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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

August 1, 1931.

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING AUGUST 1, 1931.

PENDLETON:

The past week has been quite warm with the maximum temperature above 90 degrees each day. The Dry Land Agriculture section of the harvest was completed July 30. A crew of five men are now busy threshing the crops in the cereal project. The grain sacks from the tillage and rotation plots have been hauled in and placed in one pile.

Director J. T. Jardine was a station visitor on July 30, this was his final inspection trip to the station before taking over his new duties as Chief of the Office of Experiment Stations of the U. S. Department of Agriculture.

HAVRE:

The first two days were a continuation of the hot weather of the previous week, the maximum temperature being 100 on both of these days. The last four days were cool with rather heavy rains for this season of the year. Rain was recorded on four days, totalling 1.59 inches. While this rain and cool weather is too late to be of much benefit to the regularly seeded wheat, it will greatly increase later seeded small grains and other feed crops, some of which were seeded early in July. Corn that was cultivated enough to keep the weeds controlled will also be benefited. A large part of the few fields of corn in this section are badly damaged by Russian thistles.

Ranges and hay crops should improve in the mountain sections. Potatoes were not severely damaged by drought and hot weather and should make a good growth from now on.

Station activities during the past week were centered largely around harvesting the small grain nurseries and in cutting the second crop of alfalfa under irrigation. About 30 tons of alfalfa were in the cock when the rain began.

Maximum temperature on July 25 and 26, 100. Maximum on the 31st was 57. Minimum temperature 52. Precipitation, 1.59 inches. Total for July 3.13 inches. Total for July was 1.27 inches above the 50-year average.

TO THE HONORABLE SECRETARY OF THE
NAVY

DEAR SIR:
I have the honor to acknowledge
the receipt of your letter of the
11th inst. in relation to the
subject mentioned therein.

I am sorry to hear that
the same has not been
settled to your satisfaction.

I have conferred with
the proper authorities
and they are of the opinion
that the same cannot be
done at this time.
I am, however, glad to hear
that you are satisfied with
the result of the same.

I am, Sir, very respectfully,
Your obedient servant,
J. M. [Name]

JUDITH BASIN:

The weather the past week has been in decided contrast to that of the previous week. With the exception of Sunday, July 26, the weather has been very cool for this time of year. For the past three days an intermittent, drizzling rain has fallen. Although it is too late to help much of the wheat crop, it will be of great benefit to pastures, corn and other feed crops.

Work during the week consisted of harvesting oats on the rotations, cutting small grain for hay and the harvesting of an increase field of Karmont winter wheat. Since the rains, odd jobs have taken up the time of the station force.

Maximum temperature 96; minimum 49; precipitation, 1.24 inches.

HUNTLEY:

The past week has been considerably cooler as a whole than was the previous one. Four measurable showers occurred bringing the total precipitation for the month up to .47 inch, which is about one-third of the July average. The moisture received has as yet shown little effect on vegetation other than to wash the dust from the foliage and brighten it up to some extent.

The second growth of alfalfa is now in full bloom and has the appearance of a good seed crop. Most of the alfalfa is too short to yield much hay and but little of it will be cut for forage.

Miscellaneous jobs such as fence building, repairing, and some road grading were done on the dry-land fields during the week.

Maximum temperature 101; minimum 59; precipitation, .38 inch.

SHERIDAN:

Hot weather continued over the first two days of the week, making seven days continuous with maximum temperatures ranging from 102 to 106. Cooler weather prevailed over the remainder of the week with rains on July 30 and 31. The rains arrived too late to be of much benefit for crops except a part of the corn, sorgo, Sudan grass, and millet. The corn on a few of the rotation plots, on sod in Field I, and a part of the annual crops pastures, and the other crops named, show considerable improvement since the rain. Grass also has shown great improvement.

Some grain in this vicinity has been combined, a few fields of both barley and winter wheat running about 10 bushels per acre.

Maximum temperature 106; minimum 57; precipitation, 1.27 inches.

DICKINSON:

Great extremes in weather conditions were experienced during the week. On July 27 a maximum temperature of 109 degrees set a new heat record for the month with 40 years' records for comparison. (The previous July record was also established on the 27th, 1917.) This record was made on the fourth day of a heat wave, the three previous days having maximums of 107, 108 and 100 degrees. The night of July 27, with a minimum of 75 degrees was one of the warmest nights of record at this station. The mean minimum for the month of July was 55 degrees. The last three days of the month were much cooler. On July 31 the maximum was 57 degrees and the minimum was 53 degrees. Fire was started in the furnaces to make the houses comfortable. Rain fell most of the time during the last three days of the month, amounting to 2.08 inches.

Crops deteriorated rapidly during the hot days as nearly all the available water had been used on most tillage methods.

Most of the wheat and oats on spring and fall-plowed plots were harvested. Most of the oats were mowed as they had failed to head and were too short for the binder. Oats of fallow were still in fair condition and with the water now in the soil may yield as much as 50 bushels to the acre. Corn is recovering rapidly and may make better than average yields, though the tops were injured by the heat which will prevent the high yields that seemed possible two weeks ago.

Field pea varieties were harvested July 27, wheat varieties on July 28 and most of the oat varieties on July 29.

More grains in the locality were mowed during the week as with the low yields and low prices the crop is considered of greater value for feed.

Visitors during the week included, F. A. Coffman and K. S. Quisenberry, of the Division of Cereal Crops and Diseases; Ukelberg, Barberry Eradication; J. R. Parker and Robert Shotwell, Bureau of Entomology; B. Dundas, Research Assistant in Agronomy, University of California; W. P. Baird, and E. J. George, Northern Great Plains Field Station, Mandan, North Dakota; A. F. Yeager, Horticulturist, North Dakota Experiment Station, Fargo, North Dakota; Leslie, of the Morden, Manitoba, Experiment Station; Broderick and Walter, of the Manitoba Agricultural College, Winnipeg, Canada.

Maximum temperature 109; minimum 53; precipitation, 2.12 inches.

Total precipitation for July 3.71 inches. Total precipitation for the seven-month period ending July 31, 10.40 inches; deficiency, .30 inch.

The first part of the document
 discusses the general principles
 of the system. It is divided into
 several sections, each dealing with
 a different aspect of the problem.
 The second part of the document
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 the system. It includes a list of
 the components and their functions.
 The third part of the document
 describes the results of the
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MANDAN:

Agronomy

Field work has been delayed by frequent rains during the week. The weather has varied from extremely hot to very cool for this time of the year. On July 25 the maximum was 107 degrees and 108 degrees on the 27th.

Most of the oats and part of the wheat in the rotations were harvested during the week.

Rain was recorded on five days with a total of 1.44 inches. The total rainfall for the month was 4.32 inches as compared with the normal for July of 2.32 inches. This July rainfall is the fourth highest during 57 years of record for this month. The total precipitation for the year to date has been 10.65 inches as compared with the 55-year average of 11.62 inches.

Corn started to burn early in the week and the crop was injured to some extent. Corn appeared to be the best crop on record but the hot weather may have reduced the possible yield.

Maximum temperature 108; minimum 54; precipitation, 1.44 inches.

Cooperative Grazing Experiment

The native vegetation has started to dry up badly again, but the rains will be a great aid in bringing it back. The rains soaked into the prairie; very little water remains on the surface.

Horticulture

Fruit picking was in progress the early part of the week. The last of the gooseberries are now fully ripe. Sioux sandcherries, and some golden currant selections were picked. There was a light crop of sandcherries, while the currants were very abundant. Hennepin, Opata and Oka sandcherry-plum hybrids are now ripening fast. The latter seems a much better fruit than Sapa which it closely resembles. The tree is apparently more thrifty, the fruit larger and about two weeks earlier.

The rain has interrupted hoeing and general field work for a while, but such work was resumed to-day, August 1.

1871

Received of the Hon. Secy of the Navy
 the sum of \$1000.00
 for the purchase of 1000 lbs of
 sugar for the use of the
 Hospital at San Francisco

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Mandan, continued:

Horticulture, continued.

Vegetables were greatly benefited by the rain and cooler weather. Sweetcorn especially was showing much damage in the earlier plantings. Wax beans, which threatened a crop failure, have revived and setting a good crop. On the whole the gardens are in good condition and are yielding a large number of varieties of vegetables.

Arboriculture

During the week cultivation between the rows of trees, and hoeing, have been pushed as much as possible. E. J. George and W. P. Baird, accompanied by several Canadian horticulturists engaged in similar work in Canada, are on an inspection trip through western North Dakota and on to Bozeman, Montana.

Though not as large a number as last year, a continuous stream of farmers have been visiting the station during the week, drawn to Mandan by the Missouri Slope Fair. Rain has fallen in such quantities that travel is very difficult on roads in many of the outlying areas. Among the official visitors were the following: F. A. Coffman, H. B. Humphrey, and J. A. Clark, Division of Cereal Crops and Diseases, Washington, D. C., and Ralph Smith, from Dickinson Substation, North Dakota, L. E. Longley, Horticulturist, University of Minnesota, J. R. Parker and R. L. Shotwell, Bureau of Entomology, L. S. Matthew, State Extension Forester, Bottineau, North Dakota, L.R. Waldron, Agricultural College, North Dakota, W. R. Leslie, in charge, David Flemming, and Wm. Conner, Morden (Canada) Experiment Station, W. C. McKillican, President, University of Manitoba.

ARDMORE:

The first part of the week was exceedingly hot. On July 25 the temperature reached 109 degrees. This is the highest temperature ever recorded at this station. The last part of the week was much cooler. Heavy rains occurred over much of the adjoining territory, but only light showers were received at the field station.

July was exceedingly severe on crops. The precipitation for the month was only .79 inch and the evaporation was 11.089 inches, the highest on record. The temperature reached 100 degrees or more on twelve days of the month, seven of them consecutive. The previous extreme maximum temperature for the 18 years that records have been kept was equaled or exceeded six times during the month.

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Ardmore, continued:

Field work during the week consisted largely of cutting silage. It was apparent that no ear corn could be produced and the corn was harvested to prevent further drought damage. The average yield of the larger fields harvested to date is about 3,000 pounds of silage per acre. A few plots in the rotations have been harvested. Yields range from 1,500 to 2,100 pounds per acre, green weight.

Rains on upper Indian Creek have caused Hat Creek to resume flowing, but the water is still too muddy to be fit for use. Hat Creek did not flow during a period of thirty-seven days.

K. S. Quisenberry, Division of Cereal Crops and Diseases, was a recent visitor at the station.

Maximum temperature 109; minimum 56; precipitation, .39 inch.

ARCHER:

During the past week the weather has been very warm, the average maximum being 90.4 degrees. Breaks in the high temperatures occurred July 29 and 31. Precipitation was recorded July 26, 27, 28, 31, and August 1. A rain of .70 inch occurred during the afternoon of July 31. This is the first rain of sufficient amount to be of substantial benefit since June 4.

The corn, beans, potatoes, sunflowers and millet will be greatly benefited by the rain of July 31. The prairie grasses have improved considerably.

Work at the station has consisted of plowing the peas for green manure, harvesting the varieties of spring wheats and oats, cultivating and hoeing most of the plots of corn, potatoes and beans. To-day preparations are being made for Dairy Field Day, August 3.

Maximum temperature 97; minimum 53; precipitation, 1.14 inches.

AKRON:

The past week has been a repetition of so many that have passed before this season, namely hot and dry.

Corn and other row crops have recovered some since the hail storm reported last week but the prospects for corn grain yield are very poor. The early varieties of the grain and forage sorghums are heading out by this weekend and in some cases the stalks are not over fifteen inches tall.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

In the second section, the author outlines the various methods used to collect and analyze the data. This includes both primary and secondary data collection techniques. The analysis focuses on identifying trends and patterns over time, which is crucial for making informed decisions.

The third part of the document provides a detailed breakdown of the results. It shows that there has been a significant increase in sales volume, particularly in the latter half of the period. This is attributed to several factors, including improved marketing strategies and better customer service.

Category	Q1	Q2	Q3	Q4
Sales	1200	1500	1800	2100
Expenses	800	900	1000	1100
Profit	400	600	800	1000

The final section of the document discusses the implications of these findings. It suggests that the current growth trajectory is positive, but there are still areas for improvement. For example, the company should continue to invest in research and development to stay ahead of the competition.

Additionally, the author recommends that the company should focus on enhancing its operational efficiency. This can be achieved through better resource management and streamlining processes. The goal is to maximize profitability while maintaining high-quality standards.

In conclusion, the document provides a comprehensive overview of the company's performance. It highlights the strengths and identifies the challenges. By following the recommendations, the company is well-positioned to achieve its long-term goals.

Akron, continued:

Threshing has held attention all week. Everything has now been threshed but the rotation winter wheat and the rotation oats. This work will require the most of the next week. Rotation barley threshed July 31 yielded very poorly. The fallow plot of the CC Series yielded at the rate of 25.4 bushels per acre. Yields of barley on cornland ranged from about four bushels per acre up to about 8.5 bushels per acre.

Other work has been the rearranging of the fences about the old sheep rotation fields to adapt them to other agronomic experiments.

Light shower last night netted .14 of an inch. Sky has been overcast with clouds all of to-day, August 1, but by mid-afternoon no further rain has fallen.

Prospects for feed crops throughout this immediate region are very poor.

Maximum temperature 102; minimum 60; precipitation, .14 inch.

NORTH PLATTE:

Weather until to-day, August 1, has remained hot and dry resulting in further severe injury to corn, hay, potatoes, and pasture.

Maximum temperatures for the week ranged from 95 to 103 with an average of 99 degrees. High winds, heavy evaporation, and low humidity have made conditions unusually severe. Pasture grasses are dry enough to burn readily. A sod-area of about 10 acres adjacent to the experimental fields on the table was burned off yesterday as an aid in grasshopper control. Today is cool and cloudy with rain threatening.

Early fall plowing has been in progress for several days. The soil is thoroughly dry and plows up either in large clods or powdery dust.

Averages of small grain yields from all methods, and the averages after small grain, corn and fallow are given in the following tables:

North Platte, continued:

<u>Crop</u>	<u>Number of plots</u>	<u>Bushels per acre.</u>
W. Wheat	74	32.6
S. Wheat	23	17.3
Oats	62	33.8
Barley	17	20.1
Rye	5	21.1

Bushels per Acre.

<u>Crop</u>	<u>After Small Grain</u>	<u>After Corn</u>	<u>After Fallow</u>
W. Wheat	21.1	30.9	53.3
S. Wheat	17.3	15.7	20.5
Oats	29.0	34.2	41.4
Barley	19.5	21.3	26.4
Rye	17.3	18.4	35.0

COLBY:

This week has been very hot and part of the time very windy. The temperature rose to above 100 on four of the seven days. On Monday the maximum temperature was 106, which is the record for the season so far. To-day, August 1, it has been cool and cloudy with showers at intervals.

The corn and feed crops have stood the heat and winds fairly well so far. The damage is scarcely noticeable as yet. Grasshoppers do not seem to be as numerous on the station as last week. They are doing very little damage now.

Director Call, of Manhattan, and Supt. Aicher, of Hays, visited the station July 30.

Maximum temperature 106; minimum 62; precipitation, none.

Maximum temperature for July 106, minimum 47; precipitation for July, 2.77 inches, average, 2.58 inches.

GARDEN CITY:

Very little work was done on the Dry Land project the past week except hoeing weeds and general clean up. Sudan grass in rotations was cut. The first cutting was exceptionally heavy. Cowpeas are making rapid growth. They promise to produce some heavy yields of cured hay. Sorghums also are making rapid growth and to date have not suffered from lack of moisture. During the heat of the day they roll some but no firing has appeared.

July 31 a new milo disease, which has been found on the State project, made its appearance in the B plot of the MC milo series. In general appearance, the plants begin to fire, the leaves turn a bright orange, the center of the stalk at the crown turns a reddish brown with decomposition starting in a short time. The plant never matures grain but dies in a short time after the appearance of the disease. It is a soil-borne disease as far as is known and to date no control has been found for it.

Maximum temperature 104; minimum 62; precipitation, trace.

HAYS:

The past week has been a dry, hot one. Maximum temperature was 109 degrees and the minimum 71 degrees. Some threatening clouds appeared during the week but no rain resulted.

Corn is suffering extremely, the tassels continue to burn as they emerge. Sorghums are still holding on perhaps without much permanent injury.

Grasshoppers are reported closer to us but thus far we have no more than a normal population of them.

Some tillage work has been done during the week including date work with a lister, plow, one-way, and chisel. A heavy run of soil sampling and moisture determinations was made during the week. Some drainage ditch repair work is being done.

During the month of July there has been no rain since the 5th. The last ten days have been very hot and dry with occasional hot winds. The total precipitation for the month is 1.85 inches. While this is very little more than one-half of the normal precipitation, it is .71 inch more than occurred in July, 1930.

Scattering, small clouds this afternoon, August 1, are spilling local showers about Hays. Enough rain has fallen here to lay the dust.

TUCUMCARI:

Crops have grown exceptionally fast the past week, the greater portion of the Dry Land milo plots starting to head. Vegetative growth is somewhat greater than usual, for there has been no real moisture shortage since planting. Cowpeas are in some cases nearly meeting across the rows, with indications of a high yield.

Early grapes are ripe, with prospects of at least an average yield on most varieties.

Work the past week has included some cultivating of increase, working of fallows, cultivating and hoeing of tree rows and vineyard, and mowing weeds along fences.

In a trip over portions of De Baca, Roosevelt, Curry and Quay Counties the past week with S. S. Burton, of the Woodward Station, it was noted that row crops were in most cases good, although in many areas they were showing lack of moisture. Eastern New Mexico produced a large wheat crop and at present row crop conditions are considerably above normal.

F. E. Keating, of Big Spring, Texas, Station, visited the station July 22 and 23.

Maximum temperature 98; minimum 61; precipitation, .17 inch.

Wind velocity, 5.5 miles per hour; evaporation, 2.538 inches.

DALHART:

Crops continue to make normal progress for this time of the year in spite of the fact that only a total of .27 of an inch of precipitation has fallen in two showers. The sorghum crops, cotton, and cowpeas still continue to grow normally, though slowly, while the corn on some of the rotations and some of the varieties have been injured severely.

Work during the week has consisted of cultivating of row crops, hoeing weeds, bagging sorghums, and miscellaneous odd jobs. The work is not urgent now in the fields except for the heavy note taking at this time of the year and the bagging of sorghums. The bagging of the smut heads in the Smut Nursery is taking daily attention due to the emergence of smutted heads.

Dalhart, continued:

A few local showers have fallen in the vicinity of the station of sufficient size to be of benefit to the row crops. The showers have come too late for some of the early planted corn fields. It has been threatening rain here all day, August 1, and as this is being written, 5 p.m., it is starting to rain.

Maximum temperature 99; minimum 60; precipitation, .27 inch.
Wind velocity, 5.7 miles per hour; evaporation, 2.629 inches.

BIG SPRING: (Report for the two weeks ending August 1, 1931.)

Several showers during the first part of this two-weeks' period prevented field work, but since that time conditions have been very favorable.

All crops have made a very good growth during the past two weeks; cotton and cowpeas are looking especially good at this time. Practically all of the May 15 date of planting of grain sorghums and many of the June 1 date are in full head.

Sudan grass in the rotations, in the first date of seeding, and in the increase field, was harvested during the week; four early-maturing varieties of cowpeas were also harvested. The cultivators have been kept busy during the entire time since the rains with the result that the weed problem is pretty well taken care of. Other work during the week has consisted of bagging sorghum varieties for seed and hoeing weeds out of roadways.

W. H. Black, of the Bureau of Animal Industry, Washington, D. C., was a station visitor July 19.

Maximum temperature 97; minimum 68; precipitation, .60 inch.

LAWTON:

Weather during the past week was favorable to crop development and farm work in general. The maximum temperatures varied from 95 to 98 and the wind velocity averaged about 5.5 miles per hour. Threats of rain were quite common but no precipitation was recorded.

Lawton, continued:

Threshing of small grain plots that were saved for seed was completed July 31. A heavy weed growth that developed in the row crops after the rainfall from July 17 to 20 was destroyed by cultivation. Considerable seed-bed preparation for fall grains was also accomplished during the week.

Practically all grain sorghums are now pretty well headed. Maturity of most of the grain sorghums is likely to be quite uneven because of the development of branched heads and late sucker heads.

Cotton plants have developed to about normal size and, in most instances, seem to be fruiting quite heavily. The main crop is setting now while the few bolls that were set early in the season are pretty well grown.

The new growth of alfalfa that was so nicely established after the mid-July rains has been entirely destroyed by web worms.

Cowpeas have made an unusual growth since July 20 and a very heavy crop of seed is approaching maturity. Threats of rain for several days prevented cutting of any of the plots for hay.

The total precipitation for July was, 4.75 inches. Normal, 3.06 inches. Surplus for the month, 1.69 inches. Total rainfall January 1 to July 31, inclusive, 13.44 inches.

WOODWARD:

The maximum temperatures the past week have averaged 99.7, a light shower on the thirty-first bringing the average down. Otherwise, it was 101. No rain of any benefit has fallen. The drought has extended practically unbroken since July 2. Most of the sorghum crops were planted in June and are just now beginning to head. If rain does not occur soon they will burn in the boot. Practically all of the work the past week was hoeing, disking and mowing weeds.

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Woodward, continued:

Part of the alfalfa planted this spring was mowed July first, right at the beginning of the drought. It put out no new growth, the few leaves left on it gradually dried up and the stems are dying. That which was not cut, though very weedy is still in good condition. It has been found in other years that alfalfa the first season will stand the competition of weeds better than it will mowing.

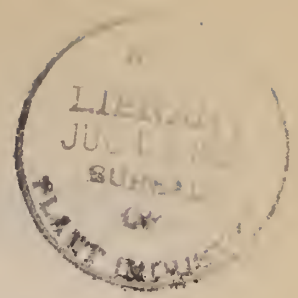
Patches of Johnson grass were sprayed with calcium chlorate at full bloom stage and while still in vigorous growth. Spraying at this stage or a little younger has heretofore proved effective. The cost of the treatment has proven high.

A few of the earlier varieties of grapes are nearly ready to harvest. Yields this season should be a little above the average, especially if rains occur soon.

Seedlings and transplanted evergreens do not seem to be suffering greatly from the drought. They have been watered by sprinklers this season, and this seems to be more satisfactory, all things considered, than ditch or flood irrigation previously practiced.

Maximum temperature 105; minimum 67; precipitation, .05 inch.

Evaporation, 3.088 inches.



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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

August 8, 1931.

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING AUGUST 8, 1931.

PENDLETON:

The small grain harvest on the station was completed on Saturday. Beans and corn are the only crops remaining to be harvested. The past week has been quite warm and the corn is beginning to show the effects of the dry, hot weather; it is beginning to dry up and yields will be low again this year. The yields of peas were disappointing, some of the garden-type peas yielding less than three bushels per acre, the field-pea varieties gave slightly higher yields.

Flax after wheat and after fallow is a total failure. Three plant pathologists examined the flax, but none would venture an opinion as to the cause of the failure. The soil moisture was sufficient to mature a crop.

During harvest a big crop of weeds grew on the fallow plots, mostly tumble weeds and nightshade. These weeds will be removed with a revolving rod weeder next week.

Definite assurance that an office building will be constructed this year has been received. An architect is now preparing plans for this building. If funds permit a garage and a combination barn and seed room will also be constructed.

Station visitors this week were: S. C. Salmon, Division of Cereal Crops and Diseases; and Bower and Hagenauer of the Washington State College.

HAVRE:

Growing conditions during the past week were very favorable. A maximum of 92 was recorded on August 3, while on the 7th, the maximum was 68. Minimum temperatures ranged from 49 to 57. The evaporation was quite low for the entire week. Precipitation totalling .36 inch was recorded on two days.

The damp, humid weather of the past week has been of very great benefit to corn. The drought tended to shorten the growth but was not severe enough to permanently injure the tassels. Most of the ears are well filled. The growth will be short but this will be compensated for by the excessive suckering.

THE UNIVERSITY OF CHICAGO

1912

TO THE PRESIDENT AND FELLOWS OF THE UNIVERSITY OF CHICAGO
FROM THE FACULTY OF THE DIVISION OF THE PHYSICAL SCIENCES
RESOLUTION PASSED AT A MEETING OF THE FACULTY HELD AT CHICAGO, ILLINOIS, ON FEBRUARY 22, 1912.

Resolved, That the Faculty of the Division of the Physical Sciences do hereby recommend to the Board of Trustees the appointment of [Name] to the position of [Title] in the Department of [Department Name], effective from the date of the meeting of the Board of Trustees on [Date].

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Havre, continued:

In a way the weather has been a detriment to grain fields many of which are nearly ripe. With a straw growth of 20 inches or less, Russian thistles are growing very rapidly and even where the grain would yield ten bushels, thistles are so heavy that harvesting is difficult. Flax is almost a complete failure. Seeding of this crop was delayed so that most of the thistles were killed but the growth of pigweed is very heavy. The growth of this weed has been very heavy in all row crops and on a great deal of the cultivated land.

Range grasses have improved materially and fall range should be good. However, the growth will hardly be tall enough to make hay. A great deal of the winter feed will come from grain fields.

Second cutting alfalfa under irrigation has been down for over a week. Conditions during the past week were very unfavorable for haying.

Maximum temperature 92; minimum 49; precipitation, .36 inch.

JUDITH BASIN:

Corn, alfalfa and pastures have made a good growth during the week. Small grains have ripened very slowly and there has been some improvement, especially among the late-planted fields. Potatoes on fallow will make a good yield this year.

Work during the week consisted of hoeing weeds, cultivation of fallow, cultivation of the shelter belt and the stacking of grain hay. Winter wheat harvested two weeks ago is still too wet for threshing.

Professor Louis Vinke, of the Montana Experiment Station, visited the station during the week.

Maximum temperature 90; minimum 40; precipitation, .13 inch.

HUNTLEY:

The past week has continued fairly cool and windy culminating in the late afternoon of August 7 in a severe wind storm and torrential shower in which .61 inch of precipitation was received in less than one-half hour. Some hail accompanied the storm but did little damage on the station. In neighboring sections, however, many crops such as beans, corn and grain are a total loss.

The first part of the report deals with the general situation of the country and the progress of the work during the year. It is followed by a detailed account of the various expeditions and the results obtained. The second part of the report is devoted to the study of the flora and fauna of the country, and the third part to the study of the geology and the physical features of the country.

The first expedition was made in the month of January, and was led by Mr. A. B. C. It was a very successful one, and resulted in the discovery of many new plants and animals. The second expedition was made in the month of February, and was led by Mr. D. E. F. It was also very successful, and resulted in the discovery of many new plants and animals.

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Huntley, continued:

Field work on the Dry-Land project has consisted of cutting alfalfa in spots where enough growth had been made to warrant harvesting. The new fence around the rotation field was also completed.

Station visitors during the week have included C. S. Scofield and S. H. Hastings of the Division of Western Irrigation Agriculture, Beyer Aune, of the Belle Fourche Station, F. D. Farrel, of the Kansas Agricultural College, and Robert Tootell, of the Montana Station.

Maximum temperature 97; minimum 47; precipitation, .71 inch.

SHERIDAN:

The past week was cooler than for some time past, although some days seemed quite hot. Recovery of crops on account of the rain of last week is noted, with the exception of the corn on sod in Field I and sorgo in rows, both of these crops still continuing in fair condition.

Threshing was begun the first of the week and continued throughout the week. Nearly all small grain on the station with the exception of the spring wheat in the rotations, varieties of winter wheat, varieties of barley, and a part of the varieties of oats, was threshed. Yields have not yet been calculated, but it is apparent that the crop on a large proportion of the plots was a complete failure.

Sheep in the annual crops pasture in the reserve (native sod) pasture were weighed and the former turned into corn which would be a complete failure from a grain standpoint.

Superintendent Beyer Aune, of the Newell, South Dakota, Station, was a station visitor.

Maximum temperature 97; minimum 47; precipitation, Trace.

DICKINSON:

Cool, cloudy weather continued most of the week which delayed harvesting considerably, as the grain was dry enough to cut only on three afternoons. Rain was recorded on five days and a hard shower of .59 inch on Friday night, August 7. During the past ten days 3.18 inches of rain fell.

The first part of the report deals with the general situation of the country and the progress of the work done during the year.

The second part of the report deals with the results of the work done during the year and the progress of the work done during the year.

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The third part of the report deals with the results of the work done during the year and the progress of the work done during the year.

The fourth part of the report deals with the results of the work done during the year and the progress of the work done during the year.

The fifth part of the report deals with the results of the work done during the year and the progress of the work done during the year.

The sixth part of the report deals with the results of the work done during the year and the progress of the work done during the year.

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The seventh part of the report deals with the results of the work done during the year and the progress of the work done during the year.

Dickinson, continued:

Some plowing has been done in the locality since the rains began.

Corn is earing well though most of the week was too cool for best development. Millet, cane, and Sudan grass have also made good growth since the rains.

Winter wheat and winter rye seeded June 25 now have a thick, spreading growth six to eight inches high which would furnish excellent grazing. Among the crops seeded on June 25 for "emergency" feed production Prolific spring rye is heading earlier than spring wheat, oats, or barley. Millet and Sudan grass have made more growth than the spring grains, as is to be expected. Flax seeded on the same date is about 18 inches high and ready to bloom.

Maximum temperature 92; minimum 40; precipitation, 1.10 inches.

MANDAN:

Agronomy

The past week has been unfavorable for field work because of frequent showers and cloudy weather.

Harvest of small grain continued early in the week and the plots were completed. Unless the weather is very favorable it will be necessary to turn all shocks.

Weeds are making rapid growth and will be difficult to kill. While the rain has not been heavy this week it came on top of the rains of last week. Monday, August 3, was hot with hot winds, while the rest of the week has been unseasonably cool.

Maximum temperature 99; minimum 51; precipitation, .64 inch.

Cooperative Grazing Experiment

Native vegetation has improved somewhat over a week ago. Blue grama grass will no doubt make a good growth unless the weather turns very hot again.

The steers made good gains for July and most of the pastures show gains near the average for 5 months instead of at the half-way period.

The first part of the document discusses the general principles of the project.

The second part of the document describes the methodology used in the study.

The third part of the document presents the results of the study, which show a significant correlation between the variables.

The fourth part of the document discusses the implications of the findings for future research.

The fifth part of the document concludes the study and provides a summary of the key findings.

References

Smith, J. (2010). The impact of technology on education. *Journal of Educational Research*, 112(3), 150-165.

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Appendix A: Data Collection Methods

This appendix provides a detailed description of the data collection methods used in the study, including the design of the questionnaires and the procedures for data analysis.

The data was collected through a series of surveys and interviews conducted over a period of six months.

Mandan, continued:

Cooperative Grazing Experiment, continued.

The following gains are for July and for the season to date:

<u>Pasture (Acres)</u>	<u>No. Steers</u>	<u>Gain per head (lbs.)</u>	
		<u>July</u>	<u>-- 75 days.</u>
100	10	83.5	281.5
70	10	83.0	284.5
50	10	57.0	262.5
30	10	33.5	203.5
Rotation (70)	14	62.1	242.9
Brome (25)	8	71.3	265.0
Brome (10)	7	22.1	227.1

The steers from the 10-acre brome pasture were moved to the reserve at the end of July as they were out of feed. One of the steers in the rotation pasture was sick or injured near the end of the month and showed practically no gain.

Horticulture

The rainy weather during the past week has prevented much field work being done.

Early-maturing varieties of plums mostly sandcherry hybrids such as Opata, Oka, Tom Thumb and several station seedling selections were picked. There was a fair yield of Opatas and the fruit was of better quality than for several years past. The Hennepin, Cree and Sapa are coloring up and will probably be ready to harvest next week.

Preparation for budding work in the nursery was started, but the rains in the latter part of the week prevented actual budding being done.

Advantage was taken of the rainy period to clean up around the buildings and hotbed yards.

Bagging and pollinating in the sweet corn-breeding project was under way until halted by rain. Tomatoes are ripening in the tomato-breeding project and selections are made and notes taken. There was some damage to early clusters by the excessive heat of last week, but most of the strains seem very promising at the present time. The plants are growing vigorously in the melon-breeding project but there is but little fruit set so far.

Financial Statement for 1912

The following table shows the results of the operations for the year 1912:

Particulars	Amount	Percentage	(Notes)
Income	100.00	100.00	
Expenses	85.00	85.00	
Profit	15.00	15.00	
Dividends	10.00	10.00	
Reserve	5.00	5.00	
Total	100.00	100.00	

The above statement shows a profit of 15% for the year 1912. This is a significant improvement over the previous year, and is due to the following reasons:

Reasons for Profit

The main reason for the profit is the increase in sales, which was due to the following factors:

- 1. Increase in demand for the product.
- 2. Reduction in the price of the product.
- 3. Increase in the number of customers.
- 4. Improvement in the quality of the product.

The above factors have resulted in a significant increase in sales, and this is the main reason for the profit.

The profit of 15% is a very good result, and it shows that the business is doing well.

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Mandan, continued:

Horticulture, continued.

The lawns which were cut just before the rains are at present presenting a wonderful appearance for this locality. The flower beds also were greatly benefited and are a riot of color.

Arboriculture

Mr. George accompanied by several Horticulturists from Canada, Minnesota, and North Dakota are making inspections of our shelterbelt plantings in portions of the states of North Dakota, Montana, and Wyoming.

Work in the shelterbelt department here at the station in the past week has consisted of picking choke cherry seeds and weeding nurseries.

Chas. A. Montjoy, Indian Service, Poplar, Montana; H. B. Humphrey and J. Allen Clark, Washington, D. C., and a special train load of farmers from Pennsylvania who are touring the west, visited this station the past week.

BELLE FOURCHE: (Report for the week ending August 1, 1931.)

Abnormally hot weather continued during the first half of the week, the daily maximum temperatures ranging from 104 degrees to 108 degrees, but the last three days have been cloudy and very cool. Light showers occurred July 29 and 30, and a heavier rain of .64 inch precipitation was received July 31, but owing to the extremely dry condition of the soil the precipitation was not sufficient to be of any material benefit to growing crops.

The precipitation for July was only 1.31 inches which is 1.23 inches below the average for July, and the total precipitation received to date this year is 6.27 inches as compared with the 23-year average for the 7-month period of 11.09 inches. From June 11 to July 30 no precipitation was received in amounts large enough to be of value to crops, the total for the seven weeks being .76 inch. During this same period there were over 50 per cent more days in which temperatures of 100 degrees or higher were recorded than in any other entire season previously on record.

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
5800 S. DICKINSON ST.
CHICAGO, ILL. 60637

RECEIVED
JAN 10 1964

TO THE DIRECTOR
OF THE UNIVERSITY OF CHICAGO

FROM
DR. ROBERT M. HAYES

RE
YOUR LETTER OF JANUARY 8, 1964

YOUR LETTER OF JANUARY 8, 1964, RECEIVED AT CHICAGO, ILL. ON JANUARY 10, 1964, IS HEREBY ACKNOWLEDGED. THE MATTER IS BEING HANDLED BY THE DEPARTMENT OF CHEMISTRY.

Yours very truly,
R. M. Hayes

Belle Fourche, continued:

Harvesting of corn on the various plowed plots where the corn was burned beyond all possible recovery was interrupted by the rain July 31. Corn on fallow continues to make some growth, and spring listed corn may be able to recover to a certain extent if additional rain is received within the next few days. Sorgo is commencing to head at a height of 12 to 16 inches.

J. A. Clark and Karl S. Quisenberry, of the Division of Cereal Crops and Diseases, visited the station early in the week.

Maximum temperature 108; minimum 56; precipitation, .70 inch.

ARDMORE:

Temperatures during the week were much more moderate than in the preceding weeks. The weather was threatening during much of the week and heavy showers occurred in the vicinity, though only a very small amount of precipitation was received at the field station.

Work during the week consisted largely of cutting silage and baling straw. All but two of the corn plots in the rotations were cut for silage. The average green weight was about 300 pounds per plot. The two plots not harvested were the plot on fallow, which should produce a small yield of grain, and the plot in rotation 413 where winter wheat is planted in standing corn stalks. Samples were taken to determine the dry weight of the plots harvested.

In spite of the dry, hot weather, most of the steers on pasture made normal gains during July. The gains of the steers to date are as follows:

	<u>10-day gain</u> <u>in May</u>	<u>June gain</u>	<u>July gain</u>	<u>Total</u>
80-acre pasture with barley	9.3	65.7	103.1	178.1
80-acre pasture	-2.5	56.9	73.7	128.1
160-acre rotation pasture	-2.2	105.0	50.3	153.1
280-acre reserve pasture	7.0	78.6	75.7	161.3

The hogs on limited ration made poor gains owing to the poor condition of the pasture. They were turned on the Sudan grass pasture late in the week.

Maximum temperature 101; minimum 51; precipitation, .09 inch.

The first part of the report deals with the general situation of the country and the progress of the work during the year. It is followed by a detailed account of the various projects and the results achieved.

The second part of the report deals with the financial statement and the accounts of the various projects. It is followed by a summary of the work done during the year and the results achieved.

The third part of the report deals with the work done during the year and the results achieved. It is followed by a summary of the work done during the year and the results achieved.

The fourth part of the report deals with the work done during the year and the results achieved. It is followed by a summary of the work done during the year and the results achieved.

The fifth part of the report deals with the work done during the year and the results achieved. It is followed by a summary of the work done during the year and the results achieved.

No.	Name	Address	Profession	Remarks
1.	John Doe	123 Main St.	Teacher	
2.	Jane Smith	456 Elm St.	Doctor	
3.	Robert Brown	789 Oak St.	Engineer	
4.	Mary White	101 Pine St.	Artist	

The sixth part of the report deals with the work done during the year and the results achieved. It is followed by a summary of the work done during the year and the results achieved.

The seventh part of the report deals with the work done during the year and the results achieved. It is followed by a summary of the work done during the year and the results achieved.

ARCHER:

During most of the week the sky has been clear and the temperatures mild. Aside from .18 of an inch of precipitation, which occurred the evening of August 1, the weather has been dry.

The rains during the latter part of last week caused a marked improvement in corn, potatoes, beans, millet, sunflowers, and the pastures.

Work at the station has consisted of harvesting the spring wheat and flax on the rotation plots. The plots of oats which were burned, due to drought, and on which the Russian thistles were making rapid growth, were mowed. A number of dates-of-seeding were harvested. The large areas of fallow were duck-footed and threshing is in progress.

On August 3 the dairymen furnishing whole milk to Cheyenne held a "Dairy Field Day" at the station in order to study the most economic method of producing clean milk. In addition to about 30 farmers and representatives of the Cheyenne Creameries, Dean Hill, Director W. L. Quayle, Prof. R. E. Willard and H. L. Curtis, of the University of Wyoming, F. B. Astroth of the American Jersey Cattle Club, and County Agent E. O. Johnson were present.

"Certified Seed Potato Growers' Day" was held at the station August 7. In addition to about 100 farmers, County Agent Leader F. P. Lane, Extension Agronomist D. R. Sabin, William Riedel, of the University of Wyoming, and County Agent E. O. Johnson were present.

Maximum temperature 85; minimum 51; precipitation, .18 inch.

AKRON:

A slowly-falling rain of .94 of an inch occurred late Friday afternoon, August 7, which should be of inestimable value to the beans, millets, and feed crops. Corn grain yield apparently will not be benefitted greatly. Aside from the rain and hail July 19, this was the heaviest single rain this season; in fact this is the only rain that in any sense has met the moisture requirements. There was but little run-off from this rain.

The fore part of the week was favorable for field work and good progress was made with current work. Threshing of the field plots was completed early in the week and a crew started at threshing the nursery. Early fall work on the rotation plots was started and completed Friday afternoon, just in advance of the rain.

Akron, continued:

Oats and barley on the rotations yielded about 14 bushels per acre on fallowed land and correspondingly lower on other preparations. The yields of winter wheat on fallow ranged from about 11 to 15 bushels per acre, with other preparations correspondingly lower.

Other work included the hoeing of weeds, and odd clean-up jobs about the station grounds.

Maximum temperature, 95; minimum 56; precipitation, 1.00 inch.

NORTH PLATTE:

Early fall plowing on the D. L. A. project has been completed. The ground was very dry and hard and turned up extremely cloddy. Three small showers during the week totalling .61 of an inch softened the clods up so that the packer left the plots in pretty fair shape.

Dry-land corn is very badly in need of a good rain.

Nursery threshing on the cereal project was completed to-day, August 8, as was also the third irrigation of corn to be used for silage.

Mr. Zook left the station this week on a trip through Wyoming, Colorado, and Kansas.

Maximum temperature 95; minimum 53; precipitation, .61 inch.

COLBY:

The week has been hot and rainy with not very much rain. Several nights a soaker seemed imminent, but only light showers materialized. A good soaker now is what the corn needs, although it is not suffering to any great extent. The sorghums are doing well. Most of them are showing heads. Corn is in the early roasting-ear stage.

Winter wheat seeding has begun on some farms in the vicinity. After the first shower this week the ridges were thrown in on the plots which had been listed for winter wheat after harvest.

Mr. Christian, of Canberra, Australia, who is going to study at the University of Minnesota, visited the station August 2.

Maximum temperature 96; minimum 55; precipitation, .83 inch.

Dear Sir,
I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the above mentioned matter. I am sorry that I cannot give you a more definite answer at this time, but the matter is being considered by the proper authorities.

I am sure that you will understand the necessity of this delay. I will be glad to advise you again as soon as a final decision has been reached. In the meantime, please do not hesitate to contact me if you have any further questions or need any additional information.

Very truly yours,
[Signature]
[Title]
[Address]

GARDEN CITY:

Sorghums the past week have made good growth but now are beginning to show need of additional moisture. Some are firing and during the heat of the day all plots wilt and roll considerably.

Most kafir is pretty well headed now. Milo is beginning to head. Broomcorn is heading very uneven. Corn is standing up well and another good rain in the next week or ten days would practically insure a very fair crop of all sorghums and corn.

Early red cowpeas have made an unusually heavy growth this summer. Those to be cut for hay will be harvested next week.

Temperatures the past week have been normal until the last three days, which ranged from 100 to 103 with hot winds during the extreme heat of the day, which have taken their toll on row crops.

Maximum temperature 103; minimum 60; precipitation, .42 inch.

HAYS:

The weather has continued generally dry and hot throughout the week except at intervals when clouds drifted over only to clear away again without much rain. Total precipitation for the week, including three showers, .57 inch.

The corn in this locality is so badly damaged by drought and heat it can not make a third of a crop; sorghums are also now being damaged. Kafir on the project is heading and is now injured to the extent that the main stalks can not make a good crop. However, it is not yet too late for the suckers to develop a good grain crop if rains and favorable weather come soon.

Work during the week consisted largely of repairs on drainage ditches and roads, counting of stands of the row crops, and odd jobs.

Maximum temperature 102; minimum 59; precipitation, .57 inch.

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DALHART:

A rain of .72 inch the evening of the 1st revived the grain sorghums and furnished moisture for most of the week. They have again started to 'roll' the latter part of the week. The temperatures are not as high during the day as they were immediately preceding the rain. Corn was too severely damaged previous to the rain to be benefitted very much.

All fallows and tree plantings were cultivated during the week. Some listed planted plots were cultivated and fall-worked plots for another season's plantings were also worked. Hoeing of weeds, shooting of sparrows, heading and growth notes for the row crops, and bagging of sorghum heads received attention during the week. Kafir and milo plots on the rotations are heading. Several Sudan grass plots were harvested during the week and one plot of Sudan for green manure was turned under the first of the week. Increase fields which had small grain were plowed.

The last two days of the week were spent with Mr. Sidney Burton in inspecting co-operative shelter belt plantings and in selecting co-operators for additional plantings another year.

Maximum temperature 97; minimum 63; precipitation, .87 inch;
wind velocity, 4.2 miles per hour; evaporation, 1.789 inches.

BIG SPRING:

Dry, hot weather has prevailed during the past week with the result that some of the milo plots are starting to fire. Wind velocity has been unusually high during this month, and it has taken its toll of soil moisture. Kafir in the rotations is fully headed, and milo is about 50 per cent out. The May 15 date-of-planting grain sorghums are practically all fully headed and will make good yields if the sparrows can be kept away from them until they mature.

Red Amber sorgo of the May 15 date of planting was harvested to-day, August 8. The first cutting of Sudan grass hay from an increase field is being hauled to the barn; a very fine quality of hay is being obtained. Other station work has consisted chiefly of cultivating and hoeing weeds from the increase milo field, also of bagging sorghum heads and building a new fence around the corral.

Maximum temperature 101; minimum 72; precipitation, none.

LAWTON:

A dashing rain of .88 inch that fell within 15 to 20 minutes, August 3 was largely lost by run-off. Cultivated land, however absorbed considerable moisture; maximum temperatures continue around 98 degrees.

The web worms have completely destroyed all growth of alfalfa and sweet clover. The infestation in cotton is also heavy and the damage in many instances is very severe. The June 15 planting of cotton is practically a total loss, and several rotation plots have been severely damaged. Lead arsenate spray was applied during the week and the damage seems to be under control or distinctly abated.

All grain sorghums that are headed or approaching maturity are heavily infested with corn ear worms.

The following varieties in the chinch bug sorghum nursery were harvested August 8: Dwarf Freed, Sooner milo, Dura x Dwarf Yellow milo, Early White milo x Dwarf Yellow milo, Pink Freed Tribune 36, Dawn selection x White darso, Red amber, Hybrid Dwarf feterita, Wheatland x Dwarf Yellow milo. Several additional varieties will be ready for harvest within another week.

Corpeas in rotation plots in Field B were harvested August 8 and seed for planting purposes was picked on the rotation plots in Field A. All cowpeas produced a very heavy crop of seed subsequent to the July 20 rainfall. A very heavy crop of cowpeas was plowed under and disked in preparation for cooperative small grain projects to be seeded this fall. Several acres of small grain stubble were also disked the second time to check the growth of crabgrass.

John H. Martin, Division of Cereal Crops and Diseases, visited the station on August 5 and 6.

WOODWARD:

A three-day rainy period the first part of the week totalled .93 inch of precipitation and relieved the drought condition somewhat. Sorghum crops were greatly benefitted by the rain and have been making rapid growth. The latter part of the week has been hot and windy, and more rain will be needed soon.

Woodward, continued:

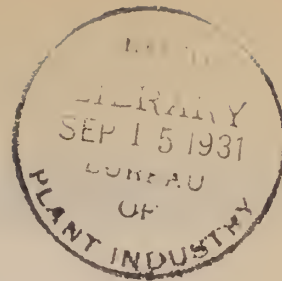
Hoeing and cultivating of all station row crops was in progress the entire week. Also, weeds were cleaned out of fence rows and roadways. New lawns and run-off washes were planted to bermuda grass. Johnson grass patches were sprayed with weed killer, and trees and ornamentals were sprayed for insects. The first grapes to ripen this season were picked during the week.

Superintendent L. C. Aicher, of the Hays, Kansas, Station was a station visitor August 7 and 8.

Maximum temperature 101; minimum 69; precipitation, .93 inch;
evaporation, 1.797 inches.

1. The first part of the document
describes the general situation
of the country and the
state of the economy.
It also mentions the
main problems that
the government is
facing.

2. The second part of the document
describes the measures
that the government
is taking to solve
these problems.
It also mentions the
results of these
measures.



WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

August 15, 1931.



THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 311

LECTURE 1

MECHANICS

1950

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING AUGUST 15, 1931.

HAVRE:

The week was cool, maximum temperatures ranging from 72 to 93, being higher than 90 on only one day. Minimum temperatures ranged from 41 to 55, being below 50 on five days. Evaporation was low for this season of the year, being, 1.747 inches.

Corn continued to make fair progress. While growing some in height during the last week, it is still short. Grain is developing and is now near the roasting ear stage.

Millet and Sudan grass are making comparatively more growth than other crops. Even the early dates of seeding millet seem to have held down weeds. Sudan grass is now beginning to make good growth.

Winter wheat from the rotations and variety tests were threshed during the week. Yields varied from zero to 6.6 bushels per acre. All continuous cropped methods were failures. Some of the fallow plots were hardly worth cutting.

Alfalfa seed is being harvested. Fallow is being cultivated either with a duck-foot or rotary rod weeder.

No precipitation was recorded during the week.

HUNTLEY:

With the exception of one day the past week has been cool with overcast skies and threatening showers. Measurable quantities of rain have fallen in neighboring localities but at the station light sprinkles only have been received.

Following the heavy shower of a week ago there has been a fair emergence of spring grains and corn which has lain dormant in the plots since planting. The stands are particularly good where run-off water gathered and stood for some time. Weeds are also coming up on all plots.

Huntley, continued:

Although hail damage from last week's storm was light on the station, losses were extremely heavy over a strip of territory 18 miles wide and over 100 miles long through Yellowstone and Big Horn counties. Not only were crops destroyed but livestock was killed, buildings damaged and the radiators of tractors standing in the fields were reported as being battered beyond repair. Small floods following the storm washed out highway and railroad bridges in one or two places.

The only field work done on the dry-land project during the week was hauling hay and odd jobs of cleaning up.

Maximum temperature 100; minimum 45; precipitation, trace.

SHERIDAN:

Threshing of small grains was completed early in the week. Corn in the rotations and variety field was cut except for plots MCD, fallow, and F, listed, which may possibly produce some good ears. The rotations were cut partially with the corn binder and partially with the grain binder, while the remainder of the corn is being cut with the grain binder.

Russian thistles, which had made a good growth since the rain, were cut out of the shelterbelts. Sorgo in rows and the most of the Sudan grass in rows still remains in fair condition. Seed blocks of both of these crops, on ground in rows and cultivated last year, are in good condition. Sheep were weighed and those on annual crops and in reserve were turned on to winter wheat stubble and fallow in Field I, in addition to the corn into which they were turned previously. Grass in the other pastures is making fair feed now.

Maximum temperature 100; minimum 42; precipitation, trace.

MANDAN:

Agronomy

The past week has been fairly favorable for field work. All fallow plots were given the second duck-footing. Because of the frequent rains they were rather weedy. Weeds are worse over the plots than for some years. Russian thistles were thick on all methods of tillage but were exceptionally bad in grain on fallow. The thistles made harvesting and threshing difficult and slow.

Mandan, continued:

Agronomy, continued.

Bromegrass and crested wheatgrass were threshed during the week. The yields were only fair.

Oats and wheat in the rotations were threshed. A good deal of the wheat germinated during the recent rains and the grain is of low quality. Oats made from about 10 to 40 bushels per acre, and wheat from about 2.5 to 22 bushels per acre.

Maximum temperature 90; minimum 48; precipitation, trace.

Cooperative Grazing Experiment.

The cattle appear to be doing well in the larger pastures, but those in the smaller pastures are only about holding their own. The vegetation shows signs of drying up again, but blue grama grass is making a fair growth.

Arboriculture

The past week has been spent in cleaning up all weeds in testing blocks and nurseries. All seedlings have made good growth since the rains the end of July.

E. J. George returned to the station August 15 after visiting a number of shelter belt plantings in North and South Dakota, Montana and Wyoming. The new 1931 plantings visited show heavy losses in North Dakota and Montana due to the extreme drought conditions experienced this year. Stands of trees in South Dakota and Wyoming are very favorable, the young trees in some sections of South Dakota, however, have been badly damaged by grasshoppers. Late frosts in May also damaged the trees to a more or less extent over the entire region.

A number of 15, 10, and 5-year plantings were also visited in the four states. In sections of the country which have been hard hit by drought conditions, the trees which are spaced 4 by 8 feet look considerably better than trees spaced 6 by 12 feet or wider. A number of private plantings thirty to forty years of age were also visited. These plantings were spaced 6 by 6 feet and look exceptionally well this year. Under the limited moisture conditions which periodically occur in this region it would appear from the observations made this year that the closely spaced plantings are the only ones which can survive.

Mandan, continued:

Official visitors to the station during the week were: E. W. Sheets, Chief, Animal Husbandry Division; T. R. Stanton, In Charge Oat Investigations; C. W. McCampbell, Head of Department Animal Husbandry, Kansas State Agricultural College; W. E. Joseph, Associate in Animal Husbandry, Montana State College; H. L. Walster, Dean of Agriculture, North Dakota Agricultural College; A. C. Hildreth, Superintendent, Central Great Plains Field Station, Cheyenne, Wyoming; J. L. Emerson, In Charge Shelter Belt Investigations, Cheyenne, Wyoming; Alson Secor, Editorial Department, Successful Farming, Des Moines, Iowa; C. H. Th. Dencker, Director of Department Agricultural Engineering, Prussian Agricultural Research Institute, Germany; and Nordahl L. Wallem, Economist, Berlin, Germany.

ARDMORE:

The weather during the week varied from extremely hot to cool and cloudy. A shower totalling .37 inch fell on the evening of the 8th and two showers of less than .01 inch fell during the week.

The fall plowing of rotation plots was started on the 11th. The soil is so dry and hard that plowing is difficult and some plots had to be completed with the heavy tractor plow. The trees in the shelter belts were pruned and all dead trees removed during the week.

H. W. Sweeney, Pathological Division, Bureau of Animal Industry, Thomas D. Rice, Soil Survey, Bureau of Chemistry and Soils, Kurt W. Franke, Station Chemist at Brookings, South Dakota, and A. G. Johnson, Cereal Crops and Diseases, Bureau of Plant Industry, were station visitors on the 12th.

Maximum temperature 104; minimum 43; precipitation, .37 inch.

ARCHER:

During the past week the weather has been clear, dry and quite warm. Two light showers occurred, totalling .13 of an inch.

Moisture for growing crops is needed badly. Corn is coming into the roasting ear stage and needs moisture to fill out the kernels. Millet needs rain to develop it into a good hay crop. Potatoes, beans and sun-flowers are also in need of rain. The pastures are again dry.

Archer, continued:

Work at the station has consisted of threshing, also some tillage work. To-day, August 15, the first date-of-seeding winter wheat is being made. All the winter wheat, spring wheat and barley on the rotation plots have been threshed and the varieties of winter wheat are being threshed. In order to prevent weeds from becoming mature stubble fields are receiving a shallow tillage with the one-way disk.

Director W. L. Quayle visited the station August 11.
Maximum temperature 93; minimum 43; precipitation, .13 inch.

AKRON:

Hot, clear weather prevailed during the past week following the one-inch rain reported last week-end. Beans, the forage and grain sorghums, and the hay and the grain millets have responded favorably to this moisture. The only trouble is that in the case of many of these crops stands were poor, no crop there to respond to the favorable moisture. Later planted corn such as the corn for silage on the Cereal Project has responded nicely to this recent moisture and is 'shooting' promisingly by this week-end. Normally planted corn has not responded even to the extent of added vegetative growth. Potatoes have not responded.

Stands of the hay and grain millets, the grain sorghums, and the beans, in the date of seeding experiment, are very poor. It has been extremely hard to get emerged stands, or if emerged stands were obtained as in the case of potatoes and beans all sorts of insects and rodents have been present to eat off the top growth. On at least two occasions date seedings of the millets were made following appreciable rains when it seemed almost certain that immediately emerged stands would result, but the hot, dry weather dried the surface soil down beyond the seeded grain before emergence could take place. Furrow drill seeding seems to have been indicated this year.

Hog weeds have started among some of the corn seedings and the one-horse harrow was started to break the crust to destroy this emerging weed crop. First date and rate of seeding winter wheat was made on the Cereal Project promptly on the 15th. Nursery threshing was completed about the middle of the week. Plot identification stakes are being placed on several experiments. Other work consisted of hoeing weeds, duck-foot cultivating small grain stubble land, and staining station building roofs.

Akron, continued:

Summer pasture pigs were loaded out to the Denver Market Wednesday afternoon, August 12. Daily gains on these pigs was about $1\frac{1}{2}$ pounds per head a day. H. B. Osland, of the Agricultural College, was here August 10, 11, and 12, looking after the closing of this experiment and the sale of the hogs at the market.

Maximum temperature 99; minimum 48; precipitation, none.

NORTH PLATTE:

Work for the week has consisted of mowing weeds and disking stubble on the D.L.A. and Cereal projects. The third cutting of alfalfa is being put up at present. It is light but of good quality.

The weather continues dry but it has not been quite so hot. Some of the corn plots in the D.L.A. project are so badly fired that they would make little or no recovery if it were to rain immediately while others are still holding out very well.

Maximum temperature 93; minimum 37; precipitation, none.

COLBY:

More than a half inch of water fell on the night of August 8. Since then it has been dry and cool. The last two days have been windy with a rather high evaporation. This caused the corn and sorghums to curl some. A good rain would be very welcome. Where there is no vegetation, however, there is moisture. The plot that was burned and one-wayed and the two plots that were plowed to-day, August 15, for winter wheat were almost too wet for good work.

The early sumac is headed out, the feterita is partially headed, and the milo is showing a few heads.

Maximum temperature 97; minimum 46; precipitation, 58 inch.

GARDEN CITY:

Some plowing and listing was done the past week on the dry land project in preparation for next year's crops. All tillage work is done up to date and wheat seed bed preparation studies on the new winter wheat project are progressing nicely.

Garden City, continued:

Sorghums are heading well and milo is about all headed at this time. None of the row crops show lack of moisture and indications are that we will have a good yield of row crops this year.

A total of 1.73 inches of rain fell during the first part of the week. We were needing it badly. Many of the milo plots had just about stopped all heading and growth.

Maximum temperature 103; minimum 55; precipitation, 1.73 inches.

HAYS:

The first rain of value, since July 4, occurred on the morning of August 9 when 1.48 inches was recorded on the project. Although this was a good rain the amount varied greatly in short distances. The Weather Bureau rain gauge on the Experiment Station recorded 1.87 inches.

During the last two weeks of this drought high temperatures and hot winds occurred frequently. Corn suffered permanent injury and all other feed crops were suffering or beginning to suffer when the drought was broken.

The rain and cooler weather which followed came too late for the corn on the Dry Land project which was burned beyond recovery. The sorghums which came into head during the later part of the drought, like Pink kafir, which is used on the Dry Land project suffered seriously, but is making fair recovery, and if frost does not come too early it will make some fair yields. Milo is heading and will also make some fair yields.

Volunteer wheat is coming thick on all ground cultivated before the late rains. It will be in condition for thorough killing by tillage next week.

The date tillage work with the lister, plow, one-way, and the chisel was repeated August 12, two days behind schedule because of wet ground. Most of the work during the week consisted in relocating and replacing markers for the old field and establishing permanent markers on some of the newer fields of the Dry Land project.

Maximum temperature 98; minimum 53; precipitation, 1.48 inches.

TUCUMCARI: (Report for the two weeks ending August 15, 1931.)

While intensely hot temperatures, breaking all records, have been reported from northern field stations the past three weeks, eastern New Mexico has enjoyed slightly sub-normal temperature, frequent and abundant rains, and perhaps the most agreeable mid-summer weather experienced here in ten or more years.

Crops are making excellent growth, with indications of better-than-usual yields. Cowpeas meet across the row and within a week will no doubt resemble drilled or broadcast plots. Milo is about in full head in dry-land plots and many kafir plots range from boot to full-head stage. The first cutting of Sudan has been made and indications point to a heavier second cutting.

Work the past two weeks has included roguing plots and increase, bagging heads of all sorghum varieties, plot and increase cultivating, picking of grapes, and miscellaneous mowing and hoeing of weeds. Grapes are making a very high yield in spite of hail damage in late May when plants were blooming. Peaches were frost damaged, so very few trees have over a peck of fruit. Apples are generally well loaded, but hail damage so injured the fruit that in most cases it is unsalable.

Macnab and Arizona cypress seeds planted ten days ago are showing some emergence of seedlings. The seed planted was the remainder of some procured three years ago, portions of which were planted each spring. Germination was good each spring, but damping off killed all seedlings within two weeks of emergence. It is hoped that summer planting, or soil disinfesting, or both, will result in better results than previously obtained.

Maximum temperature 99; minimum 55; precipitation, 2.62 inches; wind velocity, 3.7 miles per hour. Precipitation for the year to date has been 14.69 inches, compared with a 26-year average of 11.33 inches for this period.

DALHART:

All crops have made normal development during the week. The rains over the previous week-end furnished 1.10 inches of moisture. The rains brought cooler weather, especially at nights, so that no crops are suffering for moisture now except some thick drilled sorgo plots.

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Dalhart, continued:

Milo and kafir on the rotations are either starting to head or are almost completely headed. Soybeans are practically through blooming. Cotton is both blooming and setting bolls.

Cultivating trees and roadways, bagging sorghums, hoeing, roguing, and shooting birds were the principal jobs during the week. The Sudan rotation and last date of planting plots were harvested during the week. Bagging of smut heads in the sorghum smut nursery was also a daily chore.

The disease of milo is much more pronounced than last year. In one area this has spread very rapidly.

Maximum temperature 94; minimum 54; precipitation, 1.10 inches; wind velocity, 3.5 miles per hour; evaporation, 1.729 inches.

BIG SPRING:

Two showers totalling .63 inch of moisture were received during the first part of the week. These showers were so light that they offered only temporary relief to crops that had begun to suffer. With the exception of a few plots, most station crops are making a very good growth. All milo plots in the rotations are heading now and it will not be long before they will need more moisture to develop the grain.

Two varieties of broomcorn and a plot of Leoti sorgo in the May 15 date of planting were harvested during the week. With the exception of three plots, all cowpeas in the rotations were harvested; a good growth of vines was obtained in most instances. Other work has consisted of hauling Sudan hay, hoeing weeds, and picking grapes.

Maximum temperature 99; minimum 60; precipitation, .63 inch.

LAWTON:

During the past week temperatures have been very favorable for optimum maturation of the sorghum crops. The heavy percentage of heads that developed late in the season, and the side-branched heads as well, will undoubtedly produce a measurable quantity of grain in spite of the heavy infestation of chinch bugs that have developed so late in the season. Present conditions indicate that practically all varieties planted April 15, May 5, and June 1 will reach maturity with but little injury. African millet is, at present showing more damage than any other variety. The basal leaves are fired and some lodging has occurred. Approximately 20 varieties in the

Lawton, continued:

chinch bug resistance sorghum project have been headed. Two varieties, Chiltex and Milo x Hegari, in the variety test were headed August 13.

The root-pulling machine was received from Manhattan and the root resistance measured in pounds to a vertical pull, was obtained on 63 varieties in the April 15 planting. Considerable variation in the force required to lift the roots from the ground existed between varieties as well as between individual plants of the same variety.

Cowpeas on the rotation plots in Field B, harvested August 8, averaged about 3000 pounds of cured hay per acre. Cowpea plots in Field A were harvested August 11.

Cotton is very heavily fruited and prospects for very high yields are optimum, except where web-worm damage occurred.

L. F. Locke, Field Station, Woodward, Oklahoma and R. H. Painter, Kansas State College, Manhattan, Kansas, were station visitors during the week.

The maximum temperatures for the week ranged from 83 to 99. The minimum temperature of 55, recorded August 9, was the lowest August temperature since 1920. A shower of .35 inch was recorded August 9, and a gentle rain is falling on the present date, August 16.

WOODWARD:

Over the past two weeks sorghum varieties on the station have made remarkable progress in heading despite the very protracted drought. The later planted sorghums have not yet begun to head and are curling badly. It is hoped that rain will come before it is needed to aid these sorghums in heading. Rains totalling .97 inch occurred on the 1st, 2nd, and 3d of August and are the only beneficial rains since July 2.

Watermelons seem to have done well on subirrigated lowlands despite the drought. Plant lice on these seem very bad in some localities while in others there are none whatever.

1. The first part of the document is a list of names and addresses of the members of the committee.

2. The second part of the document is a list of names and addresses of the members of the committee.

3. The third part of the document is a list of names and addresses of the members of the committee.

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Woodward, continued:

Grapes suffering from yellowing and dropping of leaves have shown quick response to iron salts placed in the trunks in capsules and to sprays containing iron. How lasting the benefits of various treatments will be is not known. Grapes have been ripening very rapidly over the past ten days and many were picked during the week. Yields were medium to light due to the drought. There is a very ready sale for them.

Work of the week consisted in watering the nursery, hoeing weeds, picking grapes and giving the final cultivation to sorghum crops.

PENDLETON:

The work on the station the past week has consisted chiefly of the removal of weeds. All the fallow plots on the station were gone over with a revolving rod weeder. The minimum cultivation plots in the tillage trials were completely covered with tumble weeds. The Wild Morning-Glory patch was treated with Atlacide this week. All weeds on rotation plots not in fallow were cut with a hoe.

Soil moisture and nitrate samplings were taken this week on a large number of rotation and tillage plots.

Harvest is practically finished in all sections of Umatilla County.

The following are the yields in bushels per acre of winter wheat after fallow in the tillage trials:

Time of Plowing	Cultivation method	Depth of Plowing		Average
		5 inch.	9 inch.	
Fall plowing	1	40.3	42.2	41.3
	3	39.5	43.5	41.5
			Average....	41.4
Early spring plowing	1	41.3	43.8	42.6
	2	37.5	43.3	40.4
	3	37.2	40.6	38.9
			Average....	40.7
Medium early spring plowing	1	41.6	38.9	40.3
	2	42.0	38.9	40.5
	3	37.5	33.9	35.7
			Average....	38.6
Late spring plowing	1	34.6	39.3	37.0
	3	32.3	40.8	36.6
			Average....	36.8

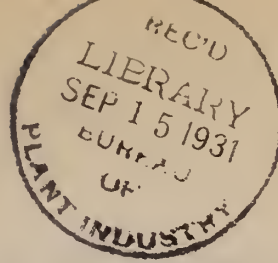
- Method 1.- Clean tillage, fallow kept free from weeds.
 2.- Harrowed thirty days after plowing - clean tillage.
 3.- Minimum tillage- weeds removed before going to seed.
 Maximum temperature 93; minimum 38.

JUDITH BASIN:

Rapid progress was made in the harvesting operations during the week. Only some of the plots that were reseeded due to cutworm damage are still too immature to harvest. Barley and flax were too short to harvest with a binder so a mower with a buncher attachment was used. This machine was also used for harvesting all of the oats and spring wheat grown on fall plowing. Russian thistles have made a heavy growth during the past two weeks and in some of the poorer methods were as tall as the grain at harvest.

Oats on the rotations will be threshed to-day, August 15. The threshing of an increase field of Karmont was completed during the week. The yield was slightly more than 20 bushels per acre.

Maximum temperature 92; minimum 40; precipitation, .02 inch.



WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

August 22, 1931.

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING AUGUST 22, 1931.

HAVRE:

The past week was uniformly warm for this season of the year. Six days had a maximum of over 90 degrees. The minimum was in the 50's on six days and above 60 on one day. A trace of precipitation was recorded on August 20.

Aside from small portions of commercial fields, all threshing was completed. Yields were lighter than was anticipated.

Grass has headed and the prairie, where not pastured too closely, shows a blue cast. Growth now has almost stopped.

Due to weeds, few fields of grain can be combined this year. Headers are in more general use than for several years. Many fields are being cut for hay.

Maximum temperature 95; minimum 52; precipitation, trace.

JUDITH BASIN:

The weather during the past week has been ideal for harvesting and threshing. Practically all of the harvesting of small grains has been completed and a few more days of good weather should see the bulk of the threshing finished. All yields are low, in fact probably lower than in any other year, with the exception of 1919, since the station was started.

Corn, which has made a good growth up until the present time, is beginning to show the effects of the drought. In spite of the dry weather, however, the yields of corn will be fair in this section.

Grasshoppers are numerous but no great damage has been done by them so far in this locality.

Maximum temperature 95; minimum 52; precipitation, .04 inch.

HUNTLEY:

The weather has again turned hot and windy. Although maximum temperatures have not been extremely high the combination of heat and blowing dust has been very oppressive.

Stands of spring-sown crops continue to improve following the heavy rain of August 7. On some plots of spring wheat, flax, and corn the stands are nearly perfect. Seeding was done in April and May. Weeds have also come up thickly in roads, alleys, and fallow plots and much of the field work of the past week has consisted of cultivating with disk and duck-foot.

Fall plowing was begun on the 17th and is now nearly completed in the rotation field. Considering the dry condition of the soil most of the plots plowed easily and with few exceptions the seed beds obtained were not cloddy.

Maximum temperature 99; minimum 54; precipitation, none.

SHERIDAN:

Warm weather prevailed for most of the week. The remainder of the corn was cut with the exception of a part of Field I, the June 14 and 21 plantings, and the two plots of the rotation field, which still remain green. Miscellaneous work about the station occupied the remainder of the week.

Sudan grass and sorgo, except the seed blocks, are firing badly. The most of the flax seeded June 9 looks now as though it might make some crop with favorable weather. Earlier seedings were a complete failure.

Some of the yields of small grain in the rotations were as follows, in bushels per acre:

Crop	Low	High	Average	Average on		
				Corn G.	Fal.	Fall & Sp. Plowing
W. Wheat	0.0 (2 plots)	16.5 (85, Fal.)	6.6	7.1	12.6	1.8
Sp. Wheat	0.0 (26 plots)*	14.2 (570, Fal.)	1.4	0.0	5.2	0.0
" "	Marquis in check plots			2.2		
Barley	0.0 (6 plots)	13.1 (Fal.)	1.8	3.3	13.1	0.0
Oats	0.0 (8 plots)	15.3 (Fal.)	3.1	3.5	8.9	1.5

* 1 Fal. plot, Rot. 18, a complete failure.

All plots harvested and threshed, yields below 1.0 bushel calculated as 0.0.

Sheridan, continued:

In the variety test on fallow, Markton yielded the best of the oats. All spring wheat varieties were practically a failure, but Reward came the nearest to making a crop, with an average yield of 3.3 bushels, followed closely by Ceres. Kubanka, the variety grown in the rotations yielded the lowest of all the spring wheat varieties. Vaughn yielded the best of the barley varieties, 20.8 bushels, followed closely by Flynn and Trebi, while Horn yielded the lowest of the bearded varieties. Of the winter wheat varieties Montana No. 36 yielded the best with an average of 11.3 bushels for the three replications.

Maximum temperature 97; minimum 54; precipitation, .03 inch.

MANDAN:

Agronomy

The past week has been favorable for all field work. The weather was dry but not excessively hot.

Barley and flax in the rotations were threshed; the crops were light. The second crop of alfalfa was cut in the plots and fields.

Maximum temperature 89; minimum 54; precipitation, none.

Cooperative Grazing Experiment

Native vegetation has been drying up to some extent. The small pastures are becoming short. The steers in the 30-acre pasture are about out of feed.

The steers were given the tuberculin test during the week. No reactors were found.

Horticulture

Compass cherries, Sansota plums, and a number of seedling selections, were picked during the week. Yields were low compared to average although, due to rains early in the month, the size and quality of the fruit was generally good. A few raspberries and strawberries were picked from plants set out this spring. Strawberries showed to advantage when planted under the paper-mulch system.

The first part of the report deals with the general situation of the country. It is a very interesting and detailed account of the political and social conditions. The author has done a great deal of research and his work is well documented. The second part of the report is a study of the economic situation. It is a very thorough and well-written study of the economic conditions of the country. The author has done a great deal of research and his work is well documented. The third part of the report is a study of the social situation. It is a very thorough and well-written study of the social conditions of the country. The author has done a great deal of research and his work is well documented.

The fourth part of the report is a study of the cultural situation. It is a very thorough and well-written study of the cultural conditions of the country. The author has done a great deal of research and his work is well documented. The fifth part of the report is a study of the educational situation. It is a very thorough and well-written study of the educational conditions of the country. The author has done a great deal of research and his work is well documented. The sixth part of the report is a study of the health situation. It is a very thorough and well-written study of the health conditions of the country. The author has done a great deal of research and his work is well documented.

The seventh part of the report is a study of the environmental situation. It is a very thorough and well-written study of the environmental conditions of the country. The author has done a great deal of research and his work is well documented. The eighth part of the report is a study of the international situation. It is a very thorough and well-written study of the international conditions of the country. The author has done a great deal of research and his work is well documented. The ninth part of the report is a study of the future of the country. It is a very thorough and well-written study of the future of the country. The author has done a great deal of research and his work is well documented.

Mandan, continued:

Horticulture, continued.

Apple and crabapple trees have been gone over for blight for the third time this year. Dead wood is being removed from all orchard trees.

The warm, dry weather of the last few days is causing vegetables to mature at a rapid pace. Tomatoes, cabbage, and cucumbers are yielding heavily with cauliflower, waxbeans, and corn coming in more moderately. The last picking of peas was made August 20, about a month later than the usual date. It is rather a freakish season. Some vegetables ripened from 10 to 15 days earlier while others are delayed a similar length of time. Melons and squashes are fruiting heavily at the present time, and if no early frost sets in should yield heavily.

Tulips which were dug early in June were planted again during the week just passed. About half the bulbs graded No. 1, and there was a 50 per cent increase. A new bed for peonies was prepared just east of the present one. Peonies in this bed have become so severely infected with bacterial disease that a new bed of new stock has become necessary.

Shelterbelt

Ernest J. George is at present inspecting shelter belts in western North Dakota, and is expected back on August 28.

ARDMORE:

Temperatures were moderately high but not excessive during much of the week. Showers fell on August 15 and 16 but the amount of precipitation was not enough to be of much value to crops.

Fall plowing of grain stubble and sod plots was completed during the week. The soil was extremely hard, and plowing was very difficult.

A well was dug in the reserve pasture. The water appears to be of fairly good quality and the quantity is sufficient to more than supply the needs of the steers in that pasture.

Ardmore, continued:

Mr. Mathews made a trip by auto to the eastern part of the state during the week. From the western part of the state to Huron and Mitchell practically all corn was so badly damaged by drought that it would produce no ears, or had been destroyed by grasshoppers. There was a belt about seventy miles wide through the central part of the state where practically all of the leaves of corn had been eaten by hoppers. In restricted localities the corn had been eaten into the ground and no stalks remained standing. Considerable choice between varieties was exhibited by the hoppers. One variety might be entirely destroyed before another variety in the same field was noticeably damaged. Sorgo was apparently immune to grasshopper injury. Even in the most heavily infested regions the hoppers did not eat sorgo.

The steers on the 80-acre pasture were weighed during the week. They have not yet shown a loss in weight and will be kept on the pasture the remainder of the month.

The precipitation for August to date is .90 inch and for the year to date 6.01 inch. This is less than half of the normal rainfall for this portion of the year.

Maximum temperature 95; minimum 57; precipitation, .44 inch.

ARCHER:

During the past week the weather has been warm with local showers. During the evening of August 15 the station received .62 of an inch of rain which brightened up the corn, potatoes, beans, millet, and sunflowers. The millet has come to the burning stage again. The other crops are in fair condition.

The shower of August 15 stopped threshing operations until August 20 when this work was resumed. Threshing will be practically finished to-day, August 22. During the fore part of the week the work consisted of the preparation of soil for seeding winter wheat, the seeding of 20 acres of winter wheat in the dairy field, and the harvesting of some Sudan grass.

Due to the growth of Canadian thistles all plots to be fall plowed were plowed in order to kill the thistles before seed mature.

Maximum temperature 88; minimum 51; precipitation, .62 inch.

AKRON:

The week passed without the needed rainfall. Fall crops have made good progress since the inch of rainfall some two weeks ago but as much again is needed to fill the beans, prosos and, grain sorghums and to stretch the forage sorghums to the point where they will return one-third average yield. Rainfall has been as low thus far this year as during 1925 when only 11.87 inches was recorded.

First corn harvesting was done during the past week end when the replication of the rate and spacing experiment and 23 plots on the rotation block were harvested. This is the earliest that corn has ever been harvested at this station with the exception of the year 1925. The rotation plots were almost wholly corn on fall-plowed small-grain stubble. The corn harvested was devoid of ears and stood only about 30 inches high. Other corn about the station does not promise to run over five bushels to the acre as maximum yield.

Good progress was made with current work. The general forage variety experiment was hand hoed to rid it of escaped hog weeds. The staking of the fall ripening experimental plots was completed. The pig fattening pens for the coming winter were partially constructed. The fanning and grading of the nursery winter wheat has held attention since nursery threshing was completed. Odd jobs about the station were also accomplished.

O. J. Grace and L. L. Zook, and K. S. Quisenberry visited the station during the week.

Maximum temperature 93; minimum 53; precipitation, trace.

NORTH PLATTE:

The drought situation remains unchanged at this station, except that somewhat lower temperatures have prevailed during the past week. Some fair rains have occurred not far away but none have reached the station.

Station activities have consisted of cleaning up odd jobs, destroying weeds, and preparing machinery for putting in ensilage, which will begin the coming week.

Maximum temperature 95; minimum 50; precipitation, none.

COLBY:

Rain has threatened almost every evening this week and a lot has fallen in adjacent localities, but none has fallen here. The moisture shortage is becoming apparent even in the sorghums. Some of the milo plots are curling considerably. The milo is not yet fully headed. The kafir and feterita headed out this week.

All the fallow plots and the plots worked early after harvest for winter wheat were gone over with a rotary rod weeder to kill the weeds and volunteer wheat and barley that were coming up. There is moisture in these plots, as there has been no vegetation to take it out.

The roadways were gone over with the grader to smooth them, as they were pretty rough from turning in them with the tractor.

Visitors during the week included K. S. Quisenberry, of the Cereal Division, and L. L. Zook, of the North Platte Station.

Maximum temperature 93; minimum 51; precipitation, trace.

GARDEN CITY:

Further seed-bed preparation, such as plowing, one-waying, and listing, was done the past week. All sorghums are fully headed but it is getting so dry that they are not filling very fast. Row crops are in need of more rain at the present time. Corn, however, is well advanced and it is doubtful if more rain would benefit it much.

Roadways have been cultivated with the forklner and spring-tooth cultivators in preparation for seeding to wheat in order to stop wind and water erosion during the fall, winter and spring months.

Maximum temperature 96; minimum 54; precipitation, none.

HAYS:

The weather was generally partly cloudy and cool during the week and has been very favorable for the development of all sorghums and feed crops. However, the ground is drying out rapidly and more rain would be quite acceptable.

Hays, continued:

Work during the week has consisted largely of surface tillage for the destruction of volunteer wheat. The date tillage work with the lister, plow, one-way, and chisel was repeated August 20. A set of soil moisture samples was collected from a series of corn and kafir plots and also a small group of plots being prepared for winter wheat.

Maximum temperature 90; minimum 56; precipitation, .18 inch.

TUCUMCARI:

The week was characterized by cool, calm weather, very similar to the early part of the month, but with very little precipitation. The maximum in August has reached or exceeded 90 degrees on only six days and during the past week 91 was the maximum.

Crops are growing well and should considerably exceed the long-time average yield. Cowpeas fill the row middles and will be harvested next week. The remainder of the Sudan grass in plots and increase is ready for cutting. Weeds are more vigorous and numerous than usual, so in spite of good crop prospects it is very difficult to keep the station in reasonably presentable condition.

Work of the week has included plowing MCD wheat and rye plots, seeding grass seeds in the cooperative project with State College, making final cultivation of late plots, bagging heads, roguing, picking grapes and tree fruit, and miscellaneous hoeing and mowing of weeds.

Maximum temperature 91; minimum 53; precipitation, .25 inch; wind velocity, 2.8 miles per hour; evaporation, 1.797 inches.

DALHART:

The low wind velocity and the moderate temperature during the past week have been fairly favorable for the growth of all crops. The rate of growth is not as fast as for the preceding week but with one or two exceptions the row crops are holding their own remarkably well. The sorghum varieties planted on the last date of planting and the other row crops planted on the later dates of planting have not been injured by the dry weather. Prospects for row crops for this time of the year are average or better.

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Dalhart, continued:

Two early plots of broomcorn were pulled during the week. The quality was very good considering the fact that heading occurred under low moisture conditions. Two early plots of cowpeas in the variety test were harvested for hay. Some of the Sudan plots were weighed.

Field work during the week included bagging sorghums, cultivating fallows and fall worked ground, cutting weeds, and miscellaneous field work. Grape picking is just starting. Yields are better than last year. A few peaches are getting ripe. It was necessary to rogue most of the sorghum plots during the week.

Maximum temperature 91; minimum 52; precipitation, .03 inch;
wind velocity, 2.6 miles per hour; evaporation, 1.735 inches.

BIG SPRING:

Hot, sultry weather with very little wind movement has prevailed during the past week. Every day favorable rain clouds would appear, but a trace of rain on August 21 was all that was ever received from them. On the morning of August 16 an earth-tremor or earthquake, as it was later reported to be, occurred throughout this part of Texas for a distance of about 500 miles. It was very distinctly felt at the station; at about 5:45 a.m. the station residence started to vibrate and the window weights began to rattle in the walls. Two distinct shocks were felt which lasted about 30 seconds each. Several buildings in a small town in the western part of the state were destroyed.

The grain sorghums of the May 15 date of planting are maturing very rapidly now and most of them promise to make fairly good grain yields.

Station work has consisted of harvesting cowpeas in an increase field and some of the early sorghum plots, picking cowpea seed from the variety plots, painting the corral fence, and duck-footing fallow plots.

Maximum temperature 98; minimum 60; precipitation, none.

LAWTON:

The farm picnic held at the station August 19 drew a crowd of 1400 to 1500 people. A free lunch consisting of whole wheat sandwiches, hominy, fresh tomatoes, eggs, and ice cold milk was served to the entire crowd at noon. Miss Ester Martin, District Home Demonstration Agent, Stillwater, Oklahoma, U. S. Senator Elmer Thomas, and Congressman Jed Johnson appeared on the afternoon program. The picnic was sponsored and largely managed by the local Farm Women's Clubs, the Comanche County Farm Advisory Board, and 4H-Club members. Demonstrations of the uses and the

Lawton, continued:

making of edible products from such surplus crops as wheat were conducted by the Club women, and some of the 4H-Clubs demonstrated the construction of various types of trench silos.

The cool temperatures that prevail cause the grain sorghums to mature slowly.

The first open bolls of cotton were recorded during the week on some of the early maturing varieties. Such bolls, however, are extremely scarce.

The first bale of cotton to be ginned in southwestern Oklahoma this year was also recently reported.

Precipitation of .41 inch on August 16 was followed by two days of cool, cloudy, threatening weather. The maximum temperatures for the week varied from 79 to 93 and the minimum temperatures ranged from 59 to 65.

WOODWARD:

Several light showers occurred the first of the week totaling .42 inch. Cool weather followed these allowing crops to profit greatly by them. It is likely that crops have never been in better shape than this year with so small an amount of rain. There has been only 2.10 inches over the past 72 days, but the later-planted sorghum crops still have an excellent chance of making heavy yields.

The major portion of the grapes in the vineyard were picked during the week. They were practically all of good quality, none of them being shriveled as they often are during dry seasons. This year grapes usually early were late, and those usually late were early, so the ripening season was very short. Demand for them was brisk as there is little fruit in this section. However, fruit is being trucked in from Arkansas at a very low price.

Woodward, continued:

Preparation of wheat ground over the country has been laggard. This is partly due to dry weather but probably more to indecision on the farmers' part as to whether or not to plant wheat. In some cases it is no doubt due to lack of funds for repairs and fuel.

Work of the week has consisted of hoeing and disking along fence-rows and roadways, picking grapes, repairing machinery, and various odd jobs. Gas pipe has been laid to the station grounds and installation of pipe on the station will probably procede during the coming week.

Maximum temperature 90; minimum 59; precipitation, .42 inch.

PENDLETON:

The weather here continues warm and dry. We have had no rain since the middle of June. The summers in this section are rainless, the fall rains seldom occur before September 15. A good rain now would be appreciated as it would start the weeds on the fallow land and simplify their control before seeding time.

The work on the station the past week has consisted chiefly of cleaning seed wheat and finishing up the odds and ends of the seasons work. Two days this week a Killefer chisel was used to break up hardpan spots on the station. The chisel was borrowed from a neighbor and a "Sixty" Caterpillar hired to pull the chisel. Three chisels set to run at a depth of twenty-two inches were a heavy load for the tractor in low. The worst hardpan areas were gone over twice, a second time over left the soil mellow and loose. The hardest going for the tractor and chisels, was an old stage coach road. The station land was broken up forty years ago, the effects of the old roadway are still very marked.

The following are the yields in bushels per acre of wheat grown after fallow and various crops in the rotation experiments:

Spring wheat after fallow	42.9 bu.	-	Winter wheat after fallow	36.3 bu.
" " " winter wheat	24.4 "	-	" " " winter	
" " " spring wheat	17.5 "	-	" " " wheat	10.5 "
" " " corn	17.2 "	-	" " " s.wheat	18.8 "
" " " peas	30.5 "	-	" " " corn	13.6 "
" " " oats	12.2 "	-	" " " peas	21.1 "
" " " beans	41.9 "	-	" " " beans	25.2 "

Pendleton, continued:

M. A. McCall, of the Division of Cereal Crops and Diseases, was a station visitor on August 18. H. P. Singleton, Superintendent of the irrigation station at Prosser, Washington, visited the station August 21. Maximum temperature 95; minimum 42.

NOTE:

Under date of August 27, 1931, Doctor Wm. A. Taylor, Chief of Bureau, issued B.P.I. Memo. 597, as follows:

"MEMORANDUM FOR HEADS OF DIVISIONS

Gentlemen:

"Attention is called to the necessity of placing the disclaimer stamp on all outgoing letters in which names of dealers are furnished. It is desirable that a stamp of uniform wording be used throughout the Bureau, and it is therefore suggested that any that are now in use in your Division be replaced with one of the following wording:

'While it is impracticable to provide a complete list of dealers, this partial list is furnished for your information, with the understanding that no discrimination is intended and no guarantee of reliability implied.'

"Where the disclaimed is embodied in a letter, the above wording should also be used."

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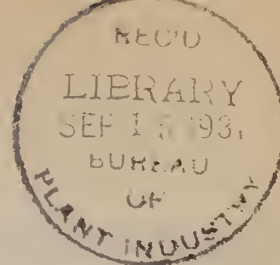
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W E E K L Y S T A T I O N R E P O R T S

OF THE DIVISION OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

August 29, 1931.

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING AUGUST 29, 1931.

HA VRE:

Temperatures during the past week have been about normal, the maximum ranging from 68 to 92 and the minimum from 42 to 53. There was no rain.

Corn is suffering some from the dry weather. The rains during July caused considerable suckering, especially in the flints, and during the last week these suckers began falling down. The main stalk and ears are still making progress. Some of the corn is dented and showing color. With normally cooler weather from now on corn should fill reasonably well.

Station work during the week consisted of completing threshing of the commercial fields, threshing alfalfa seed and starting on the third cutting of hay on the sub-irrigated fields.

JUDITH BASIN:

A shower of rain on August 23 delayed threshing until the last two days of the week. Threshing of all plots except some of those that were reseeded late because of cutworm damage will be completed to-day, August 29. Russian thistle stems are so numerous in much of the threshed grain that it will be necessary to reclean all of the grain before weights can be taken. The rain was of great benefit to corn and gardens, which were beginning to show the effects of the dry weather. The dry land garden this year is one of the best that has ever been grown at the station for the past few years.

Work at the station during the week has consisted of threshing, cleaning grain, painting, fence building, and the seeding of fall rye for pasture.

Maximum temperature 87; minimum 40; precipitation, .94 inch.

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HUNTLEY:

The past week has been characterized by unseasonably cool nights. As yet no frost has been noted on the station but farmers from neighboring localities have reported a "white frost" twice during the last few days. Seemingly, however, nothing has yet been injured by frost.

Fall plowing and cultivating fallows and roadways have continued throughout the week but will be completed to-day, August 29. Threshing of crops from the irrigated part of the station has occupied most of the teams and labor during the last three days. On the dry-land project but one plot of wheat, that from Rotation 570, was threshed, the rest of the plots having failed to produce crops.

Small grains and corn recently emerged are making a little growth but are beginning to look dry on most plots. Sorgo and Sudan grass, unless killed by early frost, will soon be large enough to make a little pasturage. Maximum temperature 96; minimum 42; precipitation, .04 inch.

SHERIDAN:

The first half of the week was hot with high winds a part of the time. The last three days were quite cool.

Sorgo and Sudan grass, except seed blocks, were cut the first of the week. More partially killed Northwest poplar and willows were removed from the shelter belt, and fruit trees, some of them partially killed and others of no value, were pulled from the fruit planting. Shelter belts and the orchard were cultivated. Pruning of the 1931 shelterbelt planting was started according to the outline.

Maximum temperature 98; minimum 38; precipitation, trace.

DICKINSON:

Dry weather continued through the week and strong winds on three days dried out corn, millet and other late crops.

Threshing of all crops except flax was completed on the rotations. Oats and barley which were reseeded were late in maturing and delayed threshing. Yields of all crops were low and the quality was inferior due to low bushel weight.

Dickinson, continued:

Corn has made fair development during the past three weeks and if not frosted during the next two weeks should make better than average yields. Some plots, particularly those on fall plowed and manured land, were so badly damaged by the heat in July that yields will be low.

Fallow on the rotations was cultivated with the duckfoot cultivator.

A very light second crop of alfalfa was cut and stacked.

Visitors during the week included, M. A. McCall, Principal Agronomist in Charge, Division of Cereal Crops and Diseases, and Messrs. Shotwell and Morton, Bureau of Entomology; Laurence Robinson, Steele, Briggs Seed Co., Limited, Regina, Saskatchewan, Canada, and E. Q. Brett, Seeds Branch, Department of Agriculture, Winnipeg, Canada.

Maximum temperature 94; minimum 41; precipitation, .03 inch;
precipitation August 1 to 29, 1.14 inches.

MANDAN:

Agronomy

The past week has been favorable for field work. Light showers and cloudy weather delayed drying of alfalfa.

Oats in the feed field were threshed. The yield was light.

Corn has made good progress and is now practically ripe. The yield should be very good.

Crested wheatgrass made a heavy growth during the past two weeks.
Maximum temperature 93; minimum 44; precipitation, .33 inch.

Cooperative Grazing Experiment

The steers in the larger pastures appear to continue with good gains. The steers in the 30-acre pasture are about out of feed and will show a loss for the month.

The first part of the report deals with the general situation in the country. It is noted that the economy is showing signs of recovery, but that there are still many problems to be solved. The government is taking steps to improve the situation, but more work must be done.

The second part of the report deals with the social situation. It is noted that there is still a large number of people living in poverty, and that the government is taking steps to help them. However, more work must be done to improve the living conditions of the poor.

The third part of the report deals with the political situation. It is noted that there is still a large number of people who are dissatisfied with the government, and that the government is taking steps to improve its performance. However, more work must be done to improve the political situation.

The fourth part of the report deals with the international situation. It is noted that the country is still facing many international problems, and that the government is taking steps to solve them. However, more work must be done to improve the international situation.

Conclusion

In conclusion, it is noted that the country is still facing many problems, but that the government is taking steps to solve them. However, more work must be done to improve the situation in all areas.

The government should continue to take steps to improve the economy, the social situation, the political situation, and the international situation. It should also continue to work to improve the living conditions of the poor.

It is hoped that the government will continue to take steps to improve the situation in the country, and that the people will continue to support the government in its efforts.

Mandan, continued:

Arboriculture

A quantity of wild black cherry seed has been gathered from the testing block. One hundred pounds of Buffalo berry seed have been picked and washed. Chokecherry seed picked during the summer has been washed and stratified. About fifty Black Hills spruce trees, eight years of age, have been transplanted from the nursery to vacancies in a 1927 planting in the main windbreak, to test out late summer planting of evergreens as compared with spring planting.

A number of shelterbelt plantings have been visited in Morton, Stark, Billings, Golden Valley, Bowman, Adams, and Sioux counties, North Dakota. A number of the 1917 plantings visited, composed of ash, American elm, and boxelder, spaced 4 x 8 feet, showed stands varying from 90 to 100 per cent, with complete overhead shade. Cultivation has not been carried on in these plantings for several years, there is, however, practically no growth of grass or weeds. Younger plantings of wider spacing distances gave heavy losses in some cases of northwest poplar and considerable killing back with boxelder. Weed growth, particularly between trees in the row, was also very heavy.

Ash trees in the southern tier of counties west of the Missouri River, are badly infested with ash borers. No killing was observed which may be traced directly to the borer damage. Heavy wind breakage, however, occurs in a number of plantings due to the trees being badly weakened through the severe tunnelling of the borers.

Horticulture

Vegetables are ripening fast and considerable time has been given to harvesting them and collecting yield and other data. The first plantings of cabbage and cauliflower are already harvested and the second planting is maturing rapidly. Waxbeans are yielding heavily at the present time. The plants did not promise well earlier in the season, but are doing much better now that the nights are cooler.

Tomatoes in the breeding project are at their best and some strains are producing very good yields.

Considerable weed growth has started in the fields lately, and cultivating and hoeing has been in progress for the last few days.

R. L. Shotwell and F. A. Morton, Bureau of Entomology, Bozeman, Montana, are using the station as a center for their grasshopper investigation work for a few days.

BELLE FOURCHE:

Warm weather has prevailed throughout the greater part of the week, and a temperature of 100 degrees occurred August 26, but the last two days have been quite cool. An abnormally strong wind arose suddenly during the evening of August 26 and continued with a velocity of over 20 miles per hour until the following evening. The average wind velocity for August 27 was 14.8 miles per hour, which is the highest that has occurred in August for a period of 20 years at this station.

A total of only .32 inch precipitation has been received this month to date, which is 1.15 inches below the 23-year average for August. The precipitation has been more than one inch below normal for each month of the growing season thus far, and the total precipitation since January 1 is approximately six inches below normal.

The various crops have been almost complete failures, except in a few instances where grown on summer fallow. Fall grains fared somewhat better than spring crops. The yields of winter wheat on the various cultural treatments, excluding fallow, ranged from two bushels to 3.3 bushels per acre, and the production on fallow was 11.7 bushels per acre. The yields of winter rye after corn, sorgo, and winter wheat averaged three bushels per acre. Barley was the most productive spring grain crop, yielding 10.8 bushels on fallow, and from .4 bushel to 1.7 bushels per acre on other cultural treatments. Only the best plots of oats and spring wheat were threshed. The yields of oats on summer fallow varied from 1.6 bushels to 5.9 bushels, after potatoes the yield was 1.9 bushels, and after other crops less than one bushel per acre was produced. The highest yield of spring wheat, 7.7 bushels per acre, was obtained after winter rye turned under for green manure. The yields of spring wheat on fallow varied from .8 bushel to 3.3 bushels per acre, and on all other cultural treatments less than one bushel of grain per acre was produced. Some grain will be secured from the unharvested plot of corn on fallow, but no grain was obtained on other cultural treatments. The yields of corn fodder ranged from 150 pounds to 600 pounds per acre. Sorgo is still green, but has attained a height of only 15 to 20 inches, and has been unable to head. Potato vines are beginning to turn brown, and no tubers have developed.

Maximum temperature 100; minimum 41; precipitation, trace.

ARDMORE:

Temperatures for the week were moderate as a whole, though both high and low temperatures were recorded. On August 26 the maximum was 101 degrees and was accompanied by a severe hot wind. On the night of August 28 the minimum fell to 40 degrees.

Some of the fields of sorgo were harvested during the week. Practically all suckers on the sorgo were dead, and no recovery could be expected even under the most favorable conditions. Only the listed sorgo plots and some of the sorgo on fallow are still growing. This is the first year when listed cane has equaled surface-planted cane.

The steers were weighed during the week. In spite of the short pasture the steers on the 80-acre pasture without grain supplement are still holding their own. The steers receiving barley on pasture have gained more than two pounds per head per day during the past month.

Short pastures have been responsible for considerable stock poisoning in this section. It appears probable that at least some of this has been caused by Psorelea tenuiflora, as some of the poisoning has occurred in cultivated fields where no other poisonous plants were in evidence. No rain occurred during the week. Precipitation for the year to date is less than half of the normal.

ARCHER:

During the week the weather was warm and dry with the exception of the last two days. The total precipitation was .12 of an inch which was recorded on two dates. Temperatures varied from 96 to 42 degrees.

These conditions were unfavorable for plant growth with the exception of Sudan grass. Some of the early corn plants have ripened and a considerable portion of the beans are ripe. The potato vines have started to dry and the sunflowers are wilting. The millet in the dairy field burned badly.

Work at the station consisted of finishing the threshing of the main crops; only a few late maturing crops and the late dates-of-seeding remain to be threshed. The millet in the dairy field has been cut and raked and most of the stubble fields have been disked with the one-way disk in order to kill weeds. The potatoes and beans have been cultivated and preparations are being made to seed winter wheat.

Maximum temperature 96; minimum 42; precipitation, .12 inch.

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AKRON:

The week passed without rain though moisture is needed badly. Beans are blooming, and a rain would greatly benefit the yield. The sorghums both forage and grain would also benefit from a much needed rain.

H. A. Rodenhiser and D. W. Robertson visited the station during the week, the former in the interest of corn smut investigations and the latter in the interest of the fall small grain nursery.

Maximum temperature 95; minimum 47; precipitation, none.

NORTH PLATTE:

Dairy silos were filled during the week. The yield from 13 acres of surface planted corn with thick stands under irrigation was 14.1 tons per acre. The yield from four acres lister planted, with thinner stands was 8.6 tons per acre. Two silos with a total capacity of 215 tons were filled in three and a quarter days. The equipment consisted of a field cutter and three wagons with blower at the silos.

Cool, dry weather has prevailed.

Maximum temperature 80; minimum 37; precipitation, .08 inch.

COLBY:

The threatening, but dry, weather has continued this week. The surface soil is dry to a depth of three to four inches even on fallow. The corn and sorghums do not seem to be suffering very much yet. The abundance of subsoil moisture at seeding time apparently is carrying them through. All the sorghums are heading. The milo was slow in heading and is heading very unevenly. This is due, apparently, to the dry weather.

Visitors during the week included: H. H. Laude, A. L. Clapp, and Carl Baugher, all from the State College at Manhattan, John H. Martin, of the Division of Cereal Crops and Diseases, and C. O. Grandfield, of the Division of Forage Crops and Diseases.

Maximum temperature 97; minimum 50; precipitation, .08 inch.

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GARDEN CITY:

Roadways on the DLA project were drilled to wheat the past week to prevent soil blowing and erosion. Early plowed ground which is to be seeded to wheat this fall was forkner cultivated to destroy volunteer wheat. Some leveling with a Fresno scraper and grader was done on the new block of ground to be used for winter wheat investigations.

Vetch as a green manure crop was seeded yesterday on a block which is part of the nitrogen and organic matter studies being conducted in cooperation with the Department of Soils and Soil Bacteriology of the Kansas Experiment Station.

Sorghums had another boost towards maturity and fair yields the first of the week in a precipitation of .94 of an inch, falling in a steady rain without run-off.

Station visitors during the week were: John H. Martin, of the Division of Cereal Crops and Diseases, C. O. Grandfield, of the Division of Forage Crops and Diseases and stationed at Manhattan, and Professors A. L. Clapp and H. H. Laude, of the Manhattan Station.

Maximum temperature 100; minimum 53; precipitation, .94 inch.

HAYS:

Weather for the most part has been cool with the exception of two days when the temperature ran up to 94 and 97 degrees. A rain of .63 inch on August 24 was timely for the sorghums, but the ground is getting very dry again and more rain would be very beneficial.

The Pink kafir on the project varies in development on different plots from fully green to about 50 per cent mature. The slowest kafir is that seeded on ground which received no tillage before the planting date. The kafir is more advanced on the double-spaced plots than on the regular-spaced and at present it looks like the double-spaced will outyield the regular-spaced.

During the week considerable surface tillage work with an implement equipped with sweeps, and the one-way disk was done principally to destroy volunteer wheat. The date-tillage work on stubble land with the lister, plow, one-way and the chisel was repeated again this afternoon.

A short line of fence between Field B and the new Field D was moved a few feet west to allow more room for better handling of the plots on the new field.

Maximum temperature 97; minimum 51.

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
5800 S. UNIVERSITY AVENUE
CHICAGO, ILLINOIS 60637

RECEIVED
JAN 15 1964

FROM
DR. J. H. GOLDSTEIN

TO
DR. R. F. W. WILSON
PHYSICS DEPARTMENT
UNIVERSITY OF CHICAGO
5800 S. UNIVERSITY AVENUE
CHICAGO, ILLINOIS 60637

RE: [Illegible]

[Illegible]

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FUCUMCARI:

Crop development has been normal the past week, although only .25 inch precipitation has been received in three light showers in the past three weeks. Precipitation for the year is still about 2.50 inches above normal and at no time have crops shown moisture deficiency.

Sudan and cowpeas have been harvested from a number of plots and some increase-land, cowpeas and Sudan were plowed under for green manure, fallows were field cultivated, and a portion of the force have been making plant and stalk counts. Grapes have produced heavily, but picking will be completed within a very few days.

E. F. Chilcott, of the Woodward Station, spent two days on this station this week.

Maximum temperature 97; minimum 56; precipitation, none;
wind velocity, 3.9 miles per hour; evaporation, 1.986 inches.

DALHART:

The row crops continue to progress normally for this time of the year. All of the early seeded grain sorghums are fully headed. Some of the later varieties in the second date of seeding are just coming into full head. Cowpeas, cotton, and soybeans are developing normally for this period of the year.

Bagging of sorghums for seed is still occupying part of the time. The sorghum smut nursery continues to produce smutted heads each day. The grape picking is just about at its height now. The crop of grapes is much better than last year but hardly as good as in 1929. Dates of ripening for the different varieties tend to be grouped this year.

Labelling of plots occupied part of the force during the week. The early sorghums are fast showing color and are reaching the stage where the station presents an educational tour for farmers and other visitors.

E. F. Chilcott visited the station on August 25 and 26.
Maximum temperature 95; minimum 52; precipitation, .40 inch.

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BIG SPRING:

Hot, dry weather has prevailed during the past week, with the result that crops generally have deteriorated considerably. Some of the milo and kafir plots are almost beyond recovery, while others are holding up remarkably well. Cotton, although it wilts some during the day, does not seem to be suffering to any extent.

Broomcorn was pulled and corn plots in the rotations were harvested during the week. A large number of grain sorghum plots in the May 15 date-of-planting were also harvested. Other work has consisted of picking cowpea seed for increase planting and painting the corral fence.

Maximum temperature 100; minimum 67; precipitation, none.

LAWTON:

Variable temperatures prevailed during the week, but in general, it was hot and dry. Cotton wilted perceptibly when maximum temperatures of 98 to 103 were recorded. Several threats of rain produced only a trace, and partly cloudy, cooler weather prevailed on August 28 and 29.

Maturity of sorghums was materially hastened by the hot weather and some heading was done. Corn was cut August 27. A poor quality of grain and poorly filled ears resulted from the early summer drought.

Harvest of various varieties of grapes continues at irregular intervals. It seems impossible to permit full or desired maturity because of bird damage. This kind of damage has also been difficult to control on grain sorghums the past ten days.

The first bale of cotton in local territory was ginned August 29. Picking will not likely be general for a couple of weeks, although the early varieties such as Half and Half and Oklahoma 44 are opening with considerable rapidity.

Mr. Oats, Agricultural Agent, of the Fort Worth and Denver Railroad, was a station visitor on August 29. Several farmers who were interested in grain sorghums or cotton also visited the station during the week.

Maximum temperature 103; minimum 68; precipitation, trace.

WOODWARD:

The weather this week has been somewhat hotter than for the previous week. A maximum temperature of 105 was recorded on the 26th, with a rather strong, hot wind blowing from the southwest. Light showers occurring on the nights of the 26th and 27th somewhat relieved the extreme heat.

Some of the earlier maturing sorghums were harvested during the week, having dried ripe from heat and drought rather than maturing normally. Several varieties of grapes were picked during the week, but yields are comparatively light, due to drought and damage from birds. Most of the pipe lines were laid this week for installation of gas at the station.

Maximum temperature 105; minimum 51; precipitation, .18 inch; evaporation, 2.402 inches.

