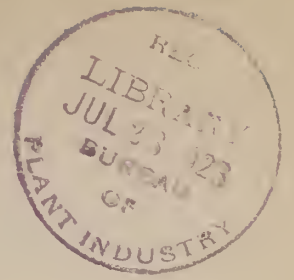


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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR WEEK ENDING JULY 7, 1923.

HAVRE:

During the last week in June there was rain on three days totaling .60 inch and making the June precipitation 4.86 inches.

For the week just past there was rain each day varying from a Trace to .65 and totaling 1.70 inches which is only one-quarter inch less than the 40-year average for the entire month of July.

We have been in the field only four days in the last two weeks and weeds have made a growth, especially in the shelterbelt. They are now starting in the corn and it is hoped conditions will permit cultivating in the near future.

All the alfalfa hay has been down for a week or ten days. It could have been stacked on July 1, also was ready a part of July 4 but help was not available on these two days.

All grain crops have made an excellent growth. Some of the durum wheat being nearly waist high. Oats and barley are growing rapidly and are well headed. Winter rye plats were mowed during the week as failures. Most of the winter wheat plats are so weedy that they will make nothing although they were reseeded. The cultivation just ahead of this seeding was only a spike tooth harrow which seemed to cultivate the weeds. Plats on fall plowing were very rough and the harrow killed the weeds. The reseeding promised a good crop.

Mr. H. L. Westover and Mr. N. F. Woodward of the Office of Forage Crop Investigations were here June 30 and July 1 and 2.

Grasshoppers have been poisoned on the station during the last week but seem to be flying in the last few days. They may cause considerable damage by cutting the heads off the grain yet.

JUDITH BASIN:

The past week has been one of moderate temperatures and several light showers, totaling .6 inch precipitation, were received. All crops have made a rapid growth; winter wheat is fully headed, oats are commencing to head and spring wheat and barley are in the boot. Sunflowers have attained a growth of about 20 inches and corn is approximately 20 inches high.

Conditions have been more favorable for field work than during the previous two weeks and attention has been devoted chiefly to the plowing of summer fallow, mowing of the weeds, hoeing, and cutting alfalfa. Winter rye on the rotations was also turned under for green manure during the week.

Mr. H. L. Westover of the Forage Crop Office was a visitor at the station.

Maximum temperature 78, minimum 49; precipitation .60 inch.

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HUNTLEY:

Warmer weather has prevailed throughout the week and where moisture was available crops have made a good growth. Most of the small grains are beginning to show the need of rain especially those plats where the crop was stubbled in.

The second cultivation of row crops was completed on the 6th. Plowing of roads and hoeing of alleys is under way. The second general round of soil samples was started on the 5th.

Maximum temperature 91, minimum 46; precipitation .05 inch.

SHERIDAN:

A rainfall of .49 inch on the evening of the 4th helped all vegetation considerably. The weather throughout the week has been warm. A high wind yesterday together with the highest temperature of the season to date, caused some of the grain on fall plowing, both wheat and oats, to fire some. All crops are standing up remarkably well, however, considering the small amount of rainfall.

Some of the barley and the winter wheat stubbled in are beginning to turn. Corn is just beginning to tassel. The field peas in the rotations for green manure were turned under the 5th. There was a good stand of peas about 15 inches high. The ground was quite dry and turned up very lumpy. Soil samples on the MC wheat showed but little moisture at any depth.

Corn in the rotations and varieties was cultivated during the week, and cultivation of other row crops is in progress.

Maximum temperature 97, minimum 53; precipitation .51 inch.

DICKINSON:

Generally favorable weather conditions have continued during the week with the exception of a hail storm on the 5th. Field crops, trees and garden were slightly damaged on the station but a few miles east and south the damage to grain fields was reported at 50 per cent over a narrow strip. All crops have developed very fast due to plenty of moisture.

Peas for green manure were plowed under on the 5th, the estimated yield being 2500 pounds dry material.

The first rust observed on the station this year was found July 7 on Buffum winter wheat.

Visitors during the week included Mr. H. L. Westover, Office of Forage Crop Investigations and Robert Wilson and E. J. George from the Mandan Station.

Maximum temperature 91, minimum 47; precipitation 1.33 inches.

MANDAN:

Agronomy.

The past week has been favorable for field work, except during the early part of the week, when light rains fell. Haying operations have gone forward, and all hay in the feed fields is now cut, and part of it hauled in. The yield is light. The hay in the experimental plats has not been weighed to date.

Rain fell on four days of the week, with a total precipitation of .46 of an inch. The total rainfall for June was 1.94 inches as compared with the 45-year average of 3.51 inches for the same month. The total precipitation for the year to the end of June was 5.87 inches as compared with the 45-year average of 9.60 inches for the same period.

Small grain crops are looking better since the rains, but the indications are that some of the methods will return light yields. Corn is making an excellent growth and just starting to tassel. Winter rye was harvested in the rotations on July 6. Part of the plats will make a light yield.

Fallow plats in the rotations were worked with the duckfoot cultivator on the 6th and 7th.

Maximum temperature 85, minimum 55; precipitation .46.

Cooperative Grazing Experiment.

Native vegetation improved slightly during the week. The 30-acre is beginning to look short.

The cattle in all pastures made normal gains during the month of June. The Rotation pastures (70 acres) is carrying 16 head of steers; the brome-grass pasture (35 acres) is carrying 16 head of steers; the other pastures each carry 10 head. The following gains per head were made during June:-

100 acre pasture	103.5 lbs.
70 "	110.5 lbs.
50 "	96.5 lbs.
30 "	92.0 lbs.
Rot. (70 acre)	101.5 lbs.
Brome (35 acre)	125.0 lbs.

The steers on the brome-grass seemed to do better than the others, and it appeared that they started to fatten up a little sooner. They, however, may not do as well during the remainder of the season.

Mandan:

Horticulture.

Serboria serbifolia, Anthony waterer, Spirea rosea, and elders, are now blooming on the grounds. Also such flowers as baby wreath, gaillardia, columbine, coreopsis, and cannas, are either in full bloom or starting to bloom.

Cover crops for the orchards were sown on July 2 and 3. Oats, millet, peas, vetch, and soy beans, are being tested as orchard cover crops.

Strawberries and currants were picked during the week. London Market, Red Cross and Pomona currants, showed up the best this year. Strawberries are generally poor.

Other work included the routine cultivating and hoeing in the field and on the grounds.

Arboriculture.

On July 5 Mr. Robert Wilson, In Charge of Shelterbelt Demonstrations and investigations, together with the three field inspectors, Mr. A. W. Emerson, Mr. R. W. Hansen and Mr. Ernest J. George, started on the season's shelterbelt inspection trips.

Mr. Wilson, writing from Beach Friday, July 6, reports ample rain, and crops, including flax, looking good. A heavy rain, measuring two inches, is reported east of Hebron by Mr. George. Mr. Emerson at McClusky, and Mr. Hansen at Coolharbor, both report fair crop prospects.

Visitors during the week included Dr. H. P. Humphrey, and Mr. W. E. Brentzel, from the Office of Cereal Investigations; Dr. L. R. Jones, Chairman, Department of Plant Pathology, Wisconsin College of Agriculture; Mr. H. L. Westover, Office of Forage Crop Investigations.

Due to the New Victory Bridge over the Missouri River, the increase of traffic visiting the station, especially on Sundays, is rapidly putting the Snake Road out of commission. Very shortly it will be necessary for it to be entirely rebuilt, which will, of course, entail considerable expense.

Mandan staged a Bronco Busting, Steer Bulldogging, Calf Roping Roundup on July 2-3-4, with an elaborate firework display on the last day. The crowds, averaged over 10,000 daily and were drawn from all parts of North Dakota, and from many other states. Large numbers of farmers visited the station each morning, among whom were many interested inquirers.

BELLEFOURCHE:

The past week was the warmest of the season. The humidity remained high and the frequent rains interfered seriously with field work.

Bellefourche, continued:

All crops are looking well. Barley is ripening and a high yield of this crop seems assured. Oats have commenced to turn. A few plats of oats have lodged to some extent. It now appears that though the yield of oats will be good it may not be as high as in some other years. Wheat is standing up well and promises well. A few plats, particularly those on fallow, have lodged a little during some of the rains but have come up again within a few hours after the weather cleared.

Corn is as good or better than usual at this time. The stand of sorghum on spring plowing is a little thin, otherwise the crop is excellent.

The fifth and sixth hail storms of the season occurred during the week. Both of them were too light to seriously injure crops on the station. The one on the fifth came close to the station on both sides. Corn and beets on the northern edge of the station were injured slightly while corn less than half a mile south was cut up badly. The few stones, that fell on the station were small and did no damage.

The rainfall for July up to and including July 8 is 3.26 inches. This is .31 inch above the average for the whole month. The largest rain to date was one of 1.62 inches the night of the 8th.

Maximum temperature 94, minimum 54.

ARCHER:

The total precipitation, 0.59 inches, consisted of two local storms occurring on the evening of June 30 and July 4. The storm on June 30 was accompanied with considerable hail which did damage to crops, especially corn. However, most all of the ill effects have been overcome at this writing.

All crops have made rapid growth except Soy beans. These were severely injured by hail. Winter wheat has headed and spring wheat is jointing. White Smyrna on the Dry-Land plats is in boot. The oat crop suffered from the dry spell which occurred during the last half of June. Millet has not made the growth naturally expected. The potato crop is in good condition and corn is developing rapidly. The sunflowers are now more than knee high.

On July 3 the Superintendent made a trip to Bushnell, Neb. to attend a certified potato meeting and to look after the buying of hogs for the station. From observations made while on the trip crops generally are in good condition but the acreage of small cereals is much reduced while that of corn has greatly increased. Fields of corn where due care in seed bed preparation has been practiced are in splendid condition.

Maximum temperature 82, minimum 48; precipitation .59 inch.

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NORTH PLATTE:

Hot dry windy weather is now the order of the day. No precipitation has occurred during the week.

All small grain is ripening very rapidly. A binder was started yesterday and a number of winter wheat plats on the D. I. A. project are being cut today. If present conditions continue practically the entire harvest will be ready for the binders next week.

COLBY:

Weather conditions remained rather dry and warm during the week with the exception of a light rain of .35 inches the first of the week. Wheat fields are looking rather dry in spots and wheat for the most part is just beginning to turn. Barley harvest is in full swing with most of the barley harvested. Harvest on the station started on the afternoon of the third and continued without interruption until this afternoon when we finished harvesting all that was ripe enough to harvest. To date we have harvested our commercial field of barley, the D.L.A. barley and oats plats and rotation 574C winter wheat, all barley and oats varieties, a small increase field of Coast barley, one variety of Spring wheat (Prelude), and a small increase field of Prelude spring wheat. It will be the middle of next week before the spring wheat varieties, spring wheat and winter wheat plats, and commercial fields of winter wheat will do to harvest. Barley and oats are going to make very creditable yields, except where lodging occurred.

Other work during the week consisted in throwing out all listed experimental sorghums and cultivation of all surface planted sorghums except the last date of planting. All sorghums, except the last date of planting and variety field, were thinned to stand during the week, as was also the corn breeding field which of necessity was put in rather late. The June 30th date of planting sorghums show a good stand.

HAYS:

The weather during the week has been dry and hot, especially the latter part of the week.

The dry windy hot weather is hard on all the hail-damaged row crops which are making more or less attempt at recovery from the hail damage. Corn is making only a feeble attempt, in fact the original stalks are practically all dead. A small per cent of the plants are sending feeble suckers up from the ground, but it would seem there is little chance of these under present conditions making more than just a little feed. Kafir is damaged more than was originally thought. Twenty to 30 per cent of the kafir plants are dead and making no attempt at recovery. The remainder of the plants are making more or less growth, but not as healthy and vigorous as it should be. Milo is making somewhat better recovery than kafir.

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Hays, continued:

It is noted that kafir planted on the surface was damaged by the hail more than that planted in listed furrows. It is also noted that kafir planted in furrows running north and south suffered more damage than that planted in furrows running east and west. Of course, this was due to the wind direction at the time of the storm.

Work has consisted largely in cultivation of the row crops, and disking of wheat stubble land which is to be early fall plowed. The purpose of the disking is to germinate if possible the portion of the wheat that may have been near enough mature to grow when the wheat was cut down by hail. As soon as the wheat is germinated the plowing will be done, which it is hoped will destroy a large portion of the volunteer and thus prevent so much surface work after plowing, which is undesirable because it increases the danger of soil blowing.

Maximum temperature 99, minimum 67; precipitation .05.

GARDEN CITY:

Growing conditions have been quite favorable during the past week. All crops are looking good since the rain of Wednesday night when 1.8 inches of precipitation was received. The spring grains will be ready to harvest some time this week.

The last two days of this week have been spent entertaining the Kansas State Board of Agriculture. Sixteen members of that board arrived in Garden City Friday morning for their quarterly meeting. They spent Friday afternoon going over the experiment station. Saturday morning a trip through the irrigated portion of Finney County was accomplished. Saturday afternoon was spent south of the river going over some of the better dry land farms of that section. Present prospects for a crop south of the river are very good.

Messrs. E. F. Chilcott, and J. B. Sieglinger of the Woodward, Oklahoma, Field Station were station visitors Friday and Saturday.

Maximum temperature 95, minimum 60; precipitation 2.0 inches.

DALHART:

The past week has been warm, windy and dry. It seems as if the winds are going to stay with the panhandle all summer this year. There has been no soil blowing on the station during the week but there was a little in the surrounding country. No damage resulted from blowing the past week. The temperatures have not ranged high, but the sensible heat has been unusually high for the prevailing temperatures. There has been very little cloudy weather during the week.

Dalhart, continued:

Field operations have progressed but it is rather slow in getting caught up with the work. The teams have been busy in the field every day except holiday and they are still rushed. In another week the team work will be caught up so there will be a breathing spell. Other work consisted of thinning, hoeing, spraying trees for worms, mowing, harvesting oats and other odd jobs.

Soil samples were taken as per schedule. The soil moisture is good down to a depth of six feet in the field. However, the pastures are needing rain. The grass, weeds, and grass burrs are dying for want of moisture. Crops are making good progress. The first date of feterita is now in the boot, sudan is heading and others are making a close second. Field corn is about 28 to 30 inches high and kafir is second with about 18 inches height. The June 30th date has emerged to a good stand. Cotton is about ready to thin and is growing rapidly.

Maximum temperature 94, minimum 58; precipitation .02 inch.

TUCUMCARI:

Growing conditions have been unusually favorable the past week and all crops have done exceptionally well. Since the weeds are temporarily under control, the station presents the best appearance it has within the past eighteen months. Lawns, shrubs, and trees are looking well, in contrast to their appearance last season.

Thinning has been completed with the exception of a few kafir plats in rotation and the late date plats. Two cultivators have been in the field most of the week, while the harrow and go-devil have been used on the listed crops.

Spring wheat is in full head; plants and heads are short, and the yield will be light. Stands on all plats were good early in the spring, but weeds, wind, and rabbits resulted in a heavy reduction of plants. Much of the winter wheat on the plains will not be harvested, while even the best fields will yield very little. Spring wheat, oats, and barley are in some cases fairly good, but yields will be low on the average. Row crops are late over this section, due to replanting in many cases, caused by hail, beating rains, or drought. The row crop acreage is heavier than usual, with the greatest increase found in broomcorn and milo. No accurate estimate of the cotton acreage can be made, for while much more cotton was planted than last year, blowing sand and hail demolished many stands, those fields later being planted to broomcorn, beans, and grain sorghums.

Maximum temperature 95, minimum 60; precipitation .28 inch. Evaporation 2.812 inches. Wind Velocity 6.2 miles per hour.

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BIG SPRING:

Weather conditions this week have been very little different from those of last week; namely, hot and dry. All crops are growing nicely, but it will not be long before they will be in need of moisture.

The work for the past week has consisted mainly of cultivating the increase fields and hoeing weeds out of the plats and orchard.

Maximum temperature 103, minimum 61; precipitation .11 inch.

LAWTON:

The heat wave extending from June 24 to 28 with a maximum temperature of 102 was terminated by a sudden drop in temperature and a light shower of 0.25 inch on July 1. Since July 1 the minimum temperature has ranged from 60 to 71 while the maximum temperature has varied from 75 to 96.

The last rains of any consequence fell from June 1 to 13. The surface soil is extremely dry and all crops except cotton and cowpeas have suffered from the intensive heat periods and from the lack of rain. The corn crop has been very decidedly reduced in yield in spite of the excellent prospects which obtained until the middle of June.

Cotton has not made a normal plant growth due largely to the lack of root development. On the bottom land the growth is more satisfactory.

Damage from chinch bugs is very decided and rapid on Milo and on broom corn. A striking comparison is offered by the feterita varieties at present. A plat each of Dwarf feterita and Spur feterita is planted on either side of Common feterita. Common feterita is damaged by chinch bugs beyond the possibility of a satisfactory yield except under extremely favorable climatic conditions. At present, such damage is not evident in either of the other two varieties.

Most of the grain sorghums in the April 15 planting are beginning to head. The April 15 planting of Sudan grass yielded 3250 pounds of cured hay per acre.

Threshing of small grain is progressing rapidly throughout the county and satisfactory yields are reported. Eight acres of Fulghum oats, grown on the station for feed, yielded 417 bushels.

WOODWARD:

The past week has been hot and dry. However, there is still plenty of moisture so that crops are making a good growth.

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Woodward, continued:

The wheat on the D. L. A. plats has been threshed and while it has not been weighed, the yields will probably vary from about five to thirty-five bushels per acre.

Some peaches, plums, cherries, and berries have been picked during the week. The apples, pears, and late plums are being sprayed today, (Saturday). Most of the other work has consisted of cultivating crops.

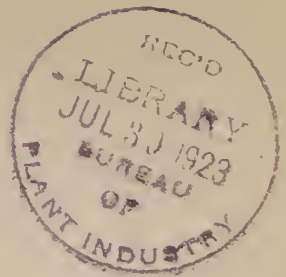
Mr. L. F. Locke, Assistant Agronomist, on the Station, returned Tuesday from a trip through Arkansas, Missouri and Oklahoma, and upon his return, Mr. Chilcott, the Superintendent, and Mr. Sieglinger, Assistant Agronomist, left on Thursday for trip to Garden City, Kansas.

Maximum temperature 96, minimum 66.

Average wind velocity 8.3 m.p.h. Evaporation 2.495 inches.

NOTE:

The Comptroller General has ruled that there is no legal authority for paying either towage or storage charges for a personally owned automobile, the owner of which is being reimbursed at the rate of 7 cents per mile, for its use in official work.



WEEKLY STATION REPORTS

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR WEEK ENDING JULY 14, 1923.

(Unless otherwise indicated.)

HAVRE:

Growing conditions have been excellent during the last week. Wind movement has been low with clear weather during the early part of the day. Thunder storms have occurred most every evening. Humidity has been generally high with the result that grain has stayed damp with dew until well along into the forenoon. Some of the grain, especially oats are infested with what looks to be leaf rust. Samples of this have been sent in for identification.

All grains except late seeded oats are headed. Some of the plats on fallow are showing a tendency to lodge. Corn is making a very rapid growth and some stalks are showing tassel. Corn was given the second cultivation during the week.

Sorghum, Sudan and all annual forage crops are making rapid growth.

The native grass and more especially the gramma grass has made a wonderful growth this season. The gramma is now in bloom and the prairies in many places show a blue cast. Wheat grass in some places is making a good growth a portion of which is headed.

Grasshoppers are flying and are scattered over most of the fields. They have not damaged rye as severely as they did last year but are causing some damage to the oat heads just as they come out of the boot. On warm days there are a great many of them in the air. It is reported in some localities that disease is killing large numbers. In other places they are migrating.

SHERIDAN:

Weather conditions have continued warm and dry. Some relief was afforded yesterday afternoon by a shower of .59 inch, the greater part of it coming in about twenty minutes. Except on the steeper slopes, however, there seemed to be but little run-off.

The most of the grain still continues to look well, and with sufficient moisture to fill the heads there are prospects of a good crop. The earlier wheat, barley, and the oats that are ripening seem to be well filled. Oats ripened fast during the week. Five of the fall plowed plats in the rotations were harvested today, and the greater part of the rest of the oats in the rotations will be ready the first of next week. Bangalia and Golden Vine field peas were cut yesterday.

Corn and the later forage crops continued rapid growth throughout the week. Corn has begun to silk.

Mr. J. M. Stephens arrived here Thursday and left yesterday for Ardmore.

Maximum temperature 95, minimum 53; precipitation .65 inch.

MANDAN:

Horticulture.

The week's work comprised picking of small fruits, spraying, hoeing and cultivating. The last of red currants and June-bearing strawberries, have now been picked; raspberries and Crandall currants, are beginning to ripen and the first picking of these was done late in the week.

Prunus tomentosa is again showing up well this year, the bushes being loaded with fruit of fair size and good quality.

Vegetables harvested from the acre garden during the week consisted of peas, beans, beets and early potatoes.

The third spraying of fruit plats and potatoes was completed, while cultivating and hoeing of field plats has been going on every day.

Arboriculture.

Mr. Robert Wilson and Mr. Ernest George completed inspection of shelterbelts along the main line of the Northern Pacific Railway as far as Beach, North Dakota, and along the north branch from Killdeer to Mandan. Mr. A. E. Emerson and Mr. Ralph W. Hansen have completed inspection in Northern North Dakota, and are now in Montana.

General crop conditions received in daily reports from shelterbelt inspectors is as follows:-

George:- Dickinson, N.D. July 6, Crops fair. Beach, N.D. July 7, Crops excellent, quite an acreage of flax. Killdeer, N. D. July 8, wheat generally good. Beulah, N. D. July 10, Crops generally good.

Emerson:- Minot, N. D. July 7, Crops badly burned for lack of moisture around Harvey, Drake and to south of Minot. Towner, N. D. July 9, Crops from fair to good north and west of Minot. Mohall, N. D. July 10, Crops badly burned near Willow City.

Hansen:- Coalharbor, N. D. July 5, Wheat poor, Rye and Corn good. Heavy wind destroyed several large barns. Ryder, N. D. July 6, Crops good, some good flax. Van Hook, N. D. July 7, Wheat good, some hail damage. Stanley, N. D. July 9, Crops good. Williston, N. D., July 11, Crops south of Williston looking fine.

AGRONOMY.

Putting up of brome and alfalfa hay was completed early in the week. Frequent showers have interfered with getting it up in the best possible shape. Alfalfa on bottom land yielded at the rate of about $2\frac{1}{2}$ tons per acre.

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Mandan, continued:

Winter wheat stubbled in on oats land was harvested on the 14th. The stand was thin and the straw very short--measuring about 20 inches. The kernels, however, appeared to be plump and well filled. The yield was estimated at about five bushels per acre. Spring wheat stubbled in has already been reported a complete failure.

Corn has made a remarkable growth during the past week, and promises to make a very good crop if more precipitation falls soon. Contrary to the usual observation, fall plowing seems to be showing up better than spring plowing.

Brome grass seed rows are being harvested today. Crested wheat grass is also ready to harvest for seed.

Soil samples to a depth of three feet taken in corn and wheat, on the 13th, finds the moisture under wheat practically exhausted and being rapidly taken up by corn.

Flax mixtures with wheat and oats at the station are making a remarkably good showing. Flax under all conditions on old land is practically as clean as if it were on newly broken sod. Apparently low precipitation in May and June discouraged germination of weed seeds in the surface soil, and as a result flax will yield much above the average.

Crop conditions around Mandan are semi-critical. Early seeded crops never fully recovered from the setback from the moisture deficiency in May and June, and with the reserve soil moisture practically exhausted, filling is largely dependent on the current precipitation. The consensus of opinion among farmers is that the late seeded crops will be the best. That remains to be seen, however. Late seeding is also dependent on the current rains.

Up to the end of June there was a deficiency of 3.73 inches of precipitation. Up to date there has been only .83 inches in July.

Maximum temperature 97, minimum 59; precipitation .37 inch.

Visitors of the week included Mr. J. Allen Clark and Mr. Ralph W. Smith, from the Office of Cereal Investigations.

On Sunday, July 8, Mr. W. P. Baird left to attend the Great Plains Official Horticulturists Meetings held this year at various points in Illinois. On his return he plans to stop off at Minneapolis and Fargo, probably returning to Mandan July 19.

Mr. J. T. Sarvis left on Monday, May 9, for Fargo, Ardmore, Huntley and other points. He will return to the station about July 21.

Mr. J. M. Stephens left Tuesday, July 10, for points west and plans to meet Drs. E. D. and C. R. Ball at Ardmore. The united party will visit Sheridan, Moccasin and Huntley, and should reach the Mandan station about July 21.

ARCHER:

Weather conditions during the past week have been marked by a great number of local showers of considerable intensity. The station, however, has not received any precipitation at any time which was of marked benefit. The largest amount, .09 inch, occurred on the 11th. The humid condition is shown by fogs which occurred during the nights of July 11, 12 and 13. Previous to this, slight precipitations occurred on the 9th, 10th and 11th. The fog was so dense that .01 inch of precipitation was recorded on the 13th and a trace on the 14th. These conditions are very favorable for the growth of cereal rust.

Work at the station has consisted of a campaign against the weeds. The principal part of this work has been accomplished with cultivators. The corn crop is in good shape having received the second cultivation. The spring cereals have made rapid growth. Winter wheat is suffering for the want of rain. Other small cereals will soon be in the same condition unless a good rain is received in the near future.

On July 11, the Laramie County Farm Bureau held their annual picnic at the station. The crowd was rather small when compared with previous years. The interest in the problems which the station staff is working upon was keen and more farmers gave serious consideration to the results secured than at any previous assembly. The furrow drill, the duck-foot cultivator, and the crops secured by their use was uppermost in the interest of most people.

A. D. Faville, Commissioner of Agriculture; A. E. Bowman, Director of Extension; F. W. Beier, Jr., U. S. Statistician for Wyoming, and Prof. W. L. Quayle were visitors at the station on July 11. Each of these State Officials addressed the farmers.

Maximum temperature 86, Minimum 51; precipitation .20 inch.

AKRON: Report for week ending July 7.

The week was started with a precipitation of .27 on Monday which gave very little relief from the dry weather which has prevailed since June 20. Both orchards were cultivated and hoed. Cultivating of rowed crops received attention. Much hoeing was done to destroy weeds which have heretofore escaped the field drawn cultivating tools. Timme cherries were picked giving but light yield.

AKRON:

The week has been characterized by local showers on all sides of the station beginning Monday. Measurable quantity was received here on Wednesday when .52 of an inch fell about 1 o'clock preventing field work for the remainder of the afternoon. Harvesting has been in progress most of the time since Monday.

Akron, continued:

Week end finds the Sheep Rotation barley fields, the barley, and about half the oats plats on the Rotation Block, the barley and a goodly percentage of the oats plats on the Cereal Project all in shock. Green manure pea and sweet clover plats were plowed early in the week. Plowing was delayed almost a week due to repairs being made to the two-way plow. Peas in most cases were dead without having set seed. Hoeing among the experimental plats has received attention.

Doctor E. D. Ball, Director of Research and Doctor C. R. Ball, Cerealist in Charge of the Office of Cereal Investigations visited the station on Thursday.

Maximum temperature 97, minimum 58; precipitation .61 inch.

COLBY:

The most alarming factor which has shown the damage which we can expect from it this week has been the presence of black rust in all of the later wheat fields in the county. There has been sufficient moisture to prevent early ripening and with the moisture and hot weather the rust has shown that it will do maximum damage in all of the late wheat. The wheat is approximately two weeks later than normal this year, due to several factors; namely, late fall and winter germination, a dry spring with rains coming rather late, very severe winds the first three weeks of April which kept back vegetative growth and thinned the stands to a very marked degree on all fields which were cultivated the previous season, an abundance of moisture during the growing season since the last of April, and an abundance of moisture during the ripening period with moderately warm weather. A great many fields will probably not be harvested due to black rust; yields on all wheat will be cut to a very appreciable extent.

There has been very little ripening of cereal crops since the week previous. One stubbled-in plat of winter wheat and two plats of Spring wheat were harvested this week, being all that have sufficiently matured for binding. The plats of Hard Federation spring wheat in the variety project were harvested. Corn is growing fine, also sorghums.

Dr. E. D. Ball, Dr. C. R. Ball, A. L. Hallsted, L. C. Aicher, and A. F. Swanson visited the station on the 11th.

HAYS:

Generally the weather has been hot, dry and quiet. Winter wheat outside the hail damaged area is now being harvested, -harvest is in full swing. The Experiment Station is now harvesting a field on the far east side of the farm, the only field that is really worth harvesting and this is damaged about 50%.

Hays, continued:

The row crops are making slow recovery from the effects of the hail storm.

The few plats of barley which were harvested on the Dry Land Project before the hail storm were threshed today. Average yields, about 20 bushels. This does not account for any of the grain beat off the shocks by the hail. The outside bundles on the shocks were almost headless.

Doctors E. D. and C. R. Ball visited the Experiment Station Tuesday, the 17th.

Maximum temperature 99, minimum 64; precipitation .07 inch.

GARDEN CITY:

Weather conditions have been favorable for field work the past week. all row crops and fallows were cultivated and hoed. The thinning of sorghum plats was completed Thursday.

Barley and oats were harvested this week. Spring wheat is ripening, but very little of it is ready to be harvested. Although spring wheat made a good vegetative growth and the heads look well, the yield will be very low on most plats. In threshing out a few of the heads it was found that five was the maximum number of kernels in one head and these were badly shriveled.

Maximum temperature 95, minimum 65; precipitation .1 inch.

DALHART:

Conditions in the weather program were somewhat reversed from the usual run the past month. There has been very little wind the past week and the temperatures have run higher with more cloudy weather. There have been local showers, some amounting to an inch or more but these did not come closer than a half mile of the station. Two precipitations were recorded here during the week, one amounting to .06 and the other .15 inch. The latter occurred Friday afternoon and night. While this was in progress, a heavy rain or rather several heavy rains were recorded in Dalhart, reaching toward the station as far as the canyon. Between the canyon and station there was just enough rain to lay the dust in good shape but not enough to make the roads slippery.

Field operations have not been halted all week on account of weather or other causes. The rush work is all caught up and the cleaning up of all roadways, etc., has been completed with today's labors. The crop thinning is all completed, except cotton. There remains some hoeing in the increase fields of scattered weeds, (Russian thistles). The cotton remains to be thinned but has been held over until Mr. King arrives from Lawton. He is due to arrive the 15th and cotton thinning will be started Monday morning if weather conditions permit. All crops are making good headway and have a good color. The first dates of milo, feterita and Sudan are headed and the kafirs and broomcorn are in the boot.

Dalhart, continued:

Soil samples were taken this week as per schedule. The sampling shows that there is plenty of moisture in the field for crop use at this time to a depth of six feet. The ranges are getting so dry that the grass is turning yellow but clean fields have moisture in abundance at this writing.

The Dallam County Lady Demonstration Agent is here with about 25 of her club girls, having an encampment. The girls are being given a course in basket making, cooking, dyeing, and other phases of their work. This is a very orderly and well behaved crowd of young people so that the county and district Agents have no trouble in keeping them busy. They have plenty of both play and work.

Temperatures for the week ranged from 90 to 95 degrees, with a minimum of 58. Precipitation for the week, (two showers) was .21 inch.

TUCUMCARI:

Although crops are growing well, rain is badly needed, for only .49 inch has been received the past three weeks. Work has consisted of cultivating, hoeing, staking and trimming plats, disking fallow plats, and burning yucca which was cut this spring.

A large proportion of the corn is being attacked by the ear worm; although the corn borer was a serious problem last year, to date very few borer larvae have been found on the Station, possibly due to the fact that last fall all corn stubble was burned.

Maximum temperature 94, minimum 61; precipitation 0.21 inch. Evaporation 2.135 inches. Wind velocity 4.3 m. p. h.

BIG SPRING:

Weather conditions this week have remained hot and dry; three light showers fell for a total of less than .5 inch so little or not benefit was received from them. On two different occasions this week good soaking rains fell within five miles of the station, but that was as near as the station came to getting any relief. Although all crops are growing fairly well, the ranges are drying very fast.

Some of the early sorghums such as red amber, freed sorgo and early kafir are heading out; cotton is putting on squares and some has started to blossom.

The work for this week has consisted mainly of hoeing weeds, trimming the commercial fields and cultivating

Maximum temperature 97, minimum 65; precipitation .44 inch.

LAWTON:

Temporary relief from heat and drought extending over a period of 27 days came on the 13th when a local rain netted 0.83 of an inch. Several rains have fallen throughout the county this week but in all cases they were very locally distributed. Wherever rain fell crops were noticeably revived, especially grain and forage sorghums, which are heading were planted early in May.

All crops are wilting today under a temperature of 104 and a hot southwest wind. Corn is badly fired and will not likely fill out very well.

At the present time there is not much hope for a yield from broom-corn or milo on account of the bugs.

Threshing continues throughout the county with very satisfactory progress. This work is not yet completed at the station but probably will be within the next two or three days.

A rough average of the wheat yields from the rate and date of seeding test is about 15 or 16 bushels. The quality is good.

WOODWARD:

During the past week we had two showers, neither of them sufficient to do any good. Row crops, however, apparently have plenty of moisture as they are making very good growth. A few trees and shrubs, which were set out this year, have been watered.

We have finished threshing wheat and rye, but the yields have not been computed as yet. All early fall plowing on wheat and rye plats has been finished. Other work during the week has consisted principally of cultivating crops, etc. Dry land plats are being trimmed today. Mr. Chilcott and Mr. Sieglinger returned from an inspection trip from Garden City Monday evening.

Maximum temperature 100, minimum 67; evaporation 2.408 inches.

Average wind velocity 5.2 m.p.h.



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 21, 1923.

HAVRE:

During the past week, all crops and more especially corn and sorghums have made very rapid growth, although temperatures have not been unusually high. The heat has been oppressive due to the high humidity. Several nights have been hot.

Corn is beginning to show tassel, especially the early varieties, and the crop at this time shows excellent prospects. Another good rain will be necessary to mature good grain.

Soil moisture samples taken early this week show there is enough soil moisture to finish the grain in fair condition, and under present conditions will be ready to harvest the coming week.

Most of the winter wheat plats seeded on disked corn land are being mowed because of weed growth. Some of the winter wheat on fall plowing which was reseeded is fairly clean and the reseeding should make a fair crop.

There have been a few local showers in portions of the county during the last week that missed the station. Some of these have been accompanied by hail.

Maximum temperature 90, minimum 52; precipitation .47 inch.

HUNTLEY:

The hot weather of the past week has hastened the maturity of small grains and harvest was begun on the 20th. Winter wheat, flax and some of the oats plats have been cut on the rotations while rye, peas and barley were harvested on the pasture experiment plats. Indications are that while yields will not be heavy, the quality of the grains will generally be very good.

Cultivation of summer fallow land is in progress and should be completed today. The weather has favored weed growth on these plats.

Corn is showing the effects of drought and on some plats the crop is burning badly. Practically all plants are tasselled out and the silk is appearing. With the harvest of small grain grasshoppers are migrating from the cut plats to the plats of corn as the nearest source of food supply. When this concentration is completed the corn plats will be treated with poison bran mash to kill the grasshoppers.

Visitors at the station this week have included Dr. E. D. Ball, Dr. C. R. Ball, J. M. Stephens, Prof. Clyde McKee, and Mr. J. T. Sarvis.
Maximum temperature 102, minimum 62; precipitation .31 inch.

SHERIDAN:

The weather has continued hot and dry. The average temperature for the past five days has been the highest here since July 1919. Oats and winter wheat have ripened rapidly during the week. All of the Sixty Day oats on the station, and all of the barley in the Rotations have been harvested, and harvesting of the winter wheat in the Rotations will be completed today. The varieties of spring wheat are ripening and the spring wheat in the Rotations is beginning to turn. All of the grain that has ripened seems well filled.

Corn, cane, and Sudan grass have been growing rapidly. Corn has been curling quite noticeably during the day, however.

Drs. E. D. and C. R. Ball and Mr. J. M. Stephens were here Tuesday. Maximum temperature 101, minimum 56; precipitation .08 inch.

JUDITH BASIN:

The weather during the past week has continued hot and sultry, the nights in particular being unusually warm for this section of the state. There has been but very little wind movement, and the humidity has been exceptionally high. A light shower was received on the 15th and a heavy rain totaling .59 inch precipitation was received on the night of the 16th.

The rainfall to date during July has netted 2.03 inches of precipitation, as compared with an average of 1.92 inches for the entire month of July. This moisture, coupled with the 5.03 inches of rain received in June, has been very favorable to all small grain, and crop prospects are much more promising than for any year since 1915. Hail, however, has been quite widespread throughout the Judith Basin, completely destroying the crops in some localities. A hail storm of short duration visited the station on July 8, injuring crops on the rotations in the east field from 15 to 40 per cent and doing a smaller amount of damage on other portions of the station.

Aside from the hail, conditions have been ideal for crop growth. All small grains have headed out, flax is in full bloom, winter wheat is beginning to turn color, corn has almost completely recovered from effects of the hail and is about two feet high, and sunflowers have attained a growth of approximately three and one-half feet.

Comparatively good weather permitted field work four days out of the seven, which lacks only two days of being as much as was permissible during the entire previous five weeks. Field operations have been devoted to the cultivating of fallow, plowing of fallow fields, haying, hoeing, and cleaning up in general in preparation for the annual picnic to be held at this station on July 24.

Visitors during the week were, Mr. T. W. Moseley, of the Huntley Field Station, Mr. J. M. Stephens, and Doctors E. D. Ball and C. R. Ball. Maximum temperature 86, minimum 51; precipitation .74 inch.

DICKINSON:

Two rains during the last three days have amounted to 2.70 inches. Part of the fall was so rapid that some run-off resulted and roads and fallow fields were washed badly. Some grain was lodged also. There is now plenty of moisture in the soil to mature the latest grain.

For ten days previous to the rain the weather had been hot, and dry so that grains matured faster than desirable for maximum yields. This dry weather was beneficial in checking rust which has now infected all fields. Should a few days of humid weather follow it is likely that late wheat will be badly damaged by stem rust. There has been an unusual amount of leaf rust also, Kota variety having a maximum infection of 40 per cent.

Winter rye and early varieties of oats and barley were cut on the 19 and early varieties of wheat on the 21st. Winter wheat is just about mature. There will be an unusually long spread this year between maturity of early and late varieties of grain.

About 300 people were at a Picnic at the Station July 20. The speakers were Director Trowbridge and Dean E. S. Keene, School of Mechanic Arts of the Agricultural College.

Maximum temperature 94, minimum 52; precipitation 2.70 inches.

Precipitation to date in July has been 4.36 inches.

MANDAN:

Agronomy.

Harvest of Crested wheat grass and Brome grass for seed was finished this week. The quality is apparently not as good as last year.

Rain amounting to more than two inches during the week have benefited late grains and forage crops very materially.

Harvest of early wheat, oats and barley varieties by the Cereal Office was in progress during the week.

Extreme temperatures during the early part of the week caused the silage crops to burn considerably.

Maximum temperature 97, minimum 56; precipitation 2.22 inches.

Visitors during the week included: - Mr. C. N. Arnett, In Charge Animal Husbandry Department, Montana State College of Agriculture, Bozeman, Montana; Mr. Frank Barnes, Field Agent, City National Bank, Bismarck, N. D.; L. A. Reynoldson, Farmers' Seed loan Office, Grand Forks, North Dakota; Mr. George M. Darrow, Office of Horticultural and Pomological Investigations; Dr. E. D. Ball, Director of Research; Dr. C. R. Ball, In Charge, Office of Cereal Investigations; Director P. F. Trowbridge, North Dakota Agricultural College.

Mandan, continued:

Horticulture.

Juneberries, red currants and June bearing strawberries, are now gone, while gooseberries, raspberries, *Prunus tomentosa* and black currants are being picked. Small fruits have not been as good as usual this year, due to the light rainfall in the early part of the season. Still black currants and some of the gooseberries are yielding quite satisfactorily. Some of the black currant selections are showing up very good.

Wax beans, peas, beans, carrots, tomatoes, cucumbers and cabbages are now being harvested from the Acre garden. The two inches of rain that has fallen in the last two days, will greatly benefit garden crops and fruits.

Work during the week included taking notes on selections, spraying, irrigating lawns, and cultivating and hoeing in the fields.

Mr. Emerson, Mr. Hansen and Mr. George continue inspecting shelter-belts, and in general report favorably of crop conditions.

BELLE FOURCHE:

The past week was the hottest of the season. Both the temperature and humidity were high practically every day. There was only a trace of rain during the week.

All of the oats and barley except the plats on spring plowing were harvested during the week. Yields of both will be good though not exceptional. The winter wheat is badly infected with stem rust and the yields will be greatly reduced. A considerable amount of scab is evident on the durum wheat, and this, together with rust will reduce the yield of this crop.

Grasshoppers are numerous on all parts of the farm. The Dry Land rotations were baited the 18th with fair results. The grasshoppers are now working on the corn silks and will, no doubt, keep many ears from fertilizing.

The boys' and girls' camps were held at the station during the week. Thirty-eight boys and twenty girls attended. The Annual Farm Picnic was held on the 21st. About 2,000 people attended. Dean Larson from the South Dakota State College was the principal speaker.

Maximum temperature 97, minimum 60; precipitation T.

ARDMORE:

The past week has been especially hot and dry with the usual high wind velocity that may be expected under such conditions. No rain of any benefit to crops has fallen since June 10th. Prior to this date the prospects for a crop never were better in the history of the station. Heavy rainfalls during May and the first two weeks of June stored up sufficient moisture to carry all crops in good condition until about July 1, but since this date crops have suffered for moisture.

Ardmore, continued:

Harvest commenced on July 14 with the cutting of twenty-two acres of barley. All rotation plats of oats and over one hundred acres of field crops of oats were harvested during the present week. The expected yield is 30 to 40 bushels per acre. Wheat plats will be harvested next week.

A Farm Girls' camp was held at the station from July 9 to the 14th, inclusive. Forty-three girls attended the camp. The annual Farmers' Picnic was held on the 14th. A crowd of about usual size attended.

There have been a number of official visitors during the past two weeks including Drs. E. D. and C. R. Ball, Mr. J. M. Stephens and Mr. J. T. Sarvis. Mr. Sarvis spent about a week at the station going over the work of the grazing experiment.

Maximum temperature 95, minimum 61; precipitation 0.

ARCHER:

Weather conditions have been very favorable for crop growth during the past week. There was .56 inch of precipitation on the fifteenth and sixteenth of the month. Since that time the humidity has been high and the temperature rather warm. These conditions have caused the rapid heading of wheat, early oats and especially barley. The early varieties of corn are in the early stages of tasselling and the flax is in full bloom. The early potatoes such as the Cobblers are in full bloom, while the Triumphs and Early Ohio's are putting forth the first blossoms. The peas are in full bloom and are putting on a heavy crop of pods. The forage millets have made very rapid growth. The varietal experiment with this crop is nill this year, the crop having been seeded twice. Evidently the cool weather has had a disastrous effect on the proso millets. The varietal experiments with oats, barley and wheat, while making good growth, have not produced the desired stands. The sunflowers are now about four feet high and present a most beautiful field.

On July 18, a pasture experiment with dairy cows was started. It consists of 4 lots. Two lots receive corn and two lots receive cotton-seed meal and bran. Lot No. 1 receives one pound of corn chop for four pounds of milk. Lot No. 2 receives one pound of corn chop for eight pounds of milk. Lot No. 3 receives one pound of the mixture of two parts bran and one part cotton-seed meal for five pounds of milk. Lot No. 4 receives the same mixture in the proportion of one pound to ten pounds of milk. At the end of two weeks these lots will be interchanged, the experiment continuing for six periods. It is hoped that information will be secured relative to carbo-hydrate and protein supplements to native pasture.

The work at the station has consisted of weeding and repairing.
Maximum temperature 87, minimum 55; precipitation .56 inch.

NORTH PLATTE:

Excellent growing condition for corn, hay, and pastures have prevailed during the past week. Harvest has been interrupted by rains and several days' cutting of small grains remains to be done on the station.

A total of 3.50 inches of rain has fallen since the 14th. Of this, 2.60 inches fell on the 17th. There was some run-off from this but on the whole penetration was good. In many places the soil is again wet and can be sampled to a depth of three feet without using a hammer on the sampling tube.

Drs. E. D. and C. R. Ball, E. A. Burnett and W. W. Burr visited the station on the 13th. From here they went to Scottsbluff by automobile.

COLBY:

The harvest of winter and spring wheats on the station was finished today. All fall plowed and summer fallowed plats and fields on the station were very weedy, were rusted with black rust probably above 50 per cent, and were very thin on the ground. The summer fallowed plats were exceptionally weedy and most of them had a very high percentage of rust. In comparative tests with Red Turkey, Kanred, Blackhull, and Kharkof there is very little difference in the amount of rust on the individual varieties. The rust has showed up especially strong on the latest fields; noticeable on summer fallow, fall plowed, and corn ground. The wheat did not get as early a start on these preparations as on stubbled-in wheat and on wheat drilled in disked ground. The above two statements are general statements and exceptions to both are quite frequent. This is especially true in those localities where the local rains in August last year were sufficient to insure fall germination. The stubbled-in and disked ground wheat came up earlier in the winter and was not damaged to such an extent by the April winds so that in many cases it was from one week to ten days ahead of other seed bed preparations and thus was rust escaping to a very appreciable extent. The black rust is prevalent over the four northwest counties in the state, but is doing its worst damage only in certain localities. Yields will be lowered in practically all fields, while probably 25 per cent of the fields will not pay for harvesting, due to the rust, which would have been harvested.

Corn is tasselling on the D. L. A. project. There is more vegetative growth than usual at this stage of the corn growth. Sorghums are growing fine.

In addition to harvesting, other work accomplished during the week was finishing hoeing of weeds out of the D. L. A. corn plats and the corn varieties, throwing in of the corn breeding corn, hoeing weeds out of the surface planted sorghums, cutting of barley nursery (finishing), disking bindweed areas, and cutting weeds.

Visitors during the week included Director F. D. Farrell of the Kansas Station and Prof. L. E. Call, Agronomist of the Kansas Station. The writer with Director Farrell and Prof. Call made a 200 mile drive covering the four northwest counties in the state to study especially the rust situation on Friday.

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HAYS:

The weather during the past week has been hot and dry. A total of about .30 inch of rain was recorded during the week, but this amount in showers on a dry soil does but little good.

Thus far no 100 degrees temperature has been recorded, but 90 to 98 degree maximums over a dry soil seems to be sufficient heat to check the growth of row crops and cause some suffering to crops that have been seeded on land heavily cropped last year.

Alfalfa on the upland has made about six inches growth since the hail storm, but is burned brown. On the bottom land the alfalfa continues making some growth, but slower than usual at this time of the year.

Field work has consisted largely in plowing, listing and subsoiling, seed-bed preparation work for winter wheat. Other work includes counting of stand of row crops to determine the loss of stand by hail damage, soil moisture determinations, and spreading of poison bran mash for grasshoppers.

Generous rains continue to be reported in most all directions and some come within a few miles of this locality.

GARDEN CITY:

Growing conditions have been favorable during the past week. Feterita and Red Amber in the first date of planting are in the boot. Other row crops are growing rapidly.

All spring wheat on the Dry Land project was harvested this week. The yield of straw is large but the grain yield will be very low. On most plats the heads do not contain on an average of more than three or four small shriveled grains.

Two rains were recorded during the week. On last Sunday night 1.3 inches of precipitation was received and on Monday night another rain totaling .46 of an inch fell. Both of these rains fell rapidly and considerable run-off took place. So far this year no extreme temperatures have been recorded.

Professor P. L. Gainey, Soil Bacteriologist of the Kansas Station, was a station visitor Wednesday.

Maximum temperature 92, minimum 63; precipitation 1.76 inches.

Precipitation for the year is 20.9 inches or 3.38 inches above the average annual precipitation for a fifteen year period.

TUCUMCARI:

In spite of the dry weather, crops have grown fairly well the past week, with the exception of broadcast cane, which has rolled badly and fired to some extent. Field work has consisted of hoeing, cultivating, disking fallows, and go-deviling increase kafir. Much of the week has been spent in overhauling the corn binder and working on the well back of the office. Wind movement has been so low that it was necessary to hitch the engine to the well after sucker rod and pipe had been pulled and replaced. Drilling of the other well has progressed slowly; the drill is now at about two hundred feet, with no indications of water.

Several localities in the county have had heavy rains the past week which have practically saved the crops. Rainfall on the station the past four weeks has been only .63 inch. Early peaches were picked yesterday and were small and shrunken, due to lack of moisture the past month.

Maximum temperature 99, minimum 64; precipitation .14 inch.

Wind velocity 4.4 miles per hour.

WOODWARD:

We have had another week with no precipitation. Row crops are still making very rapid growth and apparently are not suffering although some of the shrubbery is beginning to show lack of moisture.

Corn on the Dry Land plats was harvested during the week and the yield will be very light. The roads between all the plats have been disked. Considerable alfalfa has been cut and hauled in. Some pruning has been done on ornamental plantings and roses.

Mr. Locke visited a 30-acre blackberry patch near Cleo Springs during the week. Mr. King, of the Lawton Field Station, visited this station in connection with cotton work.

Maximum temperature 95, minimum 69; precipitation 0.

Evaporation 2.068 inches. Average wind velocity 4.7 miles per hour.



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 28, 1923.
(Except as otherwise indicated.)

MANDAN:

Agronomy.

Harvest of grains at the station has been in progress most of the week. The greater part of the wheat, oats, and barley in the variety tests were harvested early in the week. Harvest of grains in the rotation experiments commenced on the twenty-sixth and is now in full swing. The weather permitting, practically all wheat, oats, and barley in the rotations will be harvested by the end of the month. Late rains seem to have hastened ripening, and as a result, everything is coming on at once. The plats are remarkably free from Russian thistle which during the last four or five seasons has been a very serious weed pest. The straw of all cereals is very free from rust.

While two weeks ago the prospect was in favor of the late seeded crops, the very rapid spread of rust during the past week has reduced this prospect to an advantage in favor of the early seedings. Rust damage is very general among the common wheat but the durumms are comparatively free up to date. Some reports of 40 per cent damage have come in.

Rains during the week totaled 0.95 inch. This makes a total of 3.99 inches up to date for July. If no other precipitation occurs during the month, there will still be a deficiency of practically two inches up to August 1.

Corn and other cultivated crops are responding splendidly to the recent rains.

Maximum temperature .89, minimum .56; precipitation .95 inch.

Mr. J. M. Stephens returned to the station on Tuesday morning. Mr. J. T. Sarvis and Mr. A. C. Dillman (Office of Cereal Investigations) left during the week for the Agronomy meeting at Bozeman, Montana.

Visitors at the station included Mr. T. E. Stoa from the North Dakota Experiment Station; Mr. T. Ray Stanton, and Mr. Wallace Butler, from the Office of Cereal Investigations; Prof. Henry J. Cox, In Charge, The Upper Mississippi Valley and Great Lakes Districts, Weather Bureau, Chicago, Illinois; Mr. Orris W. Roberts, in Charge, Weather Bureau Office, Bismarck, North Dakota; Mr. J. G. Diamond, Field Service, Division of Crop Estimates, Grand Forks, North Dakota; and Mr. R. G. Wilde, Federal Land Bank, St. Paul, Minnesota.

Horticulture.

Sandcherries are now ripening in the seedling block and selections are being made. Some are quite good as regards size and quality. Further selection work has also been done with gooseberries and black currants.

Raspberries are still yielding fairly well in the variety test. Latham is producing the largest and best fruit, but it is not yielding quite as much as some of the other varieties. Black currant selections in the variety test, and also sandcherries, have been picked.

Tomato selections are ripening and further selections are being made. Tomatoes, beans, carrots, onions, cucumbers, egg plant, cabbage, and potatoes, are being harvested from the acre garden.

Further work includes spraying grapes for leaf hoppers, trimming hedges, cultivating and hoeing.

Mandan, contd.

Arboriculture.

Mr. A. W. Emerson reports from Baker, Montana, that owing to the bad condition of the roads, he is two days late. Mr. R. W. Hansen reports at Havre on the twenty-third. Mr. Ernest George was at Dupree, South Dakota, on the twenty-fifth, and is expected to be back at the station about August 1. Crops in the various districts passed through seem to vary very considerably, but the rust is reported in evidence almost everywhere.

NORTH PLATTE:

Harvest was completed July 24. Balance of week was devoted to putting up second crop of alfalfa. Rains totaling one inch have occurred. Threshing will be begun as soon as weather conditions permit.

The writer has been in attendance at the meeting of Western Agronomists at Bozeman, Montana, July 26, 27, 28. The meeting was well attended and the program of a high order. Other members of the Dry Land Agriculture Office in attendance were Messrs. Mathews, Towle, Nelson, Seamans, Osenbrug, Morgan, Moomaw, and Sarvis.

AKRON: Report of July 21.

Rains totaling 1.92 inches, beginning with a rain of one inch Sunday night, served to greatly benefit all row crops. Harvesting was continued, it being possible to get into shock all grain which ripened during the week. Grains are ripening unevenly, it now appearing that there will be a separate time for harvesting each of the crops - barley, oats, spring and winter wheat. The remainder of the oats on the rotation block were harvested with the exception of the M.C. fallow plat and the fallow plat in rotation 8. One increase field of Colburt, consisting of about three acres, was harvested early in the week. Colburt is the name given to the selection out of Burt oats made at this station. Following the rain the rotation extension corn plats, the corn variety plats, and all forage and grain sorghums were cultivated. The rotation corn plats were hoed. All station roads were disced.

Maximum temperature 89, minimum 59; precipitation 1.91 inches.

AKRON:

Rotation, forage, and grain sorghum plats were cultivated Monday. Both orchards and the new orchard were cultivated Monday and Tuesday. All fallow strips were cultivated with the tractor and Duck-foot cultivator Monday, Tuesday, and Wednesday. All fallow and all green manure rye and pea plats were spring-toothed harrowed early in the week. Harvesting was done to the extent of getting all the urgently ripe grain into the shock. Both sheep rotation winter wheat fields were harvested and about two thirds of the plats of winter wheat on the Rate-and-Spacing Corn Experiment ground. Practically all the grain on the Cereal Project, except the winter wheat plats, is now harvested. Station roads were dragged early in the week. A few of the rotation spring wheat plats were harvested Friday. Much time has been spent reconditioning the old Ellis-Keystone thresher.

Mr. Victor Florell, of the Davis California Experiment Farm, visited the station early in the week on his way to the Western Agronomy Conference at Bozeman, Montana.

Maximum temperature 91, minimum 54; precipitation .77 inch.

COLBY:

Weather conditions have remained rather dry and warm during the week. Weedy wheat cut a week ago today has dried out to such an extent that it will do to thresh by the first of the week. Wheat in this section of the State which has been cut with combines ranges in yield from two to fourteen bushels and tests from 46 to 56 pounds to the bushel. An average yield for the July 1 acreage will probably be between five and six bushels for the county. We learn from wheat buyers that the wheat is running low in protein, between 11 and 12 per cent, with more below 11 than above 12. A large percentage of fields will not be cut, due principally to the rust.

Corn is well silked out; has suffered none to date from dry weather, but a good rain will be needed soon if a good corn crop is to be expected. The surface planted corn has considerable more foliage than the listed corn and is also taller.

Sorghums are growing fine. The Dry Land sorghum plats were thrown in with the weeder this week. A few were hoed today to get the weeds which were missed with the weeder.

Fallow plats were worked during the week; also fallow fields.

There has been very little wind movement the past week; neither have we had any excessive temperatures. There have been a few local showers but none at the Station.

HAYS:

The weather continues hot and dry in this locality, even though good rains are continually being reported in adjoining counties. The last two days have been windy, the wind being hot at times.

The corn, of which the stand consists wholly of suckers that have developed since the hail storm, is beginning to tassel, but the dry weather and wind is very hard on it. Many of the plants are breaking off at the ground. Sorghums are wilting considerably but are not damaged as yet by drought.

Of course, the alfalfa on the upland has been dried up for some time, but now the alfalfa on the bottom land has also discontinued growth at about eight inches. This is heavily infested with worms and grasshoppers.

During the past week the Experiment Station has been running two hopper-dozers continuously on the alfalfa fields.

The constant immigration of grasshoppers from adjoining fields to the Dry Land project makes it necessary to continue the spreading of poison bran mash to prevent total destruction of the row crops.

Work during the week has consisted largely in soil sampling, spreading grasshopper poison, counting of stand of row crops, plowing, and tillage work.

Mr. Osborn, Superintendent of the Lawton Station and Mr. Stauber, of the Dairy Division of the Woodward Station were official visitors at the Station yesterday and today.

GARDEN CITY:

Growing conditions have been favorable during the past week. We had several hot days, but no extreme temperatures were recorded. All row crops are looking good. On account of the large amount of moisture received since planting, all sorghums are stooling more than usual.

The second crop of alfalfa on the irrigated project and general farm was cut this week.

Work this week has consisted of hoeing weeds from alleys, and roadways, and making moisture determinations.

Three members of the State Board of Administration were station visitors today (Saturday.)

Maximum temperature 100, minimum 59; precipitation .05 inch.

TUCUMCARI:

Weather conditions the past week have been similar to those the preceding three weeks, hot and dry. Crops have continued growth remarkably well, few of the plats showing serious injury to date. Broadcast cane is firing badly and some increase row crops are rolling extensively. Cotton is showing no injury and growth is continuing. All crops are free from weeds and the Station grounds are in better condition than at any time within the past two years, although it is difficult to secure sufficient water to keep grass and shrubs green.

Mr. J. R. Horton, U.S. Entomologist of Wichita, Kansas, arrived early in the week to continue his studies of the corn borer. Much of the county has been covered the past few days and the borer infestation is general and serious. About half of the stalks examined, on the average, contain borers, while the second brood of larvae will doubtless greatly increase this percentage. It is estimated the corn acreage is less than half of the 1922 acreage in this vicinity, due to the fact that farmers are finding it practically impossible to grow this crop under the heavy borer infestation. Ear worms are unusually thick this season and in some cases are as abundant as the borers. The writer expects to take Mr. Horton to Amarillo this date, examining corn fields en route.

Crops seen the past few days over this section are badly in need of rain and are exceptionally late and small. Wheat on the plains was practically a failure, much of it not worth cutting, while other fields will yield from two to six bushels. After traveling about two hundred and fifty miles within a forty mile radius of Tucumcari, it seemed evident Station crops were by far the best seen.

Maximum temperature 100, minimum 60; precipitation 0.0; evaporation 2.523 inches; average wind velocity 4.5 miles.

BIG SPRING:

The dry spell of the past six weeks was broken July 21, when two showers netted 1.24 inches of rain. This rain was very timely, for the feed crops had started to roll, although the cotton was not suffering to amount to much.

Tucumcari, contd.

All crops are growing in fine shape at present; the first date of seeding of Sudan grass is ready to be cut and will be harvested next week. The birds have damaged the first dates of seeding of Feterita and Milo as well as some of Feterita in the M.C. series.

Work this week has consisted mainly of plowing under cowpeas for green manure, hoeing weeds, and cultivating. Some of the early varieties of grapes and peaches were also picked.

Dr. Bizzell, President of the A. & M.; Dr. Sutton, President of the University of Texas; Dr. Brawley, President of College of Industrial Arts; Mr. Marrs, State Superintendent of Schools, and Senator Crowell were station visitors on July 23. These men compose the locating committee for the new Texas Technological College which the last legislature provided for. There are thirty-seven applicants in west Texas for this college, and it is the duty of this committee to select the place.

Maximum temperature 99, minimum 81; precipitation 1.24 inches.

WOODWARD:

The weather has continued hot and dry. However, all crops, with the exception of corn and sowed feed, are still making good growth, although the sorghum leaves are rolling some during the hot part of the day. The have not commenced to fire yet. Most of the work during the week has consisted of odd jobs, such as hauling manure, repairing fences, cutting weeds around fences, some cultivating, fruit picking, etc. Grapes are ripening rapidly and the first ones will probably be ready to pick by the first of next week. Mr. Osborn, of the Lawton Station, visited here on Thursday and left with Mr. Stauber, Dairyman, for the Hays Station. Mr. Chilcott, Superintendent, is leaving today for a visit to the Big Spring Station.

Maximum temperature 104, minimum 61; average wind velocity 6.1 miles; evaporation 2.669 inches.

