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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JUL 5 - 1919

WEEKLY EDITION REPORT

1900

THE UNIVERSITY OF CHICAGO

CHICAGO, ILL.

1900

REPORT FOR WEEK ENDING JULY 5, 1919.
(Except where otherwise indicated)

Akron:

We have had two showers of over half an inch during the week besides three sprinkles of a tenth of an inch or less. Corn, cane and other forage crops are growing rapidly. Winter wheat is ripening and nearly all the headers in the neighborhood are in the field. The winter wheat on the station is not as ripe as the most of that on the neighboring farms as it was sown a little later, and consequently it is not so thick. It is a little better, too, than any other wheat in the neighborhood. There is considerable difference in the plats and yields will range from seven or eight to thirty bushels. Barley will make good yields, but oats have been badly burned.

We are having more insect pests than ever before. Potato bugs are having their innings just now. They sure have scored on us, too. It is almost impossible to get help. Harvest hands are getting \$5.00 to \$8.00 a day.

Maximum temperature for the week 97; minimum 53; precipitation 1.44 inches.

Archer, report for week ending June 28:

Alleys on rotations and cereal plots are being cultivated. About 10 tons of rye hay was put up. Winter rye on the rotations is about ready to be plowed under. Local showers have occurred nearly every day this week but only one hit the station.

The Post Office at Archer will be discontinued on June 30. After that date all mail for this station should be addressed to Cheyenne, Wyo.

Maximum temperature 93; minimum 47; precipitation .04.

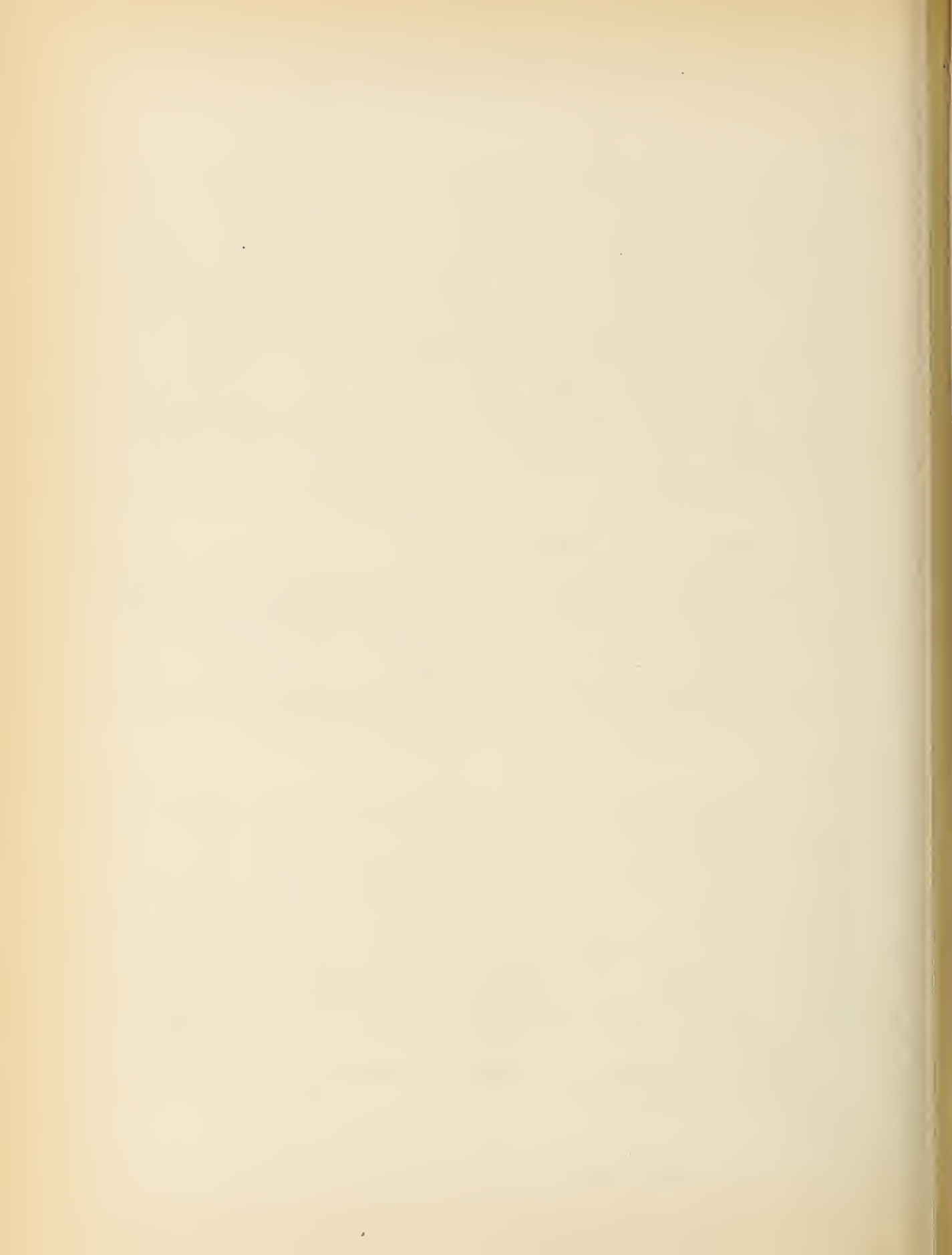
Archer:

Most of the past week has been cloudy and damp with temperatures generally lower than they have been for the past month. We received almost as much rain in the first three days of July as we did in the three months previous to that date. The largest rain for the season, .71 inch fell on the first. The total precipitation for April, May and June was 1.46 inches. As a result of the dry weather during those three months crops are very short. All small grains, except oats, are headed out. Corn is growing rapidly the last few days. Flax planted on May 21 has never come up. The rye plots on the rotations were plowed this week. Corn on the rotations was gone over with the weeder twice this week. Sunflowers, beans, and corn on increase plots were cultivated for the first time.

Maximum temperature 92; minimum 50; precipitation 1.23 inches; average wind velocity 5.7 miles.

Amarillo:

The past week has been hot, dry and windy; no hard winds but steady.



Amarillo, continued:

The average wind velocity for the week was 10.0 miles per hour; the lowest daily average was 6.2 miles, and the highest 12.3 miles. Consequently, the evaporation has been more than has been usual the last few weeks, but there is still plenty of moisture in the ground so that crops are not suffering at all yet. Wheat has ripened very fast and we have all our winter wheat harvested. The CC winter wheat is very good; also that on the rotations in that part of the field. There were 98 good sized bundles on 164-C, which is probably the best plot in the field. The wheat on the two-year rotations in the other end of the field is very poor, for this year; the hail seems to have been worse in this part of the field. A good many of the straws were broken and some were bruised so badly that even though not broken over, the heads did not fill out. The CC oats were cut this morning - the 5th - and found considerably shattered by the hail the fore part of last month; also, the yield will probably be very light. The oats on the rotations were shattered so badly that there is scarcely anything in the heads.

Harvest is in full swing in this locality. The wheat crop is very good and there is a great shortage of labor reported.

Maximum temperature for the week, 90 on the 30th and 3rd; minimum, 63 on the 4th; average hourly wind velocity, 10.0 miles per hour; evaporation (4' tank) 2,941 - (6' tank), 2,432; precipitation, none.

Ardmore:

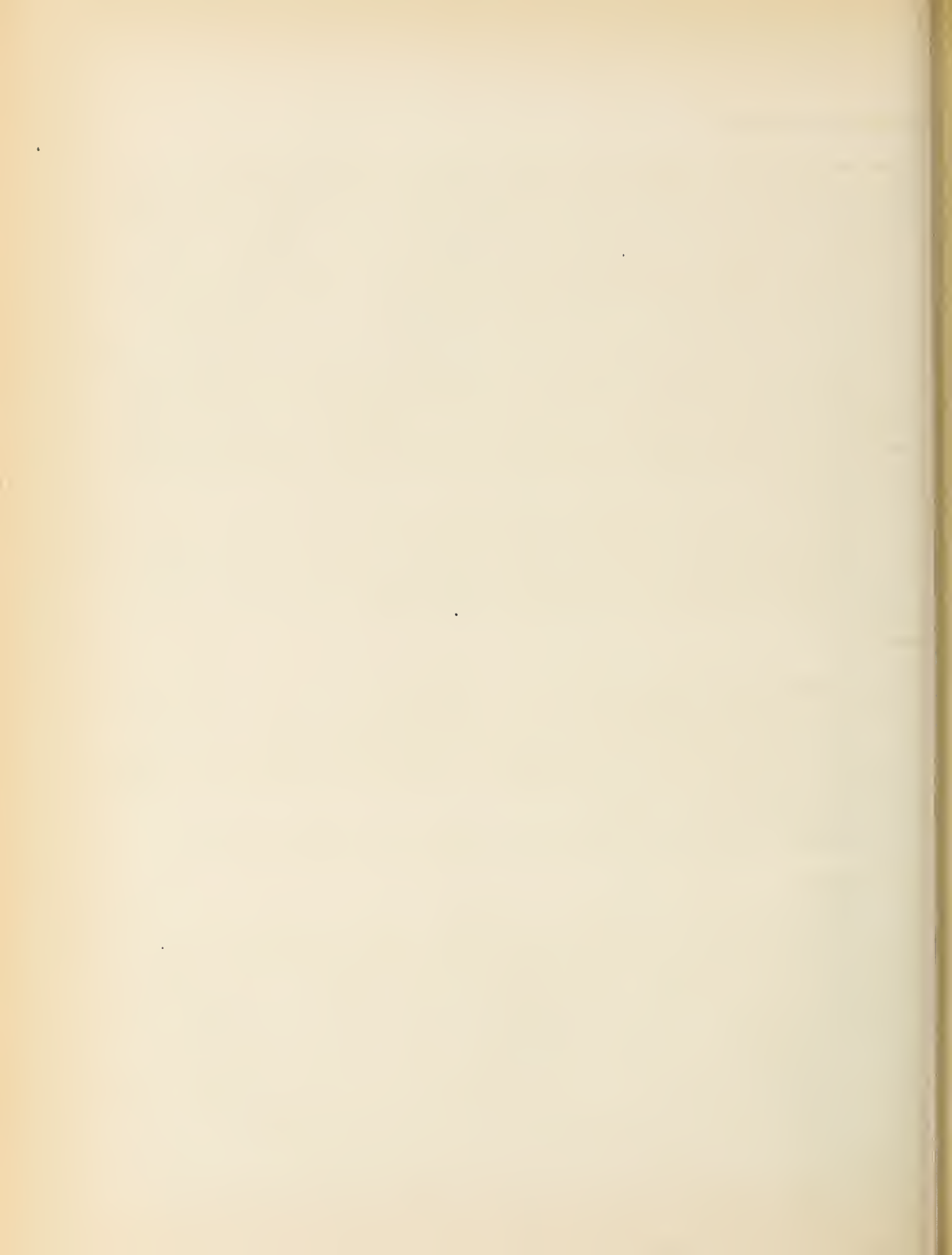
Maximum temperature for the week, 103; minimum, 52; total precipitation for the week, 2.02 inches.

The total precipitation for the month of June was only 1.50 inches - the lowest for this month since the Station has been in operation. Crops suffered somewhat for the lack of moisture, but are recovering nicely since the heavy rains of this week.

Winter wheat will be cut the early part of next week. It may also be necessary to cut some fields of oats which were seeded very early.

Big Spring:

The week has been dry and fine for field work. All crops are growing fine, and milo in the rotations and C.C. plots is out in full head and grain is forming rapidly in those that came out first. Red amber sorgho planted April 15 is out in head and will average seven feet in height. Sudan grass in rotation No. 208 was harvested with the row binder on Monday. The average height of this crop was 64 inches. We also harvested a two-acre block in Field No. 3, but the Sudan was not quite as rank in this block as in the above rotation plot. The four-tenths acre of alfalfa planted in rows was cut on Monday and made a yield of 1,600 lbs. of hay to the acre. The early planted cotton is forming square and will soon be blooming. While cotton is much below normal in growth for this season of the year, with continued favorable weather like we are now having, it still has a chance to make a good crop. July 4 a trip was made to Lamesa, in Dawson County, 52 miles northwest of Big Springs. On the trip we found that most of the



Big Spring, cont'd:

farmers had good crops and were feeling confident over the prospects for this year. It was noticed that the Russian Thistle is spreading rapidly over the county. A few seasons ago none were to be found in the county which shows the rapidity with which this weed can get scattered and become a pest.

Maximum temperature for the week 90; minimum 64; wind velocity 4.8 miles; evaporation 2.19 inches; precipitation 0.

Colby:

Hot, dry weather has continued throughout the week and all the small grains have ripened at practically the same time. Harvest commenced on the station Monday. Winter wheat and barley on the D. L. A. plats have been cut and oats and spring wheat are ripe.

Unusually high yields of all small grains will be obtained this year and a record breaking winter wheat crop for this vicinity is expected.

Work on the station has been very rushed due to a shortage of labor and all the small grains ripening during the week. Some of the grain will no doubt shatter rather badly before it can be harvested.

The labor shortage in this section is very acute due to the hot, dry weather of the last couple of weeks causing the wheat to ripen so suddenly that harvest time arrived two weeks earlier than was originally expected. Extraordinarily high wages are being offered for harvest hands but the farmers have secured very little help so far, and only a few have been able to commence harvesting their wheat.

Prof. S. C. Salmon of the Kansas State Agricultural College visited the station during the latter part of the week.

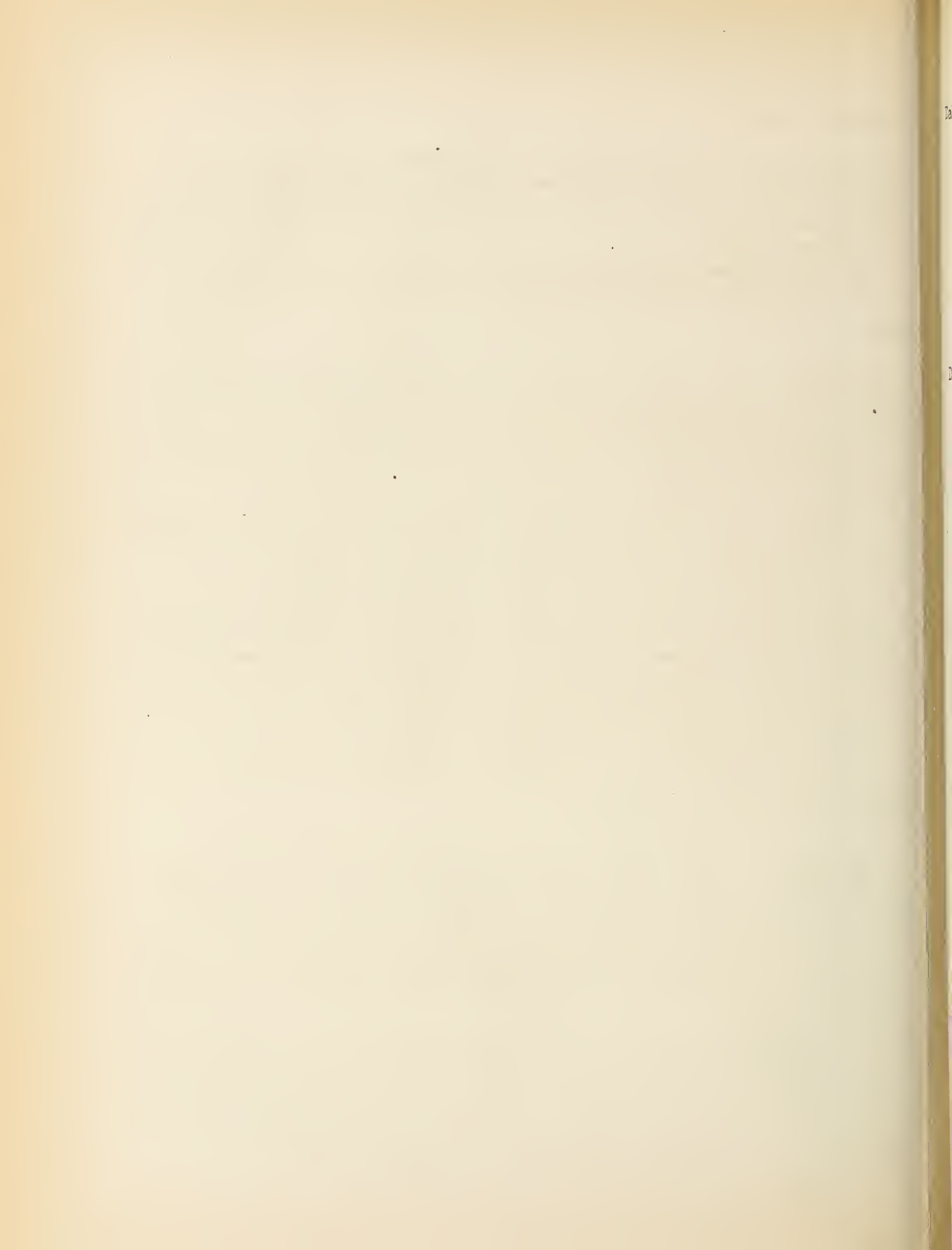
Maximum temperature 95; minimum 58; precipitation .01 inch.

Dalhart, report for week ending June 28:

The weather for the past week has been quite warm as a whole. Crops have germinated readily and most everything is up to a good stand. The dwarf kafir is a little slow in coming and may have to be replanted. This will not be very extensive in case replanting is necessary as there are only a few plats of dwarf kafir and these are in the date plantings. We got a good rain yesterday evening that amounted to .91 inches. This is a great help to the young crops. The rain was delayed long enough that there will be no danger of crops failing to come through a crusted soil.

Our wheat is not quite ready to harvest yet. I believe that it will average 20 bushels. We will have a heavy crop of oats on the general planting made for feed. These will make around 30 bushels and possibly more. It all depends now whether or not we get a hail before we can harvest. The oats will be ready to harvest in about ten days. I believe we will have around 300 or 400 bushels of feed oats which will come in just right as we ground our last grain yesterday.

We had several visitors at the station this week. They like the way



Dalhart, report for week ending June 28, cont'd:

things are looking. They spoke of the improvement in looks of things since the painting. I have not had time to make any visits among the farmers since I got the ford on account of planting, etc. I expect to be able to get out a little in the near future. They are wanting me to come and see them. When I get out among them I expect to have more of them visiting the station to see what we are doing. The ones that have come to see us have been well pleased with their visit.

Maximum temperature 92; minimum 59; evaporation 1.743 inches; average hourly wind velocity 4.5 miles; precipitation .91 inches.

Dalhart:

The week has been favorable to crop growth and everything has made good headway. We have had considerable wind the latter part of the week and it was necessary to do some cultivating to prevent blowing in the south field. We started the cultivators Thursday and cultivated all day. This left things in good shape so that there is not likely to be any blowing. We will start the cultivators the first of the week and go over the entire station as the crops are getting large enough to cultivate now.

We have replanted a little of the dwarf kafir in the Cereal block. This is the only one that we got a poor stand on and it should have been good because the seed gave a good germination test and it was planted with the thickest plate we had. All of our planting was done with a thick plate and most everything came to a good stand so that it will not have to be thinned. The standard kafir and the rate plantings will be all that will have to be thinned.

We began cutting oats today (Saturday) as it looked as if it might hail at any time. We will finish the oat harvest Monday. They have ripened rapidly this week and harvest is fully a week earlier than we had expected.

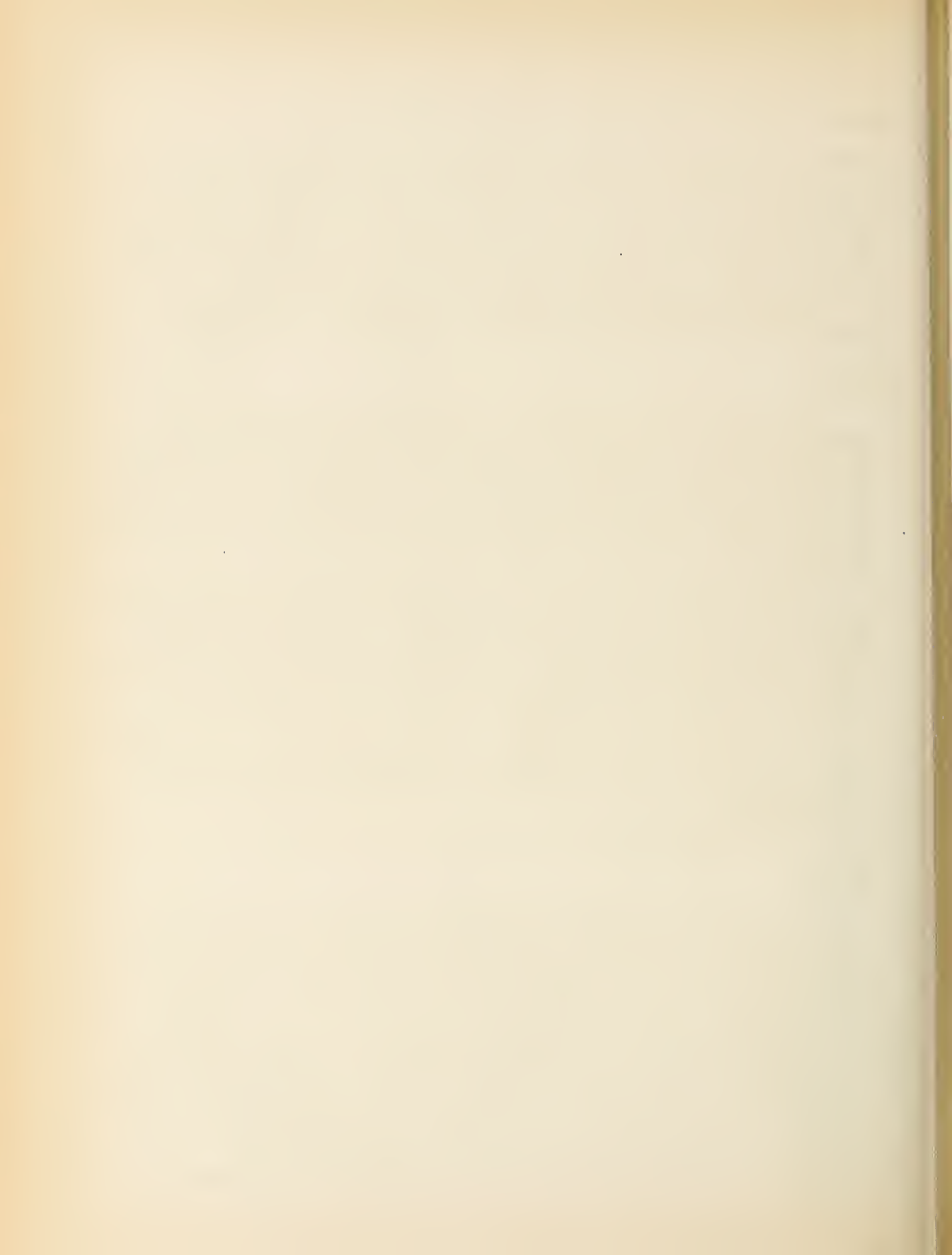
Maximum temperature 93; minimum 61; precipitation 0.

Dickinson:

The month of June was the hottest and driest ever recorded at this station. A maximum of 108 degrees was reached on the 30th, and the mean temperature of the month was 10 degrees higher than the mean of the month during the 13 years that this office has records here. The rainfall was only .52 inch.

July has started in with cooler weather and crops are looking better than during the last week of extreme heat in June. Corn in the rotations which was planted May 9 was beginning to tassel June 30 at a height varying from 6 inches to 2 feet. Since the cooler days, however, normal growth seems to have been resumed. Oats and barley will yield practically nothing but durum wheat seems to have some chance. Among the forage crops the millets and sunflowers are doing best.

Maximum temperature for the week 108; minimum 54; precipitation .05 inch.



Edgeley:

Maximum temperature 91; minimum 46; precipitation .8 inch. High winds and drying weather prevailed throughout the week. Wheat is just heading out. Corn is about twelve inches high. Cut worms have done considerable damage on some of the plots and in the fields. Grasshoppers are doing material damage to all cereal crops, especially the late sown grain. Many farmers have visited the Station the past two weeks making inquiry as to best methods of destroying hoppers. Poisoned bait and hopperdozers have been used to a greater or less degree of success.

Garden City, report for week ending June 28:

The dry, hot weather has ripened winter wheat very rapidly. We harvested the greater part of our wheat on the project on the twenty-seventh and the remaining plots will be ready the first of next week. Our commercial field will also be harvested at that time.

Spring small grains are suffering from a shortage of moisture as well as from the ravages of insect pests.

Grasshoppers continue to become more numerous in spite of our efforts to control them. They are doing considerable damage to spring small grain, cowpeas, beans, and corn. We are putting out poison at frequent intervals and have been able to hold the damage to a low point until recently. A large per cent of the hoppers have passed through their last molt and are now coming in from outside sources faster than we can poison them.

Corn, milo, kafir and forage sorghums are making a good growth. Replanted cowpeas and beans on fallowed land and on fall plowing came up to a good stand but that on spring plowing failed to germinate.

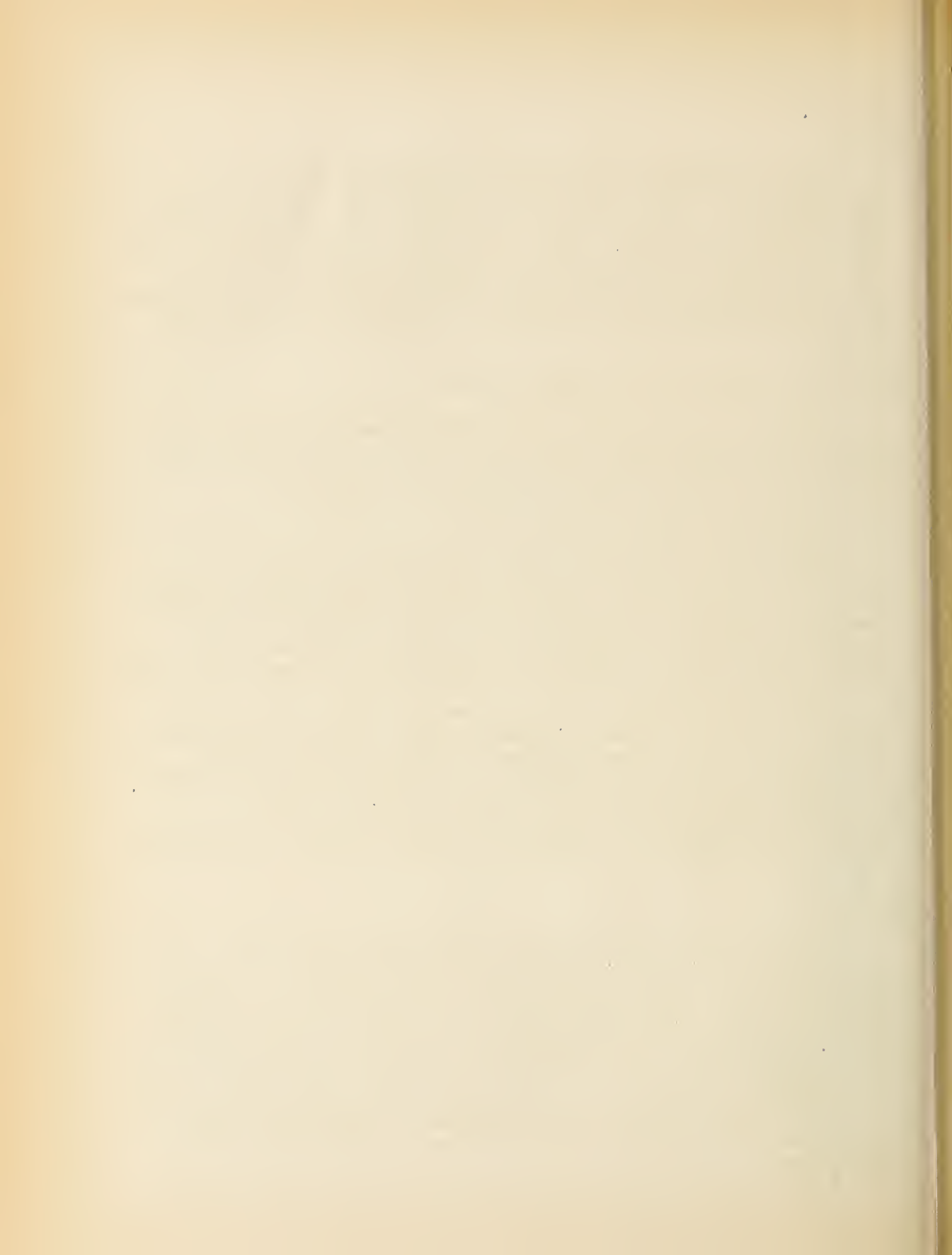
Army cut worms greatly delayed alfalfa from starting growth after the first cutting, but most of the field is doing well now.

Maximum temperature 97; minimum 63; precipitation 0; evaporation 2.432"; wind velocity (8' anemometer) 8.5 miles an hour, (2' anemometer) 7.0 miles an hour.

Havre:

The past week has been warm with wind velocity above normal. A maximum of 98 was recorded on the 5th. On the 29th there was a slow rain amounting to .39" with a few later showers bringing the total for the week to .52". These showers have been of some benefit to winter grain in that it aided filling. They have not been of much benefit to spring grain. Flax on the rotation is a very poor stand and owing to the fact that it had to be reseeded it looks doubtful now if there will be any harvest. Increase flax seeded early on corn land, with a different drill from that used on the rotations is fairly good. There is little prospect at present for even the flax crop that was promising last season.

A meeting of the Farm Bureau Presidents of the northern counties



Havre, cont'd:

together with representatives from the extension service of the State College and the State Commissioners of Agriculture together with the county agents from this part of the state met in Havre on the 2d for the purpose of starting some form of relief work for the farmers of this part of the state. Mr. O'Shea, President of the Federal Farm Loan Bank was present and gave a very good talk. Those from the College were President Hamilton, Director Cooley of the Extension Service and M. L. Wilson, State Leader of County Agents. Resolutions were passed asking congress to start as soon as possible the public works such as high-ways and the completion of irrigation projects so that farmers would have an opportunity to work. From this meeting it seems that aside from the eastern counties the dry land crops in the northern tier of counties will be a total failure and those laying just east of the mountains are in but little better shape.

Hays:

Maximum temperature for the week 98; minimum 59; precipitation .01 inches.

We are now sure enough getting some dry weather and are beginning to notice it after having such a long protracted wet spring. Temperatures are beginning to run high with lots of sunshine and considerable wind, but as yet no hot winds.

Oats and barley have matured in fine shape and look good for some heavy yields. Winter wheat which was damaged most by hail will run very low in yield and poor in quality although with the binder we have gathered up enough straw for 40 bushel yields. The last few days before harvest the wheat simply dried up. As stated in other reports some of the poorer or presumably poorer methods will give good yields and a good quality. Spring wheat is holding up surprisingly well under the dry weather but the last few days is drying up rapidly. Looks as though if the present weather conditions continue it will be ready for the binder by the 8th. Corn which is from $3\frac{1}{2}$ to $4\frac{1}{2}$ feet high is beginning to wilt but is not damaged by drought yet. The ground is cracking badly.

All barley plats were harvested July 1. Winter wheat plats were all harvested during July 2, 3, 4 and 5. Also the oats were harvested the 4th.

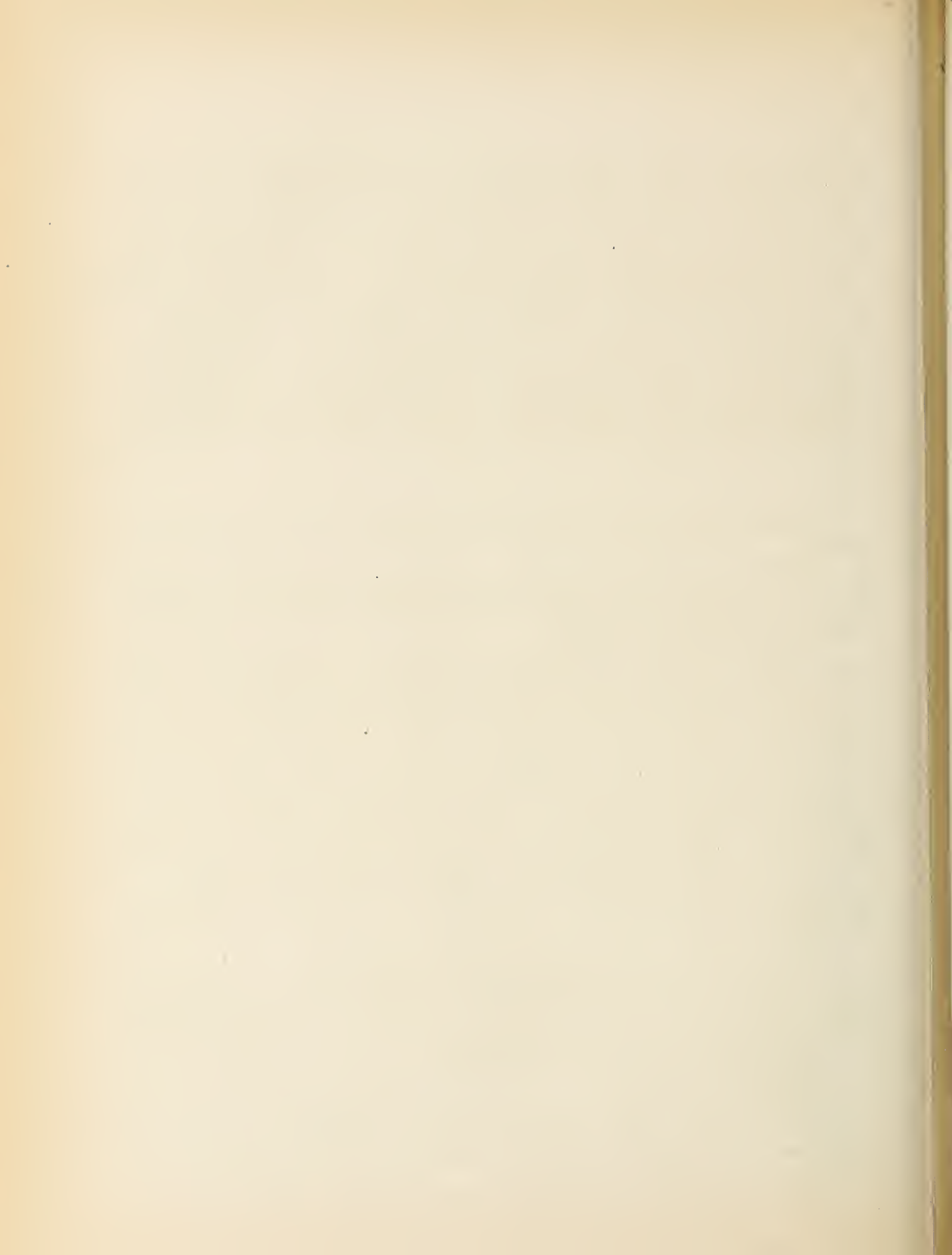
Thinning kafir was also finished during the week.

Grasshoppers are now coming into the plats as usual about harvest time. 100 lbs. of bran was made up into poison and spread on the plats early this morning (July 5) and it looks as if a couple hundred pounds or more will be needed the first of the week.

Mr. Salmon, Agronomist, Kansas State Agricultural College, visited the station July 1 and 2.

The Experiment Station is now running two headers and three binders on the commercial fields. Harvesting is a very difficult operation this year on the commercial fields on account of the very heavy growth of straw and the lodged condition.

Harvest help is as scarce as it was last season and it would seem



Hays, cont'd:

more scarce if the scarcity could be judged by the wages being paid by a few farmers who became frightened. There are a few cases where \$15 per day is being paid, more at \$12 and \$10. The minimum wage is \$6 per day and board. I see not how any farmer can afford to pay \$10 to \$15. I think this would have been unnecessary had the farmers held their heads and stuck together and this makes it hard for all now.

Hettinger:

Took soil samples and baked and weighed same. Cultivated general farm corn field, hoed alleys and shelterbelt. Hauled gravel for new machine shed. Sprayed trees with arsenate of lead for worms and black beetles. Cut second crop of sweet clover.

The dry weather continues with heavy winds. A large number of farmers are cutting their wheat for hay.

Maximum temperature 92.7; minimum 61.1; precipitation .12".

Huntley:

A rain amounting to .32 of an inch during the week served to brighten up corn and spring grains on fallow to some extent. Coming as it did in a slow drizzle, no run-off occurred and the cool weather following the shower has lessened the evaporation.

Winter grains are ripening up and harvest will start as soon as a header attachment can be secured for the binder. Except for two plats of fallow, winter wheat is but eight to twelve inches high. Winter rye harvested early in the week will make a very light yield.

A round of soil samples is now being taken on winter wheat plats and fallow plats that will be cropped to winter wheat next year. The cropped plats are very dry to a depth of four feet. Fallow plats show moisture in the upper sixteen inches only. Below that depth they are about as dry as the plats that produced a crop this year.

Maximum temperature 100; minimum 53; precipitation .32".

Judith Basin:

The total precipitation for June was 1.08 inches, which is about one third of the average precipitation for that month. However, over an inch of rain has fallen during the past week, and crop prospects look a little brighter than they did a week ago. The winter wheat in the increase field is filling out surprisingly well considering the dry weather that has prevailed in April, May and June. Barley and oats have headed out and spring wheat is now heading out in the rotations. All grains will be very short and it will probably be difficult to harvest some of the plots with a binder.

Brome and alfalfa plots have been cut and weights taken. All brome plots were failures except those where the brome was only one year old. Plot F of Rotation 41, yielded at the rate of 530 pounds of brome grass

Judith Basin, cont'd:

to the acre and this was the highest yield obtained. Plot A, in Rotation 42 yielded at the rate of 300 pounds of alfalfa per acre while Plot B in the same rotation was a failure. Practically no growth was made on the older Brome or alfalfa plots this year, and this is also true of the red clover plot in Rotation 11.

Alfalfa and clover were sown in rotations 42 and 11 respectively on July 30.

Maximum temperature 92; minimum 46; precipitation 1.15 inches.

Mandan:

Horticulture.

Harvesting of strawberries and Juneberries was continued during the week.

Cultivation and hoeing was continued.

Fruit stocks for budding in August were pruned and hilled up.

Painting of stakes for all new plantings has been finished.

Agronomy.

Most of the week has been spent in putting up hay on the bulk fields. The alfalfa and brome in these fields are giving only a fair yield.

Peas for green manure were turned under during the week.

Small grain is nearly at a standstill due to the dry weather.

Oats is starting to ripen in spots. The yield of all small grain is apt to be very light. Corn is growing well and is as good as usual at this time of year.

The total precipitation for June was 1.12 inches or 2.5 inches below the 40 year mean. The total for year to July 1 was 8.22, or over 1.5 inches below the 40 year mean. Very hot winds prevailed early in the week.

Maximum 102 on the 29th; minimum 60 on the 3rd; precipitation 0.

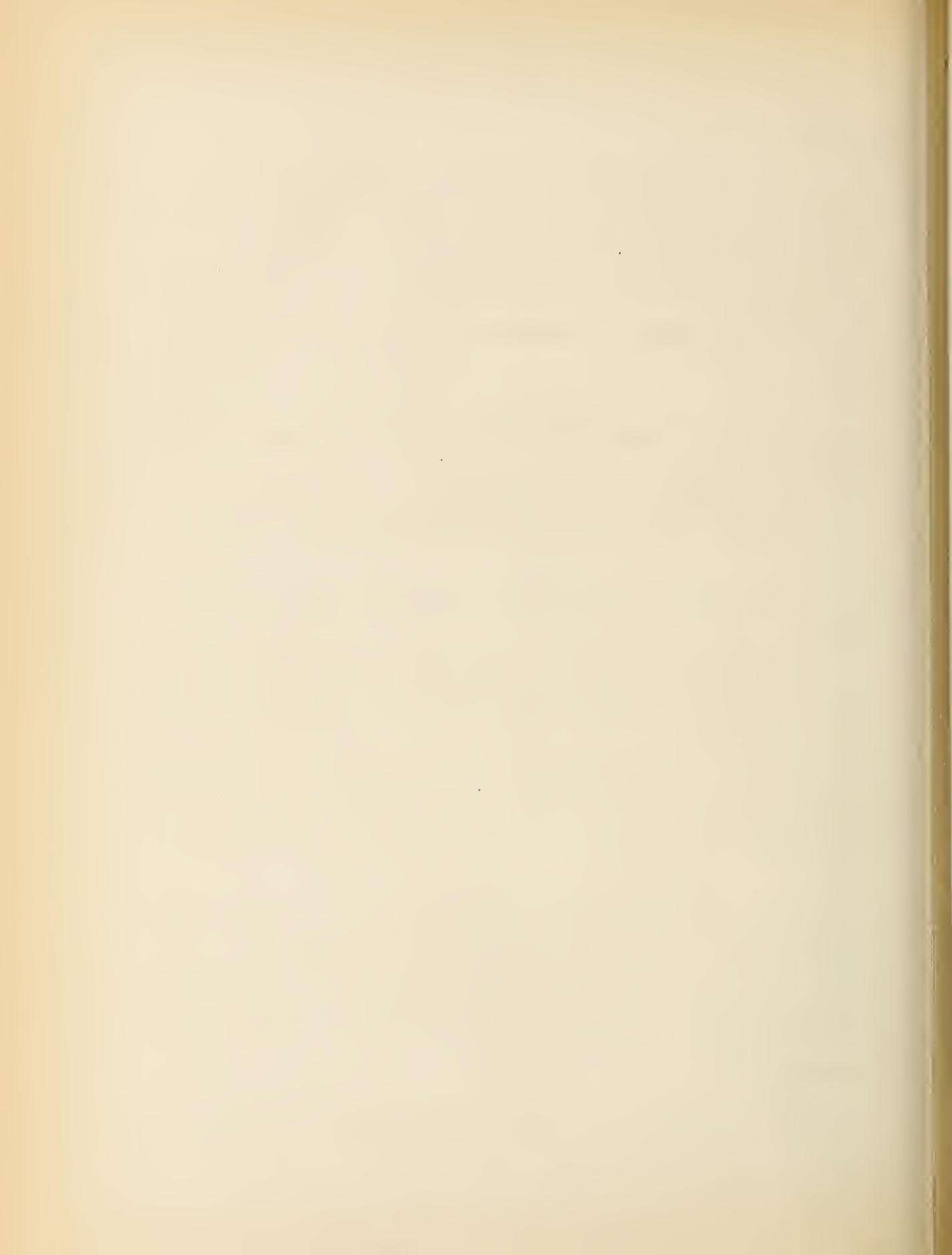
Cooperative Grazing Experiment.

The cattle of all pastures were weighed on June 30. The gains were very good. The gains per pasture were about 1200 lbs. for all pastures except the 70 acre which was about 1500 pounds.

Grass on the range shows signs of drying up. However, feed is very good. Grass, especially Blue Grama, has made a very good growth during the past two weeks as shown by the clipped quadrats.

North Platte:

There has been a wide range in weather conditions during the week. The June rainfall was 4.66 inches on the bench and 7.33 inches on the table. Most of this came the first ten days of the month and by the first of this week spring grains were suffering for moisture and beginning to ripen prematurely. July 3 this drouth was broken by a rain



North Platte, cont'd:

of 1.75 inches followed the night of July 4 by a second rain of 1.28 inches. These rains were accompanied by high winds and some hail. All grain is down badly. Winter wheat will be ready to cut as soon as the ground is dry. Nebraska No. 28 wheat was cut July 1.

Scottsbluff:

The greater part of the week was cool and cloudy. Precipitation occurred on four days out of the seven but the total of all showers amounted to only 1.17 inches. However, this will be of much benefit to corn, sorghum, etc., but it came too late to revive the small grains.

Work for the week consisted of cultivating the corn plats and cultivating and hoeing the sorghum, potato and bean varieties. Also a round of moisture determinations was completed on the spring wheat plats in the M.C. series.

The grounds are being cleared and preparations made for the construction of a combined horse and dairy barn on the station.

Maximum temperature 100; minimum 53; precipitation 1.17".

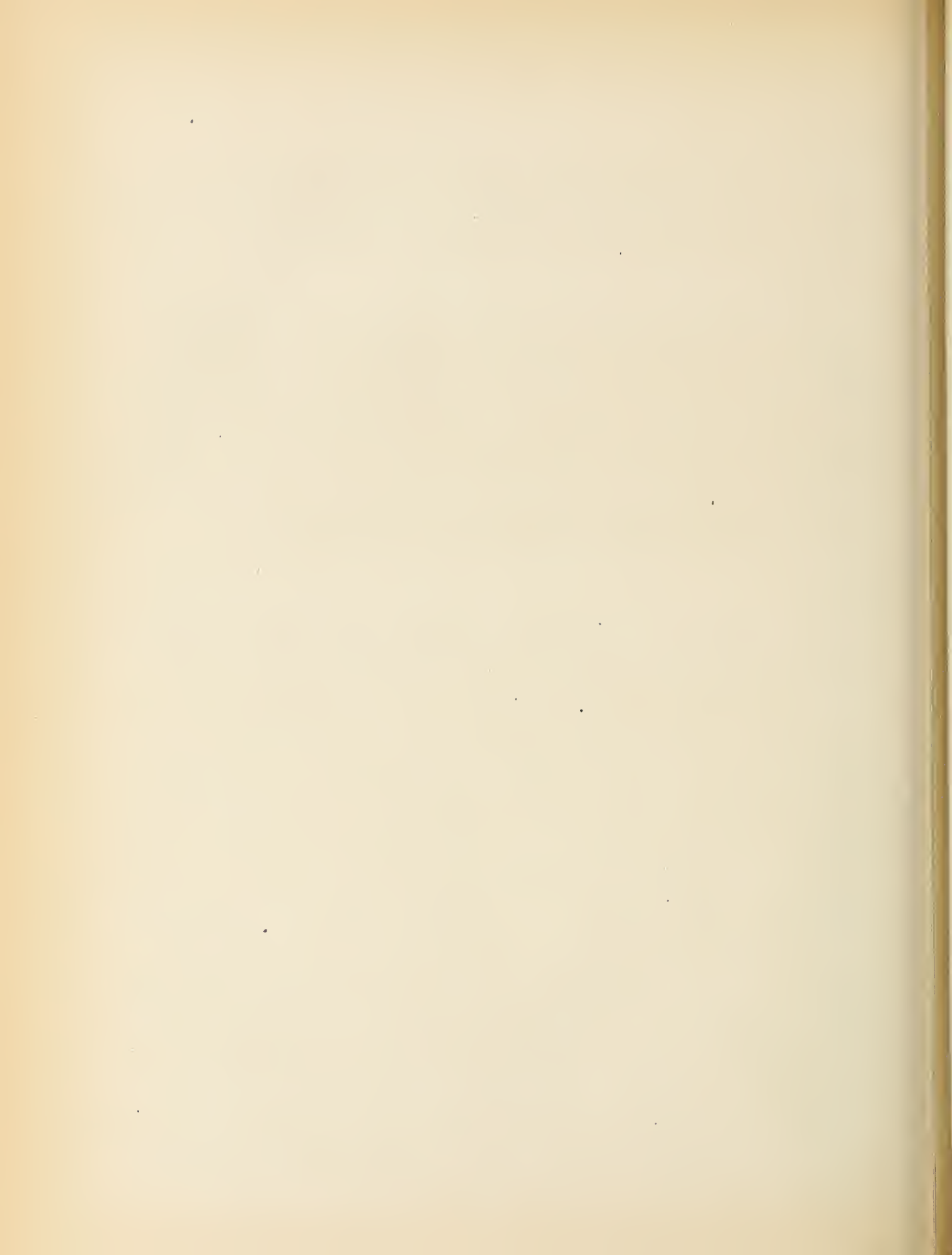
Sheridan:

The weather for the past week as shown by data collected was as follows: Mean max. 91, max. 107; mean min 60, min. 54; evaporation 2.216; average wind velocity 5.3 miles; precipitation .39 inches.

The June just past has been the hottest on record at Sheridan, with a mean temperature for the month of 70.3, normal being 58.4, and the hottest June ever before recorded 68.2. The hottest day ever recorded in Sheridan also occurred this month with 107 degrees at the Station, the hottest ever before recorded being 101. We had on the 26th, 27th, 28th and 29th maximum temperatures, which were all higher than 101 degrees. During the month there were 7 days when the high temperature was 100 or above. The June rainfall was 1.12 as compared with 2.07 in. normal. The precipitation since Jan. 1 to July 1 has been 3.75 while normally it should have been 9.64, leaving us a shortage of 5.89 inches. There has never before been recorded less precipitation in those six months.

The result of this extremely hot and dry weather has been the burning up of all field peas plats, all millet plats, and practically all alfalfa plats on the station. Also the assurance that there will not be a paying yield on any spring wheat plat on the variety field and very few on the rotation, and that only a few of these plats can be harvested with a binder. Oats and barley have suffered in like respect. Corn did not burn, but rolled up each day, although it made a very rapid growth and most of it is now coming into tassel. A good share of the winter wheat is nearly ripe now but it will doubtless be shriveled.

Field peas as green manure have been turned under not because they had bloomed but because we feared that they would blow away being so dry, their height being about 3 inches.



Sheridan, cont'd:

All summer tilled crops on the rotations and nearly all green manured plats are still green and making a normal growth. The flax varieties in the cereal field being so thin on the ground and being covered up with weeds were disked out during the week. The same thing will have to be done with field peas and millet.

Tucumcari:

Practically all crops made a good growth during the week as did also the weeds but we have the latter pretty well under control so far as the crops are concerned. Weather for the most part was clear and on most days there were at times a brisk breeze which caused some soil blowing. The field work for the week consisted of thinning crops, replanting and cultivating. Most of the summer tilled plats and small grain plats were also plowed. There was a little rye on the C.C. plats with this crop but not enough to pay to harvest so it was plowed under. On the winter wheat plats there was only an occasional wheat plant which survived soil blowing in the spring. Trees and ornamentals are all making a good growth.

Maximum temperature 86; minimum 64; wind velocity 6.0 miles; evaporation 2.213"; precipitation 0.

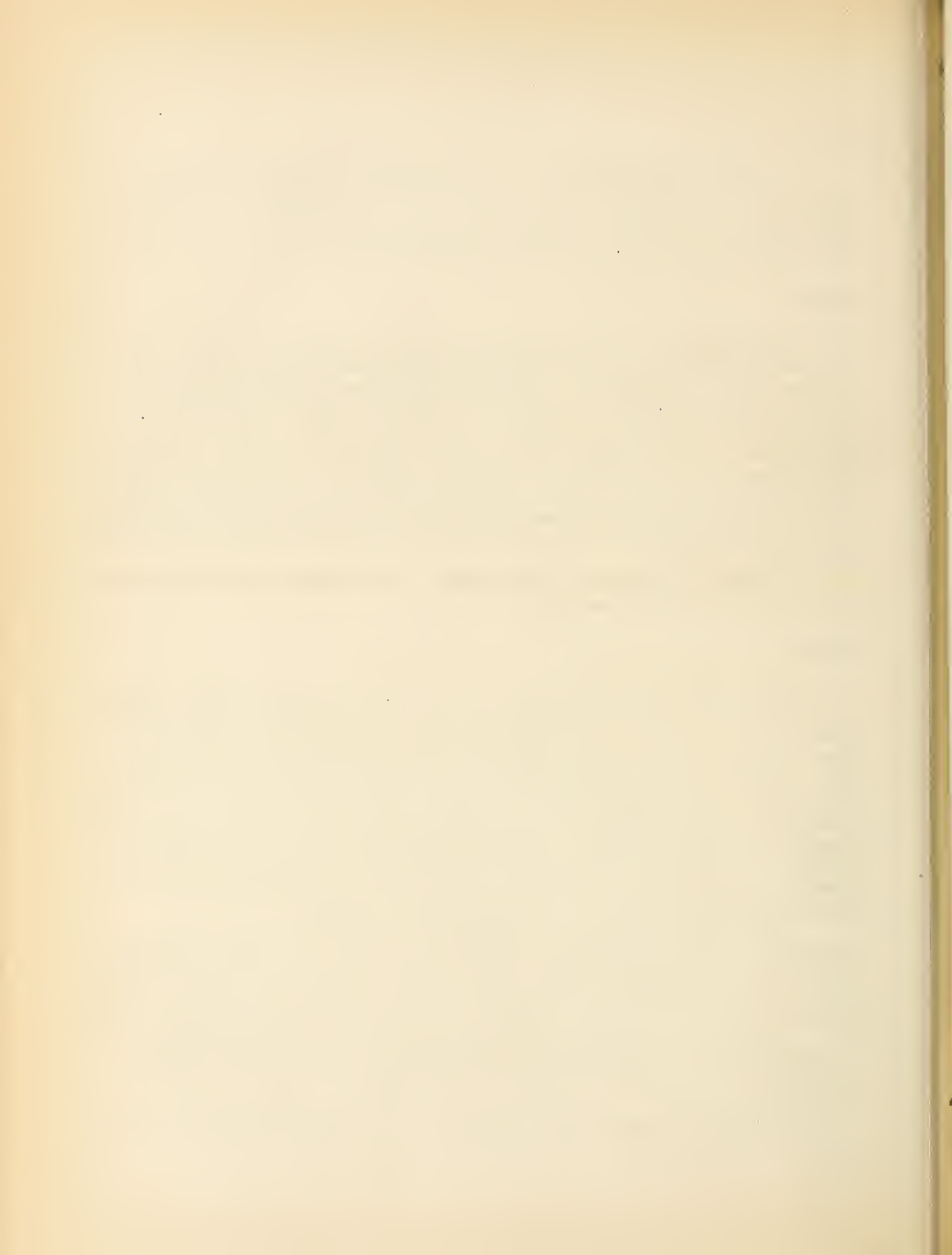
Woodward:

The rotation crops have all been cultivated for the second time this season, also it may be said that all the thinning has been attended to with the exception of a few plats which because of mole damage it was found necessary to replant. Work was again started on the alfalfa hay crop but it was impossible with our other work to get it all into the barn. Cultivation to destroy weeds was in active progress all week throughout the orchard and the shrubbery plantings as well as on the rotations as mentioned above. Weeds are hard to hold in check this year because of the favorableness of the season and it has been necessary to resort to the hoe in a few instances. Hoes were used this past week in the vineyard and around the trees in the new orchard.

Wheat harvesting throughout the county is probably about half completed. Much difficulty was experienced the fore part of the week in securing sufficient hands for the county's harvest, but less is heard now about the shortage of help. Many complaints are reaching our ears about the grain being badly shrunk; no investigations have yet been made.

Our days for the past week have been very hot with prevailing southerly winds. Evaporation from the tank has appreciably increased. No crops are suffering as yet but their growth will soon be checked unless rain comes.

Maximum for the week 90 on both the 1st and 3rd (From the thermometer); minimum 65 on the 29th; precipitation, trace on the 2nd.



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JUL 12 1919

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 309 - QUANTUM MECHANICS

LECTURE 10

SPIN AND ANGULAR MOMENTUM

1998

REPORT FOR WEEK ENDING JULY 12, 1919.

Akron:

The past week has been hot and dry with no precipitation. Winter wheat and oats ripened rapidly and all of it is harvested or ready to harvest. There was very little difference in time of ripening of the plats on the rotations and all the winter wheat except two plats were harvested on the 11th. Barley and a few oats plats were harvested the same day. Corn and cane are growing rapidly. Millets are firing and some corn rolls a little during the day.

Labor is very scarce and farmers are paying as high as \$8.00 per day for harvest help. Quite a number were not able to hire as many as they needed at that price. Considerable help came from the irrigated district around Ft. Morgan and Brush as they are short of water and their grain and second alfalfa cutting are light.

Maximum temperature for the week was 102 on Friday; minimum 57; precipitation 0.

Amarillo:

The past week has been hot and dry. Five out of seven days the thermometer has registered above 90. We have not had even a trace of rain since June 26. Crops are growing very rapidly and do not show any signs of lack of moisture yet. Soil samples taken on M.C. corn this morning, the 12th, show a fairly good supply of moisture down to the fifth and in some cases the sixth foot.

Spring wheat has been harvested. The oats on the rotations were cut for hay on account of damage by hail. The Cereal Office have finished their harvesting and we are at last getting some much needed plowing done on the fallow plats.

Most of the grain in the immediate vicinity of the station is harvested, and one farmer has started stacking his wheat.

Mr. E. C. Hollinger, Assistant County Agricultural Agent in Union County, was a visitor at the station on the 7th.

Maximum temperature for the week 97 on the 11th; minimum 61 on the 8th; average hourly wind velocity 7.4 miles per hour; evaporation, 4' tank 3.145, 6' tank 2.489; precipitation 0.

Archer:

The past week has been hot and dry. Small grains are needing moisture again. Winter wheat varieties will be ready to cut soon but the wheat on the rotations is just flowering. Grass on the range is short and many cattle are being shipped to different parts of the country.

Maximum temperature 96; minimum 50; precipitation 0.

Big Spring:

Monday and Tuesday were cloudy and misty but the precipitation received was very light. Good growing weather prevailed during the week



Big Spring, cont'd:

and most of the crops are making good growth. Many of the farmers throughout the county state that a good shower right now would be of much benefit to the late planted crops. The Kursk millet planted in Rotations 217 and 218 was hauled in and weighed Friday afternoon. Plat C in Rotation 217 made a yield of 3540 lbs. of hay per acre and Plat C in rotation 218 made a yield of 4180 lbs. hay per acre. The former plat was spring plowed and the latter plat was fall plowed. On Saturday we hauled in $2\frac{1}{2}$ acres of Sudan grass that was harvested on July 1. The total yield from the above was 6360 lbs. of hay or 2544 lbs. per acre. This hay was in good condition and had cured out well. The fine crops on the station are attracting many visitors from town and the county and most of them express themselves as well pleased with the prospects this year. The oil situation in the county has reached an exciting stage. Four different companies have established offices and headquarters in Big Springs and have contracted for quite an acreage of land and expect to drill several wells soon. Due to this fact it is expected that the flow of visitors to the farm will begin to lessen from now on for the rest of the season. Prof. E. C. Chilcott and E. F. Chilcott, spent part of Thursday and Friday at the station. They left Friday afternoon for an overland trip to Tucumcari, New Mexico.

Maximum temperature for the week 96; minimum 65; wind velocity 5.2 miles; evaporation 2.47 inches; precipitation .09 of an inch.

Colby:

Continued warm, dry weather and hot winds have made the past week very unfavorable for crop growth.

Milo, kafir, and feterita are commencing to curl. Corn is suffering much more than any of the other crops, however, and is also beginning to tassel. Unless a heavy rain is received soon, corn will again be a failure.

Grasshoppers are doing very serious damage, especially to corn. Poison bran mash was scattered about the D. L. A. field and although many of the pests were destroyed, a comparatively large number still remain.

Harvest was completed on the Station the last day of the week. Lower yields of spring wheat will be secured than originally expected as the hot, dry weather dried the grain up before it was fully mature and the kernels are badly shrunken.

Maximum temperature 102; minimum temperature 61; precipitation 0.

Dalhart:

The past week has been favorable to crop growth. Everything has grown rapidly. The red amber sorgo in the first date of planting is just beginning to head and the milo in the same date is in the boot. Three teams were kept busy all week in the field. We have finished going over the entire station with the cultivators and the fields are



Dalhart, cont'd:

in good condition. We have finished harvesting the oats and they are in the shock. Some of the farmers in looking over them have predicted a 60 bu. yield but I hardly think they will go that much. We will not be able to thresh until the latter part of the month or possibly the first of August sometime.

We are having about as much grief along some lines as could be expected. The grasshoppers are here by the millions and they are eating on the crops to a large extent. They have been working for some time but now the crops are growing so rapidly that the hoppers are about to be left behind in some cases. Some places they keep the crop eaten so short that they get new growth to feed on all the time. This is not all of our trouble. The tobacco worms were so thick on our trees that they ate nearly all the leaves off before we could get them gathered and killed. They worked mostly on the poplars and did most damage to these but they have been working on the other trees as well. Within a very few days they almost completely stripped the cottonwoods. Earlier in the spring we gathered all the adult moths we could find but in spite of our work they managed to lay plenty of eggs that we could not find. We have all the worms gathered now that we can find. The elms are attacked by another kind of caterpillar.

Maximum temperature for the week 96; minimum 61; precipitation 0.

Dickinson:

Another week has passed without rain and crops are in general past help. Probably 75 per cent of the fields in this county will not be harvested for grain and many do not have enough growth to cut for hay. Many fields are being pastured before the grain dries up completely.

The first rye on the station was cut on the 8th and early oats will soon be mature. Harvest comes this year about three weeks earlier than the average for the station. On the rotations the oats and barley are very poor. Oats show more variation than any other crop. Fully half of the barley has not emerged from the boot. A few wheat plots give indications of maturing a fair yield of grain but it is now only in the milk stage of maturity.

A meeting of farmers and stockmen of Western North Dakota is to be held at Dickinson on the 11th to consider plans for securing feed or for shipping out their stock to pasture.

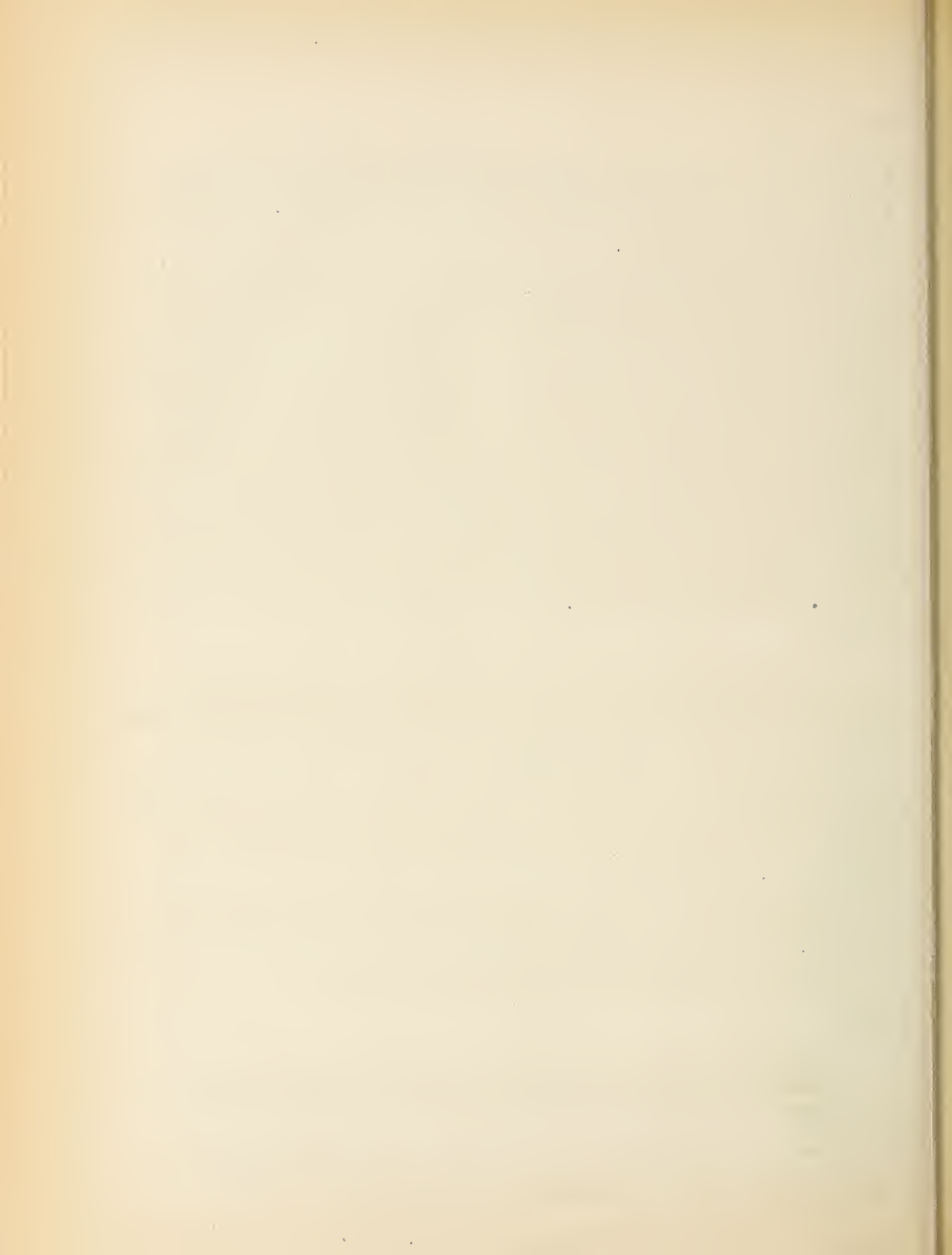
Maximum temperature 99; minimum 45; precipitation 0.

Edgeley:

Maximum temperature 89; minimum 39; precipitation 0.

Ideam growing weather prevailed throughout the week. All hay plots have been harvested. Summer fallows were plowed by the first of the month.

Some of the early rye in this district will be harvested the coming week. Grasshoppers are still doing considerable damage to crops but the rapid growth of vegetation almost keeps pace with them.



Havre:

Weather during the week has been clear with the wind velocity high for this season of the year. A maximum temperature of 96 was recorded on the 11th with a minimum of 52 on the 8th.

All winter wheat except three plats on green manure were harvested during the week. Those plats on early plowed fallow and corn land were tall enough to cut with a binder and bind. The other plats were cut with a mower and raked by hand as the straw was too short for a horse rake. We have just finished cutting a 60 acre increase field of Kharkov which was seeded on land broken early from native sod, in April and May 1918. Oats and barley are turning rapidly and will likely be harvested early this week.

Mr. H. L. Westover of the Office of Forage Crop Investigations has been at the station for the past ten days making a study of the pollenization of alfalfa. A trip was made during the week to Harlem in the Milk River valley east of here. This has been one of the large alfalfa seed districts of the state. Men familiar with the situation state that the acreage left for seed this season will be about half the amount usually left. Some fields that were thin in stand were setting seed quite well. Many of the fields that have usually been good seed will be light this year due to the fact that they began burning and had to be irrigated. Some of the rows on the station have set seed very heavily. These have received some run-off.

Hays:

Maximum temperature for the week 106; minimum 65; precipitation 0. Hot winds and maximum temperature above 100 four days during the week.

Spring wheat was harvested Thursday, July 10. Very good straw but grain shriveled badly.

Sorghums making good growth and looking fine.

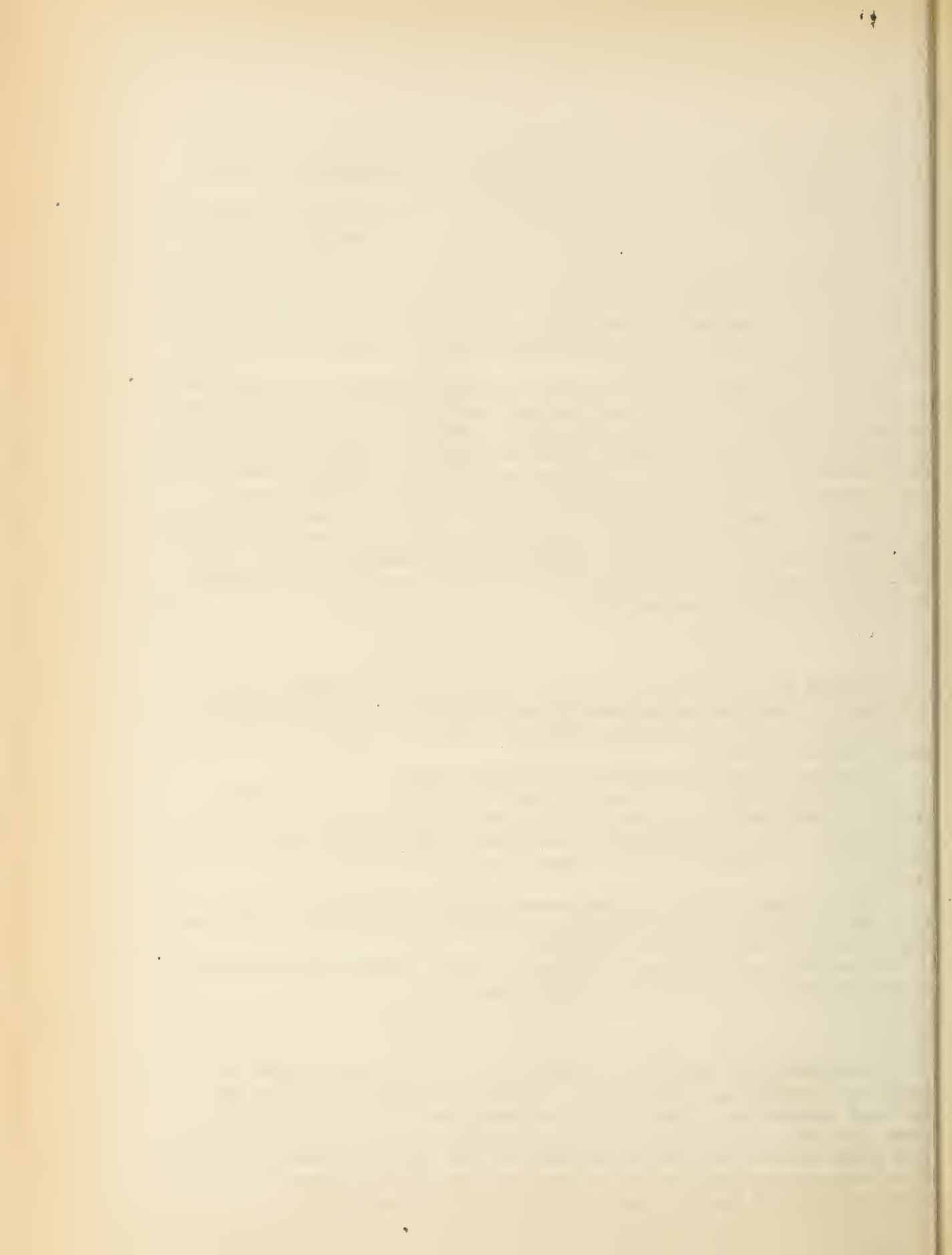
Corn beginning to wilt badly because of drought and hot winds, also it is suffering some from grasshoppers in spite of the fact that fresh poison bran is being spread frequently. The poison bran is doing good work, but a new supply of hoppers are arriving daily from adjoining fields.

The work during the week has consisted almost entirely of soil sampling of wheat plats and grasshopper fighting to save the corn plats. The latter has taken most of the time.

Harvesting on the commercial fields of the station continues slowly on account of the bad condition of the wheat.

Huntley:

The weather has again turned hot and the beneficial effects of last weeks shower have disappeared. Winter wheat and barley are all ripe and harvest has begun. With the exception of two plats of winter wheat that were tall enough to bind, all small grains will be harvested with a binder carrying header attachment. The grain is gathered by means of a large canvas sack suspended from the end of the elevator. The sack is so constructed that it can be quickly detached and emptied.



Huntley, cont'd:

Corn, potatoes and garden crops are beginning to fire seriously. The crops are fairly fresh in the early morning but soon curl up and remain wilted for the rest of the day. A round of soil samples taken on the corn plats show the moisture to be about exhausted in the upper four feet.

Grasshoppers are causing rather serious damage to crops especially alfalfa and corn in this vicinity. As yet they have done little harm to the dry land plats.

Maximum temperature for the week 102 (twice); minimum 53; precipitation 0.

Judith Basin:

Dry, warm weather still continues and rain is badly needed, especially at this time when the kernels of grain are forming in the heads. Oats and winter wheat are beginning to ripen and will likely be harvested before the last of July.

While this promises to be a very poor year from the farmers standpoint, it will probably be a good one from an experimental standpoint. Ordinarily all plots on the rotations growing a certain crop look a good deal the same but this year differences in growth are very striking. Small grains grown on fallowed land are generally looking good and give promise of giving a fair yield. This is also true to a slightly less degree of small grain following corn or a green manure crop. However, appearances indicate very low yields where small grains are following small grains. The subsoiled and the listed plots in the continuous cropping series are generally looking as poor or poorer than other plots in the same series.

Weeds, especially mustards, have given but little trouble this year in comparison to former years. The Russian thistle is about the worst weed pest at the station this year.

Work at the station during the week included spraying and ridging potatoes, cultivating potatoes and corn, and running a weeder over fallowed land.

It has been decided to hold a picnic here on July 31.

Maximum temperature 94; minimum 41; precipitation 0.

Mandan:

Horticulture.

Seed beds and potted fruits require considerable attention as to watering during this protracted drouth.

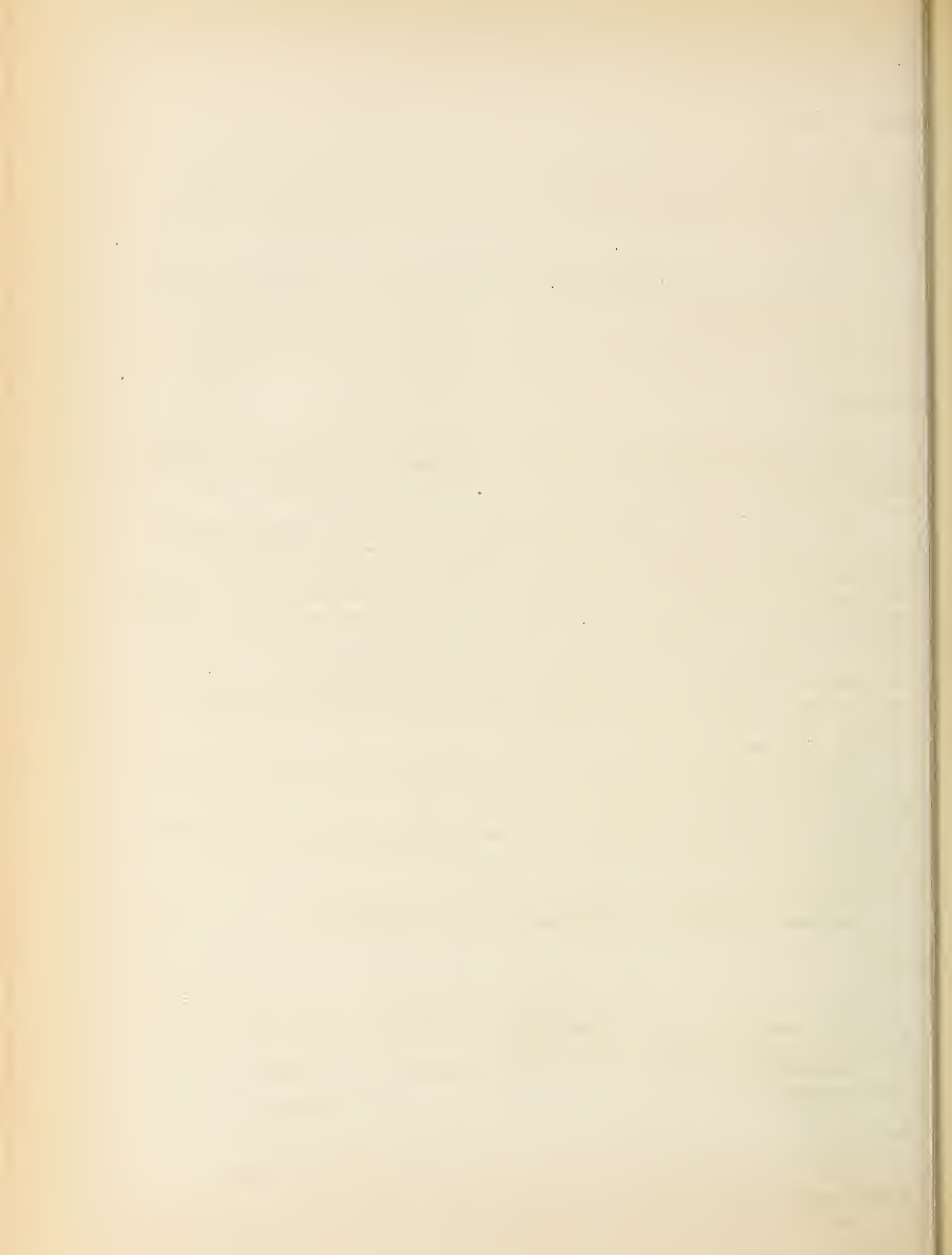
June-berries, gooseberries, and currants are being picked and the seeds washed out.

Raspberries are ripening but the crop is a total failure, due to drouth.

Hoing and cultivation has continued throughout the week.

Oats has been seeded as a cover crop in the hardiness blocks, combination fruit plantings and several other fruit blocks.

All new field stakes, over 500 in number, have been prepared and



Mandan, cont'd:

put into place.

Up to date there have been picked and stratified 466 hand crossed seeds of such fruits as apples, plums, sandcherries, cherries, and hybrids. There are still more to ripen.

Agronomy.

Corn was given the last cultivation during the week.

All fallow plats were worked with the kimble and spring tooth harrow.

Oats are nearly ripe in the main field and the South field is being harvested today. The yield will be light but good for the season and much better in the South field than in 1918.

Crops are still holding up very good. The past week has not been as hot as the previous week.

Maximum temperature 94 on the 8th; minimum 50 on the 8th and 9th; precipitation 0.

Cooperative Grazing Experiment.

Vegetation is practically at a standstill. Not enough growth took place in the quadrats in the past ten days to clip.

The rotation pasture has an abundance of feed in it, and the indications now are that the cattle will not begin to use all of it this season.

Arboriculture.

Owing to the dry weather the caragana seed has ripened about two weeks earlier than last year. This week has been spent in collecting this seed. Collection will be continued till it is all gathered.

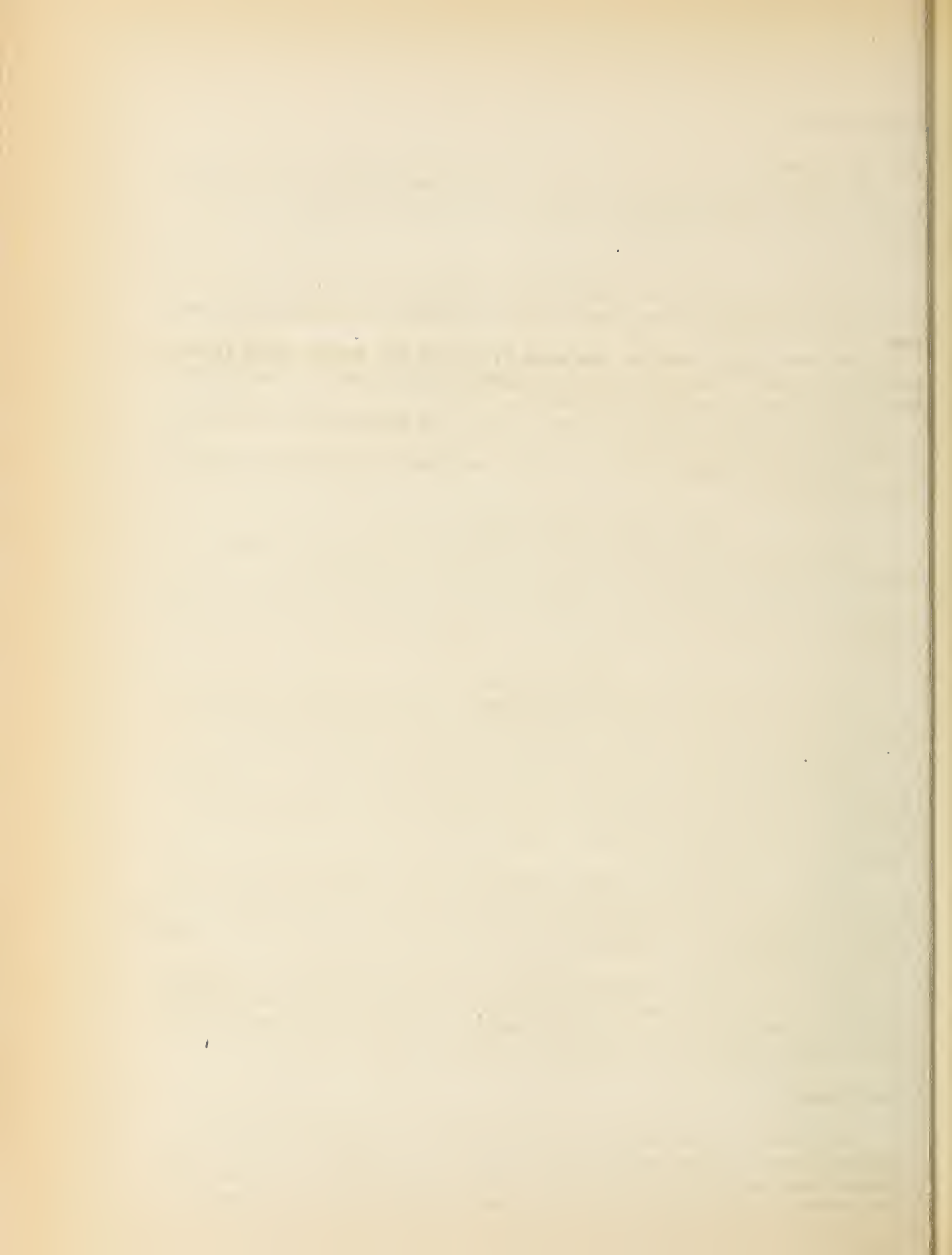
Burlap covers have been put on the half-light shades of the conifer seed beds to further reduce the heat and evaporation. It is thought that this will aid germination through holding the moisture, as well as prevent serious loss in the burning of the young seedlings as they emerge from the ground.

Messrs. Henchel and Bastine have left for the summer inspections. Mr. Henchel going west to Terry, Montana and then south into the Missouri River country of South Dakota. He will later work in the southern part of Montana west. Mr. Bastine will work the northern part of North Dakota and Montana.

Mr. W. H. Kenety, Superintendent of the Forest Experiment Station at Cloquet, Minnesota, arrived Wednesday, and will spend about 10 days or more in studying the shelterbelt work. He will visit cooperators in the southern part of North Dakota in company with Mr. Cobb.

North Platte:

The week has been dry and hot throughout. Maximum temperature reached 100 yesterday, the highest record for the year to date. All winter wheat and oats have been harvested. Spring wheat will be ready next week. Winter wheat will make a fair crop but is not perfectly



North Platte, cont'd:

filled on account of rust. Oats were too far gone before the rains of July 3 and 4 to be much benefitted.

Scottsbluff:

The extreme hot weather of the past week has ripened up the small grains very rapidly. All winter wheat plats were cut during the week. Very little grain was present in the heads, except that from fallow plats.

Corn is suffering somewhat from lack of moisture, wilting badly during the day. Grass-hoppers in large numbers are migrating from the irrigated alfalfa fields and are doing considerable damage to corn and sorghums. Poison bran mash is being put out every few days.

Another round of moisture determinations was completed on the corn plats in the M. C. series.

Maximum temperature for the week	- - - - -	101
Minimum	" " " "	56
Precipitation		0

Sheridan:

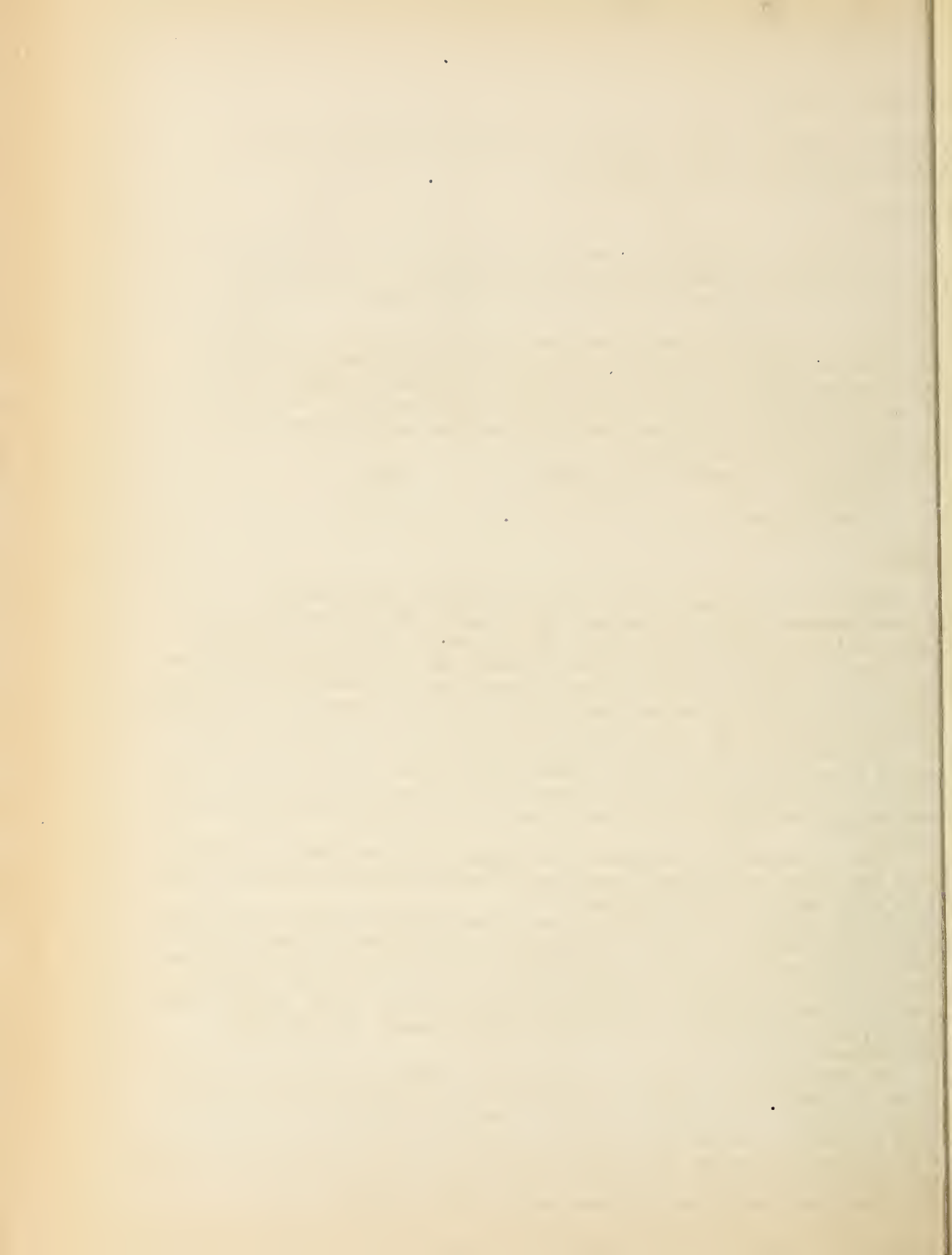
Weather for the past week as shown by data collected was as follows: Maximum, 102; mean maximum, 94; minimum, 44; mean minimum, 60; precipitation, T; evaporation, 2.653 in; and wind velocity, 5.9 miles.

Crops have dried up still further during the past week. Small grains such as wheat, oats, and barley, are ripening but not normally. They are drying and shrivelling badly. Apparently none of these crops on the variety field would pay for the harvesting, but most of them are or will be harvested. With winter wheat it is different, for most of these plots in the variety field filled well and will make fair yields. There is a very wide variation on the rotation project between the several winter wheat plots, some making absolutely no crop, and others not even shrivelling when harvested.

Corn is tasselling, or rather, did tassel the fore part of the week, and a few silks are appearing now. Every afternoon the corn rolls up, but it is still making a rapid growth.

Spring plowing this season for any of our principal crops - that is, wheat, oats, barley, or corn - is superior to fall plowing almost 10 to 1 without an exception being found in any of these crops. The moisture content of the soil probably being the reason for the difference. On rotations of about 1 per cent of moisture in favor of the spring plowed plots; that is, on the 2 (spring plowed) and 3 (fall plowed) there is such a difference.

All but a very few plots of late dates of seeding of winter wheat are now in the shock. A few spring wheats have been harvested in the variety field, but none on rotations; also a few barley varieties and rates and dates of seeding, but none on rotations. Oats and barley on rotations are about ready for harvest. The crops which have been cut so far have been very difficult to handle, due to being so short. Many of them could not be bound at all and were caught on a canvass on the bundle carrier.



Sheridan, continued:

Many trainloads of cattle are being shipped from northern Wyoming and southern Montana; some to market and some to other pastures. This is due to the shortage of pastures and water. Several thousand head of cattle in Johnston County, Wyo., it is understood are marooned due to there being no water between them and the railroad. The big herds in this section will be broken up badly this year.

Tucumcari:

We have had no hard winds during the week and all crops have made an excellent growth. Field work for the week has consisted in mowing weeds and grass about the station buildings, cultivating and thinning crops. The last one of the heifers in the Range Cow Experiment calved yesterday morning; all of the calves are doing nicely. The average weight at birth of the calves from the heifers fed sorghum silage and cowpea hay last winter was 68.7 lbs, the average weight of the calves from the heifers which roughed it through the winter in the usual range manner being 57.8 lbs. The calves from the silage fed lot were much stronger at birth. There was no difference in the quality, age, or breeding of the heifers at time of selection.

In company with the County Agricultural Agent the writer took a trip during the week to the plains country south of Tucumcari. All crops are fine in this section of New Mexico; especially the wheat crop, which will average 20 bushels to the acre, or possibly more. There is a shortage of labor and machinery to handle this crop, but if the weather stays dry the farmers will save the crop by exchanging work. Row crops are much farther advanced than those on the sandy land, due no doubt largely to the absence of destructive soil blowing.

Maximum temperature, 93; minimum, 63; evaporation, 2.356; wind velocity, 5. miles; and precipitation, none.

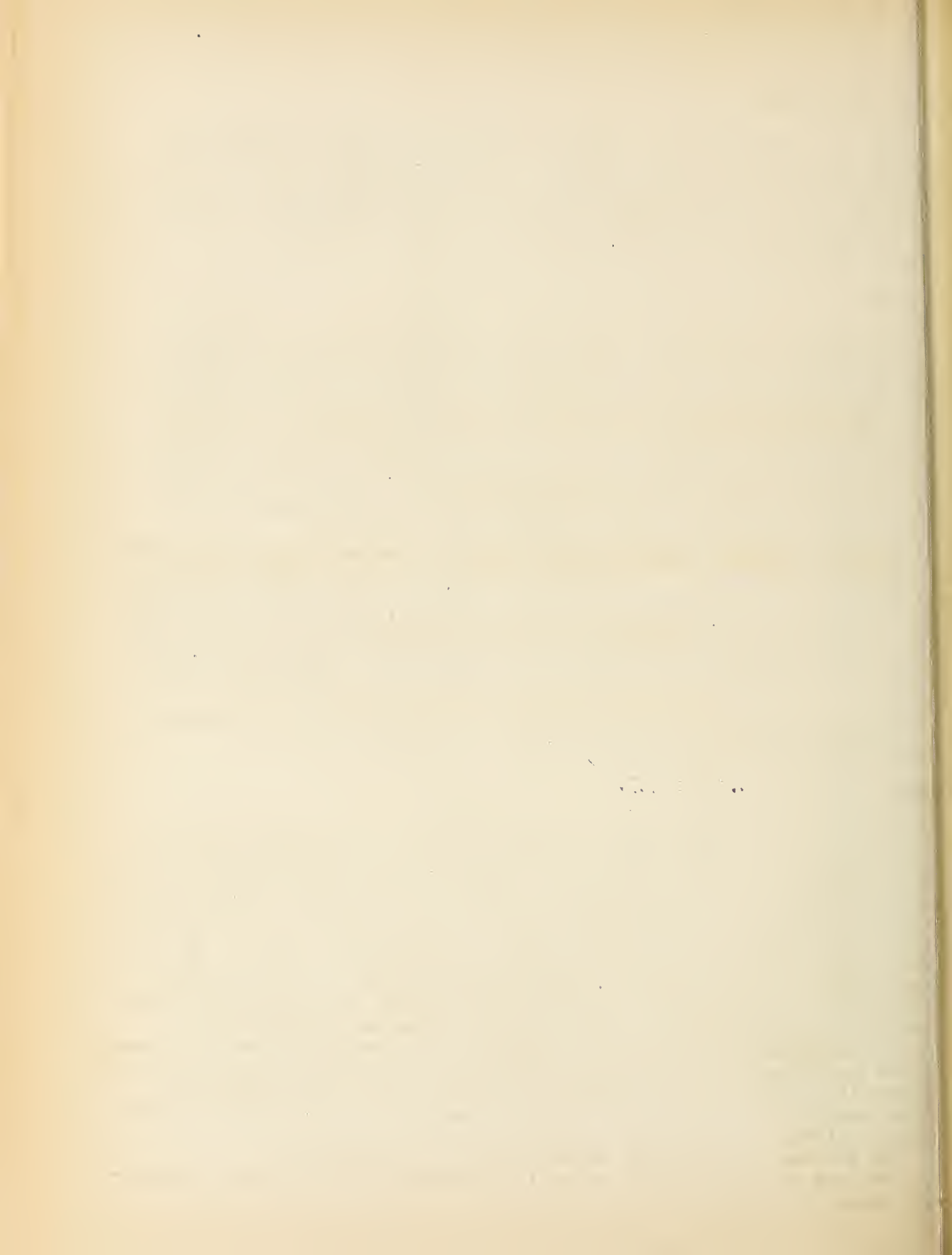
Woodward:

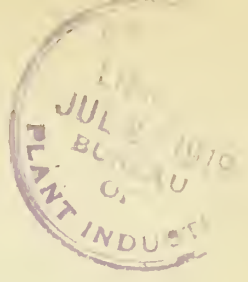
The last of the alfalfa was put into the barn on Friday, thus completing the handling of the second cutting. Hoeing weeds has also held an important place on our work schedule. It has been found necessary to go over one increase plot of milo, as well as nearly all the Cereal Office varieties with the hoe. This work is nearly all progressing nicely. The rotation crops are clean, but largely because all weeds were destroyed as the crops were thinned. The check plots which are annually seeded to rye were plowed during the week. The ground turned up dry and cloddy. Some threshing was done this morning, and this same work will hold our attention next week until completed. The indications are that wheat will not yield as highly as has been anticipated.

The instrument shelter was moved during the past week, this being necessary because the new machine shed which is being located just west of the old shelter location is nearing completion. The new location is on a slight hill about 300 ft. west of the old location. Weather remains hot and dry with prevailing southerly winds.

The station was visited on Monday by Prof. E. C. Chilcott.

Maximum for the week, 100 on the 11th; minimum, 67 on the 6th; precipitation, none.





WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JUL 19 1919

WEEKLY REVIEW

OF THE

ROYAL SOCIETY OF MEDICINE

AND

OF THE

ROYAL SOCIETY OF MEDICINE

Dalhart, continued:

Prof. E. C. Chilcott and Mr. E. F. Chilcott were our guests from 1 p.m. Tuesday until about 9 a.m. Wednesday. While here they met several of the dairymen and some of the business men of Dalhart. The Dalhart people are very anxious to get a dairy installed at the Station and they had numerous questions to ask Prof. Chilcott concerning the possibilities.

We have had some experience with the tobacco worms in the past week. They have stripped the leaves off the cotton-wood trees and have been attaching some of the other trees. We have kept busy trying to get them all, but they are so hard to find they escape for a time. We have gathered about 6 bushels of them and drowned and buried them. I believe they have reached the climax now. We are unable to find any more. The elm trees are attacked by another kind of caterpillar, but they are not so damaging. We have ordered a spray but it has not yet arrived.

Maximum temperature, 98; minimum, 63; precipitation, 2.41 inches.

Edgeley:

Maximum temperature, 95; minimum, 36; precipitation, 73 inch.

Cool nights and warm days prevailed throughout the week. A hot drying wind occurred on the 17th, which did considerable damage to the cereal crops. Considerable rust is showing on all classes of small grain. The Durums are much more free of rust than the hard wheats. Corn is about half tasseled.

Havre:

The past week has been clear, warm, and windy, with no precipitation. The maximum temperature of 104 was recorded on the 16th, this being the maximum since work was started at this Station. A minimum of 44 was recorded on the 17th. The last two days have been cool, which has revived the corn to some extent.

All winter grain on the Station, and most of the barley, is now harvested. Oats will be harvested early next week, and in all probability the winter grain will be threshed during the coming week.

Mr. Westover of the Office of Forage Crop Investigations left the Station on the 13th for Moccasin.

Huntley:

The Annual Farmer's Picnic is being held at the Station today. Up to the time of this writing the attendance is somewhat less than expected, there being only 1,500 to 1,800 people present. A new feature this year is the livestock show, and some excellent entries have been made in the various classes of horses, dairy cattle, hogs, and poultry.

Harvesting of winter wheat and barley was completed on the rotations early in the week. The total yields of many of the plots have been stored in sacks to await threshing. Spring wheat and oats are ripening up uniformly, but flax is very ragged. Most of the fall plots are too weedy to allow for a crop of grain.



Huxley, continued:

Corn on all but fallow and listed plots looks poor. Except for these two methods, practically no growth has been made for the last two weeks. Most of the plants have tasseled.

The abnormally warm weather which we have had since the middle of May continued throughout the week, as did the lack of precipitation.

Maximum, 102; minimum, 41; precipitation, trace.

Judith Basin:

Dry weather continues to prevail here and crop prospects are becoming continually poorer. There is very little grain in this vicinity that will be tall enough to harvest with a binder, and it is likely that headers and combines will be in general use this year. Several winter wheat plots were harvested during the latter part of the week, but the straw was too short for the binder so a mower with a buncher attachment was used to cut the plots. All plots of winter wheat in the C. C. Series were practically failures, with the exception of the summer fallowed plot, which will probably yield under 10 bushels to the acre.

Many people are leaving Montana at present to work in the harvest fields of Kansas and Nebraska. Labor is plentiful around here at present.

Maximum temperature for week, 97; minimum, 41; precipitation, none.

Newell - Bellefourche:

Harvesting of the dry-land plots is practically completed. Only in six plots of wheat after fallow remain to be harvested, and they are now ripe. Only a few plots of grain will be threshed. On some plots the crops were a total failure, these being practically no growth of straw.

The Boy's Camp held at the Station the last week was well attended. Sixty-six boys spent the entire week at the farm. The last day of the week the Annual Farmer's Picnic was held. The attendance was excellent, a crowd estimated at 3,000 people being present.

The weather continues dry and hot. The maximum temperature for the week was 102°; minimum, 49°; precipitation, .32 inch.

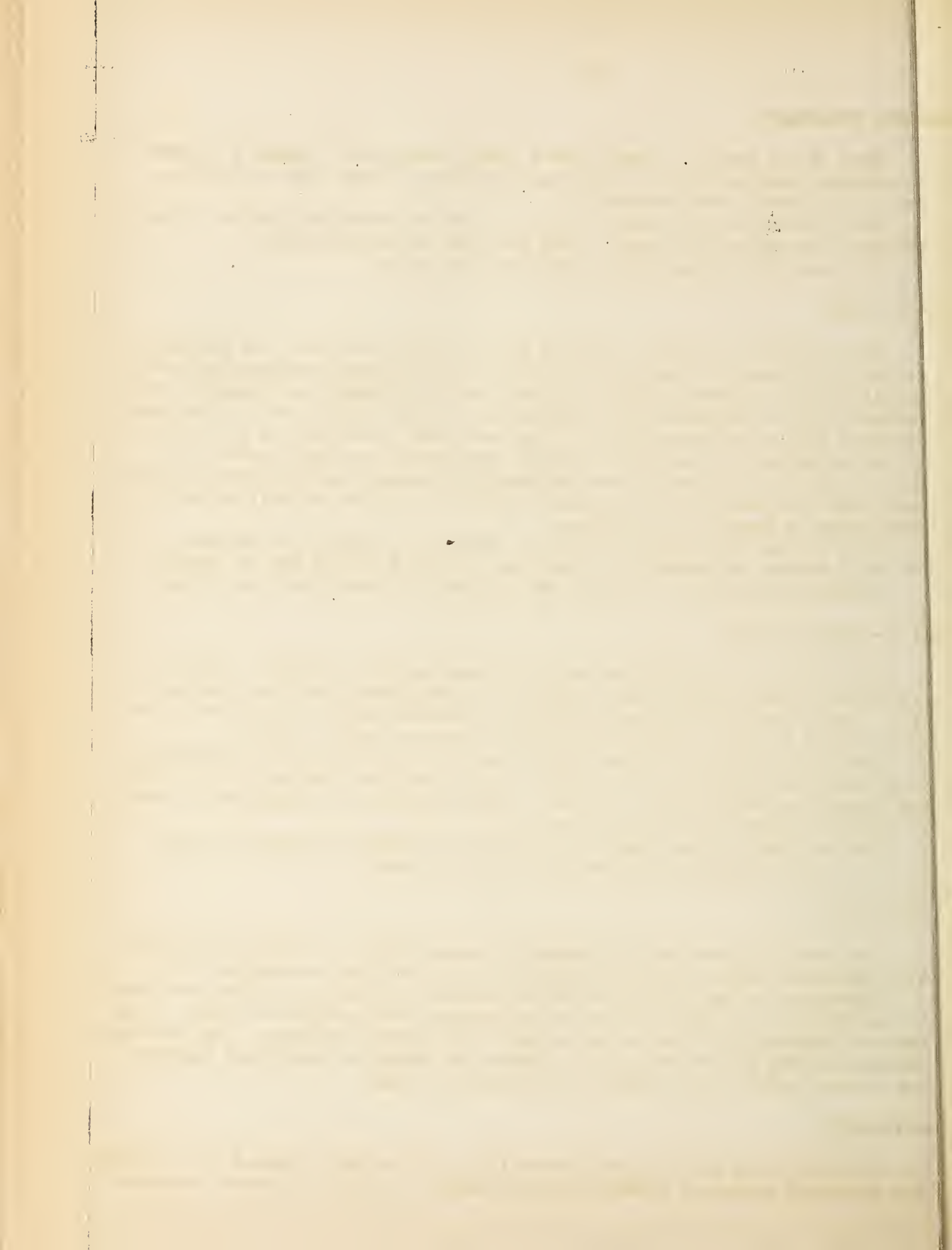
North Platte:

The week has been dry with moderate temperatures. Harvest on the Station has been completed with the exception of a few late seedings.

Threshing of the larger fields was started yesterday. A five-acre field of winter wheat on summer tilled ground yielded 22.8 bushels per acre. Five acres adjoining, following corn, yielded 15.2 bushels per acre. The heaviest yield on summer fallow was a plot of Nebr. 28, which produced 33.2 bushels per acre. Yields were considerably reduced by rust.

Scottsbluff:

The week just past has been unusually cool for July. Typical fall weather has prevailed with cool winds and cloudy skies. Two small showers occurred.



Scottsbluff, continued:

All remaining small grain plots were cut during the week. Many of them produced very poor yields and will not be threshed. Field peas for green manure were plowed under. The ground plowed up very hard. Sorghum and bean varieties were cultivated during the week.

Arrangements are being made for holding the Annual Farmer's Picnic on the Station. A three-day Boy Scout Encampment will precede the picnic. The affair is to be held in cooperation with the County Farm Bureau and will be during the first week of August.

Maximum temperature for week, 95; minimum, 53; precipitation, .33 inch.

Sheridan:

The weather for the past week, as shown by data collected, was as follows: Maximum temperature, 104; mean maximum, 93; minimum, 55; mean minimum, 58; evaporation, 2,444 inches; average wind velocity, 4.9 miles; and precipitation, .24 inch.

The Annual Picnic given by the Sheridan County Picnic Association, which association is composed of the Sheridan Commercial Club and the Sheridan County Farm Bureau, was given on the 17th. The original plan called for preparation for 1,000 visitors, but at the last minute it was necessary to change it to accommodate the 3,000 people who attended. The highest temperature of the week occurred on that day - 104 degrees - and the second highest wind velocity, but even under the very dusty and hot conditions every one left the Station pleased with their day's outing. The record for long distance attendance on horse back was 70 miles by two ladies.

Practically all of the winter wheat will be in the shock this noon; part of the oats and barley on the Cereal Field are also harvested. A good many plots on the Cereal Field will have to be abandoned, due to there being nothing on the plot, as they were so badly burned that heads did not fill. All oat plots on the rotation project are ready for harvest this morning, and wheat plots are coming on very rapidly. Summer tilled and green manured spring wheat are going to make a crop, from possibly 12 to 18 bushels. Other wheat plots on rotations will yield from this high rate to zero - with the zeros very common.

Mr. John Martin of the Cereal Office spent the 16th on the Station.

Tucumcari:

The past week has been very showery with temperatures favorable to crop growth. We were not needing rain, but the showers stimulated the growth of all crops to a wonderful degree. Milo in the general field is in the boot, and a little is beginning to head. Corn in the variety test is nearly all tasseled, but is much shorter than it should be at this stage. From the nature of growth one would judge that the seed used was northern grown, or produced at a very high altitude. Crops on the sod land are growing away from those seeded on old land, and cowpeas are growing much faster than those on the regular rotation plots. Field work for the week has consisted mostly of cultivating, hoeing, and some planting. We now have practically all fields free of weeds. Grass on the range is making a splendid growth, and all stock is doing well. There is a shortage of stock in this country at present and so far very little has been shipped in.

Pucuncari, continued:

Prof. Chilcott, accompanied by E. F. Chilcott, visited the Station on the 13th inst.

Maximum temperature, 91; minimum, 61; wind velocity, 4.4 miles; evaporation, 1.786 inches; precipitation, 1.66 inches.

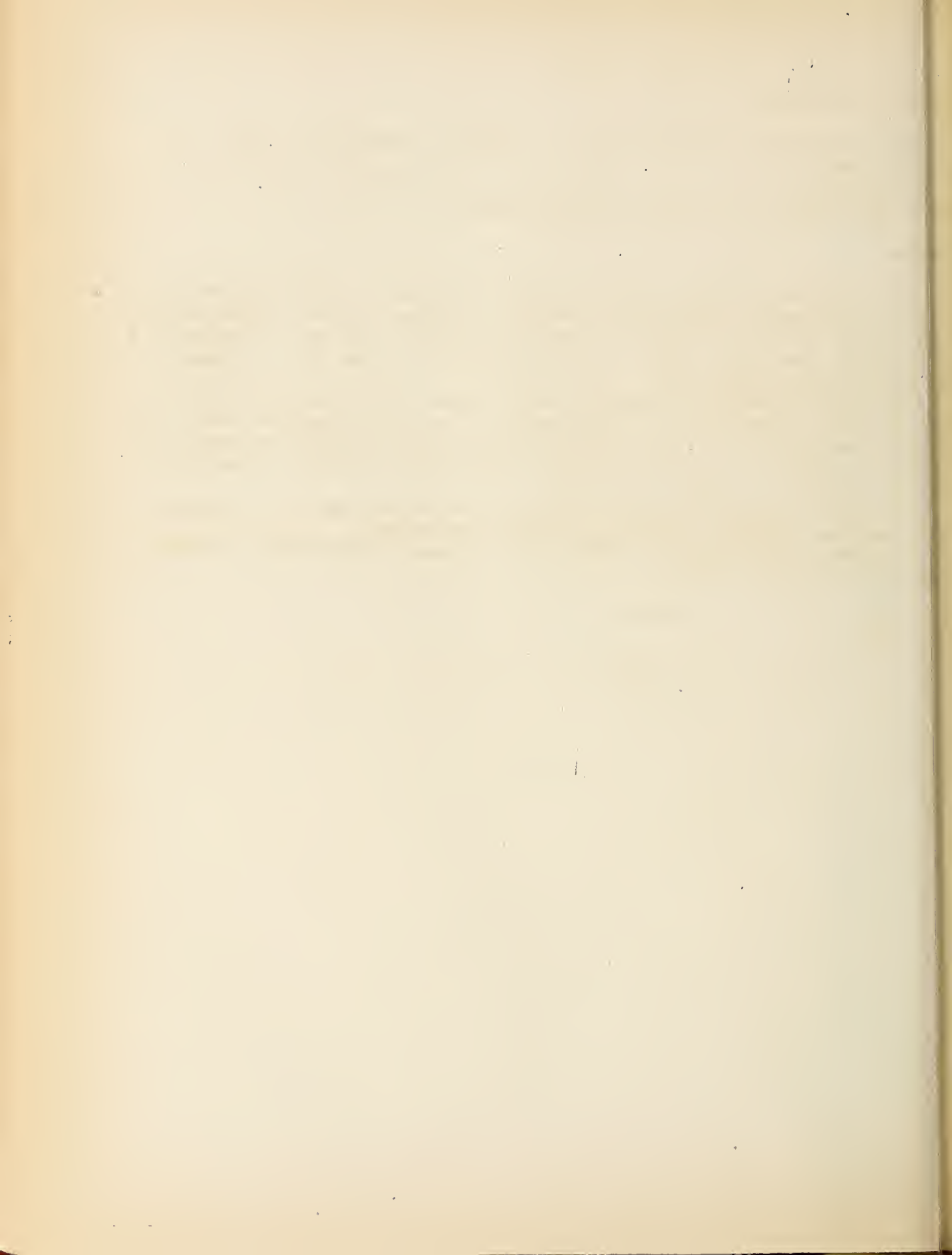
Woodward:

Two weeks of very dry weather was broken on Monday of this past week by a rain of .72 inches. Since that time there has been a total of 1.35 inches, with the sky cloudy practically all the time. Crops which were practically at a standstill have made remarkable progress since the rain. The sorghums are now standing half waist high.

Threshing of the rotation wheat and rye crops was finished on Monday before the rain. Since that time cultivating row crops and hoeing weeds from among the shrubbert and forestry plantings has largely occupied our time. The machine shed under course of construction is now practically completed and will be ready for use this coming week.

Mr. Chilcott, who has been on a trip of inspection over the southwest stations along with Prof. Chilcott, returned yesterday.

Maximum for the week, 98 on the 12th; minimum, 73 on the 12th and 13th; precipitation, 1.35 inches.



696



WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

JUL 26 1919

175

THE UNIVERSITY OF CHICAGO

PHILOSOPHY DEPARTMENT

PHILOSOPHY 101: INTRODUCTION TO PHILOSOPHY

LECTURE 1: THE PHENOMENON OF CONSCIOUSNESS

PROFESSOR JOHN D. GIBSON

REPORT FOR WEEK ENDING JULY 26, 1919.

Amarillo:

This week has been quite a contrast to last. Instead of being cool, cloudy, and rainy, it has been clear, hot, and dry, with only a trace of precipitation. All crops have made a very rapid growth; corn is beginning to tassel; a few milo heads are beginning to show; the earliest date-planting of milo on the Station is pretty well headed. Threshing is in progress in the community and we have heard of wheat yields up to 20 bu. and oat yields up to 60 bu. per acre; however, I do not know how accurate these reports are.

Field work the past week has consisted of cultivating row crops, disking, fallows, soil sampling, counting of stands, and hauling up of oats that were cut for hay on account of hail damage. These oats made hay yields as follows:

Rot. 261-A, -----	3,560#	per A.	Rot. 281-A, -----	4,160#	per A.
" 277-A, -----	3,640 #	" "	" 291-A, -----	3,540#	" "
" 279-B, -----	4,440 #	" "	" 157-C, -----	4,100#	" "

The J. I. Case Plow Co. have a new lister which they intend to put on the market in the spring. They were trying it out on the Station last Monday with a Cleveland Tractor, and a while Tuesday with the station teams. It is a two-row power-lift lister and works very nicely.

The Fordson people have a tractor out here today, the 26th, doing some plowing for us.

Maximum temperature for the week, 89; minimum, 58; average hourly wind velocity, 5.1 miles per hour; evaporation (4' tank), 2.134, (6' tank), 1.654, precipitation, T.

Archer:

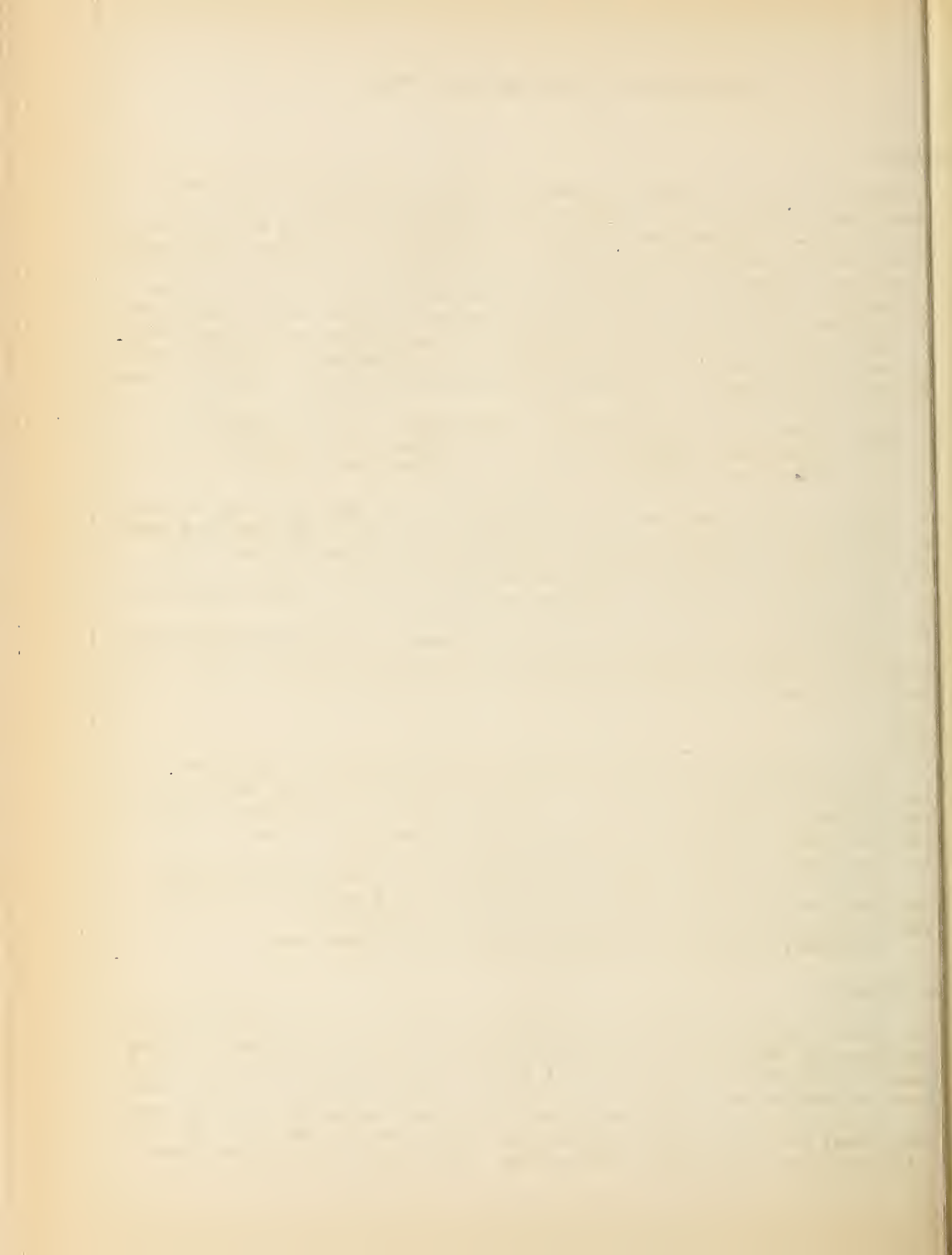
The past week has been warm and dry, but evaporation has been low. Winter wheat varieties are ready to cut, but will have to wait until repairs for the binder arrive. Barley and oats are beginning to ripen, and spring wheat is filling rapidly. All crops will be short, but are much better than we expected after the dry weather in May and June.

The Annual Frontier Day's Celebration closed at Cheyenne last night. It is said to have been the best and most successful one ever held, large crowds from all over the United States being in attendance.

Maximum temperature, 95; minimum, 51; precipitation, .04.

Big Spring:

The night of the 19th and the following day we received several showers amounting to .73 inch. This precipitation was followed by several days of cool weather and was a great benefit to the crops. The varieties of millet were planted on Tuesday, but it is somewhat doubtful whether we will secure a good stand on these plots unless more rain comes soon. The blackeye and early buff peas were harvested Thursday. Of the two varieties the blackeye will make the heavier yield this season. Sweet clover in the four plots



Big Springs, continued:

used for this crop were mowed the middle of the week. The two plots planted in rows made an average yield of 810 lbs. of hay per acre, while the two drill plots made an average yield of 2,600 lbs. per acre. During the week stand counts were made on a number of the plots and fields.

Maximum temperature for the week, 98; minimum, 63; wind velocity, 4.4 miles per hour; evaporation, 1.85 in.; precipitation, .73 inch.

Colby:

Clear, warm weather which prevailed throughout the week dried the grain out sufficiently so that it was possible to commence threshing Wednesday. All but three of the winter wheat plots on the D. L. A. field have been threshed and a maximum yield of 52.2 bushels per acre was secured on Rot.505. This is the highest yield ever obtained on the Station and exceeds the previous record by 12.7 bushels. The majority of the plots produced from 30 to 40 bushels per acre, and only 5 of the 36 plots threshed fell below 20 bushels. The average yield of winter wheat thus far is 33.3 bushels per acre.

Prof. E. C. Chilcott, Mr. O. J. Grace, and Mr. A. L. Hallsted visited the Station early in the week.

Maximum temperature, 99; minimum, 55; precipitation, none.

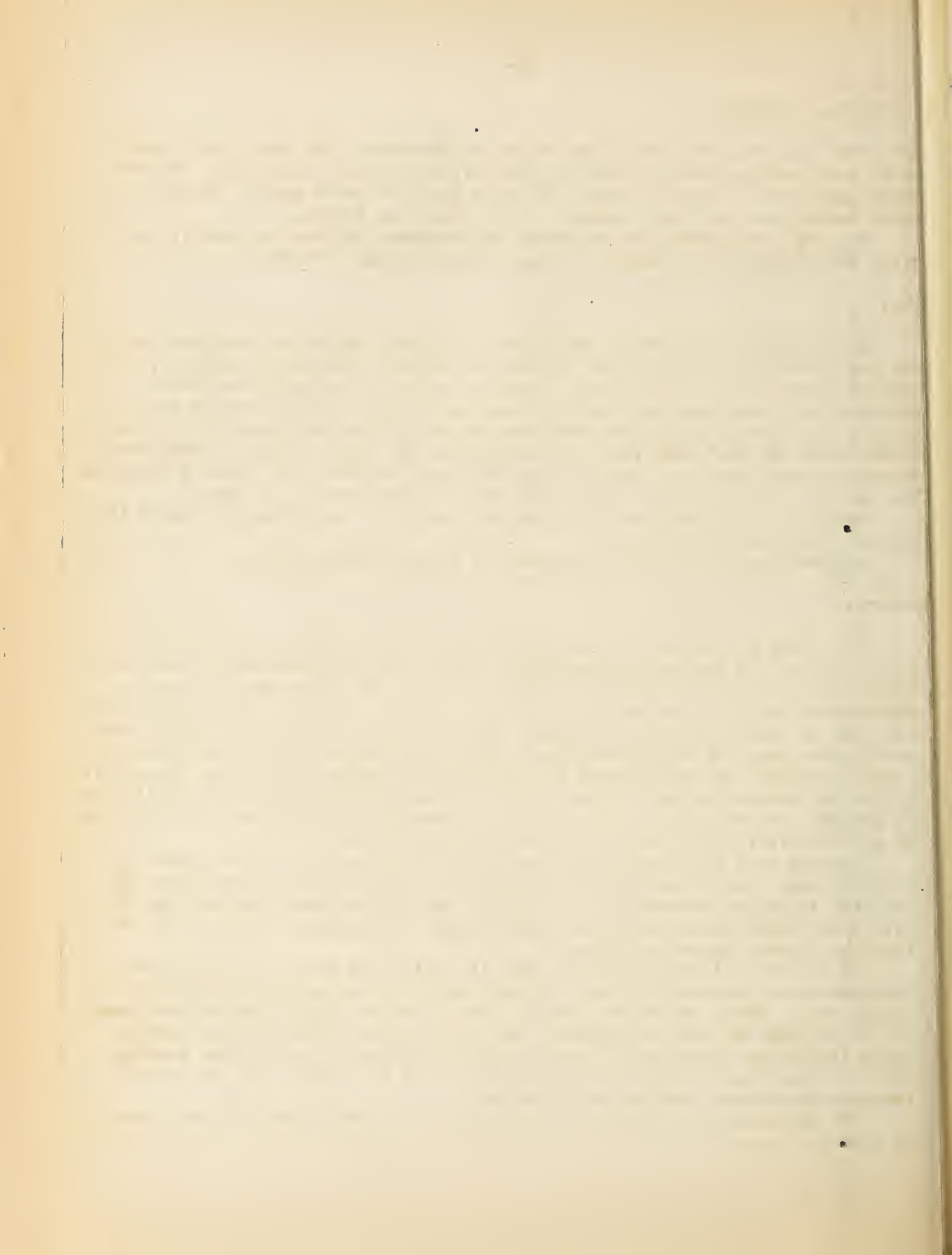
Dalhart:

The first of the week was too wet for any field work. We were able to begin the work in the field Wednesday. We have the rotation No. 89 that was badly infested with the blue weed plowed and will keep this under intensive cultivation until we have killed the weed. We have it killed in another place already. We have been able to finish about one third of our cultivating this week, going over for the second time. The fields are clean and everything is growing rapidly. We will finish the cultivating within a few days. This will be all the cultivating we will be able to do as the crops will be so tall that we can not get over them again. We disked some of the wheat plots that are to be seeded this fall and will plow them at an early date.

We have been busy putting a floor in the implement shed since Thursday. We have about two thirds of the cement work finished now. We took part of the time in making the cement walls in the pit for the new wagon scales. We will just about finish the cement floor in the shed Monday; then we will be ready to set the scales in place.

We had to pull the sucker rod from the well this week and put on new leathers and a new stuffing box. We were out of water for two days but have plenty now. Monday afternoon about 6 p. m. about 40 people from Dalhart came to the Station and has an enjoyable time all evening. They remained until about 10:30 p.m. They stated this was the best place to go in this country and that they would return for another visit and reception. Ice cream and cookies were served just before departing.

The maximum temperature was 88 degrees; the minimum, 55; with no record of precipitation.



Dickinson:

All of the grains on the rotations, with the exception of a few barley and wheat plots, were harvested during the week. Several of the oat plots are failures, but wheat will probably thresh out from 2 bushels on the poorest to as high as 12-15 on the best plots. Most of the increase oats and barley have been cut for hay. Corn is beginning to dry up, and unless rain comes soon will be ready for the silo within a couple of weeks. The yield will be only about $\frac{1}{2}$ -2 tons of silage per acre. The last of the 1918 silage was fed during the week.

The county agent from the southwestern counties of the State visited the Station on the 17th. Other recent visitors were Director P. F. Trowbridge, Mr. C. W. Warburton, Prof. L. R. Waldron, Mr. E. J. Delwiche, associate Agronomist at Wisconsin Experiment Station, Mr. W. H. Kenety, superintendent of Forest Experiment Station, Cloquet, Minn., and Mr. F. E. Cobb and Mr. H. L. Westover.

Maximum temperature for the week, 103; minimum, 45; precipitation, none. Precipitation to date for July, .11 inch.

Edgeley:

Maximum temperature, 94; minimum, 48; precipitation, none.

The weather has been warm and dry. Crops are beginning to need rain. Hot winds have ripened grain rapidly. Barley is just ready to cut and will be harvested the first of the week. Rust is doing great damage to the wheat crop. Much of the late grain will be practically worthless because of the effects of the rust. Grasshoppers are doing some damage to the cereal crops by eating the soft kernel and cutting the heads of the grain off.

Hettinger:

Cut oats on general farm field for hay. Cut all oats on the D.L.A. plots with mower and raked. The oats crop is a total failure at this Station with the exception of Plot C in M.C. Oats.; this plot was very good.

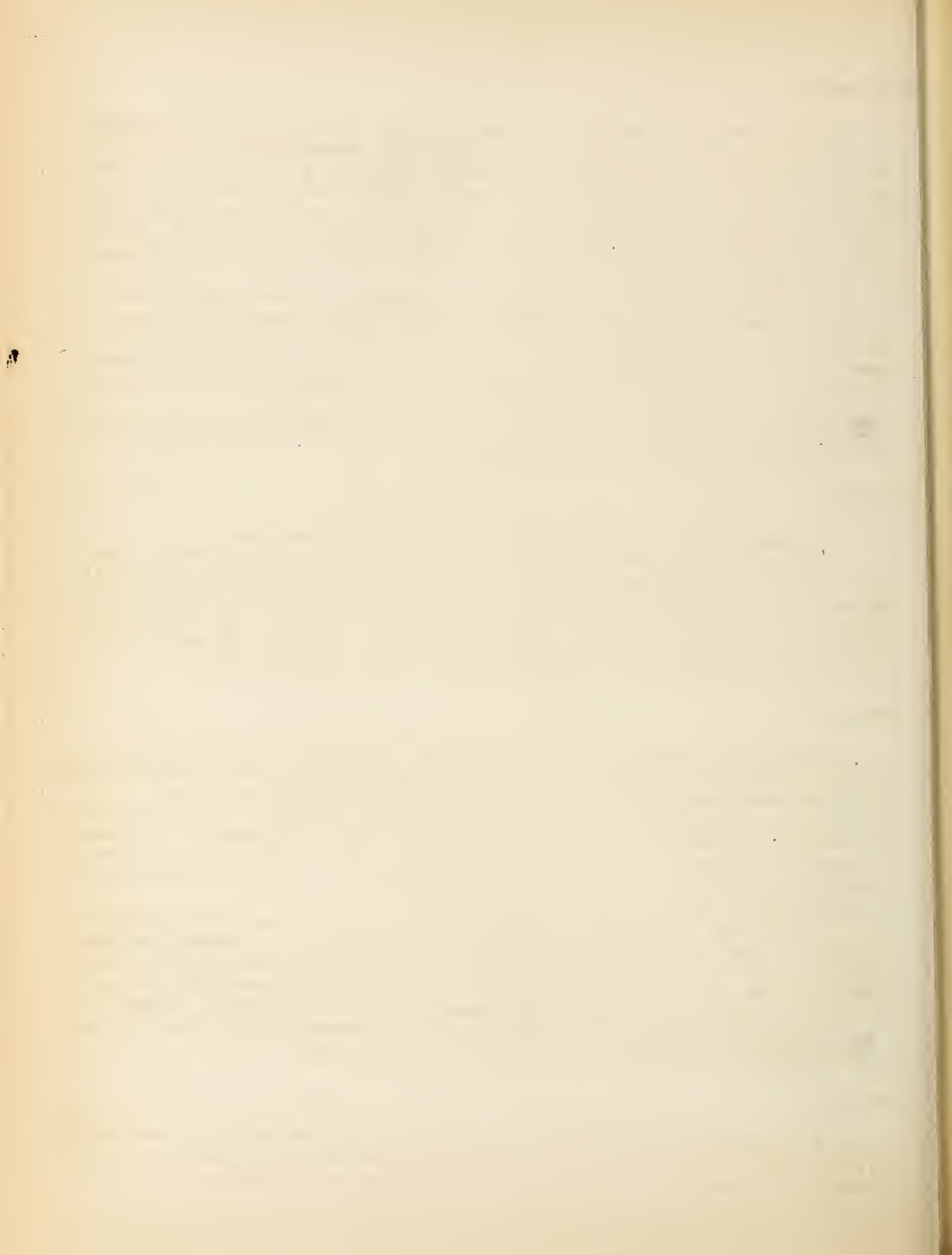
Harvested all wheat plots on D.L.A. and Flax Rotations. The wheat crop is very short; the best plot will perhaps yield about 10 bushels. The corn is very short also and will make a very light yield. Pastures are completely burned up, which makes it necessary for a great many farmers to ship their cattle east to feed.

The Hettinger Station has received the new herd of pure bred Holstein cattle. It is the aim of the Station to promote the dairy industry in this locality. The last three years have proven that the men that have practiced mixed farming are the men that have been able to make improvements and are really the men that are making this community, regardless of the drouth.

Temperature for the week: Maximum, 94.5; Minimum, 57.4; precipitation, none; total precipitation for July to date, .23 inch.

Huntley:

Spring wheat and oats harvest was completed on the Dry-land plots early in the week. Oats yields will be extremely light as it was found to be impossible to gather the short strawed crop on most of the plots.



Huntley, continued:

Threshing of dry-land winter wheat in the neighborhood is well under way. Yields are generally lower than expected, summer fallow producing from four to six bushels on an average. The highest yield reported so far is 10 bushels per acre.

Temperatures this week have averaged generally higher than last week, the warm days being accompanied by hot winds. Corn is badly withered and many of the smaller plants have died.

Temperatures for the week: Max., 102; minimum, 41; precipitation, none.

Judith Basin:

The usual report that the weather has been dry and warm aptly applies to conditions prevailing during the past week. Even if rain should come now, it would be too late to do any great amount of good to grain crops but might increase yields of such late maturing crops as corn and potatoes. Yields of all grain crops will in all probability be much lower this year than has been the case since the Station was started in 1908. Hay and pasturage are also scarce, and it is reported that a considerable amount of live stock is being shipped out of the State on account of this scarcity.

All oats and winter wheat on the rotations have been harvested. A mower with a buncher attachment was used in this work as the grain was too short to tie with a binder. Early oat varieties on the variety testing plots have also been harvested. Other work at the Station during the week included hoeing corn and potatoes and pulling Russian thistles out of some of the plots.

Maximum temperature for the week, 92; minimum, 43; precipitation, .14 in.

Mandan:

Horticulture.

Native grape seedlings were sprayed during the week. Strawberry seed from standard varieties was planted in flats for seedling purposes. All potatoes and plums were hoed. Suckers were cut out of seedling plum orchard. On account of the continued drouth considerable watering had to be done in the propagation beds. A miscellaneous lot of wild fruit was picked.

Agronomy.

Practically all small grain on the Station has been harvested. Wheat was cut the middle of the week. While the yield will not be high, it will be very good for the season. The grain is well filled on most plots in spite of the dry weather. The wheat was cut about 10 days earlier than it has been on the Station in former years. Varieties of small grain were also harvested for the Office of Cereal Investigations. Corn is still making some growth, but unless we have a good rain soon we cannot expect any grain.

Maximum temperature, 100; minimum, 47; precipitation, .01.

Cooperative Grazing Experiment.

Vegetation in the pastures has dried up rapidly during the past two weeks. Very little growth has taken place on any of the clipped quadrats during the last 30 days.



Mandan, continued:

Arborculture.

Picking of the caragana seed was finished last week. When threshed and run through the fanning mill it produced 60 pounds of seed. Ten pounds of this has been planted in beds and will be watered to produce a growth sufficient to go over the winter.

Mr. Kenety of the Forest Experiment Station, Cloquet, Minn., and Mr. Cobb returned from an inspection trip along the south branch of the Northern Pacific Railroad to the "Bad Lands", and back along the main line. Cooperating farmers to the number of 67 were visited. Though in places in the western part they have had no rainfall to amount to anything since April, trees in shelterbelts that have been cultivated and weeded have made a growth up to 3 feet. A heavy freeze in June injured the ash trees to such an extent, in places, that they may not be able to recover.

Mr. Henchel has been working this week in the southern part of North Dakota and the northern part of South Dakota, along the Milwaukee Railroad. Mr. Bastine finished the northern part of North Dakota and is now working towards Williston and Montana.

Newell:

The dry, hot weather continues. Corn is now beginning to dry up. Only the plot on fallow has reached a height of over two feet. The corn on the other plots has tasseled, but no silks have appeared.

The total precipitation for the year to date is 6.12 inches. The distribution of this has been unfavorable for crop production. The temperature was above 100 degrees three days during the week.

Maximum for the week, 104; minimum, 52; precipitation, none.

Scottsbluff:

The past week has been the hottest and driest on record for the present season. Several days we experienced hot winds and high evaporation.

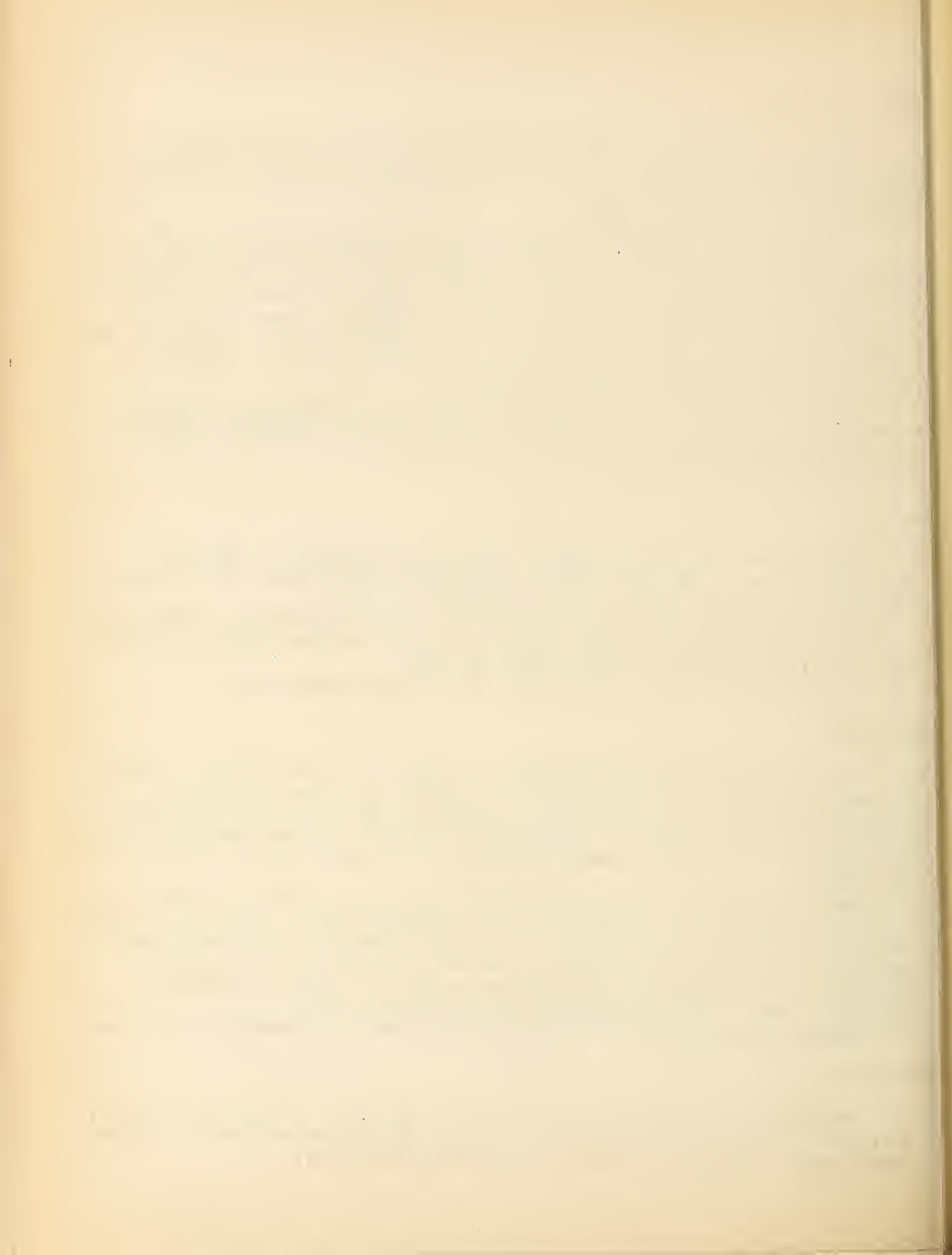
Corn is heading out at a height of two feet, or less, and is suffering badly from lack of moisture. Grasshoppers are migrating from the stubble plots and are doing much damage. Potatoes and bean varieties are also meeting a like fate.

Investigations the past week have revealed the fact that in certain fields the grasshoppers are dying in large numbers from the effects of a small worm within the body of the hopper. By close observation it was seen that the worm was hatched from an egg laid on the body of the hopper by a fly. Hope is held out that this will prove effective in ridding the fields of this pest. Mr. J. M. Stephens was a station visitor today.

Maximum temperature for the week, 100; minimum, 51; precipitation, none.

Sheridan:

The following weather data was collected during the past week: Maximum, 102; mean maximum, 94; minimum, 53; mean minimum, 60; evaporation, 2.618 in.; average wind velocity, 7.2 miles; and precipitation, none.



Sheridan, continued:

From the above it will be noted that another very dry and hot week has terminated, but it is no drier apparently than it was a week ago, because it can't get more dry. During June and July, to date, there has been very little cloudy weather, nearly every day being clear. When it did cloud up and threaten rain it all ended in wind.

All but three plots of when, oats, and barley on the Station are now in the shock. The larger portion of that which has been harvested was so short that it could not be tied, so the knotter trip was removed from the binder and the grain caught in a canvas on the bundle carrier.

On the corn plots, those on spring plowing stand more than foot higher than those on fall plowed land, and the highest of the spring plowed plots are not much over $2\frac{1}{2}$ feet. Fall plowed plots of corn, apparently are doomed to die of drought. There is not much of a prospect of even spring plowed corn making ears worth husking, although the greater part of it is in the silk. Corn on listed land is nearly a failure also. While corn on summer tilled land is no better than spring plowed corn.

The work of the week has been harvesting, cleaning up the debris of the picnic, hoeing weeds, grinding feed, and over-hauling some of the machinery. A round of soil samples has also been finished.

Tucumcari:

Weather for the week has been favorable and all crops have made a good growth. Beans in the first planting of the cooperative-been work are producing a very heavy vegetative growth, but they are also setting on a good crop of pods. The second planting of beans in this work is up to a good stand. Some milo is headed out but most of it is yet in the boot stage. Some red-amber sorgo is in the boot. Cowpeas are not growing as rapidly as they should, but they no doubt will start to vine soon. Sudan grass is about one foot in height, and sunflowers are about five feet tall. Watermelons are in bloom and vining. Canteloupes are setting on fruit, and squashes and pumpkins are doing well. All trees and ornamental shrubs on the Station are making a fair to good growth.

Field work for the week has consisted of cutting out grass burrs about the station grounds, cultivating, and trimming sprouts from trees. With a few days more work in the field all crops will be free from weeds. It has been necessary to use the hoe in some of the general crop fields, owing to the fact that we let cultivation go in these to the last and the weeds got the start on us. However, we have had to do very little hoeing.

Maximum temperature for the week, 87; minimum, 57; wind velocity, 4.4 mi.; evaporation, 1.796 in; and precipitation, 1.44 inches.

Woodward:

All the rotation crops were cultivated again this past week. All crops have made remarkable growth since the last rain, and this will doubtless be the last time the cultivator can be used on the rotation forage crops this season. Already some of the Cereal Office plantings were too tall for the cultivator and had to be cultivated with the five-shovel single horse implement we have. Along with the rotations it may be said that the Cereal



Woodward, continued:

project has also been cultivated within the last week, as also has one field of increase kafir. On Friday and Saturday threshing was again resumed and will be finished after about two hour's work Monday morning.

The first grapes were harvested this past week. From present indications our grape crop will run into the several hundred pounds. Different varieties will doubtless be ripening for the next two weeks.

Maximum temperature for the week, 94 on the 25th and 26th; minimum, 54 on the 23d; precipitation, none.

Lawton: -(for the 3 weeks ending 7-26-19):

The first half of July was hot and pretty dry. Although the June rainfall amounted to 4.36 inches, the moisture was rapidly used by the vegetative growth of all kinds, and corn especially was in need of rain by the middle of July. From the 16th to the 20th of July the rainfall amounted to 3.46 inches, and the corn crop in this part of the country was insured. All other crops have made excellent growth. Practically all of the milo, feterita, and kafir have been in full head for over a week. Weeds have grown rapidly and we have been behind with our work all summer due to the scarcity of labor.

Threshing of small grain plots was completed on the 17th. The yields in most cases are good, but will not be reported until the seed has been graded and tested. Up to date the wheat tested from 55 to 58. The average yield of wheat will be about 24 bushels.

Colby - week ending July 19:

The hot, dry weather of the past month was terminated by heavy rains Sunday and Monday amounting to 1.78 inches of precipitation. Very little run-off occurred, and practically all of the moisture was absorbed by the soil. Unusually cloudy, threatening weather prevailed throughout the week, and another heavy rain of 1.74 inches was received Saturday. One and a half inches of this latter storm fell within 45 minutes and a large amount of run-off took place.

Corn, milo, and other crops have recovered from the effects of the drouth and are making good growth. Tasseling of corn is well advanced, but there is considerable variation in the time of tasseling on the different plots. A few plots have not yet started to tassel.

Due to the wet weather, field work has been impossible a greater portion of the time. Listed milo, however, was given the first cultivation and thinning of milo commenced. Soil samples were also taken on a number of the plots and the results show that on winter wheat stubble moisture from the rains early in the week did not penetrate more than from 8 to 10 inches, and that the 2d, 3d, 4th, 5th, and 6th feet are very dry. On fallow large amounts of moisture are present in all six feet.

Maximum temperature, 93; minimum, 55; precipitation, 3.72 inches.

Mandan: -(for the week ending July 19):

Horticulture.

All currants and two varieties of gooseberried have been picked. Seedling selections of promising black currants were made, and a considerable amount of seed has been washed and stratified. Miscellaneous hoeing, cultivating, and plowing has been carried out. Mr. Pfaender is away gathering wild fruit for breeding purposes.



Mandan, continued:

Arboriculture.

Mr. Cobb, in company with Mr. Kenety of the Forest Experiment Station, Cloquet, Minn., has been away inspecting shelterbelts in various sections of the Station. The work of the shelterbelt department here has been confined to weeding, hoeing, and cultivating the tree plantations.

Agronomy.

All oats in the rotations were cut early in the week. This is about 10 days earlier than oats have been harvested on any other year since the Station was started. The yield will be good for the season.

Wheat is slow in filling, but is apt to be badly shrunken. It will no doubt be ready to harvest the coming week. Very hot dry winds have caused it to dry up badly the past week.

Corn is still growing and looks good, but is in need of rain.

Grasshoppers are rather thick in the fields but have not done much damage to date, except to alfalfa that was left for seed.

Two light showers came during the week, and it is cooler now.

Maximum temperature, 103 on the 17th; minimum, 48 on the 18th; precipitation, .09 on the 17th and 18th.

Mr. C. W. Warburton, Office of Cereal Investigations, visited the Station on the 16th, and 17th. Mr. C. N. Woodworth, also of the Cereal Investigations Office, arrived at the Station on the 17th and expects to remain with us the next two months.

Cooperative Grazing Experiment.

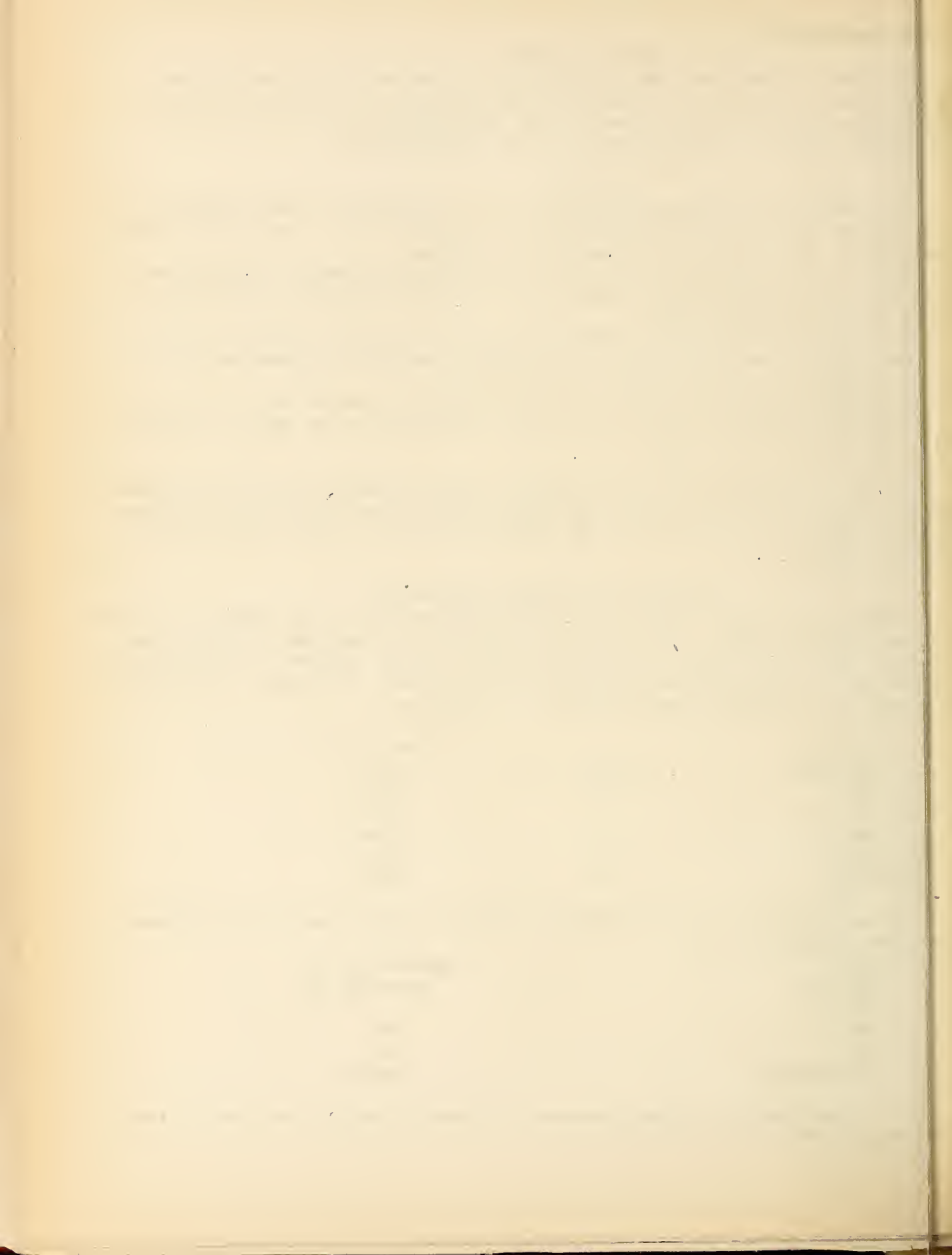
Cattle were weighed again on the 15th as the cattle of the rotation pasture were moved from B into A. The B pasture still had an abundance of feed in it and would have carried the bunch until August 1 or 15. However, it was necessary to make the move in order to use the feed of the other divisions. The cattle have made the following gains from June 1 to July 15:

Pasture		Pounds gain.
100 acres	-10 head -	1,720
70 "	"	1,850
50 "	"	1,440
30 "	"	1,450
*Rotation	"	1,680
Reserves	8	1,270

It is estimated that the following percent of vegetation has been removed from each pasture to date:

Pasture	Percent grazed
100 acre	Less than 5
70 "	" " 10
50 "	50
30	75
Rotation B.	40-50

*The rotation pasture consists of 70-acres divided into three parts. The cattle were in B to July 15.



Mandan, continued:

The small pasture is in worse condition at this time than it has been on the same date in previous years. The cattle will no doubt need to be taken off soon. Very little growth has taken place during the past month on the prairie.

Mandan:- (Week ending June 28):

Horticulture.

Cultivation and hoeing has been continued. The potatoes have been sprayed and stand notes taken. A good number of hand-crossed fruits have ripened in the greenhouse and been picked. Pruning of fruit stocks has continued preparatory to budding in August. Juneberries are ripe and a number of selections have been made, some of which are very promising. Strawberries are giving fair yields. Field stakes are being prepared for all new plantings.

Agronomy.

Continued hot dry weather for the entire week, with heavy winds during the last two days, is beginning to show its effect on all field crops, although the crops on the station are holding out well considering the length of time without rain. Corn is the only crop still doing well, and its growth during the week has been exceptional. Wheat is now heading.

Brome grass was mowed the first of the week. That on the D.L.A. plots was hauled yesterday, but the heavy wind prevented further work with hay. The alfalfa is now ready to mow, but is being delayed for the same reason.

The roads in the rotations were dragged with the Kimble harrow the first of the week. The corn in the rotations has been thinned and was cultivated again yesterday.

Maximum temperature, 97; minimum, 58; precipitation, none.

Arborculture.

Mr. Henchel and Mr. Bastine left Monday in the government car for an inspection trip along the north branch of the Northern Pacific to Kildeer, returning to Dickinson and working back along the main line.

Cultivation record cards have been sent to all cooperators.

Mr. D. S. Olson of the Forest Service, Superintendent of Sevenac Nursery, Haugen, Mont., spent a day last week visiting the Station.

