into this section and chances for success with the crops previously grown were much less. This latter point partly explains the pessimistic attitude taken by many of the older settlers and stockmen in regard to raising feed and grain crops in this section under rainfall farming. Due to the continued dry weather of last year and this year the water table in many places has been lowered considerably and many people are lowering their well casings and pipes from 8 to 10 feet. On the station the older of our two wells is pumping more air than water now.

Williston:

Maximum temperature for week 98, minimum 45, precipitation .11 inch-4th. Crop conditions are serious due to the dry weather. All early grain in vicinity headed prematurely, is short and thin. On station the dry land wheats are still of excellent appearance, but the oats and barley are very short and badly dried. Some of the latter will be almost too short to cut. Corn is doing well, and might produce a crop with favorable weather from now on. The entire northwestern section of the state, excepting in small isolated places, has practically the same crop condition. Winter feed is now considered a problem, as all grasses are thin and short, and the first cutting of alfalfa now being put up is very poor.

Woodward:

The week has been pretty hot with very little rainfall since Sunday night, when we got a rain of .68". Since that we have received three little showers totalling .15". The plats were too wet to cultivate the first of the week but by Thursday when we could get to them they were in good shape to cultivate All the rotations were completed by noon Friday. The crops are looking good at this time and are growing rapidly. The single stock cotton plats were thinned to 10" on the third. An excellent stand was secured on all plats but the rotations 201-2 & 3. The variety cowpeas that were planted last week came up in five days with the exception of the pinto bean which we are running in the test. It came up two days later. We are running some row tests of a few selected peas from individual vines for earliness in maturing and erect growth. It has been so dry that we have delayed putting the fertilizer in the ground for the test with kafir. It will be applied now as soon as we can get to it which will probably be about the first of the week some time. Weather report: maximum temperature 105, minimum 60, average hourly velocity 6.4, evaporation 2.220.

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JULY 21, 1917.

REPORT FOR WEEK ENDING JULY 14, 1917.
(Except where otherwise indicated)

Akron:

The past week has been dry but with only one very hot day. Grain is ripening rapidly and the most of it is filling well. The cereal varieties on corn stubble will be too short to bind and are burning badly. Corn is growing rapidly and was cultivated for the second time during the past week. Harvesting will start this next week in the county. Winter wheat will make a much better yield than was expected two months ago.

Mr. F. A. Coffman arrived Friday to take charge of the work of the Cereal Office at this Station. Maximum temperature for the week 96, minimum 52, precipitation .23 inches.

Amarillo:

No rain as yet has come to relieve the drouth situation which is now becoming critical in that it threatens the row crops of the Panhandle section. Up to the present there has been a supply of moisture in the surface two feet of soil sufficient to get these crops nicely started wherever a stand to begin with was secured, but during the last few days the drouth has commenced to tell on the corn, milo and kafir. Yesterday, with the wind at times blowing around 20 mi. per hour-thermometer standing at 100-humidity 15%, these crops rolled badly and drouth spots are becoming apparent in the fields. They were given the third time over cultivation this week. Harvesting the rest of the spring wheat was intended for today but this has to be put off on account of the high wind still prevailing. The harvest round of soil sampling was conducted during the week, the soil in all cropped plats being found to be very dry indeed-especially through the first 4 feet. Study of soil moisture conditions under a prolonged spell of drouth could hardly be more favorable. The samplings in the spacing experiment are being carried out carefully this season. On the 12th the station was visited by Chilcott, Sieglinger and Fletcher of the Woodward station and by Osborn of the Lawton station-these men driving through from Lawton by auto. Weather for the week was-maximum temperature, 100 on the 13th, minimum 61 on the 12th. Hourly wind 8.1 miles, precipitation .06 inches, evaporation 3.065 inches. The evaporation yesterday amounted to .667 inches.

Archer:

All crops show a good growth. Barley is headed out at a hight of about 15". Oats and spring wheat are just starting to head. The rotation stakes were put out and the plats were all trimmed with hoes. The large weeds were hoed out of all plats. The plats are all unusually free from weeds. The "Farmer's Round-up" was held here today, and there was an attendance of about 400.

Mr. Allen Clark of the Cereal Office visited the station today. A quarter inch rain with a strong wind came this evening. The precipitation for the week excluding that of today is .11". Evaporation 1.829", temperatures: max. 91 on the 14th, minimum 47 on the 13th, means 86 & 52, wind velocity. 5.2.

Bellefourche: (Report for two weeks ending July 14)

Dry land grain crops are in a very critical condition. Most of the plats have already been damaged by drouth, some very seriously. Wheat after sweet clover was the first crop to be badly damaged. It will never head. Since that time

Bellefourche: (continued)
the other plats of small grain have been suffering. Small grain corn continuously cropped land ans small grain after some other grain crop were the next to be injured. The grain after the other green manure crops and after corn has now commenced to burn out. Only the grain on fallow stands any show of making a good crop and unless rain comes very soon it will be damaged. Barley is now nearly ripe. The yield will probably be between fifteen and twenty bushels per acre. Barley on fallow is much better than that following any other method of cultivation. The dry hot weather has helped the corn and it is growing rapidly. It has not yet been damaged by drouth.

Since the first of June there has been but 1.05" of rain. June is usually the month of heaviest rainfall.

The farmers' picnic will be held at the station on July 21st. Maximum temperature 100, minimum 53, precipitation .03".

Big Springs:
The weather during the week has been very warm and dry. Maximum temperature 103, minimum 70, wind velocity 6.9 miles per hour, evaporation 3.15, precipitation .02". Young crops suffered considerably during the week from the heat and dry weather, and unless relief comes soon in the shape of a good rain, the stands secured on many of the plats will be destroyed. Cotton came rather poorly on most of the plats, though good stands were secured on some of them. The hot days are especially hard on the young cotton plants. Milo, kafir, sorghum, broomcorn, feterita and cowpeas seem to hold up the best and are making some growth where there is sufficient moisture available. It will be well to state, that not enough moisture has fallen at one time since last fall to wet thoroughly the soil to the depth plowed. Where the listed furrows were left open sufficient moisture collected to furnish a good season for planting and wet deep enough to make moisture meet. Many of the farmers are getting discouraged and are leaving the country. These drouthy conditions prevail over a large scope of the west portion of Texas, especially the central-western part.

Colby: (Report for week ending June 30:)
This has been the hottest week for this time of the year since the station was started. It has been a week of really high temperatures and really hot winds. All of the spring small grains are dried up except those on summer fallow. Where there was a good stand of winter wheat it is suffering badly. While corn wilted some it has made quite a rapid growth. Yesterday, with a hot wind averaging 21.6 miles for the 24 hours and a maximum temperature of 104, even the sorghums began to wilt. The surface planted milo and kafir were cultivated this week and soil samples were taken on the M.C.Milo and M.C. Winter wheat plats. The winter wheat plats have no moisture at all. Weather for the week: Maximum temperature 104, minimum, 56, average hourly wind velocity (8') ft. 13.3, (2') 8.7, evaporation 2.72", precipitation .14".

Weather for June: max. 104-29th, min. 32-2d, average max. 85,-1916 90-1915, 81-1914 91, evaporation 8.281"-1916 7.153", 1915 5.843", 1914 8.975", precipitation 1.42"-average 3.16"-1916 3.15", precipitation Jan. 1 to July 1, 5.97, average 9.37", 1916, 7.44".

Colby: (Report for week ending July 14)

This has been another favorable week for crops. Over an inch and a half of rain fell the fore part of the week and good growing weather has prevailed since. Corn is from two to two and a half feet high, and most of the sorghums are from eight to twelve inches in height. Barley and wheat harvest started in some parts of the county during the week. The yields of both will be comparatively poor. Few fields of wheat will average more than four to five bushels. At the station the winter wheat is just filling and will not be ready to cut for two weeks yet, while barley is almost ripe. All the listed milo and feterita were cultivated for the first time this week while the surface planted sorghums and the listed corn were gone over the second time. Much of the week was spent in hoeing weeds in the plats and roadways as weeds are very bad this year. All the fallow plats were double disked. Weather for the week: max. 98, min. 52, precipitation 1.58".

Dalhart:

A few of the later planted crops have made a good growth during the week. The early seeded milo is about eight inches high and some of the sudan grass seeded in rows is about a foot high but both are thin and are making a very uneven growth. Corn which is now about two feet high has made but very little growth and is rapidly drying up. Yesterday the temperature was up to 104. This was accompanied by a high wind which damaged the crops a great deal and was the highest temperature recorded during the last four years. Feed in this vicinity is getting scarce and on account of the poor condition of the range several farmers are trying to dispose of their cattle. Several train loads of cattle a week are being shipped north where range conditions are reported to be better. Maximum temperature for the week, 104, minimum 61, precipitation, 0.

Edgeley:

There have been showers almost every day during the week, sometimes several in the same day, but very little rain has resulted from them, except in small isolated areas. A shower of .65 inches fell on the station yesterday. Considering the amount of moisture that has fallen this season, the condition of the crops is surprisingly good at the present time. There are many fields of all kinds of grains that cannot now produce a crop even with the most favorable conditions, but the greater part of the grain, although the stand is thin and the straw short, still seems to be healthy and vigorous and has a good color. One factor that has helped the grain is that there has been little or no firing. Rye is now beginning to turn, and is filling well. All of the summer fallowing was finished the first of the week, and the M.C., the fallow series, and the green manure p acked. All of the corn has also been cultivated once. Max. temp. 90, minimum 40, precipitation, .33 inches.

Garden City:

The week was marked by increasingly favorable growing weather. There were some very hot days, but these were accompanied by considerable humidity and little wind movement, and all rowed crops grew rapidly. Small grains are ripening but the yields will be very low-only a few of the plats will be harvested. none of the small grains are high enough to harvest with a binder. During the

Garden City: (Continued)

week practically all of the sorghum, millet, and bean plats were cultivated. With few exceptions these plats are now practically free from weeds. All weeds on the moisture reduction plats were killed with a hoe. Soil samples on the corn plats indicates that there is sufficient moisture available to meet the needs of the crop for sometime yet. On plat 'D' the soil is moist to a depth of 6 feet. Injury from grasshoppers is increasing daily, and 100# of poisoned bran was scattered over the project the latter part of the week. Judging from reports that the writer has received, grasshoppers are much more numerous this year than usual, and farmers say that they are unable to secure Paris Green with which to poison them. Weather data for the week:- max. temp. 99, min. 56, evap. 2.958", precip. 90", wind vel. 2' ane. 7.0, - 8' ane. 10.2 miles.

Summary of weather for June: evap. 12. 370"---2.760" above 9 year average. Average minimum temperature for June 56, avg. max. 89-3 degrees above, 9 yr. average. Wind vel. 2' ane. 9.7 miles, wind vel. 8' ane. 13.6 miles. The average wind velocity for the 2' ane. is just .1 mi. below the 9 yr. average.

Huntley:

Weather during the week has continued hot and dry with frequent hard wind storms. Winter wheat plats are badly burned and it is doubtful if the heads will fill at all. Spring grains are still green but are heading very low. Peas on the green manure plats were plowed under early in the week. The soil was very dry and a rough job of plowing was done. Hogs on the brome grass and alfalfa pastures were removed and replaced with spring pigs. The pastures have each been mowed and the new growth is starting nieely. Hogs on the rye plat of rot. 652 have ceased to make gains on this forage and will be moved to the plat of peas early next week. The peas were badly damaged by the hail storm of a week ago and the pasture will carry the hogs but a few days. Temperatures for the week: max. 100, min. 50, precipitation .01".

Judith Basin:

A rain of .71" on Friday brought relief to the farmers, but more is needed if anything like an average yield is obtained in this vicinity. Not a great deal of difference is to be noticed between the various plats, but the grain planted on fallowed land shows up somewhat better than where grain follows grain. All grain will be very short this year. The oats and barley have already headed out, and the grain does not average over a foot in height. The brome grass and alfalfa on the rotation plats have been weighed and yields ranging from 70 to 173 lbs. per plat were obtained in the case of the brome grass. One of the alfalfa plats yielded 260 lbs. and the other 200 lbs. In both cases the lower yields were obtained from the older plats.

Maximum temperature for the week: 90, min, 144, precip. .80, evap. 1.861".

Mandan:

The week has continued dry, with the exception of .37" on the 9th. The rains this summer have consisted mostly of local showers. There has been no general rain since the first part of June. The small grains are all headed out in this vicinity, but with the exception of a few acres, the crop will be very short. Mr. C. H. Clark who is in charge of the flax investigations in the Office of Cereal Investigations, arrived on the 13th and will spend some time at the station. Precip. .37", max. temp. 96, min. 62.

North Platte:

Severe drouthy conditions continue. The July rainfall to date has been but .44" in five showers. Highwwinds and temperatures have been almost continuous. Grain crops have been badly damaged. Harvest has been begun but yields will be very light. Corn is about three feet high and still looking well but the leaves are beginning to roll during the day. A wind storm last night did a great deal of damage to trees, hay stacks, and building in the neighborhood. On the station two windmill wheels, a silo and hay barn were demolished.

Sheridan:

The past week has indeed been warm, one day of which had the highest temperature recorded here for several years. Maximum temperature was 101, min. 49, evaporation 2.521 and wind velocity 5.0 miles, precipitation, trace.

Crops have burned slightly and a few spots over the field badly, but the prospects of a good crop is encouraging. All of the small grains on the station with the exception of one or two varieties are in full head and flax is all in bloom. Barley on rotation will be ready to harvest in a few days and the oats will not be much later. Although it has not rained to speak of for more than a month the yields of small grains on this station, will show value on the credit side of the ledger, unless hail damages it.

The Annual Farmers' Picnic was held on the 12th, with a small but enthusiastic crowd in attendance, Henry G. Knight, Dean of the Agricultural College and Director of the Wyoming State Experiment Station as well as Chairman of the National Defense Council was the principal speaker. Some of the visitors of the week were John M. Stephens, and Dan Hansen of the Department of Agriculture and M. L. Wilson, Chas. McSpadden, and Miss Florence Pool of the Extension Service of Montana.

Tucumcari:

Average hourly wind velocity 65 miles, highest temperature 103 on the 13th, lowest temperature 64-on three different nights. The night of the 10th and the 13th the lowest reached was 75 which is very warm for this section. Precipitation .01, evaporation 3.302".

Work forrthe week has consisted of thinning crops to count and of cultivating. Most of the rotation and C.C. rowed crops have been thinned and quite a number of variety plats have been thinned. On some of the plats the standwwas already too thin to count. There were left as they were. All of the row crops in the plat field were cultivated and several fallows also. Two plats on which millet had been planted but which were grown up badly to weeds were mowed so as to give the millet a chance. Several acres in the crop field have been cultivated. Some of the crops, especially corn, are rolling somewhat during the day. Most of the crops although small, are doing well. Being small will be an advantage if the drouth continues as they have not begun to draw heavily on the moisture.

Messrs. Chilcott, Fletcher, and Sielinger, of the Woodward Field Station, and Mr. Osborn of the Lawton station visited this station the 13th.

Williston:

Maximum temperature for the week 96, minimum 44, precipitation, .08". Wheats on the plats are beginning to turn today, with practically no filling due to dry weather. Corn is short, but holding up well. All crops suffering in the locality, and a good rain is needed quickly to insure a partial crop. Hay will be short this year, and there is much concern over the feed situation. It is probable that considerable stock will have to be sold off in this section. Soil samplings to fifteen feet were taken for a second time, and because the soil is so baked and dry it was a difficult operation. Green manure plats were plowed under this week, rye fairly high, but thin, and peas and sweet clover while of good stand, were short.

Woodward:

The week has ended with hot winds and still no sign of rain. We have had several days of hot winds but on the 13th I believe we had the hottest winds witnessed in this section for several years. The corn on the rotations was turned white and I doubt whether it will fully recover even if we get plenty of rain in the near future. The sorghums seem to have stood the winds in good shape. About 6:30 in the evening they showed very little signs of the hot wind. Some of the first date of planting in the Cereal field is heading and does not seem to be effected much by the drought and the hot winds. We have all of the threshing done now but the wheat has not all been run through the fanning mill, so I am not able to state just what our maximum yield is but I think it will reach 25 bushels at least. This however is not wheat grown on the rotations, it is from the increase field. The maximum yields on the rotations was 14 bu. on rotation 151A. Some of the farmers have threshed their wheat but I have not heard what it is making.

On the 10th, Messrs. E. F. Chilcott, J. B. Sieglinger and W. F. Fletcher left for Lawton, Amarillo, Dalhart and Tucumcari Field Stations. They are expected to return to Woodward some time Monday of next week. A telegram was just received from Mr. Chilcott, Dalhart, Texas, stating that they would return Monday. The field work is progressing nicely altho we have been delayed a little by the heat on account of the teams. Some of the ornamental shrubs are beginning to suffer from lack of water. The city water is cut off about 7/8 of the time and we do not get to water very much. We have had to haul some water for the trees and shrubs. Weather report: max. temp. 110, min. 60, avg. hourly wind velocity, 7.1 miles, evap. 3.199", precip. T, Hot Winds a plenty.

NOTE: (For the attention of the field men)

Station allotment for the fiscal year 1918 is _____.

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JULY 28, 1917.

REPORTS FOR WEEK ENDING JULY 21, 1917.

Akron:

The past week has been dry and hot but with very light winds. Grain is ripening and some of the neighboring farmers have begun harvesting. Barley on the station will be ripe enough to harvest the first of next week. Grain is filling fairly well but oats are very short. Spring wheat will make fair yields if it fills. Winter wheat is very thin and yields will be light. Corn has grown rapidly but is rolling during the day. The greater part of the fallow on the station was plowed during the week and the potatoes and part of the corn cultivated. Maximum temperature 93, minimum 52, precipitation, trace.

Amarillo:

The drouth was partially broken by two showers of rain that came last Sunday and Monday nights, netting us 1.58". These rains came with considerable dash so that there was run off and collection of water on low ends of plats where the surface is still wet after several days of clear weather. Except for these spots, the moisture generally over the fields penetrated only down 5 to 6 inches. Though more or less local in distribution, fair showers are reported from over most of the Panhandle country and row crops are greatly revived. With normal precipitation from now on the prospects for these crops are encouraging. It is reported that wheat generally over the Panhandle is averaging around 5 bushels per acre. As yet, weeds have given us no trouble on the fallow plats which have been kept in good shape by harrowing followed up with a hoe to cut out what few weeds were started. The corn, milo and kafir plats were gone over with a hoe to cut out weeds missed in the rows by the cultivator. Since the rains thistles are coming up with a jump on the spring grain plats which are now being double disked to check the weeds until plowing time. Harvest of the rest of the spring wheat was delayed a few days because of rain, being done yesterday. Weather for the week was: maximum temperature 99, minimum 60, hourly wind velocity 7.7 miles, precipitation 1.58", evaporation 2.144.

Archer:

The small grain is showing the need of rain; much of it is firing, and the ranker boarder growth is beginning to appear. Soil sampling shows the ground to be very dry and hard in the first and second feet. The plat of barley in rot. 85 is almost eaten off by rabbits. The brome plat in rotation 41 and plat N of the fallow methods were plowed the first of the week, and the corn plats were all cultivated. There has been only a trace of rain since the ¼" rain a week ago (recorded in the observation of the 15th). Precipitation for the week 0.26", evaporation 1.641, temperatures: max. 90-20th, min.45-15th, means 83 and 51, wind velocity 4.7 miles.

Bellefourche:

Continued hot dry weather has put an end to all prospects of even a fair yield of small grains. The fallowed plats of wheat are the only ones not seriously damaged and they are commencing to burn. Coen is now beginning to suffer and will never form grain unless rain comes soon. All plats are suffering equally. Even the corn on fallowing is suffering though there is an abundance of moisture in the second and third feet. The third annual farmers' picnic was held on July 21st. About 1500 people attended. Max. temp. 100, min. 54, precipitation, .18 inches.

Big Springs:

Maximum tempera tures for the week 100, minimum 66, wind velocity 6.8 miles per hour, evaporation 2.39", precipitation .38 of an inch. While the light showers received, helped some in changing atmospheric conditions for a short time, they were not heavy enough to do much permanent good to the growing crops. The stand and condition of the various crops on different plats are very marked at the present time, the difference being due to the way the crop was planted and the grade or slope of surface of the plats. The plats planted with the two-row corn planter have much better stand than where other methods were used. On listed plats a very poor stand was secured in most all cases where the lister planted was used in putting in the crop. The shallow penetration of the moisture from previous rains left the land in condition to dry out rapidly when disturbed with the lister. The surface of the farm is more or less rolling and during heavy showers considerable loss in runoff often occurs on some of the plats and fields. It is due to this fact that many of the plats in the low places get more water than others and this season we have a number of plats that have fine stands of milo, cane, cowpeas etc. that are growing nicely and promise to do well for some time to come, while the crops on more rolling ground are suffering for the want of moisture.

Early Tuesday morning a large section of the county received heavy rains that put small creeks out of banks. At the farm only .35" fell. This has been the condition for most of the season and a more general rain will have to fall before the entire county will be benefitted mery much. The work on the station for the week has consisted in cultivating the plats and fields to kill the weeds, hoeing, thinning and trimming plats. The third cutting of the plats of alfalfa was made the fore part of the week and an average yield of over three hundred pounds of hay was secured per acre. The total yield for the three cuttings to date is over 1000 lbs. of hay to the acre.

Colby:

Another period of drouth appears to be with us. There have been indications of rain nearly every day but practically no moisture has fallen, and all crops are wilting more or less. Surface planted corn is suffering rather badly. Most of the week was spent in ridding the project of weeds. Practically all the small grain plats will be cut the fore part of next week. It is doubtful if even the fallow plats will be worth threshing. Weather for the week: Max. temp. 98, min. 50, avg. wind vel. (8') 6.9 mi. (2') 5.2 mi. evap. 1.719", precipitation .17"

Dalhart:

Sixty eight one hundredths of an inch of rainfall was recorded during the first part of the week. This was enough to relieve the crops temporarily, but the beneficial effects have almost dissapeared at this writing and more is needed. The most of the crops are making a very slow growth, especially the early plantings. Corn is firing and will be harvested the first of the next week. It is about 30 inches high and beyond the point where a rain would be of any benefit. Sudan grass is beginning to head out at the height of about 20 inches. The earlier planted sorghums are about 18 inches high and have practically stopped growing. Except in a few instances the weeds have not been very troublesome and it has been comparatively easy to keep the plats looking well. Max. temp. 95, precipitation .68 inches, min. temp. 60.

Edgeley:

There were several days of hot weather during the last week, and some damage may result to the filling grain. Showery conditions still prevail over this area, but only one light shower touched the station. A hard hail storm occurred at Jamestown and considerable grain was hailed out north and east of there. All of the grains seem to be filling well so far. Harvesting winter rye has begun around here and some of the early barley will probably be ready to cut the latter part of the week. The corn is being gone over again with the cultivator now. Haying is in full progress. The plats on Nine were mowed Saturday and the rest of the hay will be taken care of as soon as possible.

Mr. Stephens arrived here this morning and leaves this afternoon for Hettinger. Mr. Cooper and Mr. Doneghue were at the station Saturday. Max. temp. 97, min. 52, precipitation 0.09 inch.

Garden City:

The weather for the week was very hot and accompanied by comparatively low wind movement. All crops with the exception of corn made a good growth. The latter crop is badly infested with chinch bugs and is rapidly drying up. Judging from present indications, corn will not make as good stover yields as last year when we had a much more adverse crop season than this. Practically all of the corn plats are infested with chinch bugs and some of the sorghum plats are being damaged about the edges. The infestation on the sorghum plats would indicate thatthe bugs came from the small grain plats though none were noticed on these plats. This is the first time that the writer has seen any chinch bugs in this section of the state, and another party who has been on the station every summer for the past five years says this is the first time he has ever seen this insect on the station farm. With dry weather,(the Dry Land Projest are not just now very) grasshoppers and chinch bugs by the thousands, crop prospects on the Dry Land Project are not very promising just now. Poisoned bran is being distributed for the grasshoppers and we probably will be able to keep this pest under control. This county is distributing to farmers, large quantities of white arsenic to poison grasshoppers. Field work for the week, consisted of cutting over all small grain plats with a mower, soil sampling, hoeing weeds, and spraying potatoes and weeds along the border of an alfalfa field, for the control of blister beetles and grasshoppers. Max. temp. 99, min. 55, evaporation 2.173", wind vel. 2 ft. ane. 5.9; 8 ft. ane. 8.0.

Havre:

July to date has been very hot and dry with hot winds on several days. There has been .14" of precipitation which fell in two showers and of course this has been of material benefit to crops. Harvesting of oats and barley began on the 21st. The most of the barley which is Smyrna was harvested with a mower. Some of the oats after small grain will also be cut with mower. All of the plats can be cut but there are some on which the yields will be very light. Winter wheat on fallow has withstood the extreme conditions perhaps better than any other crop. It is well headed and seems to be filling fairly well. Corn is making very slow growth. It is about 2 feet high with a few plants showing tassel. While none of this crops seems to have been seriously damaged by the drouth it is so late that there is very little probability of it making grain. Most of the plants roll up during the day. A trip was made during the past week about 30 miles west and north. In general the farmers will likely get their seed by

Havre: (continued)
harvesting the grain in the low places and will likely have enough feed to run their stock through. Many field will be entire failures. It now looks as though corn with the large acreage that Hill county will produce but little more grain than it will consume. The annual farmers' picnic will be held on the station on July 26th.

Hays: (Report for week ending July 14)
Weather continues dry and hot, but fortunately, not many high winds. Maximum temperature, 107½, minimum 53, precipitation, .07" with several promises of more, which failed.

Corn is about two feet high and burning upon the plats. On some the larger fields, there is still a little hope for some feed. Kafir and other sorghums are suffering now under the stress of drouth, heat, and insects, but there is still a chance for a fair crop if the drouth does not continue too long.

Grasshoppers are numerous as usual after wheat harvest, and are requiring considerable attention on the project as well as on the alfalfa fields. During the week three hundred of pounds of bran was made up into poison mash and spread on the project. Several hundred pounds was spread on the general fields.

Chinch bugs are causing some damage, and a few colonies of blister beetles have made their appearance on the project. A few plant lice of green bugs have also made their appearance. Soil sampling of winter wheat plats is progressing.

Otherwise, everything is perfectly fine and lovely.

Hays: (Report for week ending July 21)
Dry weather continues. Frequent threatening storms pass around and several local showers have been reported, but as yet this locality has received no rain of consequence. Two showers during the week gave us a total of .09". Corn and sorghums continue to suffer. Threshing of small grains was finished Wednesday except for two plats of spring wheat which was too green and tough to thresh. Yields have not been calculated but all yields will be low. Winter wheat will range from nothing to 16 bushels per acre. Oats and barley from nothing to about ten bushels with most emphasis on nothing. The highest yields comes from fallow. None of the spring wheat was really worth threshing except that on fallow and as stated above, it was too green to thresh when the other threshing was done. These plats will be threshed later. A complete set of soil (six foot) moisture determinations have today been finished on all winter wheat plats. Temperatures: max. 99, min. 54.

Judith Basin:
The rain that fell on July 13th temporarily relieved drought conditions at the station, and caused the grain and corn on the rotations to grow quite rapidly during the past week. All the grain is fully headed now, and the spring wheat averages about 2 ft. in height, the oats and barley about 18 inches, and the flax but slightly over 1 ft. This represents a better height than for the surrounding country. In fact some wheat fields in the vicinity will hardly be worth cutting for hay, owing to the drought and thickness of weeds. The alleys have been hoed again and all the larger mustard plants pulled out of the plats during the last week. The mustard was quite bad in the flax, and some fan weed was also found, and pulled out and burned. P

Judith Basin: (continued)

Preparations are being made for the ninth annual Judith Basin Farmers' Picnic, which will be held at this station next Friday, July 27th. The program will include speaking, music and sports.

Maximum temperature for the week 91, min. 52, precip. .02", evaporation 2.157.

Lawton: (Report for the week ending July 14)

Although there has been but little wind except on one day the past week has been unusually hot and dry. As a result of the extreme droughthy conditions that have prevailed the last two months crops are in very bad shape. Practically all ofthe corn throughout the country is burned up. A good deal of it has been cut up, some of it shocked and lots of it is being fed to the stock in the pastures. Grass land has been dry enough to burn for several weeks and a heavy percentage of surplus cattle have been disposed of. Sorghum crops have suffered severely especially where the seeding is too thick.

Observation over a wide range of country show that the station crops are far above the average. This may be due to more thorough cultivation and thinner rates of seeding. Furthermore soil blowing was eliminated on the station so that there was practically no replanting to do thus advancing the crops over those that were replanted several times. Corn on rotation 250 was cut and shocked on the 11th. This was done in order to save what little was left on the plat. We now have several other plats that probably might as well be cut. However, threatening rains nearly every evening for the past week have caused us to delay cutting. We would like to see what results would obtain in case a good rain occurred. Milo does not seem to be withstanding the severe climatic conditions as well as kafir corn. Chinch bugs are rapidly damaging the milo now and that is probably one of the reasons for its poor showing at present. Where cowpeas were plowed under for green manure, milo made rapid growth and now seems to be suffering the most for the lack of moisture. Kafir corn that was listed and manured is now heading. This is the earliest plat that we have so far. Cotton has held up well and made pretty good growth. It is now blooming and badly in need of rain. Broom corn is heading, but badly burned by the hot winds. Temperatures: max. 107-2 days, ave. max. 103, ave. min. 72, precipitation, none.

Lawton: (Report for the week ending July 21)

The past week brought welcome relief from the previous drought inthe form of cooler weather and a good rain which amount to 2.28" on the morning of 19th. This rain seemed to have covered a pretty extensive area from south to north, but was very limited from east to west. The entire amount fell within a period of about 4 hours. Soil moisture determinations show that the rain penetrated well into the second foot where the ground had been put into a receptive condition by cultivation during the dry spell. All crops except corn are showing a rapid response to the improved and favorable climatic changes. A good many farmers are taking a last chance and seeding odd bits of unused land to feterita, sudan grass and in some cases cowpeas and sorghum. Milo was listed in on wheat stubble, rotation 249 on the 20th. Cowpeas were planted on disked wheat stubble, rot. 250 on the samd date MC F; G; H, wheat plats were listed on the 20th. Mr. P.V.Cardon visited the station on the 21st.

Mandan:

Harvest of oats in the rotations started on the 20th. The oats are short but seem to be fairly well filled. Some good yields for the season should be obtained. Wheat is filling well and if it can stand the hot days it will produce some very good yields. Small grain and corn are standing the drought much better in the Main Field than in the South Field, which is a much heavier soil. So far there has not been a good rain in July, the total precipitation for July to date being .70 inches, all in small showers. Very hot winds occurred on the 18th and 21st. The second crop of alfalfa is nearly ready to cut. The crop will be very light. Millet shows the effects of the drought very much. Mr Stephens arrived on the 18th, and he and Mr. Peterson visited Dickinson on the 21st. Mr. A. J. Surratt of the Bureau of Crop Estimates, Field Agent for N.D. and Mr. Hoverstad, Agricultural Agent for the ScoLine visited the station on the 20th. Mr. W. R. Leslie of the Northern Ontario Plant Breeding Station at Fort William, and Mr. S. A. Bjarnason of the Morden, Manitoba Experiment Station visited here on the 21st. A number of farmers of Morton County spent part of the day looking over station crops on the 21st. Temperatures: max. 96 minimum 51, precipitation .10 inches.

North Platte:

Report for week ending July 21. Weather continues dry and hot. Rain has been threatening several times during the week but only a trace has fallen. The oats and all of the spring wheat on the rotation fields except following summer tillage and green manure has been harvested. Yields will be very light. Corn leaves are beginning to roll badly. Weeds, especially Russian thistles, are becoming very troublesome.

Tucumcari:

Average hourly wind velocity for the week 6.0, maximum temp. 98, min. 62, evap. 2.591", precip. .01-14th, .30-16th, T-17th, T-19th; total .31" The weather continues dry and hot and the occasional showers do very little good being so small. Rain is reported nearly every day from points within 25 to 30 miles of Tucumcari but as yet we have not had any rain of consequence. Several big electrical storms have taken place in this vicinity and some stock is reported to have been killed and several buildings to have been struck. Prospects for even a light crop of corn, millet, cotton, alfalfa, and other crops not particularly to this section are daily growing less. Sorghums and cowpeas continue to look well and are still making some growth. Only two plats of beans are on the station. One of these is on millet ground and some volunteer millet is coming up in the rows. The beans on this plat are doing very poorly. On the other plat, where the beans follow wheat they are doing much better. Due to no wheat having been raised on this other plat on account of the dry weather etc. last year the beans are really being grown on a fallow. Work of the week has consisted of finishing cultivating crops, and of hoeing weeds from around the fences and station grounds.

Williston:

Max. temp. 100, min. 50, with 98 on two other days of the week. The hot temperature has been accompanied by hot winds, and in the past few days nearly all grain but flax in this section is turning color. There has been no rain yet, in fact only .08" has fallen in this month to date. Harvesting of barleys, in the variety trials has been begun on the station, many varieties being so short as to make cutting difficult. Barley on the dry land plats will be cut

Williston: (continued)

next week, and possibly some wheat will also be harvested. The small grains will all have poor filling. Corn is yet holding its own, but needs rain greatly. Soil sampling was done on all wheats in the past week. The soil is very hard and dry, the only apparent moisture being in corn plats or after fallow. Unless it rains again this season, soil sampling will be impossible, the last sampling was done with the greatest difficulty.

Woodward:

We have had two small showers this week, one .14" and the other .16". These showers made it possible for us to apply the fertilizers to the kafir experiment. The crops are beginning to show some damage now from the dry weather. The broom corn seems to be hurting more than the kafir and milo. The crops on the fallows seem to be standing the drought in good shape. Some of the broom corn on the methods of fallow is heading at this time. The kafir on the same test is showing up in the boot now. The corn is tasseling some, but the tassels burn as soon as they come out. The milo on all the fallows is stooling out heavily. The following are the wheat, oats and barley yields for this year:

Plat	Crop	Yield	Plat	Crop	Yield	Plat	Crop	Yield
MCA	W. Wheat	2.2 bu.	MCA	Oats	F.	MCA	S. Wheat	F.
" B	"	7.2 "	" B	"	F.	" B	"	F.
" D	"	11.5 "	" D	"	7.8	" D	"	3.7
" E	"	7.5 "	" F	"	F.	" F	"	F.
" F	"	4.3 "	Rot. 1C	"	F.	Rot. 1B	"	F.
" G	"	4.2 "	" 2C	"	F.	" 2B	"	F.
Rot. 151A	"	14.0 "	" 3C	"	F.	" 3B	"	1.7
152A	"	8.3 "	" 4B	"	F.	" 4C	"	2.0
153C	"	10.0 "	" 5C	"	F.	" 5B	"	5.0
154A	"	11.3 "	" 6C	"	F.	" 8C	"	F.
155A	"	10.5 "	" 7B	"	F.	" 9C	"	1.1
156A	"	13.5 "	" 8B	"	10.3	- - -	- - -	- - -
402A	"	9.2 "	" 9B	"	F.	Rot. 6B	Barley	2.3
570C	"	12.3 "				" 7C	"	1.8

Weather report: max. temp. 100, min, 61, evap. 2.184, wind vel. 5.1, prec. .30.

Huntley:

Weather this week has continued hot and dry. Winter grains are practically all ripened. Spring grain is beginning to burn badly in the centers of the plats and all will be very short strawed. Corn is standing up well and has a good color but curls badly during the hot part of the day. Hogs were transferred from the rye pasture to field peas. The pea pasture is in very poor shape as the hail storm of two weeks ago did considerable damage by knocking off the pods and beating down the plants. The annual picnic is in session at the station today; about 2500 people being in attendance. Max. temp. 100, min. 58, precipitation, none.