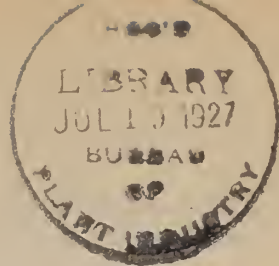


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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE



REPORT FOR WEEK ENDING JULY 2, 1927.

HAVRE:

Three small showers were recorded during the week making a total of .15 inch. The first two days were warm with a maximum temperature of 85 degrees. The last three days have been very cool, showing a minimum of 45 degrees.

Winter wheat headed the early part of the week and is now in bloom. This crop is showing very good height and, unless conditions are severe the yield will be very good except on plats where there was winter killing. Spring rye also headed during the week. The stand of this crop has improved very much. Spring rye, as well as oats and barley seeded about the first of May, show rather thin stands due to crusting which occurred at the time of emergence.

Brome grass and crested wheat grass as well as alfalfa on dry land were harvested for hay. Although the actual dry yields have not yet been obtained these grasses will run about a ton to the acre, crested wheat showing heavier yields than brome.

Corn was cultivated for the first time during the week. Fallow plats were also disced for packing. Roadways and alleys were cleaned up. The oats, alfalfa, and sweet clover in the irrigated rotations were irrigated the first of the week. Rye and sweet clover for green manure were turned under during the week. Rye showed an unusually heavy growth, being nearly five feet tall. The growth of sweet clover was very good but the stand was thin.

Quite a large acreage has been fallowed in this section during the last two weeks. The chief difficulty has been a very rank growth of tumbling mustard.

Maximum temperature for week 85, minimum 45; precipitation .15 inch.

JUDITH BASIN:

Excellent growing weather continued during the past week. The soil moisture situation is favorable though the June precipitation of 2.47 was .76 below normal. Favored by moderate temperatures, all crops have responded vigorously. Winter wheat is in the boot and winter rye is beginning to flower. Corn, potatoes, and beans are still backward.

The range is in very good condition. More grass is reported on the benches in Central Montana than in twenty years.

Hogs in the pasture experiments were weighed, all lots are showing good gains. As all of the pastures have more forage than the hogs can graze down, the sweet clover, alfalfa, and grasses have been cut for hay. The growth on the reseeded and spring seeded blocks were also clipped. One block of sweet clover in the cow pasture experiments was cut for hay before becoming too coarse.

Corn on the rotations, pastures, and increase field is being cultivated. Forage crops planted in rows have been cultivated. There is a continual fight to control weed growth. Most duckfoot fallow fields in the Basin must be supplemented by the disc this season.

Maximum temperature for week 86, minimum 40; precipitation .20 inch.



HUNTLEY:

Normal day-time temperatures, but unseasonably cool nights have been the order of the past week. Grains and grasses have made a good growth under these conditions, but corn, sorghums, and beans are making little progress. Several light showers throughout the week have been beneficial to all crops, but especially so to winter wheat which has made a very heavy growth this season and has about drained the soil of available moisture. Winter wheat has headed, and on many fields has passed the bloom stage. Spring grains are making a luxuriant leaf growth, but to date have shown no signs of heading. Corn is short and growing slowly, but has good color. Unless warmer weather is received soon this crop may not mature before frost.

Precipitation for June was .27 inch below the average, but as the rainfall from the first of April to the first of July is still nearly 5 inches above normal, the deficiency of the past month is not serious.

Maximum temperature for week 96, minimum 41; precipitation .34 inch.

SHERIDAN:

With the exception of 2 hot days the weather has continued cool, cloudy the greater part of the time, and unsettled. Haying was quite general Monday, but rain delayed further work of this kind until Friday. Cutting alfalfa on the Station was started yesterday, July 1. All alfalfa in plats, with the exception of the varieties in rows, have now been cut. Plowing for fallow was completed the first of the week. Corn in the rotation field is being cultivated today. During the wet weather more of the dead wood of the Chinese elms of the old shelterbelt was trimmed, and where they were killed back the worst of the trees were thinned to 8 feet in the row. The killing back was worst in certain parts of the 4 x 4 block.

Winter wheat is practically all headed except for the last two dates of seeding. The earliest seeding of spring wheat, some of the earlier varieties of spring wheat, oats, and barley in the varieties, and the oats in the rotations are heading. Barley in the rotation field is about headed.

Maximum temperature for week 96, minimum 48; precipitation .80 inch.

DICKINSON:

The early part of the week was warm, but the last few days were cool and cloudy.

Grains made a good growth and now promise a good yield, should the weather till harvest be favorable.

Hay on some of the grass plats was cut and coked. Most of the alfalfa will be cut during the coming week.

About 50 people were in the group of Northwest Farm Managers who visited the station on July 3 on their annual tour, which this year brought them into the western part of the State. Professor J. H. Shepperd led the group through the station grounds. DeWitt C. Wing, Associate Editor, of the Breeder's Gazette, Chicago, was in the party reporting the trip for his paper.







Dickinson, contd:

Maximum temperature for week 90, minimum 39; precipitation .44 inch. The total rainfall in June was 2.12 inches. Since April 1 the rainfall was 9.98 inches, or 3.27 inches above average for the three months.

MANDAN:

Agronomy.

The past week has been favorable for field work with the exception of one or two days, when it was too wet.

Corn was cultivated and fallow was duckfooted. Corn made good advancement during the week.

Small grain is making good growth and has recovered to some extent from the hail storm on June 19. Wheat is starting to head.

Late fallow and peas were plowed today.

A severe storm passed through this area the night of the 29th. The wind blew very hard at the station, but did no damage. There was near a cloud burst with about an inch of rain in less than 30 minutes. A good deal of washing took place in the south field. The coulee in Field B ran full of water, and washed away several loads of hay which had been cut and cocked. No hail fell at the station, but hail was severe at the pasture. A good deal of grass was cut off and wheat near the pasture was practically a total loss. The wind was much worse on the river bottom, where it blew down many large cottonwood trees. In Bismarck a number of trees were blown down, and the roof taken off one of the hotels. Haying has been delayed because of the rain.

Maximum temperature for week 89, minimum 40; precipitation 1 inch.

Cooperating Grazing Experiment.

The pastures are in the best condition for grazing they have been for a number of years.

The cattle made the following gains per head for June, and for the time they have been on pasture.

<u>Pasture.</u>	<u>June Gains (lbs).</u>	<u>For Season (lbs).</u>
100 - acre	98.0	151.5
70 - "	101.0	164.0
50 - "	92.5	151.0
30 - "	78.5	146.0
Rotation	86.4	140.4
Brome	110.8	188.3

The annual picnic and grazing tour was held at the pasture on July 1. Most of the day was spent at the pasture, and the late afternoon at the station proper.

The Northwest Farmer Managers Association was on their annual tour, and spent one day in Mandan. There were about 100 in the party. Part of the forenoon was spent on the river bottoms, after which they went to the Pasture. There a number of local people joined the party. Among those present were Director Trowbridge, John H. Shepperd, and Capt. Miller, of the North Dakota Agricultural College; Daniel Willard of the Great Northern Railway, and Dewitt Wing of the Breeder's Gazette.



Mandan, contd:

#### Horticulture.

Blight has spread to a number of new apple and crab plantings during the past few weeks. Conditions this spring have been unusually favorable for the spread of this disease. Blighted parts are being cut out.

Vegetables in the acre garden have been thinned. Peas are now being harvested. All vegetables have been making a good growth during the past week, and are recovering nicely from the effects of the recent hail.

Roads on the grounds are being trimmed. Peonies are in full bloom, and present a beautiful display in spite of the fact that many of the buds were broken by hail.

#### Arboriculture.

The three shelterbelt inspectors, E. J. George, John L. Emerson, and Lewis Matthew, returned to the station on June 30, having inspected plantings in the southern half of North Dakota. 1923 plantings were found to be uniformly excellent; 1927 plantings were generally good, but showed a little backwardness with boxelder, on account of the poor condition of the stock of this species. Out of 19 conifer plantings, Black Hills spruce, and Blue spruce, showed practically perfect stands in every case. Five of the plantings that had, Scotch, Norway or Jack pine, showed from 20 to 50 per cent loss with these species. This coincides with the results with spruce and pine in 1922, and indicates that spruce is the more desirable conifer for plains conditions.

Prospects of good crops has noticeably raised the morale of the farmers throughout the territory visited.

Visitors of the week included Mr. H. C. Hanson, Assoc. Botanist, Agricultural College, Fort Collins, Colorado.

#### BELLE FOURCHE:

The week opened with several days of hot windy weather, but following heavy rain on the 28th, temperatures were comparatively low for the remainder of the week. The rain on the 28th and light showers on the 29th and July 1 seriously interfered with harvesting the first cutting of alfalfa throughout the Project.

Field work on the dry land rotations was devoted to the cultivating of all crops, cutting of alfalfa, hoeing of a few corn and sorghum plats, and plowing under winter rye for green manure. Owing to the poor condition of the seed bed the stands of corn and sorghum were quite poor on some of the spring plowed plat and portions of several of the corn plats were reseeded by hand.

All crops have made a good growth, but there is an abundance of leaf rust on both spring wheat and winter wheat. No indications of stem rust have appeared as yet.

Maximum temperature for week 95, minimum 47; precipitation 1.1 inches.



ARDMORE:

The weather during the week was mostly stormy and threatening. Field work was possible on three days, although stacking of hay was possible only on Monday and Saturday.

The plats of oats and barley are well headed with some varieties of oats blooming. The wheat plats are heading. All wheat varieties and rotation plats infected with leaf rust. The variety plats of Kota are being damaged to some extent by leaf rust.

Mr. C. J. Rohwitz, General Passenger Agent, J. M. Dunham, General Baggage Agent, and J. C. Bently, Commercial Agent, all officials for the Burlington Rail Road were station visitors during the week.

Mr. O. R. Mathews, Superintendent, was in Alliance, Nebraska, on business during the week.

Maximum temperature for week 93, minimum 50; precipitation 1.70 inches, and for month of June 3.28 inches or .29 inch above normal.

AKRON:

The week passed with rains in the immediate vicinity of the station but with none of consequence here on the station. The respite from rains is very favorable for the corn and the sorgos and they have during the past week shown the first active growth of the season. Small grains are doing well, but would profit by another rain before ripening. Leaf rust is very prevalent on the winter and spring wheat here on the station, but to date no stem rust has been noted. A farmer visitor from the Kelly neighborhood, some forty-five miles north and east of the station, here on Saturday reported stem rust as present in his region but as yet showing no apparent damage.

All corn and sorgo experiments were cultivated during the week. The alfalfa variety ground was plowed and packed preparatory to a year's fallow before seeding again. The counting of the corn stands was completed and before the week ended all corn experiments had been thinned to uniform stands. The stand on the Corn Variety experiment was gratifying for the first time in three years. The stands on the rotation and sheep rotation plats was not so satisfactory. It was necessary to thin the rotation and sheep rotation plats to a spacing of forty-eight inches between the plants in the row and then there were eleven plats showing less stand than this. The stand on the rotation extension plats was very satisfactory. Hoeing of weeds and roguing of grain held attention a part of the time. The ewe lots were given their monthly weighing on Friday.

Mr. F. A. Coffman visited the station on Friday.

Maximum temperature for week 94, minimum 48; precipitation .18 inch.

COLBY:

Strong winds without oppressive high temperatures characterized the week just closed. Barley is being hastened to maturity, as is also oats. Corn is growing fast, but in many cases the high evaporation is causing the corn to roll its leaves during the middle of the day.





Colby, contd:

Winter wheat is apparently holding its own and going ahead towards filling. The later wheat is going ahead and filling but with a continuance of this weather it could suffer before maturity. The big advantage it has is the fact that the later wheat is thin, so that it can make good use of the moisture which is available. The stem rust has reached the black stage, but is not of sufficient quantity to do any damage.

The plat of Canada Field Peas was turned under during the week. This should have been turned under two days before it was as it dried very fast just previous to plowing. There was a very good growth on this plat. The sorghums of the D.L.A. project were thinned where necessary during the week. On most plats very little thinning was necessary and the stands are thinner than it had been planned to have them. The milo plants average about 15 inches apart in the row. The kafir plants average approximately 12 inches apart in the row, and the feterrita plants average 9 inches apart in the row. Sorghum stands are very different on the project from the usual. The poorest stands are the summer tilled plats and the better stands are on the listed plats. This is going to be hard to account for.

Harvesting of barley will take place some time during the coming week; oats will also probably be cut. It is not believed that any wheat will be cut on the Station the coming week.

Maximum temperature for week 100, minimum 53; precipitation .15 inch; evaporation 2.902 inches; average hourly wind velocity - 8ft. anemometer 15.8 mph 2ft anemometer 10.5 mph. On the afternoon of the 30th of June a sudden storm from the west came up at 2:45 with an estimated wind velocity of 60 mph. This lasted approximately a quarter of an hour and brought .15 inch of moisture. While this lasted but a short time and was a straight wind, it has the suddenness and intensity of a young tornado. No damage was done on the Station. A few buildings were unroofed in the vicinity and a few windmills were blown down. A tremendous dust cloud, or clouds, swept ahead of the rain. A few spots of hail fell at various places in the county.

The precipitation for the first six months of 1927 is 10.65 inches, which compares with a 40-year average for the same period of 9.24 inches. Evaporation for April, May, and June is 20.743 inches which compares with a 14-year average of 18.450 inches.

June precipitation was 3.75 inches which compares with a 40-year average of 2.92 inches. The excessive evaporation the past ten days is rapidly depleting the soil of the remaining moisture where a crop is being grown.

#### GARDEN CITY:

Growing conditions have been excellent during the past week, and all crops made good progress. Rather high temperatures prevailed during the first three days of the week.

Thinning has been under way the past two days and can be completed in another half day. Good stands were secured on all row crop plats.

Professors R. I. Throckmorton and H. H. Laude were station visitors Thursday.

Maximum temperature for week 105, minimum 55; precipitation 0.





DALHART:

The past week has been very favorable to crop growth. One nice rain was recorded, netting .43 inch. This came in the early morning and in a slow shower which resulted in no run off. It was taken up as fast as it fell. One day was lost from field work which delayed the finishing of the planting until today. This is the last of the planting of feed crops. The days have been rather warm which has been favorable to rapid growth of the crops. The experimental crops are all about 4 inches in height and doing nicely.

The cotton seems to have had too much dry weather, then too much rain. There has not been enough emerge to date to pay to leave, however, it will be left until it is definitely shown that nothing is coming, then some feed stuff will be planted in its place.

All fallows were plowed this week and the C.C.B. plats for winter wheat, oats, and winter rye were also plowed. This puts the station in good clean shape. Small weeds are coming rapidly in the first planting, but these have just emerged and can be easily killed with the cultivator the first of the week. The weed growth is confined to the cereal and forage block, and fallow. These were planted before the rotations were plowed. Thinning and trimming of plat ends will not be started for another week.

. Soil samples were taken on the c.c. milo Monday. The first 2 feet have good moisture, the 3rd and 4th feet are dry and the 5th and 6th have fair moisture. The fallow plat had good moisture the entire depth.

Maximum temperature for week 97, minimum 57; precipitation .43 inch; average hourly wind velocity 7.1 miles; evaporation 2.536 inches.

TUCUMCARI:

Conditions for field work have been favorable the past week and at last all plats have been planted. Planting of D.L.A. plats was completed June 25 and good stands had emerged on practically everything by the 29th.

During the past week preparation of land and planting of a July 1 date of grain and forage sorghum was made. It was not intended to make such an extensive planting at this late date, but only one other planting had been made of these varieties, due to delay in field work, caused by the drought.

A fairly large acreage of increase land has been, and will be, drilled to sorgo. The remainder of increase land will be summer fallowed.

Farmers are still planting and will no doubt continue for another week. Much of the abandoned wheat land will be planted, the rest fallowed for fall seeding. The Mexican bean acreage of the county promises to be very heavy. Harvesting of the wheat on some isolated fields is being done and it is reported some will make ten bushels per acre. An estimate is hazardous, but probably from five per cent to eight per cent of the total acreage will be cut, while yields will run from ten bushels down. Very probably there will not be enough harvest in Quay county to seed this fall.

Maximum temperature for week 97, minimum 59; precipitation .56 inch; total for June 4.03 inches; wind velocity 7.0 miles.



BIG SPRING:

Weather conditions during the past week have been very favorable for plant growth. As a result most crops have shown a marked improvement over last week. The grain sorghums and cowpeas are looking good and growing fast, but the cotton still looks rather sickly. Although good stands have been obtained on most of the cotton plats, plant growth has been very uneven.

Thinning of all of the grain and forage sorghums, corn, broom corn, and cowpeas was completed this week. These plats were also cultivated. Other work consisted of cultivating and thinning an increase field. The cotton plats and the late dates of seeding are all that remain to be thinned now.

A fair crop of Early Wheeler peaches was picked this week, but they were of a poor quality, and plainly showed the effects of dry weather.

Maximum temperature for week 99, minimum 66; precipitation 0.

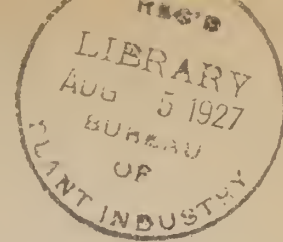
WOODWARD:

Work of week consisted of thinning and cultivating all sorghum crops on the Dry Land project and many of those on the Cereal project, cultivating orchard and ornamental plantings and planting ten acres of Sudan for pasture on the Dairy project. Good stands of sorghums were obtained over practically the whole farm. With soil wet to several feet they should make rapid progress, once they get underway, but the high temperatures and hard winds delay their starting off vigorously.

Maximum temperature for week 101, minimum 60; precipitation 0; average hourly wind velocity 8.5 miles.



96



WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 9 1927





REPORT FOR WEEK ENDING JULY 9, 1927.

HAVRE:

A storm on the 4th and 5th was quite general over this section of the State. Twenty to thirty miles north the rain was torrential, one voluntary observer reporting over 5 inches of rainfall. In certain sections hail was very bad. We recorded .80 inch at the station, while at Havre there was 1.23 inches. Thirty miles west of the station one voluntary observer recorded .50 inch.

All crops have made rapid progress. Corn, although late, is growing very rapidly. Most of the first cutting alfalfa hay is harvested, showing rather light yields under irrigation, but with excellent quality. Spring grains are heading very rapidly now and flax has started rapid growth. Blister beetles which came out during the week are a little serious on beets, garden stuff, and the shelter-belt.

Native hay is exceptionally good over the plains section, some fields that have partially gone back showing a very heavy growth of western wheat grass. All farmers who have the haying equipment expect to put up as much hay as possible.

Maximum temperature for week 91, minimum 47; precipitation .80 inch.

JUDITH BASIN:

Advancement of crops was very good during the week, and their condition is generally satisfactory. Spring sown crops are considerably behind their stages of one year ago, but the present situation appears to be a better one because of decidedly superior soil moisture reserves. A good rain on July Fourth refreshed crops over the entire Basin. Some hail accompanied this storm and caused damage in limited areas of this section.

Most of the winter wheat is heading out at an average height. Spring grain are still backward and growth at this time indicates that they are apt to be short in height. Corn is late but making a rapid growth during the warm days. Potatoes are coming along in good shape.

Alfalfa and sweet clover on the rotations and forage project were cut. Harvesting on the big field is in progress. The hay derrick which was constructed during the week will be of great value in handling this season's forage crop. Rye and peas for green manure rotations were plowed.

County Agents Devore and Mountjoy visited the station with a group of Lewis and Clark County farmers.

Maximum temperature for week 85, minimum 37; precipitation .57 inch.

HUNTLEY:

Comparatively warm weather combined with wind has hastened the development of small grain crops during the past week. All spring grains are headed and winter grains are beginning to fire and turn color. Notwithstanding the fact that soil samples indicate an unusual amount of available moisture for this time of year still present in the ground, spring grains appear wilted during the middle of the day.



Muntley, contd.:

Corn, beans, and potatoes have benefited by the hot weather and have made more growth during the past seven days than during any previous week. Weeds have also sprung up suprisingly from fields recently cultivated and thought to be cleaned up.

Fall pigs in the pasture experiments were weighed and removed from the alfalfa and brome grass plats. The growth of the perennial forage this season would have supported twice the number of hogs allotted to each pasture, and as a result there remains a heavy growth that would furnish a good cutting of hay.

Spring pigs were weighed and were moved from the plat of rye to the acre of field peas. Although a good second growth of rye was present in the former pasture, the pigs did not gain well during the last week. This was probably due to the warm weather, which discouraged their doing much grazing in the daytime.

The principal field work has been haying and cultivating.

Station visitors during the week included Mr. J. M. Stephens and Mr. Tom Killand of the Northern Great Plains Field Station.

Maximum temperature for week 96, minimum 40; precipitation .07 inch.

SHERIDAN:

A light shower on the 4th delayed haying for a day, but the weather since has been ideal for this work. All hay has been cut and dry weights have been secured on all plats except the varieties in rows (alfalfa.) Yields of varieties of alfalfa in the drilled seedings ranged from 2280 pounds to the acre by Chubut to 6280 pounds to the acre by Ladak. Yields of all varieties except Kansas and Chubut were over 4700 pounds to the acre. Yields in the rotations were 4050 pounds to the acre for the 3rd year from seeding and 2150 for the 2nd year from seeding. Brome in the rotations yielded 2250 pounds to the acre for the 3rd year from seeding and 1650 pounds for the 2nd year.

Peas for green manure were plowed under the first of the week. Growth on these plats was the heaviest yet made at this station. Cultivation of all row crops in plats was completed yesterday. Oats in the rotations headed early in the week, and wheat is now about headed. Corn has been making a rapid growth the past few days.

Mr. Westover, of the Forage Office, arrived yesterday and is leaving today. July 9.

Maximum temperature for week 91, minimum 44; precipitation .24 inch.

DICKINSON:

A high wind on July 5 was very damaging to crops. Besides the effect of whipping and drying about 10 per cent of the culms of early wheat were broken. Corn and other succulent crops were badly damaged and on sandy spots the corn was cut back almost to the ground.

The whole week was hot and windy, so that the soil was dried out rapidly. All crops would be greatly helped by rain and cooler weather.



Dickinson, contd.:

Corn on the rotations was given the second cultivation. The best of the corn is now only about a foot high.

Hay cut the previous week was stacked and the rest of the brome hay was cut.

Maximum temperature for week 89, minimum 46; precipitation T.

MANDAN:

#### Agronomy.

Relatively low temperatures and high winds prevailed during the early part of the week, and higher temperatures and moderate winds during the latter part. On July 5 steady high winds throughout the day caused severe damage to corn in the plats and variety blocks. Most of the damage was caused by soil blowing. On some plats where the wind had full sweep, two-thirds of the leaves were shriveled up.

Hay hauling from feed fields has been in progress for the past three days. Most of the hay, which was down last week, was very dusty from soil blowing into it. The hay in Field P was cut this week, and is of a very good quality.

The third cultivation of corn has been completed.

Wheat and barley in the rotation plats are headed, and oats just beginning.

Winter rye in the plats damaged by hail earlier is apparently filling, even where broken down.

Maximum temperature for week 84, minimum 50; precipitation 0.

#### Horticulture.

Cultivation and hoeing has been in progress in both gardens and orchards throughout the week. This is the third time that the orchards have been cultivated this season.

The warm weather has encouraged a fairly rapid growth of garden stuff, shrubs and trees. However, rain will soon be needed, especially by small fruits.

Peas and cauliflower are now being harvested from the acre-garden. The first strawberries were picked on July 8, but yields were very light. South Dakota and Dry Weather were the best yielders.

Roads have been trimmed and dead wood removed from the groups of trees and shrubbery on the grounds. Roses, peonies, and geraniums are in bloom. Rose chafers are damaging the blooms of roses.

#### Arboriculture.

Shelterbelt inspectors left the station on the morning of July 8, for the summer inspection trips into North Dakota, South Dakota, Montana, and Wyoming. The itinerary of each inspector is as follows:





Mandan, contd.:

<u>Date.</u>	<u>E. J. George.</u>	<u>John L. Emerson.</u>	<u>Lewis Matthev.</u>
July 10	McIntosh, S.Dak.	Minot, N.Dak.	Culbertson, Mont.
15	Dupree, S.Dak.	Mohall, N.Dak.	Opheim, Mont.
20	Belle Fourche, S.Dak.	Powers Lake, N.Dak.	Malta, Mont.
25	Gillette, Wyo.	Williston, N.Dak.	Chinook, Mont.
30	Kaycee, Wyo.	Richey, Mont.	Sweetgrass, Mont.
Aug. 5	Cheyenne, Wyo.	Forsyth, Mont.	Cascade, Mont.
10	Lusk, Wyo.	Terry, Mont.	Fort Benton, Mont.
15	Rapid City, S.Dak.	Ralph, S.Dak.	Lewiston, Mont.
20	Winner, S.Dak.	Spearfish, S.Dak.	Helena, Mont.
25	Pierre, S.Dak.	Mott, N.Dak.	Billings, Mont.
30	Mandan, N.Dak.	Mandan, N.Dak.	Mandan, N.Dak.

Dr. Georg Blohm, University of Halle on the Salle, Saxony, was a visitor on Friday, July 8, when he spent the day looking over the station work. From here he travels into Canada, where he plans to visit several stations.

**BELLE FOURCHE:**

The weather has been clear and warm, and strong winds have rapidly dried the surface foot of soil which is cracking badly.

There is plenty of moisture below the first foot on the dry land rotation plats, but the small spring grains, nevertheless, are beginning to burn. Winter wheat does not appear to be suffering from lack of moisture and is fully headed. Corn is making a rapid growth; flax and field peas are commencing to bloom; and brome grass and sweet clover have been harvested. All fallow plats and roads were cultivated and thinning of corn is in progress.

Maximum temperature 90, minimum 40; precipitation .02 inch.

**ARDMORE:**

The first part of the week was stormy and too wet for field work. The worst thunder storm in years occurred the night of July 2. Eight-tenths of an inch of rain fell during a short period. There was much run off and considerable washing, though the damage to crops was small. Lightning burned out the wire between the Field Station and town, and put all the telephones on the farm out of commission. The latter part of the week was favorable for field work.

Haying was finished during the week. All but about 15 acres was stacked in fairly good condition. Alfalfa has commenced to make a vigorous second growth. Alfalfa yields ranged from  $\frac{1}{2}$  to  $1\frac{3}{4}$  tons, sweet clover  $1\frac{1}{4}$  to  $2\frac{1}{4}$  tons, and brome from 1 to  $1\frac{1}{2}$  tons.

All of the corn, sorghum, and potatoes in the rotations and variety tests were cultivated during the week. Some of the small fields of corn and sorgho were also cultivated. Weeds had obtained a good start during the continued wet weather, but the favorable weather has permitted considerable progress in their control.

Cleaning up around the plats and grounds is well under way.





Ardmore, contd.:

Grain crops are making reasonable progress. The barley fields are starting to ripen and some of the early varieties of oats are commencing to turn. Grain crops are excellent, though somewhat spotted.

Maximum temperature for week 87, minimum 47; precipitation 1.14 inches.

ARCHER:

The weather was warm and dry until Saturday when a gentle rain of .57 inches occurred. This was badly needed both by the crops and pasture lands. The native grass was burning in spots and some of the small grains, seeded on sod or on small grain ground, were wilting badly. That seeded on fallow, corn, potato and bean ground was not affected. Winter wheat was unhurt and the sunflowers made rapid growth. The corn also stretched out and is taking on a thrifty appearance.

On the Dry-Land plats the winter wheat, barley, and early seeded Kherson oats are heading. The spring wheat is in boot and the clover is beginning to bloom. Winter wheat on the Cereal plats is coming into head, but the spring cereals are a trifle late.

The work at the station has consisted of the cultivation of corn and potatoes on the Dry-Land plats, hoeing, and cultivation of trees planted this year and the hauling of gravel and building material for the new house.

On July 8 the well planned tour of farmers from northern Colorado arrived at the station. A considerable number of farmers from Nebraska and Wyoming were also present. Eighty-five automobiles were parked in the yard. The farmers showed greatest interest in the methods of winter wheat production. A meeting for the ladies was held under the supervision of Miss Jacobson of the Extension Department. Dean J. A. Hill and Director W. L. Quayle of the University were also present. Other visitors were Superintendent Brandon of the Akron Station and a number of county agents from Colorado, with County Agent Simpson as leader.

Maximum temperature for week 86, minimum 53; precipitation .69 inch.

AKRON:

The week has been favorable for all field work. The Station roads were dragged. The orchards were spring-tooth harrowed, and later hoed to eliminate remaining stray weeds. The 10 acres of sweet clover across the railroad was mowed for the second time this season. The sweet clover within the pastures was not mowed, and is forming a good crop of seed. The mixed oats and barley on the General Forage Variety Experiment ground was mowed for hay. It promises an excellent yield. Some time was spent among the row crops with the hoe, following the second cultivation. Roguing continues to hold a major part of the attention of one man. Bind weed, which was dug out continuously all last summer continues to demand attention every three or four days, though the growth this year is not nearly so vigorous as last. The first harvesting was done when the rye plats were harvested today from the Cereal Project.

Mr. H. P. Gould was present Tuesday and Wednesday taking notes on the orchards.



Akron, contd.:

On Wednesday some twenty cars were present on the station on the first of four day tour of northeastern Colorado, sponsored by the State Extension Service. County Extension Agents were present from Lincoln, Washington, Sedgwick, Logan, and Weld Counties. Farmers accompanied the County Agents from Lincoln, Washington, Logan and Weld counties. State Extension workers and State Experiment Station workers were present. In addition Mr. Fred C. Meier and Mr. H. P. Gould of the U. S. Department of Agriculture and Mr. E. G. Clay, Supervisor of Agriculture of the Union Pacific Railway were present.

In following the tour over northeastern Colorado to the Archer, Wyoming, Station, crops were observed as promising everywhere with restricted areas where spring sown grains were beginning to burn. Probably the best winter wheat observed outside of the vicinity of the station was in Logan County in the Kelly and Fleming regions. Practically the whole of Weld County promised good yields of winter wheat and fair to good yields of spring sown grains. The commercial growers of winter wheat in and around Nunn, Colorado, are promised their usual yield of from 18 to 24 bushels on fallow. Winter wheat, there did not stand out so prominently by comparison with the other dry land regions as in the past two or three years.

Maximum temperature for week 93, minimum 51; precipitation .10 inch.

#### NORTH PLATTE:

Another moisture free week has passed. There has been no rain here for 25 days. Grains have ripened or are ripening prematurely. Winter wheat, except plats on lato plowing and corn ground where the stands were poor, have been harvested. Spring grains are suffering severely. Corn is growing rapidly and as yet shows no signs of suffering, except where thickly surface planted. Fields on the bench will be irrigated the coming week.

Visitors during the week included Dean E. A. Burnett, W. W. Burr, and a party of Regents from the University; J. A. Clark and R. S. Quisenberry of the Cereal Office; H. O. Werner, potato specialist; Dr. J. L. Peltier, plant pathologist; and a party of 40 Japanese.

#### COLBY:

Small grains dried to maturity this week for the most part. A few fields still look green, but most of the fields have whitish spots in them. This is especially true of barley. Most barley fields have a few local areas where the barley is going to be plump, but those areas are small and the bulk of the field will consist of badly shrivelled grain. The prevalent opinion now is that the winter wheat is going to be of a like nature.

Barley, spring wheat, and oats varieties were harvested this week. There is going to be a very light yield of all varieties. The earlier of the varieties were badly hurt by the drought in May and the later varieties were badly shrunkened by the high evaporation the last week of June and the first week of July.

Corn still continues to grow and looks fine. Sorghums are growing but are badly in need of cultivating. Winter wheat will be cut on the DLA project the coming week.





Colby, contd.:

Maximum temperature for the week 98, minimum 56; precipitation .04 inch. Evaporation, 2.759 inches. Wind velocity for 8 ft. anemometer 12.8 m.p.h. Average wind velocity for the week and for the 2 ft. anemometer 8.7 m.p.h.

HAYS:

The weather during the past week has been generally hot and dry. The temperature has ranged from 58 to 101 and no rain except a trace.

Threshing of all small grains except spring wheat was finished July 7. Spring wheat was harvested July 8. The spring wheat, which gave promise of a bumper crop for spring wheat after the winter wheat was damaged beyond recovery by drought, finally dried up suddenly and will make very light yield on all plots except on fallow which is very good.

Winter wheat yields run from about two bushels to 25 bushels per acre, most of the plots yields less than, or around, 10 bushels per acre, many falling as low as five or six bushels. It was a deceiving crop even at harvest time. Too many of the heads that were of good size and looked to be filled had too many blank meshes. Threshing or combining being done over the county is generally bringing disappointment in yields, the wheat making from one-half to two-thirds as much as was expected.

Barley and oat yields generally are low except on fallow. The second growth oats mentioned in a previous report were a failure due to rust and drought.

A new stunt was tried on the project this year in the way of harvesting. A number of plots were harvested with a combine to determine whether or not it can be done. A "Gleaner" was used and it is believed the experiment was successful. So far as we can determine, the results are at least as nearly accurate as where harvesting is done with a binder. Of course, the straw weight is lost by this method of harvesting but it seems to the writer this data is of minor importance where three-fourths of the land is in wheat and but little use made of the straw, much of it being burned in the stack and but little ever hauled back to the fields. By combining, most of the straw is left standing where it grew and can be worked back into the ground to better advantage and with less danger of injury to the following crop than if hauled from the straw piles and scattered as a top dressing. Perhaps it should be stated in connection with these remarks that all the old line experiments including grains were harvested in the usual way, - cut with binder and threshed, so none of the data on total yields from this work was sacrificed by the new experiment in harvesting of plots.

Chinch bugs are working hard on all row crops, some plots now being damaged beyond recovery. The present outlook is discouraging. It makes one think of 1913.





GARDEN CITY:

Growing conditions have been favorable during the past week. Sorghums and cowpeas are making a rapid growth. Corn, although making a good growth, is beginning to roll during the middle of the day.

Thinning of row crops was completed Wednesday. Cultivating of row crops has been in progress and it is hoped will be finished by tonight.

Some winter wheat is being harvested in this section but yields are very low. A large acreage is being cut over in order for farmers to get enough seed for this fall's use. A few plots on the project were cut with a mower this week.

The writer took a trip into Grant County Wednesday, July 6, and found little wheat. That section of the state produced very large yields last year.

DALHART:

The past week has been hot and sultry. Three small showers were recorded, as follows: .02, .20 and .08 inch. These helped out a little as the soil was getting pretty dry. The days have been practically cloudless until evening, then on three nights clouded over suddenly and rained a little. These rains have been local. In some localities as much as an inch was recorded while in others none at all.

The crops are making excellent headway. Some replanting was done this week in the listing methods. Kafir and milo on listing in the c.c. methods had to be replanted in both fields, also the milo in the listing methods, with the exception of one plot. A perfect stand was obtained on all other plots planted with the surface planter. The cotton is not going to do a thing this year. There is not enough on any variety to save. The entire block will be plowed as soon as possible. Oats will be harvested the first of the week.

This is the worst year for rodents we every heard of. The ground squirrels are so thick that they go down the rows after the crops have germinated and dig out the kernel. Poisoned grain has been scattered and has been quite effective; however, there are plenty at large yet. They dug out the peanuts after they had germinated and killed many of the plants. Poison was placed every few feet in each row. The rotation 293 (peanuts) is about ruined. This will be replanted immediately for replacements.

The plot ends were trimmed this week on all rotations, varieties, etc. In fact, everything was trimmed which is included in the experimental work. Soil moisture samples were taken the first of the week. The moisture has scattered somewhat from last week's sampling, more being in the 3rd and 4th feet.



Dalhart, contd.:

Thinning has been in progress since Wednesday. This work is going much slower than usual on account of the soil being packed and the plants breaking easily. They have to be dug out in order to get the roots. Putty knives are being used for this purpose. Considerable cultivating was done this week, and the work was very effective in killing the growth of young weeds. The orchard, vineyard and all other plantings of trees, etc., were disked in order to get the young weeds under control until they can be plowed

Maximum temperature 96, minimum 54; precipitation, .30 inch, total evaporation for the week, 2.310 inches.

TUCUMCARI:

Good progress has been made the past week in cultivating orchard, vineyard, tree rows and in making increase plantings. Plots have in nearly every case emerged to good stands and thinning can be begun early next week. Wherever possible, the cultivator will follow thinning immediately.

In spite of precipitation totaling 4.03 inches in June, the soil is unusually dry below the second or third foot and rather frequent rains will be needed to carry crops through to maturity without setback. Cotton is late and showing poor stands, although planted very thick. This crop is not likely to produce this year, although all other crops have a good possibility of maturing unless frost occurs early.

Crops throughout this locality are late, but stands are good and prospects are fair. Ranges are in excellent condition and cattle rapidly fattening. Wheat is being harvested in some fields and it is reported that on fallow is averaging from 5 to 10 bushels. Something over 90% of the acreage was abandoned and is being fallowed or was recently planted to row crops.

Maximum temperature 96, minimum 60; precipitation, .13 inch. Evaporation, 2.535 inches. Average hourly wind velocity, 5.9 miles.

BIG SPRING:

Weather conditions during the past week have remained hot and dry. Many of the farmers are reporting that the late planted cotton, which had emerged to good stands, is dying because of the lack of soil moisture. Station crops are all growing nicely now. Thinning of the cotton in the rotations and dates was completed this week.

Other work consisted of thinning an increase block of grain sorghums and in cultivating increase fields. Three of the early varieties of grapes were picked during the week.

Maximum temperature 99, minimum 61; precipitation 0.



LAWTON:

No rain of any consequence has fallen since June 14. Although the ground is becoming very dry and considerable hot weather has obtained since that date, sorghum crops are still in a vigorous condition where chinch bug damage is absent. Wherever chinch bug damage is present the crops are in a rather hopeless condition except on April 15 planting. Chinch bug damage, however, is very extensive and a good rain is badly needed to relieve crops that are well advanced and show considerable promise of grain yields.

The following grain sorghum varieties planted April 15 are in full head. Reed kafir, Sunrise, Dawn, Pink, Early Red, Premo, Chiltex, Texas Black Hull, Wonder, Kaferita, and Spur Feterita. Other varieties planted on this date are either in boot formation or showing the first heads. The earlier varieties, as noted above, are showing the first heads when planted May 1. Kafir and feterita in the rotation plots are just about ready to emerge from the boot.

Cotton has made considerable growth during the last two weeks. Although the plants are not large the crop is in a satisfactory condition.

Mr. C. S. Rude, one of the Extension Entomologists at Stillwater, visited the county about the first of the month and found the cotton flea hopper present to a considerable extent. On some farms damage to the young buds was of marked importance. A very few of the insects were found on the station and a very small amount of evidence indicating damage was found. As yet control measures are not justified.

Harvest of the sweet clover nursery was attended to July 8, and seed from 5 or 6 promising strains was saved.

Threshing of small grain crops was completed July 3. Wheat yields were, as follows:

Wheat drilled in cotton -----	10.2	bu.	per	acre
Wheat on F.P. wheat land-----	13.1	"	"	"
Wheat on F.P. oats land-----	14.2	"	"	"
Wheat on F.P. barley land-----	14.5	"	"	"
Wheat on disked cowpea land-----	11.9	"	"	"
Wheat on green manure (cowpeas)-----	11.9	"	"	"
Wheat on fallow-----	15.2	"	"	"
Wheat on manured fallow-----	13.5	"	"	"
Wheat on top-dressed fallow-----	15.2	"	"	"

On the seedbed preparation series where wheat is grown continuously the following results were obtained:





Lawton, contd.:

Late fall plowing, shallow-----	17.3	bu.	per	acre
Early fall plowing, shallow-----	17.3	"	"	"
Early fall plowing, deep-----	18.0	"	"	"
Early fall plowing and sub-soiled-----	17.5	"	"	"
Disked (plowed every other year)-----	15.8	"	"	"
Plowed (disked every other year)-----	18.3	"	"	"
Disked at seeding time-----	11.5	"	"	"
Disked as needed-----	15.3	"	"	"
Listed-----	17.7	"	"	"
Listed and manured-----	10.3	"	"	"

Wheat tested from 56 to 58 lbs.

Yields of wheat varieties, oats varieties and date tests and winter barley experiments have not yet been calculated.

Practically all stubble land has been disked during the week but early plowing will likely have to be delayed until rain softens the ground somewhat.

The total precipitation for June amounted to 2.86 inches, leaving a deficit of .85 inch. A maximum temperature of 100 was recorded during the week and the wind movement has been very low. Two or three little threats of rain amount to .13 on July 2.

WOODWARD:

The week has been characterized by dry, scorching-hot, and quiet weather. Wheat harvest about the country is completed. Considerable disking is being done, especially on sandy land, to stop weed growth and conserve moisture still in the soil. Most of the land in wheat this year will go into wheat again this fall. This year there was far more anxiety over the wheat crop than usual. Early prospects were especially good, but it did not stool out, then the long drought of May seemed bound to finish it. But moisture deep in the soil from fall rains tided it over and late rains made it fill well until people were again optimistic, but final yields of only five (5) to eight (8) bushels were very disappointing.

Rowed crops that came up before the present dry, hot spell set in are growing very rapidly, but surface soil dried so rapidly that many planted late have not come up and considerable late feed will still be put in if rains come within the next week or two.

Thinning of sorghums on the Cereal project is still going on and crops are being given the first cultivation as soon as large enough.



Woodward, contd.:

The vineyard was sprayed the second time this season with nicotine sulphate for grape leaf hopper. The treatment seems to be very satisfactory, providing sufficient power is used to force the spray into the foliage. Fruit was picked as usual as there are enough varieties of plums, peaches, cherries, grapes and blackberries now on the station so that a little fruit ripens every day throughout the months from June to September.

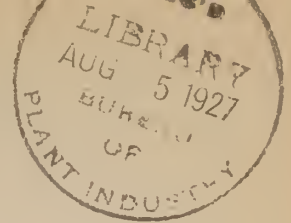
Maximum temperature 98, minimum 56; precipitation 0. Evaporation, 2.643 inches. Average hourly wind velocity, 6.3 miles.

NOTE:

Through Comptroller's ruling, no government employee using his car on a seven cents per mile basis, and carrying other government employees, can any longer collect from each of such passengers their pro rata share of seven cents per mile, giving them subvouchers, which they can use for securing reimbursement from their respective offices.



696



WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 16 1927





REPORT FOR WEEK ENDING JULY 16, 1927.

HAVRE:

The past week was very favorable for crop growth. Rainfall totaling .99 inch was recorded during the last three days of the week. Grain crops are growing rapidly with winter rye nearing maturity, winter wheat well along in the dough stage, and most of the early seedings of spring grains heading. Although temperatures have been a little below normal, corn is making quite rapid growth.

The first cutting of alfalfa was hauled in during the week. The 3-year old alfalfa in Rotation 42, planted in three foot rows made a little over three tons to the acre. Second growth is making very rapid development.

Blister beetles have been quite bad and it has been necessary to spray beets. These beetles have worked unusually heavy on Russian thistles this season. It seems that this weed may be held in check for a year or so.

Mr. J. M. Stephens and family and Mr. T. K. Killand of the Mandan Station, were at the station on the 13th and 14th. Prof. Clyde McKee, of the Montana Experiment Station, and Mr. H. L. Westover, of the Office of Forage Crops, were also visitors during the week.

Maximum temperature 86, minimum 48; precipitation, .99 inch.

JUDITH BASIN:

Another week of very favorable weather for all crops has been experienced. With moderate temperatures and clear days, crops have made a good growth. Winter wheat is fully headed and shows promise of a good crop over the entire basin. Spring grains on the rotations are heading. These crops are short in height compared to winter wheat, but have an average growth as compared with the past few years. This season, however, has been most favorable for winter wheat. Potatoes have made a very noticeable growth. Corn is still backward.

Grasses on the rotations and forage project were harvested. Alfalfa was harvested on the forage experiments and stacking in the big field is in progress. Corn, potatoes and fallow fields were cultivated.

A meeting on winter wheat growing for Judith Basin farmers was held at the station in cooperation with the extension service.

Visitors of the week included Mr. and Mrs. J. M. Stephens and daughter, Mr. and Mrs. Clyde McKee and family, Messrs. T. K. Killand, H. L. Westover, and A. J. Ogaard.

Maximum temperature 80, minimum 39; precipitation, .18 inch.



HUNTLEY:

Good growing weather has prevailed throughout the week and corn has made considerable progress although it is still much behind the stage of advancement normally expected at this date. Winter wheat has ripened on most plats and with favorable weather the binder will be started early next week.

Spring grains continue to grow in height and, in most cases, do not appear to be burning although they look wilted during the middle of the day. Late sown grains in the miscellaneous plantings are rapidly overtaking the grain sown and, except for a little difference in height, all plats look about alike.

Peas and sweet clover were plowed under for green manure. These plats were surprisingly dry for the season, and plowed up very cloddy. All summer fallows, previously plowed green manures, alleys, roads and row crops were again cultivated.

Showers amounting to .57 inch received during the last two days have done much to freshen up native grasses and cultivated crops.

Maximum temperature 100, minimum 46; precipitation, .59 inch.

SHERIDAN:

The weather continued fair until the 14th and has been cool and cloudy with frequent showers since. Haying was completed just ahead of the first showers. All of the corn except the check plots has been thinned and hoed. This year's seedings of alfalfa and grasses are now being clipped.

Corn made a rapid growth during the week and is now beginning to tassel. Winter rye is nearly ripe and winter wheat is turning. All spring grain, with the exception of the later seedings, was headed by the first of the week.

Maximum temperature 93, minimum 48; precipitation, .32 inch.

DICKINSON:

A rain amounting to 1.01 inch on the night of the 15th, and cooler weather during the whole week has greatly improved the prospect for small grains. The straw is shorter in this locality than in some others where more rain was received but stands are thick and the yield should be well above average. No stem rust has been observed but there is a good deal of leaf rust.



Dickinson, continued:

Fallow plowed on June 4 was given the first working with the duckfoot on July 11.

Most of the week was spent in cleaning up weeds about the station.

Visitors during the week included Mr. H. L. Westover, Office of Forage Crops, and Mr. F. A. Coffman, Cereal Crops and Diseases, of the U. S. Department of Agriculture, and Mr. J. A. Kitchen, Commissioner of Agriculture of North Dakota, Bismarck, North Dakota.

Maximum temperature 89, minimum 45; precipitation, 1.17 inches.

MANDAN:

#### Agronomy

Growing conditions for crops have been good for all crops during the week. Corn especially is showing good response to higher temperatures. Fear expressed by several observers that crops were rapidly approaching the limit of stored moisture was allayed by a rain of 1.48 inches in the past 24 hours. This makes a total for July to date of 1.73 inches. Comparing the 1927 total precipitation to date with the 50-year average for the same period, we are about 2-1/2 inches above the average.

Stacking hay from feed fields B and C was finished on the 12th. The total crop from the two fields was put in a single stack containing approximately 56 tons. The acre yield from the two fields ran slightly more than 1 1/2 tons. Fallow received its second cultivation with the duckfoot this week.

All grains in the rotations were through heading on the 11th.

Soil samples were taken on corn, wheat and on prairie. Corn showed an abundance of moisture, wheat was using moisture from the surface three feet rapidly, and prairie was dry from the third foot down.

Maximum temperature 85, minimum 51; precipitation, 1.68 inches.

#### Cooperative Grazing Experiment

Pastures continue to furnish an abundance of grazing. The 30-acre pasture shows the effect of more restricted acreage per individual steer, but is still furnishing sufficient grazing. The needle grasses are beginning to shed their needles, which should put the native grasses in shape for haying soon.





Mandan, continued:

Arboriculture

Reports from shelterbelt inspectors have been received as follows:

E. J. George, McIntosh, S. Dak. July 8: -"Found an excellent 1923 planting with no sign of winter injury on boxelder or Russian olive. Also a 1923 spruce planting with a 98% stand." Isable, S. Dak., July 12: "A good rain has just fallen that will practically assure the crops. Inspected two 1918 plantings which have Golden willow still alive and in good shape. Found ash badly infested with borers."

John L. Emerson, Minot, N. Dak., July 10:- "Saw an interesting exhibit at the Minot Fair, prepared by Mr. Chas A. Gillette, Extension Forester, with the Bottineau State Nursery. The exhibit showed two farmsteads, one with a good shelterbelt, and one without. Russian olive in this section is in very poor shape as compared with Caragana, when planted in outside rows in the same planting. There have been several good rains in this section."

Lewis Matthew, Flatville, Montana., July 12:- "Crops not as good in this area as farther east in North Dakota." Plentywood, Montana, July 13:- "Delayed, having repairs made to car. Crops in this vicinity good."

Visitors of the week included Mr. F. A. Coffman, Cereal Crops and Diseases, Mr. J. Allen Clark, Western Wheat Investigations, Mr. A. C. Dillman, Flax Investigations. Mr. Dillman is still at the station.

BELLE FOURCHE:

A heavy rain of .49 inch precipitation on July 11 afforded considerable relief to all small grain crops. Comparatively cool weather throughout the remainder of the week and lighter showers on July 13 and 14 were also quite beneficial. A cloudburst occurred the evening of July 15, during which 1.40 inches of rain and hail were received in less than half an hour. Additional showers during the night raised the total precipitation for the 24-hour period to 1.60 inches. A great deal of runoff took place and only a small portion of the water penetrated the soil.

Parts of several of the plots were washed out by some of the runoff water and a good deal of the spring wheat reseeded on two of the plots of the winter wheat continuous cropping series was covered with soil carried by the water. The downpour was accompanied by a strong wind and most of the winter rye is partly lodged, but no lodging of winter wheat or other grains took place. The hail badly shredded the corn and caused as high as 35% damage to some of the small grain plots.



Bellefourche, continued:

Oats are fully headed and barley and spring wheat are beginning to head. All hay crops seeded this spring and the second crop of alfalfa have made an unusually good growth. The growth of sweet clover, seeded with nurse crops, has been so vigorous that the sweet clover is crowding out the nurse crops and the yield of the nurse crops will be reduced at least 50 per cent.

The boys' and girls' club camp was held at the station during the week and the annual farm picnic was held on July 16. Because of the heavy storm of the previous night, the attendance at the picnic was considerably below average.

Maximum temperature 89, minimum 50; precipitation, 2.43 inches.

ARDMORE:

The fifteenth annual farm picnic was held on the station grounds on July 16. President Coolidge, who agreed to attend the picnic nearly a month ago, and Mrs. Coolidge and their official party arrived by special train a little before noon. The Burlington Railroad had constructed a platform opposite the main entrance of the station. The official party unloaded at the platform and were brought to the station grounds in automobiles operated by local drivers. The President and his official party were served a fried chicken and green corn dinner prepared in country style by farmers' wives of the community. The newspaper correspondents and many visitors were served with a similar meal in cafeteria style.

The program for the day consisted of a farmer's judging contest and a band concert in the forenoon, dinner at noon, a speaking program, a ball game between two teams of the Northwestern Nebraska League, multiple hitch demonstration by the Horse Association of America and an exhibit of baby beeves by the Dawes County Boys' and Girls' Calf Club in the afternoon, and a band concert and bowery dance in the evening. The details of the picnic were arranged by a committee made up of members from the different towns in the county. The Cheyenne County Band from Sidney, Nebraska came up on the train in the morning and donated their services to the Farm Picnic Committee throughout the day.

The program on the platform consisted of a few musical numbers, a short welcome by the Superintendent, a speech by Governor Bulow, and short talks by Senators Norbeck and McMaster and Congressman Johnson. After the speaking program the President presented the prizes to the winners of the Farmer's Livestock Judging Contest and inspected the baby beeves brought to the picnic by the Dawes County Boys' and Girls' Calf Club.



Ardmore, continued:

After the program the President, Mrs. Coolidge, and the Press Representatives took a ride through the station fields and inspected the crops. The party alighted from the cars in the main rotations and the President and Mrs. Coolidge showed much interest in the crops. The Presidential party spent nearly four hours at the station.

The attendance at the picnic was estimated at ten thousand in spite of the fact that attendance was reduced by heavy rains in the surrounding country on Friday night. There were two thousand cars on the grounds at three o'clock and in addition nearly one thousand people came by train. The Burlington Railroad gave a rate of one and one-fourth cents per mile to the picnic and stopped all passenger trains at the unloading platform opposite the station. Many of the visitors came from a considerable distance. A register at the office was signed by a small portion of the crowd. The register showed that visitors were present from fifteen states and from the District of Columbia and British Columbia. The crowd was especially orderly and the program went along smoothly. During the entire day the grounds were policed by Company D of the National Guards, the County Sheriff and his deputies, and the Boy Scouts from Hot Springs.

The weather during the week was generally stormy. Thunder storms occurred on July 12, 13, 14 and 15. A small amount of hail fell on July 14, but not enough to damage crops. The rains were of material benefit to the second growth of alfalfa. All grain crops are in good condition. Corn is looking better although somewhat backward. Oats are ripening and barley is turning.

Maximum temperature 90, minimum 52; precipitation, 1.01 inches.

ARCHER:

The weather has been rather cool with a number of showers. A rain of .56 inch occurred during the afternoon of July 9. Since then three rains have occurred with a total of .39 of an inch. These showers delayed field work but were of great aid to the weeds which had a strong hold. Some of the minor crops, such as garden beans have been abandoned.

Winter wheat is in the early dough stage and the spring wheat is fully headed. The oats are coming into head and the barley is in the late dough stage. Potatoes are in bloom, corn is growing rapidly and the peas and millet crops are doing very well. The oats in Rotations 41 and 42 on sod are burned badly. Some of the oat crop had burned slightly the latter part of last week, but most of them are in good shape now. However, rain will be needed soon.





Archer, continued:

The work at the station has consisted mostly of cultivation and weeding with a few hours spent digging trench for water pipes.

Maximum temperature 87, minimum 46; precipitation, .95 inch.

AKRON:

Showers totaling 1.12 inches have been received during the week. These rains should prove very beneficial for the spring sown grains which had commenced to burn markedly.

The forage variety experiment row crops were given their second cultivation early in the week. The green manure pea, sweet clover, the alfalfa sod and bromo sod, and the M.F.O. plots were plowed and packed early in the week. Peas stood dense and from 20 to 24 inches tall uniformly over the plots. It was necessary to disk them before the plots could be successfully plowed. The second cutting of sweet clover from the 10-acre hay field across the railroad was hauled in and stacked. About half the station barley plots were harvested Tuesday. The sheep rotation barley fields were harvested Wednesday. Harvesting was not in progress Thursday or Friday forenoon because of the rains. Harvesting was resumed on the Cereal Project Friday afternoon. Today the remainder of the barley plots and the winter wheat plots on the rotations are being harvested. The Cereal Project fallow was cultivated to eliminate weeds early in the week.

Some time was spent in cultivating weeds out of Forestry Experiments 1 and 2 during the week. Twelve ewes have the run of Forestry Experiment 3 this summer. Montmorency cherries are ripening and picking is going on at odd times. The yield is about 1/5th to 1/4th that of a full crop. Weeds continue to be a menace and every opportunity is devoted to fighting them.

Mr. C. F. Rogers, Weed Specialist for the State College, was here Friday and demonstrated the killing of Poverty weed with carbon bisulphid.

Maximum temperature 93, minimum 51; precipitation, 1.12 inches.

NORTH PLATTE:

Today ends a four weeks period without rain. During the past week temperatures have not averaged high. Four days have been hot and three cool for the season. Spring grains have not ripened as fast as was anticipated a week ago. Barley plots, except those on fallow, were harvested on the 14th. A few oats plots have been cut. Winter wheat, where the stands were thin, is not yet harvested.



North Platte, continued:

Corn continues to grow rapidly, and seems as yet to have a sufficient supply of moisture remaining from rains received early in June.

County Agents from 12 western Nebraska counties visited the station on the 14th.

GARDEN CITY:

Two dry weather showers were received during the week. One measured .2 of an inch and the other .25 of an inch of moisture. With the temperatures that prevail at this season of the year such showers are of little benefit to growing crops.

Most crops are making a satisfactory growth. Corn seems to be standing up very well. There is a noticeable difference in the growth of crops on fallow and on continuously cropped ground. This difference is not usually so marked this early in the season.

Feterita on the May 15 date of planting is in the boot with a few heads emerged. It is heading at a height of about 30 inches.

Maximum temperature 100, minimum 59; precipitation, .45 inch.

DALHART:

The past week has been quite favorable for crop growth. Two good rains were recorded. Total precipitation includes three readings, one of which is very small. The main rains were recorded last Saturday and Sunday nights. These rains prevented field work until Thursday of this week.

The crops are making unusually rapid growth. The cereal and forage varieties are nearly knee high at this writing. The thinning program is nearly finished. There is not so much thinning to do this year as usual, on account of the poor stands obtained on the first two dates of planting. With very few exceptions there was never a better, more comparable stand obtained on the D. L. A. rotations.

Peanuts were replanted on Rotation 293 this week to replace plants destroyed by rodents. The listed plots which were replanted to milo and kafir last week are emerging. Considerable replanting is being done over this section where lister planting was done. The rains caused considerable washing in lister furrows. Aside from the lister planted plots and the peanuts no other replanting was necessary on the station.



Dalhart, continued:

During the days when the fields were too wet to work, considerable hoeing was done. The vineyard rows were hoed out and a number of other places were cleaned of weeds which persist in growing as rapidly as the crops. The crop fields are clean of weeds. There is plenty of tickle-grass growing in the two early dates of planting which can be covered by the next cultivation, which will be given the first of the week.

The vineyard was plowed the last of this week, also the cotton experiment. The cotton never came up sufficiently to leave for a test. Sorghum was drilled in this place for a possible feed crop. The land to be occupied by the sweet clover varieties was drilled to sorghum this week in order to have a stubble for a seed bed.

In the rain Sunday night 2.05 inches were recorded. The other rains were .63 and .01 inch.

Maximum temperature 94, minimum 59; precipitation, 2.69 inches.

#### TUCUMCARI:

Conditions during the past week have favored unbroken field work and good progress has been made. Thinning of all but late date plots was completed this date, about 25 acres of plots having been thinned. The cultivator followed thinning in most cases and a good share of increase plantings was knifed. Row crops are growing rapidly and in nearly all cases stands are unusually good. Growth has been so rapid that it was possible to thin within three to four weeks after planting.

Precipitation since January 1 has totaled 5.07 inches, 4.03 inches of this coming in June. The 22-year average for this period is exactly 9.00 inches. Moisture conditions are excellent to a depth of two feet, but below this the percentage is so low that crops will soon be entirely dependent upon rainfall. Judging from samples taken on MC milo plots, the heavy rains of June penetrated below the third foot, and in some cases below the second foot, only in occasional instances.

While grass grew rapidly after the rains, sod land is now showing a shortage of moisture in many places. With normal rainfall the next two months both ranges and cropped fields will have good prospects, but nothing is in condition to stand a prolonged drought.

Maximum temperature 98, minimum 59; precipitation, .40 inch.

Evaporation, 2.346 inches. Average hourly wind velocity, 5.3 miles.





BIG SPRING:

Weather conditions during the past week have been very favorable for field work and plant growth. A rain of .80 inch fell on the night of July 13. This was a great help to all crops and it brightened things up generally. Although this was not a heavy rain, it was the first general rain that the county as a whole has had since last fall. Feed crops are growing well and give promise of making enough for all local needs at least. Cotton is very late, and only favorable growing conditions and a late frost will allow this crop to mature.

Station work has consisted mainly of thinning some late dates of grain and forage sorghums and cotton, and the variety and spacing cotton plots. One cultivator has been kept busy most of the week. Early plowing for winter wheat was also done this week.

Maximum temperature 98, minimum 61; precipitation, .80 inch.

LAWTON:

Almost a week of cool, cloudy, foggy, showery weather netting .78 of an inch of precipitation was of inestimable benefit to vegetation of all kinds. Coming as it did after a period of one month without rain was a welcome relief. Lawton and the immediate vicinity reported the lightest rainfall of any of the surrounding towns and localities.

Row crops withstood the summer drought in remarkably good shape, due largely to the absence of high temperatures and to low wind velocity. Although early planted sorghums and many of the rotations present a promising prospect at present, the chinch bug infestation is so heavy that it is difficult to see how a crop can be matured.

Cotton is in a flourishing state of growth and seems to be setting a fair amount of fruit.

Cowpeas were plowed under for green manure July 16. The peas made an excellent vegetative growth and are now in full bloom.

Plowing of wheat stubble is quite satisfactory since the rain. The moisture seems to have penetrated sufficiently to permit plowing to a depth of 7 and 8 inches, leaving the turned over soil in fair condition.

Maximum temperature 96, minimum 66.



WOODWARD:

This week has been characterized by misty weather and piddling little rains which did growing crops little good, and while starting hosts of weeds, prevented cultivation. They did, however, have the beneficial effect of germinating much sowed feed over the country which was planted after wheat harvest and did not come up because surface soil dried out so rapidly. Much more feed would be planted even at this late date should a good rain occur. Crops already up are making very rapid growth, due to good supply of moisture in subsoil.

A very small package of Chinese elm seed was received from Mandan, but the "power" that was in it deceived appearances. Every seed seemed to germinate and it now looks as though we would have enough trees to plant the county, if all the seedlings pull through the hot summer months.

Several varieties of sand cherry-plum hybrids originated by northern nurserymen came into bearing this year. They gave heavy yields, but fruit lacks quality. One of the best from quality standpoint is Selection No. 69 from Mandan.

Several hundred Chinese elm greenwood cuttings were put in the cold frame, both in sand and in sand and peat, to test possibilities of propogating in this way.

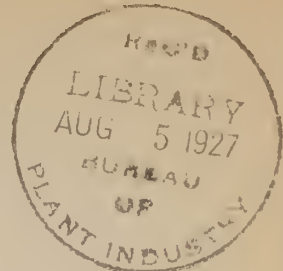
Work on covered-way connecting Dairy buildings was practically finished. Roads and fence rows were plowed and cleaned up, many scattered weeds were hood, and during the last two days of the week every effort was concentrated on cultivation. Bolls are beginning to set on the cotton which was planted April 20.

We wish to call attention to the fact that Woodward is on the main line of the Santa Fe and so is convenient to visit for Department men enroute to Texas, New Mexico, Arizona and California.

Maximum temperature 100, minimum 62; precipitation .71 inch.  
Evaporation, 1.960 inches. Average hourly wind velocity, 7.1 miles.



96



WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

JUL 23 1927





REPORT FOR WEEK ENDING JULY 23, 1927.

HAVRE:

The week passed without rain. Temperatures, however, were not very high, the maximum ranging from 78 to 86 and the minimum from 51 to 58.

All crops made very rapid advancement. Winter rye was harvested and winter wheat will be ready the coming week. Some of the early barley is beginning to turn. Corn made very rapid growth, especially the commercial fields along the creek bottom. Flax also shot up very rapidly. This crop shows considerable promise this year due to the fact that excellent stands were obtained. In some rotations, however, red root is making quite a start which will probably retard growth later on. Corn plats are showing considerable variation due to manuring. This is more noticeable than in any year since the station started.

Peas for green manure were turned under during the week and the growth was exceptionally heavy. The second growth of alfalfa is progressing very rapidly. The ranges are still green with an unusually heavy growth of grass.

About forty farmers from Teton and Cascade Counties in company of County Agents Clarkson and Cameron visited the station on the 20th. This was a select gathering of farmers and made an excellent group to show around the station.

Maximum temperature 86, minimum 51; precipitation, 0.

JUDITH BASIN:

Warmer weather with very light precipitation being recorded hastened crop growth during the past week. The early seeded winter wheat is beginning to turn toward ripening. All spring grains are heading. Although the warm weather is hastening their maturity, average yields are in prospect. Corn has made a very noticeable growth and potatoes are coming along in good shape.

Grasses on the cow pasture experiments were harvested for hay. Fallow on the rotations, garden, orchard and shelterbelt were duckfooted. Roadways and alleys were cultivated. The grounds were given a general cleaning.



All former records for either attendance or interest in the Judith Basin Farmers' Picnic were broken on July 21, when an estimated group of 6,000 persons from all sections of Central Montana gathered for the eighteenth annual event. During the forenoon large groups of farmers inspected the plots and watched the tillage implement demonstration. Speakers for the occasion were Dean Hamilton of Montana State College, Governor J. E. Erickson, Congressman Scott Leavitt, and Secretary of State, William Powers. Ex-Congressman Tom Stout presided as chairman.

Maximum temperature 86, minimum 39; precipitation, .02 inch.

#### HUNTLEY:

The past week has been excellent for the ripening and cutting of winter wheat. Nearly all of the local crop that is to be harvested with a binder is now in the shock. If the present weather holds, farmers who plan to harvest their winter wheat with combines, may begin operations next week. In most fields the crop has ripened uniformly and the combines should encounter little difficulty due to green patches or weeds this season.

Corn continues to make good growth and the earlier varieties are about fully tasselled out. Beans, potatoes and sorghums have also made noticeable progress this week. Small grains are beginning to fire.

Field work on the Dry-Land Project has consisted of harvesting winter wheat and rye, hoeing row crops and mowing pastures. Hogs on the field peas pasture were weighed. The gains made during the last 14 days were much smaller than usual. As there has been plenty of good quality forage available, the low gains cannot be attributed to lack of feed.

Maximum temperature 93, minimum 52; precipitation, .04 inch.

#### SHERIDAN:

Weather was quite favorable for field work throughout the week. Showers were frequent over this section, but very little fell at the station. Destructive hail has been reported from several localities. Oats on the station were damaged slightly by hail on the morning of the 19th.

Winter wheat, barley, and oats are ripening quite fast. Winter rye was harvested during the week. General growing conditions for the week were good.

Mr. J. T. Sarvis visited the station on the 20th.

Maximum temperature 89, minimum 48; precipitation, .10 inch.



DICKINSON:

The whole week was favorable for plant growth and all crops made good progress.

Wheat and other small grains on the rotations are almost fully headed more than two weeks after the heads started to appear. The slow development was due in part to the hail damage on June 19. However, the stands are generally thick and while the straw is a little shorter than in some years, the outlook is for yields well above average. Some stem rust has appeared during the past few days on the earlier varieties and leaf rust is very thick on a few susceptible varieties.

The second crop of alfalfa is coming on rapidly. Corn made rapid growth after the rain of last week so the prospect seems good for some fodder at least. Northwestern dent on the rotation plots is beginning to tassel at about two feet high.

Due to the favorable moisture conditions fruit trees are making a good growth. Most varieties do not have much fruit due to the cold, cloudy weather during blooming time. The Opata plum has the heaviest set of fruit as usual.

Visitors during the week included, Mr. J. A. Clark, Agronomist in Charge of Western Wheat Investigations, Mr. A. C. Dillman, Agronomist in Charge of Flax Investigations, and Mr. E. R. Ausemus, Junior Agronomist, Office of Cereal Crops and Diseases. Also Mr. R. C. Dynes, Assistant County Agent Leader, and Mr. C. C. Eastgate, District Agent, North Dakota Extension Service.

Maximum temperature 82, minimum 52; precipitation, .40 inch.

Precipitation to date in July, 1.62 inches.

MANDAN:

Agronomy

The week has been characterized by moderate temperatures, light winds and a good rain on the 21st. Crops are shooting up rapidly. Corn especially is making a very rapid growth. Hay on the ground has had to be turned three times already, on account of rains last week and this.

Most of the row crops were cultivated, and the roads were worked with spike-tooth harrow, followed with the Clack-blade harrow. The latter was very effective in getting weeds which the regular harrow failed to get. The land is remarkably free from Russian thistle this season, - a condition expected during the seasons of abundant rainfall and moderate temperatures.

Maximum temperature 82, minimum 50; precipitation, .48 inch.





Mandan, continued:

### Cooperative Grazing Experiment

Vegetation photographs were taken in the various grazed and ungrazed areas.

Some repair work had to be done to the spillway of the dam in the reserve pasture. Quite a number of large rocks were washed out as a result of recent torrential rains.

The condition of the pastures is excellent, and grazing is abundant.

### Horticulture

Currants were picked on July 18 and 19. Red Dutch and Long Bunch Holland, were the best yielders. The first mentioned variety yielded almost 4 quarts to the bush.

Success Juneberries were picked on July 20, and yielded about one quart to the bush for the first picking. The fruit was of good quality. This variety represents about the best we have as far as Juneberries are concerned.

Strawberries have been picked three times, but yields have been very low on each occasion. No variety has stood out as being especially good. All varieties under test may be considered a failure this year.

Weeds are now growing very fast, and are unusually troublesome for this time of year. Cultivating and hoeing have been in progress during the week.

Cover crops of millet and peas were sown in the Hibernial and Virginia crab blocks early in the week.

Blight is doing a considerable amount of damage to apple, crab-apple, and pear trees this year. Plant lice have been more numerous than usual on plums.

The week has been very favorable for vegetables. With warm days and ample moisture, everything is growing rapidly, and promises a record yield. The following vegetables are in season and have been harvested during the week: Cauliflower, cabbage, waxbeans, peas, beets, carrots, Swiss chard, New Zealand spinach, green onions, lettuce and early potatoes. The New Zealand spinach seems to be a world beater for producing greens during the hot summer months.



Mandan, continued:

Work in the sweetcorn breeding project is under way. Bagging and pollinating on the earliest varieties was started July 22. The Golden bantam strains are starting to tassel out, and should be ready next week. The plants are in splendid condition, and if rainy weather does not set in in the very near future, a very good start in crossing of the best strains is anticipated.

#### Arboriculture

Mr. E. J. George has completed the inspection of shelterbelts in northern South Dakota, and has started in Wyoming. He reports evidence of considerable hail damage to 1923 and 1918 plantings in parts of Ziebach, Perkins and Meade Counties, from a severe storm in 1924. Most of these plantings were cut back in the spring of 1925, and have made a remarkable recovery. He also reports frequent damage by the Ash borer, both on native ash along the streams, and on farm plantings. The large green larva of the Scrophia moth was observed doing considerable damage to the leaves of the Ash. It has been thought that this worm only worked on the leaves of boxelder.

Mr. Lewis S. Matthew reports some excellent plantings north of Malta, Montana. Farmers in this section are very proud of their 1923 plantings, which are for the most part, in excellent condition. Fruit cooperators in this area report an abundance of blossoms on their trees this spring, but a very light set of fruit.

Mr. John L. Emerson has completed most of the inspection in northern North Dakota, and is starting into Montana. He reports two conifer plantings of Black Hills spruce with nearly perfect stands. In a row of Russian olive in one of the 1923 plantings, six trees were found having lighter colored foliage than the other trees in the same row, and a more tree like form. While most of the Russian olive in the row showed more or less killing back these six trees were not affected at all.

Crops are reported as very good in all sections inspected during the week.

Visitors of the week included Messrs. H. L. Westover, Alfalfa Investigations, and R. W. Smith, Dickinson Sub-Station, Cereal Production and Improvement.



BEILE FOURCHE:

Temperatures during the week have been quite moderate, and precipitation has been received every day except one. A beneficial rain of .67 inch precipitation occurred on July 18 and very little runoff took place. Soil samples taken July 20 show an abundance of moisture to be present to a depth of nearly 3 feet.

An exceptionally strong wind which accompanied a thunder storm on July 22 caused additional lodging of winter rye and some lodging of winter wheat. Corn and sorghum are slowly recovering from the injurious effect of the hail last week. Spring wheat is heading, but barley on the continuously cropped plots is apparently diseased to such an extent that much of it will never head.

Crickets have hatched out in large numbers during the past two weeks.

All alleyways were cultivated and hoed during the week. Thinning of sorghum was completed, and field peas were plowed under.

Maximum temperature 86, minimum 55; precipitation, 1.06 inches.

ARDMORE:

The weather during the week was generally fair. Field work during the week consisted largely of cultivation of row crops. Corn is now ready to be laid by and sorgo should not require more than one additional cultivation.

Grain crops matured slowly. None of the oats will be ready to harvest until the first part of next week. Winter wheat yields will no doubt be reduced to some extent by stem rust. All grain crops give promise of producing yields considerably above the average.

Alfalfa has made a fair growth since the first cutting was mowed, and is now ready to be cut the second time. Some of the hog pastures were mowed during the week.

A small class of students from the University of Nebraska, accompanied by F. D. Keim, Professor of Agronomy, and W. H. Brokaw, Director of Extension, visited the station during the week.

Mr. J. T. Sarvis, who has been at the station since July 12, left for Mandan on July 20.

Maximum temperature 67, minimum 52; precipitation, .01 inch.





ARCHER:

The weather has been favorable for field work, there being but one light shower of .06 inch. The temperature has been cool to warm with considerable humidity the last few days.

Work at the station has consisted of second cultivation of row crops and the hoeing of the Dry-Land plots which will be practically completed today. Sand is being hauled for the plastering of the houses.

Crops generally are looking well. Plots of small grain seeded on sod or small grain ground are burning and the others are being checked in growth due to the lack of moisture. Oats are fully headed and the corn is growing rapidly. Potatoes on fallow, corn or bean ground are looking extra well, while those on wheat ground, especially where the ground was listed, are rather scrubby. The beans are beginning to make better growth.

Maximum temperature 91, minimum 51; precipitation, .06 inch.

AKRON:

The past week has been characterized by local showers. Twice within the week rains approached from the northwest only to rain-out between Akron, some five miles west, and the station. Showers were just sufficient here on the station to interfere slightly with harvesting.

The cereal variety barley and oat plots, the rotation oat, barley and winter wheat plots, and the sheep rotation winter wheat fields, and nine-tenth of an acre of oats on bean ground, and about one-half acre of Roscn rye have been harvested. There remains to be harvested about one-third of the winter wheat variety plots, about two-thirds of the plots of the rate and date winter wheat experiment, and some sixteen tenth-acre plots of winter wheat late seeded on fallow. The rotation spring wheat plots also remain to be harvested but these are not yet ripe.

Harvesting has presented considerable worry this year with only one binder available because the barley, the oats and the winter wheat ripened at the same time. The winter wheat is standing up nicely but some of the oats had fallen quite badly before they could be harvested. The oat plots to fall badly were almost wholly those on green manure preparation. The binder made a nice clean job of harvesting these fallen plots.

The remainder of the oat and barley hay seeded on last year's forage variety ground was hauled in and stacked. The 3.9 acres produced 17,607 pounds of hay, or an average of 4514.6 pounds per acre. The hay plots on the general forage variety experiment were hauled in and weighed. The yields per acre also ran heavy from these plots.



Akron, continued:

Cherries have ripened very unevenly. A part of the trees were picked this past week and the yields recorded. A goodly number of the trees remain to be picked. Bird damage to the cherries has been very heavy this year due largely to the unevenness of the ripening and to the length of time the partly ripened fruit has remained on the tree.

Right now weeds are considerable of a manace, right at a time when it is extremely hard to fight them due to the necessity of directing a large part of the station force to harvesting. Row crops, especially the sorgos, are not only weedy with Amaranthus here on the station but also throughout the countryside. Corn is tasseling at about knee high and does not, at this time, promise more than a half a crop of grain.

Mr. D. W. Robertson and Mr. John J. Sjogren arrived at the station on Thursday to look after the harvesting of the Cereal Nursery. Mr. Sjogren was left to direct this work which has absorbed all available men this week end. An attempt to find a few extra men to carry through the rush has met with failure due to the keen demand for labor from the farms.

On Tuesday Mr. E. A. Lungren and Mr. Davis from the State College were here to make counts on the Smut Nursery at this station. Mr. Lungren is in charge of barberry eradication for Colorado and Wyoming.

Maximum temperature 93, minimum 51; precipitation, .59 inch.

NORTH PLATTE:

Another cool, dry week has passed. Two light showers freshened up vegetation somewhat. These with low temperatures have prevented the occurrence of severe suffering of row crops. Small grains, which ripened rapidly at first, have hung on much longer than was expected. In some cases a second greening up took place. Harvest, which began July 5, will not be completed before the middle or latter part of next week, thus extending over a period of about four weeks.

Visitors during the week included a special class in agriculture, made up chiefly of bankers and Smith-Hughes teachers, under the direction of Extension Director Brokaw and Professor Koim of the Agricultural College.

HAYS:

Generally the temperature has been moderate for summer, some cloudiness, but not much rain, - .30 inch for the week.



Hays, continued:

Corn is about five feet high and 75% in tassel, and silks coming, but is beginning to wilt because of dry weather. Kafir is from 12 to 18 inches high and looking fine except where damaged by chinch bugs. Some of the corn is also damaged by bugs.

All of the early fall work in seedbed preparation for wheat is finished. Alfalfa on both bottom land and on the high land plots was mowed today.

There is an unusual amount of early listing for winter wheat being done in this locality this year.

The Experiment Station is busy making alfalfa hay and cultivating sorghum crops.

COLBY:

Weed killing on the fallow land and in sorghums has occupied the station force the past week. There still remains several days of this work before threshing will start. Weather permitting, threshing will start some time during the coming week. Several showers during the week have kept the grain damp so that threshing would have been out of the question part of the time. Yields of all grains are going to be rather low and in many cases the quality will also be low.

Corn continues to grow and is tasselling out. The moisture on the fall worked plots is fast being depleted and it is doubtful if much corn can be produced unless rain comes soon.

Sorghums are growing nicely, though weedy. The weeds in the D.L.A. sorghums are being hoed out.

Wheat cutting and combining is continuing in the county. Some of the wheat seems to be ripening slowly and many of the fields are getting weedy. The prevailing opinion seems to be that this county will not raise as much wheat as last year, and that the yield will be the lowest since 1917. In general, wheat is low in protein and low in test.

Maximum temperature 93, minimum 50; precipitation, .65 inch.

Evaporation, 2.086 inches. Wind velocity for the 8 ft. anemometer

8.9 m.p.h.; average for the week for the 2 ft. anemometer 6.1 m.p.h.





GARDEN CITY:

The past week has been a cloudy one, but no measurable amount of precipitation was recorded. Rains have been reported in this section of the state during the past seven days.

Row crops continue to make some growth, but those growing on land cropped last year are beginning to show a lack of moisture. Sudan grass and kafir seeded with a wheat drill are rolling and on a few plots wilting during the heat of the day. Corn seems to be withstanding the drought better than usual.

The writer returned last night from a trip into the extreme southwestern corner of the State. The counties of Morton, Stanton, Stevens and Grant reported that they had received seven inches of rain in the past two weeks. There was no wheat in that section this year, however, prospects are favorable for a large yield from the row crops.

Maximum temperature 102; minimum 67; precipitation, Trace.

DALHART:

The past week has been hot and sultry with very little wind or cloudiness until Friday. The wind came up about 9:00 p.m., Thursday, but was of short duration. Friday was cool and a good breeze lasted all day. A good rain was recorded this morning which began falling about 9:30 last night. Today is cool and cloudy with very little wind.

Due to lack of wind this week, the engine had to be used to pump water. The cypress tank was empty but by running the engine it was filled before it dried sufficiently to leak. The mill pumped water all day Friday.

The crops are making very rapid growth. Sudan grass which was planted June 17 is just beginning to head. The thinning was finished this week with the exception of the replanting which was done on the rotations, (listing). All of the varieties and a few rotations were cultivated this week.

The harrow was used on all of the increase fields and rotations early in the week in order to break the crust and check small weeds until the cultivators could get to it. The cultivators were used on the larger crops first. The fallows were all cultivated this week and are in good condition.

Soil samples taken Monday show that the moisture is gradually penetrating to a greater depth. On this and last year's fallow plots there is good moisture throughout the full six feet. On plots A and B the moisture has penetrated the 4th foot, and to a slight extent into the 5th. The 6th foot has pretty fair moisture.



Dalhart, continued:

Several local farmers visited the station this week and looked over the crops. They were impressed by the straightness of the rows and the unusually good growth made by the crops as well as the nearness of moisture to the surface. They stated that they could not dig up moisture so close to the surface as it was here. These farmers do all of their planting with the lister and have had to replant just recently. Some visitors were here this week from below Amarillo and spoke favorably of the crop condition in this section of the panhandle.

Maximum temperature 100, minimum 60; precipitation, .95 inch.

TUCUMCARI:

Unusually hot weather the past week, accompanied by hot winds two days, has rapidly depleted the soil of moisture, although crops suffered more from heat and wind than from drought. A light shower last night, with cool temperature today, combined to greatly improve the appearance of all crops. Growth of rotation plots, planted about June 25, has been rapid and milo has suckered heavily when unusually small and young. Suckers were numerous on this crop when plants were four inches high or less, less than twenty days after planting.

Work the past week included cultivating of plots, working of fallows, go-deviling of increase fields, and miscellaneous hoeing. Plots are now in good condition, increase land is comparatively clean, but lawns are showing effects of hot weather, and orchard and tree rows are in need of work.

Maximum temperature 105, minimum 62; precipitation, .30 inch.

Evaporation, 2.954 inches. Average hourly wind velocity, 5.5 miles.

LAWTON:

Temperatures of 100 and 101 on the 17th and 18th, respectively, killed about 50% of the foliage on the sorghum crops that were already in a weakened condition from chinch bug injury. Rain fell on the 18th, amounting to 1.50 inch, and cool weather the remainder of the week revived the crop very nicely.

Although corn will make a fair yield, it will be inferior in quality. Bug damage has weakened the plants so extensively that most of the corn will have to be cut before the grain is fully mature. Corn, as a whole, throughout this part of the state is much better than in past years.



Lawton, continued:

July rains have put the ground in good shape for plowing and early preparation of wheat land is well advanced over an extensive territory.

Cotton is in a more satisfactory condition than usual at this time of the year.

Maximum temperature 101, minimum 60.

WOODWARD:

A rain of 1.29 inches on the 18th, and 2.90 inches on the 22nd, rendered most field work impossible and the week has been spent in cleaning up fence rows and doing other odd jobs. So much rain at this time, when sorghums are a foot or two high, means that they should make a rank growth of forage, but does not insure the grain yield. Forage, however, is a very important matter in this section where so large an acreage has recently become devoted to wheat. At this time of year extended droughts are not unusual, so the heavy rainfall is as welcome as unexpected. Most of the immense wheat acreage in this section will be disked or listed within the next ten days. A big crop of peaches now rapidly ripening will be secured from the many little orchards over the country. Grapes on the field station give assurance of a record yield.

Maximum temperature 106, minimum 64; precipitation, 4.25 inches.

Evaporation, 2.790 inches. Average hourly wind velocity, 6.5 miles.





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296

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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 30 1927



REPORT FOR WEEK ENDING JULY 30, 1927.

HAVRE:

Growing conditions during the past week were very good. A maximum of 94 was recorded on the 26th. Two days during the week, the maximum was over 90. Winter grains are maturing rapidly, most of the winter wheat being in the shock. One field of early barley is partially harvested and a few oat plots are just about ready to cut. Quite a few of the spring grain plots will be harvested during the coming week.

Corn and flax especially made very rapid growth. Some of the corn is showing tassel and flax is well along in the bloom. Flax shows the best prospects for a number of years, owing to the fact that it has been possible to control most of the weed growth. Second cutting alfalfa is nearly ready to harvest.

Station visitors during the week included Messrs. J. A. Clark and B. B. Bayles, of the Office of Cereal Crops and Diseases, I. J. Jensen, from the Moccasin Station, and Louis Vinke, LeRoy Powers and Virgil Gilman, all of the Montana Experiment Station.

Maximum temperature 94, minimum 50; precipitation .55 inch.

HUNTLEY:

Weather conditions during the past week have been ideal for harvesting operations. Binder cutting of winter wheat is about completed on the smaller acreages while on the large ranches combine harvesting is getting well under way. On the plots the harvesting of winter wheat and rye has been finished and oats is about ready to go.

Spring wheat has ceased growing and is "drying" ripe. The indications are that yields of this crop will be above the average but the quality of the grain will be poor. Barley is ripening slowly. Lodging in many of the barley plots is interfering with uniform maturity of this crop.

Hot days with occasional evening showers have combined to make excellent growing weather for corn and the crop has about made up for time lost in retarded development during the cold weather earlier in the season.

Field operations have consisted of hoeing row crops, roads and alleys, harvesting the remaining plots of winter wheat, cutting hay from the perennial pasture lots and cultivating these lots with the spring-tooth harrow.

Maximum temperature 82, minimum 49; precipitation, .09 inch.



JUDITH BASIN:

The past week has been rather varied in temperature, the cooler days having delayed ripening to quite an extent. Winter wheat will be ready to harvest within a few days. Spring grains are doing only moderately well. Corn is growing rapidly and potatoes are beginning to blossom.

Corn on the rotations and potatoes were cultivated and the latter sprayed. Some of the fallow was worked to check weed growth.

The last of the first crop of alfalfa has been cut. Stacking is practically finished.

Our only visitor for the week was Mr. T. R. Stanton, from Washington, D. C. Mr. I. J. Jensen and Mr. B. B. Bayles have spent the past week on an inspection tour of Canadian Stations and will return tomorrow.

Maximum temperature 90, minimum 45; precipitation, .13 inch.

SHERIDAN:

The weather continued fair throughout the week. Light showers occurred in some nearby localities, but practically no rain has fallen at the station. Most small grain crops have fared some. A part of the winter wheat, oats, and barley in the rotations has been harvested as the plots ripened. Ripening of these crops seems to be more uneven than usual. Winter wheat on new breaking south of the rotation field has been harvested.

Corn and late forage crops made a good growth during the week. The corn is now just fully silked.

The annual Farm-Bureau Picnic was held on the station the 27th. The attendance was the largest of any yet held here.

Maximum temperature 91, minimum 45; precipitation. 02 inch.

DICKINSON:

The weather favored crop development and prospects continued to improve. A rain of 1.30 inch on the evening of July 29 furnished plenty of water to insure heavy filling of the grains. This rain fell in an hour and fallow fields washed badly.

Rust infection is now general in all grain fields but unless weather is very favorable for its spread the outlook is for little damage to the crop. Early grains will be mature in about a week.





Dickinson, continued:

A picnic was held at the station on July 30, with an attendance of nearly 500. Speakers were Mr. John T. Sarvis, Director P. F. Trowbridge, Director C. F. Monroe, and Mr. H. L. Bolley.

A party of Ohio Livestock Feeders who were touring the west reached Dickinson on the morning of July 31. The party consisting of about 75 people were taken for a trip through the country northwest of here and on through the Badlands to Medora. On the way out they were driven through the station fields.

Maximum temperature 90, minimum 40; precipitation, 1.31 inches.

The precipitation for July was 2.93 inches.

MANDAN:

#### Agronomy

The past week has been favorable for field work. Several days were very hot, but the temperature did not go high. Two or three light thunder showers came during the period. A severe hail storm that covered a small area ruined crops about 10 miles north of Mandan.

Corn in the rotations was given the final cultivation during the week. Fallow plots in the rotations and 15 acres of fallow in Field P were worked with the duck foot.

Winter rye was harvested. The yield will be very light owing to the damage by hail a little over a month ago. Part of the crested wheat grass was harvested for seed.

Corn made rapid growth during the week, and is fully tasselled in the rotations. Bagging was started in the corn breeding block.

Maximum temperature 90, minimum 46; precipitation, .13 inch.

#### Cooperative Grazing Experiment

All pastures still remain in very good condition for grazing. The 30-acre pasture is getting short, but will no doubt carry the cattle for some time.

The cattle are being weighed today, and the indications are that they should show good gains for the month of July.



Mandan, continued:

#### Horticulture

Most of the gooseberry varieties were picked on July 28. Van Fleet and Transparent gave the best yields. Minn.#2 and Mandan selection #26, are newer varieties which have an attractive red color, fairly thin skin, good quality, and look promising. Houghton yielded very lightly this year.

The fruit of *Prunus tomentosa* is now ripe, and some of the S.P.I. material looks fairly good. Our white selection is also showing up well this year. A large number of seedlings of this fruit are just starting to bear.

Woods continue to be very troublesome in the fields, and most of the labor has been used for cultivating and hoeing.

Corn breeding work is now demanding considerable attention in the vegetable plots.

#### Arboriculture

Rough roads and rain are a frequent report from all the shelterbelt inspectors. Mr. Matthey reports a shelterbelt and fruit plantings furnished from here, which he saw at Lohman, Montana, as being the finest he has yet visited. He states it has prospects of an excellent crop of plums and crab-apples, and has a few apples. Mr. George came across a very interesting planting of Chinese elm at Moorcroft, Wyoming. 100 seedlings of this species were obtained from some Government station in California six years ago. All of the trees did well until this year, and had reached a height of about 10 feet. Last September a severe freeze, reported to have gone down below zero occurred in this vicinity, following which, all but three of the 100 Chinese elm died out completely. All other trees in this planting, including American elm, came through without injury. Several of the Chinese elm at the Sheridan station were also killed out last winter.

Such instances tend to confirm a growing belief that the Chinese elm should not be considered as entirely adapted to the Northern Great Plains. Its weakness appears to lie in the fact that while it seems to be unusually "drought resistant", it does not possess a high degree of "cold resistance". When it is in a dormant condition, it will probably endure fully as low temperatures as the trees native to this region, but on account of its habit of continuing active growth in the fall long after



Mandan, continued:

the native trees have formed terminal buds, it is peculiarly susceptible to early fall freezes, such as occurred at Moorcroft last year. It would seem that this tree will prove much more valuable in the central and southern plains region, than it will farther north.

Caragana seed will be ready to pick next week.

Visitors of the week included Messrs. Karl S. Quisenberry, Western Wheat Investigations; T. Ray Stanton, Oat Investigations, and A. C. Dillman, who returned to the station from Bozeman, Montana, for two days further work.

BELLE FOURCHE:

Warm weather has prevailed throughout most of the week and there has been much less wind than usual. The average wind velocity on July 28 was only 0.9 mile per hour, which is the lowest daily wind velocity recorded so far this year. There were only two days during the week in which the average wind velocity exceeded 4 miles per hour, the maximum being 5.6 miles per hour on July 26. A heavy rain of .5 inch was received July 27 and a lighter shower of .25 inch was recorded on July 29. Considerable runoff occurred during both storms and only a comparatively small amount of moisture was absorbed by the soil.

Corn and sorghum made a very rapid growth and winter rye is nearly ripe. The second crop of alfalfa is beginning to blossom, but the hay yield will be very light as the growth is less than 12 inches.

Field work has been devoted to the cultivating of corn, sorghum and potatoes, and duck footing of fallow and rye green manure plots.

Maximum temperature 93, minimum 54; precipitation, .75 inch.

ARDMORE:

The week was generally favorable for field work. Grain crops ripened rapidly and about 50 acres of oats and 10 acres of barley were harvested during the week. The grain in the rotation plots is not as far advanced as the general fields and only three plots of oats and two of winter wheat were ripe enough to harvest.

About thrity-five acres of second crop alfalfa were cut during the week. Twenty acres were stacked without getting wet. Showers during the last three days of the week have kept the other fifteen acres too wet to be stacked. The second crop alfalfa is apparently yielding about two-thirds as much as the first cutting.





Ardmore, continued:

Corn and sorgos continue to make seasonal growth although both crops are behind their normal stage of growth at this season.

Maximum temperature 90, minimum 50; precipitation, .83 inch.

ARCHER:

The weather has been cool and humid with precipitation recorded every day except July 25. The total, .63 of an inch, while not large released the crops from the burden of heavy evaporation and gave aid in the way of moisture. At this writing, July 30, there has fallen today .28 of an inch, which will greatly aid the crops. The total for the storm period is .91 of an inch.

Barley on the Dry-Land plots and winter wheat on duckfooted oat stubble are beginning to ripen. All other crops are green. Some of them were burning badly when the rains occurred. A few corn plants are sending up tassels.

Work at the station has consisted of a continuation of weeding and hauling gravel. The heavy weeding work in the experimental field has been completed. The weeding of trees and miscellaneous places is in progress, as is also the digging of trenches for the water and sewer system.

Maximum temperature 84, minimum 45; precipitation, .63 inch.

AKRON:

Showers prevailed during the week, but so light as to interfere but little with the type of field work at hand. The harvesting of all small grains except certain late varieties of oats and the rotation spring wheat plots was completed early in the week. The harvesting of the bulk of the cereal small grain nursery was completed Monday. The picking of the cherries was completed and the yields recorded. Yellow Transparent apples are about ripe and the yields promise to be the best yet obtained from this variety.

Harvesting is in progress throughout the neighborhood. Both the header and the combined harvesters are being used. No complaint about the green wheat from the combined harvesters has yet been raised by the elevators.



Akron, continued:

As soon as the pressure of harvesting was released, attention was turned to the station's weed problem which was serious. By the week-end marked progress had been made in cleaning the experimental projects of weeds. It was necessary to hoe the sorgo plots on the rotations and on the forage variety experiment. All fallow areas were cultivated and the ground covered by the hoe to remove stray weeds. All roadways were cultivated to destroy germinating weeds. The mower was used on roadways not cultivated. Forestry Experiment No. 2 was spring tooth harrowed both directions.

On Friday afternoon sheep rotation 51 winter wheat field was threshed. This is the pastured rye field. The yield of straw was 1,505 pounds per acre. The yield of grain was 8.9 bushels per acre. This field and also the pastured fallow field of this project burned badly during the May drought. Repairs to the tractor prevented the completion of the threshing of sheep rotation 28 Saturday afternoon.

Visitors during the week included Dean and Director L. E. Call and Professor Throckmorton of the Kansas Station, Mr. R. E. Getty of the Hays, Kansas, Station, and Dr. M. N. Levine of the Minnesota Station, as well as a goodly number of farmers, mostly from Nebraska and Iowa, who own land in Northeastern Colorado.

Maximum temperature 91, minimum 51; precipitation, .42 inch.

NORTH PLATTE:

Unless rain occurs tomorrow, July at this station will pass practically a rainless month. The heaviest rainfall on the table was .25 inch. Other small showers fail to bring the total to one-half inch.

On account of low temperatures, corn is holding on remarkably well.

Threshing has been in progress on the station for the last three days of the week. Yields are somewhat better than was anticipated. No tabulations have as yet been made.

HAYS:

The temperature during the week has ranged between 61 and 98 degrees, generally being moderate for the season of the year with no extremes. Considerable cloudiness at times, which threatened rain storms, but all cleared away except for two small local showers amounting to about half an inch.



Hays, continued:

Corn is needing rain badly and has been wilting, but the absence of burning temperatures and hot winds has helped a great deal in preserving hopes another week that it may come through the period of tasseling and silking safely. The corn is suffering severely in places from chinch bug injury.

Kafir is continuing to make good progress except for the fact that where infested, it is suffering from chinch bug injury. Milo is suffering much worse than either corn or kafir from bug injury.

The work during the week has consisted largely of weed killing and soil moisture determinations.

COLBY:

The principal occupations on the station the past week has been the killing of weeds on fallow land, in the sorghums, and in corn. All experimental fields of corn, sorghums, and fallow have been hoed, as well as the D. L. A. project. Weeds have been a bigger problem on the station this year than is usually the case. Some of the roads and alleys still appear rather ragged with weeds but they will be cleaned up in the near future. Corn and sorghums are growing nicely. Sorghums were cultivated during the week.

Several showers during the week kept the corn from suffering. Tasselling and silking is taking place now. The past week was characterized by extremely low wind velocity which was good for the corn.

It is expected that threshing will start the coming week. Several damp days the past week would have made threshing tough. Wheat in the county is of very poor quality and in most cases the yields are even lower than was anticipated.

Maximum temperature for the week, 98 degrees, minimum temperature, 56. Precipitation 0.61 inch, evaporation 1.690 inches. Wind velocity for the 8 ft. anemometer 6.1 m.p.h.; average for the week and for the 2 ft. anemometer 4.1 m.p.h.

GARDEN CITY:

A rain measuring 1.3 inches of precipitation was received Thursday night and changed the appearance of all crops. The rain came slowly and practically none of it was lost through runoff. All row crops have made satisfactory growth even though the temperatures have been low since the rain.





Garden City, continued:

It is hoped that early fall plowing and listing of wheat plots can be accomplished during the coming week.

Director L. E. Call was a station visitor Friday.  
Maximum temperature 97, minimum 56; precipitation, 1.3 inches.

TUCUMCARI:

Showers on six days of the past week, while totalling only .93 inch, have been followed by such cloudy weather that the surface soil has remained too wet to permit of much cultivating. Early in the week it was possible to disk and drill about ten acres of broadcast sorgo and kafir, while the cultivators were started. Between showers the mover has been used to trim weeds and grass on roadways, fence lines, and around buildings.

Vineyard and tree rows have been disked, and hoeing the past few days has put hedges, tree rows, and vineyard in excellent condition.

All crops are making unusually rapid growth and are comparatively clean, but a large amount of cultivating will be needed soon, for the past week has been as favorable to weed growth as possible. Rainfall this month has totaled 1.85 inches, sufficient to maintain the moisture content of the soil, but it has not increased the moisture below the second foot. Samples show the fourth foot very dry, the third in many cases nearly as low, while the fifth and sixth are somewhat higher. The first and second feet show satisfactory moisture content.

Early peaches and pears have been harvested, as have four or five varieties of grapes. Grapes are ripening daily and the bulk of the crop will mature within the next few days, although some varieties will be much later.

Pears will all ripen within ten days, while peaches promise to straggle along for perhaps at least three weeks. Pears have produced heavily; peaches and apples show a very light crop due to frost, wind, and drought; and there were no plums or cherries.

Maximum temperature 95, minimum 61; precipitation, .93 inch.

Evaporation, 1.492 inches. Total for year, 6.39 inches, compared with 22-year average of 10.22 inches. Average hourly wind velocity, 4.1 miles per hour.





WOODWARD:

For the past three weeks we have averaged a rain every other day, so have been able to accomplish little in cultivation. Luckily, before the rainy spell started in, one thorough cultivation had been given everything, so nothing will be extremely weedy even though we are able to cultivate much of it, no more.

Due to over ten inches of rain scattered through June and July, growth of sorghums will be very rank. All of the summer blooming shrubs are outdoing all past records this season. The trees are so heavy with foliage that they almost hide the buildings. Grapes will give a heavy yield and are ripening much more nearly together than usual.

Driving rains wet into headed wheat stacks and much wheat being threshed is very damp. Preparation of wheat land for fall seeding is far advanced over the country.

Work of the week has consisted of moving woods, grading road, pruning shade trees and hauling manure.

Maximum temperature 93, minimum 61; precipitation, 1.21 inches.

Evaporation, 1.680 inches. Average hourly wind velocity, 4.8 miles.