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**WEEKLY STATION REPORTS**

**OF THE DIVISION OF**

**DRY LAND AGRICULTURE**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**



Report for the week ending August 3, 1935.

HAVRE:

Two days during the past week were quite severe, due to the rather high wind velocity, accompanied by high temperatures. This hastened maturity of small grains, and the harvest is nearly complete at this time. Corn rolled rather badly but has recovered with cooler weather. The growth of corn is rather short, but indications are there will be a fair crop of grain, providing there is a normal amount of rainfall.

This will probably be a very good year from an experimental point of view for small grains. All plots have been or will be harvested, but many of the tillage methods will show very low yields. Yields from fallow will be rather outstanding, with barley especially good. There has been very little damage from either disease or insects, and stands have been quite uniform. Weed growth has not been at all excessive.

The 1 inch of rain of last week started a growth of grama grass, but this will be checked unless there is more rain.

Visitors during the week included Sam Sloan, Extension Agronomist, who had charge of a Farm Tour on August 1. Other members of this tour were H.R. Sumner of the Northwest Crop Improvement Association, E.C. Leed, Head of the Great Northern Agricultural Department and Fred Wilson, county agent Teton county, also Clyde Mc Kee and Paul De Vore of the State College.

Maximum temperature, 98°; minimum 46°; precipitation, 0.09 inch.

July precipitation, 1.53 inches.

JUDITH BASIN: REPORT FOR TWO WEEKS ENDING AUGUST 3, 1935.

The weather during the past two weeks has been the most damaging to crops that has occurred this season. Several days of hot, dry winds caused premature ripening of all grains and reduced the yields of many spring grains to zero. On July 27 and 28 there was considerable soil blowing, there being more soil movement on those dates than at any time during the past 16 months. During the past 4 days temperatures have dropped from the high point of a week ago, but the damage has been done.

Spring grain on all the fall plowed plots in the rotations has failed to produce heads, and most of them have been cut with a mower. Winter wheat, oats, and spring rye have been harvested; and the remaining spring wheat, barley, and flax plots are about ready. Corn has made very little growth the past three weeks, and its condition is gradually becoming worse. Grasshoppers are numerous, and poison is scattered each day.

Recent station visitors have included Professors McKee, Goth, and De Vore of Montana State College; Messrs. Clark, Palmer, and Kemp of the Dominion Experimental Farms, Canada; H.R. Sumner, of the Northwest Crop Improvement Association; M.P. Hausmier of the Montana Seed Growers Association; and T. R. Stanton of the Division of Cereal Crops and Diseases. Dr. Quisenberry is spending two weeks at the station in the interest of the cooperative winter wheat program.

Maximum temperature, 99°; minimum, 41°; precipitation, 0.38 inch.



HUNTLEY:

Temperatures during the fore part of the week reached the maximum for the season but the last few days have been cool. One day of high temperature and a hot wind caused corn to wilt and roll its leaves, but seemingly the crop has recovered. Except for two or three late plots, the remainder of the small grains were harvested during the week as were also the safflower and crested wheatgrass. Hogs in the pasture experiments were weighed and moved from the acre of peas to the plot of Sudan grass and soybeans. The forage on the latter plot is more abundant and appears to be more succulent than it has been for the last three years.

Maximum temperature, 104°; minimum, 43°; precipitation, Trace.

SHERIDAN:

Extreme heat over the first of the week dried grain rapidly, and all grain still standing was harvested during the week, except for 2 plots of wheat remaining slightly green, 1 plot of flax in the rotations, and the later dates of seeding.

Corn, Sudan grass in rows and some close seeded, sorgo, and prose still continue in better condition than seemed possible a week or so ago. Grasshoppers are working on the corn, however. Another ton of poison bait was scattered on the station, and in places the grasshoppers appear to be thinned out some, but still remain thicker in most places than since 1923-24.

Fallow was duckfooted. Other work consisted mainly in clearing row crops, shelter belt, and orchard plantings of large weeds and getting the thresher in shape for threshing.

Dr. K.S. Quisenberry was at the station the first of the week.

Maximum temperature, 106°; minimum, 41°; precipitation, Trace.

MANDAN:

Agronomy - The past week has been cooler, and favorable for all field work. Harvest of wheat and oats plots will be nearly completed today. The Kubenka wheat in the rotations is badly rusted but will make a fair yield. Mowing of prairie hay and weeds has been continued throughout the week. Grain stubble looks clean at present, but Russian thistles are likely to make a rapid growth. Corn is in excellent condition but shows a good deal of smut.

Maximum temperature, 95°; minimum, 52°; precipitation 0.48 inch.

Cooperative Grazing Experiment - Native vegetation continues to make some growth and does not show any signs of drying up. Blue grama grass has made a good growth and is headed out the most since 1928. There is an abundance of feed in all native pastures. The crested wheatgrass pasture is becoming short and will soon be used up.

Steers were weighed at the end of July. Gains were poor and non-uniform in all pastures. The flies and mosquitoes were very bad during most of the month. The steers put in most of the time fighting the insects. A few steers showed no gain, one lost 15 pounds, and others showed good gains. The gains in most cases are less than half the normal for July.

Following are the July gains:

Pasture (acres)	Steers (number)	Gain per head (lbs.)	
		July	60 days
100	10	38	238.5

70	10	34	220.0
70 (Rot.)	12	60.4	206.7
7	7	20.7	202.7
Crested wheat			
93	9	70.6	245.2
Reserve			

Horticulture - Several new vegetables have been added to those harvested last month including Sweetcorn var. Gills Early Golden Market, a large eared corn of fair quality; eggplant var. Blackie, a real find, early, good size, good quality; cucumbers; onion var. Silver King, large, flat, mild; peppers in variety; and tomatoes. Work on the corn breeding project has been in force, and it seems likely a good percentage of ears will result.

The continued hot weather is beginning to have effect on the lawns, and irrigation of these was started Tuesday. There is but little color in the landscape aside from the bedding groups at the present time. Delphiniums, Hemerocallis, and Platycodons are the only ones still in bloom. Tiger and regal lilies are well budded and should provide additional color soon.

Gooseberries were picked during the week. Good yields were obtained in the coulee garden, and variable yields in the variety test. Transparent, Minn. No. 2, Kanega, and Kataga were among the highest yielders. The last two are new varieties introduced by the South Dakota Agricultural College. Carrie and Houghton bore heavy crops in the coulee garden.

Golden currants also bore good crops in the coulee garden, much better than in other station plantings. The system of alternating bushes of the different selections seems to work out to advantage from the standpoint of pollination.

Selection of gooseberries and Chinese cherries have been picked in the breeding blocks, and a few new selections have been made. Some of the gooseberry crosses look particularly good this year.

Visitors for the week included Dr. C. E. Leighty; J. Allen Clark; J. A. Munro, O. A. Stevens, N. Dak. Agricultural College; Dr. Clark (Manyberries), J. W. Farmer (Lethbridge), W. Kemp (Swift Current) Canadian Experiment stations; C. Sumner, N. W. Crop Improvement Association; U. J. Norgaard (Sully County), L. J. Thompson (Potter County), H. A. Matur (Walworth County), Oscar Prestigaard (Cambell County), county agents from South Dakota; C. A. Putnam, county agent, Burleigh Co. N. Dak.; William J. Leary, Ass't. Ext. Agron. Brookings, S. Dak.; O. S. Fisher, Extension Service, Washington, D. C..

#### BELLE FOURCHE:

The severe summer drought and hot weather continued unbroken for another week, but moderate temperatures on July 29 and August 2 afforded temporary relief from the heat. The hottest day of the season was July 28, when a maximum temperature of 105° was recorded. A strong, hot wind prevailed during the day, and small grain dried rive very rapidly, spring wheat heads and kernels in many instances retaining their green color. Corn has been unable to regain its normal appearance since the hot wind and is tasselling very slowly on account of lack of moisture. Sorgo is beginning to head and shows no sign of suffering from the dry, hot weather.



July was one of the driest and hottest months on record at this station. The total precipitation was only 0.48 inch as compared with the 27-year average of 2.38 inches. There were 23 days during the month in which temperatures of 90° or above were recorded, and the mean maximum temperature was 92°, equalling the highest on record.

Visitors during the week included F.M. Easton, Rubidoux Laboratory, Riverside, Calif., and S.H. Hastings, Western Irrigation Agriculture.

Maximum temperature, 105°; minimum, 50°; precipitation, 0.07 inch.

#### ARCHER:

During the past week the weather was warm and dry. The total precipitation for June was 1.86 inches and for July 1.71 inches. The June total is equal to the 22-year average, and the July total is 0.18 inch less than the 22-year average. Row crops are in good condition, but precipitation would greatly aid in increasing the yields. The drilled crops are burning considerably. Prairie grasses, while still green, are maturing.

Work at the station consisted of gathering caragana seed, weeding, and mowing hay.

A delegation of farmers from Lusk, Wyoming visited the station August 3.

Maximum temperature, 95°; minimum, 51°; precipitation, 0.10 inch.

#### NORTH PLATTE:

Weather for the week was warm and very dry. Maximum temperatures have been near or above the 100° mark every day except one. Corn is not yet showing any serious lack of moisture but is now approaching the critical period of tasselling and shooting, and will need normal or more rainfall to make a crop. Threshing was begun on the station August 2. Indications are that an average yield of about 25 bushels per acre will be made by winter wheat.

Maximum temperature, 101°; minimum 60°; precipitation, None.

July precipitation -table, 0.72; bench, 2.47; Weather Bureau, 1.17; normal, 2.74.

#### AKRON:

The past week brought no relief from the drought which now promises to be as sensationally outstanding as the rain period earlier in the season. There has been no rain of value since the middle of June, and July closed with 0.37 inch, 0.06 inch more than was received for that month in 1934. These are the only times July has had less than an inch of precipitation within the 27-year record at this station.

Beginning July 24 there ensued another 10-day heat period averaging 97° maximum and with an absolute maximum of 100° on two days. Weather has been decidedly cooler since the 2nd of August.

Harvesting was completed, with the exception of about a day in the winter wheat nursery. The winter and spring wheat variety experiments were threshed. In addition, 1.64 and 2.55 acre plots of foundation seed Komar and Kanred, respectively, were threshed. The Komar yielded at the rate of 10.7 bushels, and Kanred yielded 21.0 bushels per acre.

Corn is tasselling and still holding its nice green color. Beans never looked better at this, the blooming, stage of growth.



Proso seeded June 8 is in full head, though rather short in stature.  
Maximum temperature, 100°; minimum, 56°; precipitation, 0.14 inch.

#### COLBY:

The weather still continues hot and dry. There have been light showers in this locality during the week, but none of any consequence. Following a light shower during the night, yesterday was cool and cloudy, the only day the temperature did not go over 100° for a week. It has not been very windy. All crops continue to dry up. The corn on the plots is practically gone. None of the plots have tasselled fully. The bean plot is gradually drying up. The sorghums appear to be at a standstill on most of the plots. Some have burned badly in spots.

Maximum temperature, 105°; minimum, 61°; precipitation, 0.04 inch.  
Precipitation, July 1935, 0.50 inch, 48-year average, 2.53 inches.

#### HAYS:

Weather for the week has been dry and hot. Maximum temperatures of 100° and more were common, and 0.5 inch daily losses of water from the evaporation tank were frequent. The last two days, however, brought some relief through cloudy skies and slightly lower temperatures. Corn on many commercial fields and on the Dry Land project is burned beyond recovery. Corn after wheat on some of the plowed plots is now dying down after having reached a height of about 36 inches. Sorghums are rolling and even suffering considerably in places. The row plantings of sorghums have some advantages over the drilled sorghums, and the wide-spaced row sorghums also have some advantage over regular-spaced sorghums. In a test comparing thinning to "hills" in the row with thinning to single plants in a row having the same total number of plants per row - it appears at this writing the kafir thinned to "hills" has a slight advantage over the kafir thinned to single plants. Drilled sorghums, even where the stand is thin and the number of plants per square rod is the same, are suffering more than the rowed sorghums and in places have reached the point of burning. Kafir seeded on ground blank listed in the fall or early spring previous to planting continues to suffer less from drought than kafir seeded on plowed ground.

A trip August 2, and 3, to Garden City and Woodward showed crops all along the route suffering in varying degrees from drought and heat. On low lands along the creeks there were small acreages of corn and sorghums not seriously damaged, but on the uplands very few fields of these crops were observed that have not been more or less seriously affected by drought. There were no fields of corn that had wholly escaped injury, and on some fields the corn was badly fired.

In Oklahoma crops generally were in better condition than on the sandy soil on the hard land, and even on the hard land injury by drought seemed to be less than over most of the route covered in Kansas. An interesting fact noticed through Kansas was that so little corn had been planted. Observations indicate that farmers this year have generally substituted sorghum row crops for corn.

Corn and sorghums at Garden City have made less growth than at Hays, but seem to be suffering from drought about the same as at Hays. Drilled sorghums are badly burned at both places. At Woodward the growth of sorghums is about the same as at Hays, but at Woodward there has been less drought injury. Corn has made more growth at Woodward than at Hays and is suffering from drought, but not to the extent

that it is at Hays.

Maximum temperature, 112°; minimum, 69°; precipitation, None.

#### TUCUMCARI:

Although rain threatened several days the past week, no precipitation was received and crops suffered severely from high temperatures and periods of high wind movement. Firing is general over earlier planted fields. Crops planted near the close of June are rolling, but not firing. Station fields were in excellent condition ten days ago, but prospects for a crop are fast vanishing. Over much of the county row crops are practically gone, while local showers in other vicinities have helped crop development.

All corn plots are tasselling and suffering great injury. Dry-land milo will be in head within a week to ten days, so is in more urgent need of moisture than kafir and corneas. Broomcorn leaves have fired nearly to plant tops.

Practically the entire row crop acreage, both plots and increase land, was cultivated early in the week. Tree rows have been cultivated and caliche hauled to dikes. First cutting of Sudan grass was made, yields being very light.

July temperatures and precipitation were normal, but all rainfall of value fell the first two days of the month, while temperatures were low early in July and high toward the close. Crop deterioration was therefore very pronounced the last week of the month. Evaporation of 12.293 was unusually high.

Work is expected to start within a month or two on the Conchas dam, with \$4,500,000 allotted for the first year's work. The dam site is about 30 miles from Tucumcari and will be located at junction of Canadian River and Conchas River. Fill will be largely dirt, concrete reinforced, and length of dam will approximate 5 miles. It is expected that Amarillo, Texas, about 150 miles from dam site, will eventually secure city water from this impounded lake, for fluorides in Amarillo city wells cause tooth stain in children to such an extent that a new source of supply is badly needed.

It is reported the lake will have shore line of some 70 miles, with storage capacity of about 800,000 acre feet. Great benefits are expected to result through prevention of flood water damage to cities, bridges, roads, and land in Texas, Okla., and Arkansas.

The completed dam is expected to cost about \$9,000,000, while if entire program including pipe line to Amarillo and irrigation canals to carry water to farm lands near Tucumcari is completed the total cost may approximate 30 million dollars.

Maximum temperature, 103°; minimum, 68°; precipitation, None.

#### DALHART:

While an excellent response from the rains of July 21 and 22 was evidenced in the growth of row crops for a period of eight days, the past five days have shown a rapid deterioration of plant vigor and drought injury. This is especially noticed on sorghums and corn planted before June 1. The early planted sorghums have suffered materially since Monday of this week. There could still be some response with rains soon, but prospects are decidedly not so bright as they were a week ago. The later planted sorghums continue to make normal growth. Seasonal work during the week consisted of note taking, bagging sorghums (so far bagging has been confined to bagging varieties on fallow),



trimming plots, counting stands, mowing roadways, and the completion of cultivation the first of the week. Crop conditions in this section are poor on account of the spotted areas which have received moisture.

Maximum temperature, 101°; minimum, 63°; precipitation, 0.19 inch.

#### BIG SPRING:

This has been a week of hot, still days with no sign of rain. Sorghums are beginning to curl slightly during the heat of the day, and a few plots are beginning to burn noticeably. Cotton loaf worms became a real menace in this section during the past week and practically all farmers are poisoning as rapidly as possible with what poison is available. There seems to be a local shortage of calcium arsenate. As yet, the worms have not attacked the station cotton to any appreciable extent, but all cotton was poisoned the past two days. Fruit and grapes gathered during the week were of fair quality and returned small yields. Peach trees have not seemed to be able to recuperate from their hard season last year.

Maximum temperature, 100°; minimum, 67°; precipitation, None.

#### LAWTON:

Maximum temperatures of 100° to 102° on four days and a strong southwest wind on two days during the past week were injurious to row crops and to native grasses and legumes. Some of the sorghum crops are firing rapidly and extensively, especially on some of the rotation plots of feterita. A good crop of grain is assured on the early maturing varieties of grain sorghums that were planted April 25. Some of the later maturing varieties planted on the same date are still subject to a sharp reduction in yield. The remainder of the rotation plots of corn were harvested August 1. Cotton is blooming freely, and abortion of young bolls is very light so far. Rapidity of plant growth during the past three weeks was remarkable, and the station crop presents a healthy, vigorous appearance with about normal development.

The total precipitation of 0.54 inch in July was 2.52 inches below the monthly normal. The deficiency from January 1 to July 30 amounted to 1.90 inches.

#### WOODWARD:

The maximum temperatures throughout the week have stayed close to 100°. During the fore part of the week there were high hot winds, during the latter part skies were cloudy and scattered showers occurred, the station receiving 0.29 inch. This was of practically no use so far as supplying moisture is concerned, but it lessened transpiration and gave plants respite. Most of kafirs are now in boot and very greatly in need of rain to allow them to head normally. Continued drouth of another week or ten days will greatly unjure them.

Honey locust trees which have heretofore been considered among the three or four most reliable trees for the Plains are dying suddenly in large numbers, due apparently to borer attacks. Borers may, however, be a secondary cause, with drouth or disease the primary cause.

Crapemyrtle now are at their very best, having great fluffy wands of blossoms of various shades of red, pink, and purple as well as white. Their brilliance obscures all other bloom on the station.

Maximum temperature, 104°; minimum, 69°; precipitation, 0.29 inch.



PENDLETON:

Wheat harvest is well advanced in this section, with a number of farmers completing their harvest this week. Ideal harvest weather has prevailed during most of the season to date, although two half days were lost on account of a slight amount of rain falling on two nights after high wind storms. Harvesting with the combine on this station was completed on August 1. The cereal nursery has been threshed, and about four days work remains to be done with the stationary thresher on cereal varietal plots, grasses, and peas. Very satisfactory yields of winter and spring wheat were obtained on the rotation plots. 20 winter wheat plots after fallow averaged 48.3 bushels per acre, and 8 spring wheat plots after fallow averaged 46.8 bushels per acre. Wheat yields reported by farmers are from fair to very good in the same locality. Rex winter wheat which was distributed by this station last fall to replace the Hybrid 128 and Albit varieties has given a very good account of itself, all farmers growing trial lots of this variety are well pleased with the yields obtained.

Maximum temperature, 88°; minimum, 39°; precipitation, Trace.

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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**

WEEKLY LIST OF BOOKS

FOR THE WEEK OF

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REPORT FOR THE WEEK ENDING AUGUST 10, 1935.

HAVRE:

With no rain and a dry atmosphere, all crops were forced to maturity in the past week. Small grains and early seeded flax are harvested. Corn is fairly well tasselled but is suffering from drought very materially. The second cutting of irrigated alfalfa is being stacked, with a fair yield. Grasshoppers are fairly thick and in some places are causing some damage. The Says grain bug has caused serious damage in this locality on late seeded small grains. It is laying eggs on the station at this time. Livestock continues in good condition, but ranges on the prairie are almost entirely dried.

Professor F. M. Harrington of the State College and Dr. C. E. Leighty were visitors during the week.

Maximum temperature, 94°; minimum, 49°; precipitation, None.

JUDITH BASIN:

The weather during the week has been favorable for harvesting operations, and with the exception of a few plots on the Cereal project the job on the station for 1935 has been completed. Harvesting on neighboring farms is going ahead at a rapid pace, with yields of winter wheat ranging from 4 to 12 bushels per acre. Much of the spring grain in this area will not be harvested. Grasshoppers are becoming more numerous, and poisoning is of little avail. Rabbits are also bad and are doing considerable damage.

Dr. Leighty and A. E. Seamans visited the station during the week.

Maximum temperature, 94°; minimum, 51°; precipitation, 0.02 inch.

HUNTLEY:

Moderately high daytime temperatures but cool nights have permitted late crops to make fair growth without periods of wilting during the week. Soybeans, Sudan grass, and sorgo made more progress than corn in height of growth, although the latter crop tasselled out and the first silks appeared. Grasshoppers are causing some injury to corn and soybeans despite frequent applications of poisoned mash, which has killed large numbers of the insects. Field work has consisted of roguing plots of seed grain, harvesting small grains and flax, and cutting the second crop of alfalfa.

Dr. C. E. Leighty and Director F.B. Linfield visited the station during the week.

Maximum temperature, 98°; minimum, 48°; precipitation, None.

SHERIDAN:

The remainder of the grain still standing, except some of the late seedings in the date of seeding test, was harvested the first of the week. Threshing was started on the 7th and continued through the remainder of the week. A large part of the bulk fields for seed and feed, barley and oats, was threshed. Yields of grain were about as expected, or slightly better, the earliest seedings of the earliest varieties yielding the best of the grain so far threshed. Vaughn barley on fallow, sandy ground, but sown early, made a yield of 30 bushels

per acre. Trebi sown later on lower and heavier ground in the same field, sown as early as that part of the field could be worked, yielded only 18 bushels per acre, while on land in barley last year, but sown earlier, the yield of Trebi was 21 bushels per acre.

Gopher oats on fallow made a yield of 28 bushels per acre. Of the 3 plots of winter wheat in the rotations so far threshed (probably among the best in the field) the highest yield was 23.2 bushels following peas turned under for green manure.

The weather continued hot over the entire week, with no precipitation. Sorgo and Sudan grass are now firing considerably. Some ears have developed on the corn, and there may be a light yield of grain, if the hot weather does not dry it up too quickly.

Maximum temperature, 98°; minimum, 47°; precipitation, None.

MANDAN:

Agronomy - The past week has been favorable for field work. Two days were very hot, and the temperature was the highest for the season.

Harvest of small grains and flax was completed early in the week. Threshing of crested wheatgrass has been completed, and yields of seed were high, but none has been cleaned. The seed came from the machine very clean. The winter rye and some barley have been threshed. It was necessary to delay threshing because of dampness in the bundles, which have not thoroughly dried as yet. The second cutting of hay on the feed fields is partly up, and some oats have been stacked for hay.

Maximum temperature, 100°; minimum, 54°; precipitation, 0.07 inch.

Cooperative Grazing Experiment - Pastures continue in good condition. Grass has shown the first signs of drying up. Flies and mosquitoes have not been so bad for the past few days.

Horticulture - The season for gooseberries, currants, and Chinese cherries is over. Raspberries and Golden currants are being picked. Latham is by far the highest yielder among the red raspberries, and Cumberland has been the highest yielding black. Raspberry yields are generally low. They are yielding more in the coulee planting than in the regular variety test. Golden currants are giving light yields this year. Some of the early plums are starting to ripen.

The continued hot and dry weather is beginning to show effects on vegetables. Early planted sweet corn is shriveling badly, as are peppers, cucumbers, and eggplants. Tomatoes in the breeding project have also been much injured, especially with sunscald. Staked tomatoes show up very well as yet. The fruit is larger than average, with little or no sunscald or cracks.

The grounds after the recent irrigation have picked up a lot in appearance. Flower beds are at their best, and the perennial border is ablaze with plenty of color in the landscape. June planting of regal lilies seems quite a success. Normally these lilies bloom in late June or early July, and this late planting has extended the season materially without apparent loss of vigor in the plants.

Visitors for the week include J. Allen Clark, A. C. Dillman and V. C. Hubbard, Division of Cereal Crops and Diseases; V. Bowen H.E. Engstrom, and C. R. Towne, U.S. Forest Service.



BELLE FOURCHE:

Hot, dry weather still prevails, and hot winds on 4 of the first 5 days in the week were very injurious to crops. Sorgo and corn are beginning to burn. Only about 30 percent of the sorgo apparently will head, and it is doubtful if corn on any of the plots will produce sufficient grain to warrant husking. All small grain has been harvested. Some stem rust developed on late winter wheat, but dry-land grain matured sufficiently early so that yields were not impaired by the disease. A very heavy infection of rust is present on irrigated spring wheat, and the yields of grain will be materially reduced.

Maximum temperature, 100°; minimum, 57°; precipitation, None.

ARCHER:

The past week was marked by warm, dry weather which is causing premature ripening of drilled crops. Row crops are very much in need of rain, especially potatoes, which are setting tubers. Most of the corn is in the silking stage, and the leaves roll during the day. The rye harvest is coming to a close, barley is being harvested, and the putting up of annual hay crops is in full swing in this section. Most of the drilled hay crops at the station are in the stack. Sudan grass and millet are approaching the heading stage and are badly in need of rain. Work at the station consisted of haying and weeding.

Director W. L. Queyle and Prof. J. C. Miller of Baton Rouge, La. visited the station during the week.

Maximum temperature, 93°; minimum, 55°; precipitation, 0.04 inch.

AKRON:

The threshing of the foundation seed plots and of the rotation oat, barley, spring wheat, and the reseeded winter wheat plots was completed. Nursery threshing has also been in progress. Potatoes were sprayed. Foundation Brunner oats on fallow yielded at the rate of 65 bushels per acre. Rotation barley and oat plots averaged about 43 bushels per acre. Rotation spring wheat plots averaged about 12 bushels per acre, and the winter wheat plots reseeded to Hard Federation May 2 have averaged about 9 bushels. Corn continues to shoot without any change in color, but it is not conceivable that any great amount of grain can be produced. Beans, sorghum, and proso continue to make surprising progress.

Mr. J. H. Christ, Agronomist for the Soil Conservation Service, Colorado Springs, visited the station Monday. Mr. Wayne Ward, Colorado College graduate, and an employee of that service is here this week end making individual selections of *Agropyron smithii*. These selections are to be isolated into individual rows by means of stolen plantings, and germination tests are to be run from individual plants.

Maximum temperature, 99°; minimum, 54°; precipitation, trace.

NORTH PLATTE:

Weather has continued hot and dry. Threshing has been in progress for the entire week. The fields laid out in the spring for future rotations were uniformly cropped this year, with winter wheat, oats, and barley respectively. The 108 plots of winter wheat ranged in yield from 9.8 to 35.3, and averaged 23.8 bushels. Eleven plots with yields under 20 bushels were on low ground, where lodging and rust injury were very severe. Only six plot yields were above 30 bushels per



acre. Yields of 144 plots of oats from the second field ranged from 34.1 to 64.1 bushels per acre and averaged 48.9 bushels. Threshing of the barley field is not complete.

Dry land corn has deteriorated rapidly during the week. Unless rain in liberal amount is received soon, the yields will be very light.

#### COLBY:

The dry, hot weather continues. Last Sunday looked like the beginning of another series of dust storms, but the air cleared during the night, and there has not been much dust since. Only three plots of corn will make any quantity of stover. The others have dried practically to the ground. Most of the sorghum plots are burned so badly that extensive recovery is doubtful even if good rains should come. Feterita is heading here and there.

Maximum temperature, 105°; minimum, 57°; precipitation, None.

#### HAYS:

Continued dry, hot weather has prevailed throughout the week, and with it has continued the decline of crop prospects.

Corn on the project is in very serious condition. On Fields A and B, 30% of the corn has melted down. Most of the corn in this condition is on the west one-half of the plot, on the east one-half of the plots there is some corn still green although badly fired. Of the corn that is green about 85% is in tassel. Most of the tassels are burned. Very few shoots have developed. The C. C. series plots, which are located on more level ground, are more uniform across the length of the plots, but all the corn is in very bad condition.

In Field C, the corn is fired and most of the tassels are burned, but it is not damaged so much as the corn in Fields A and B. Many more shoots have developed on the corn in Field C, and some silks are showing. The corn ear worm is adding considerable damage on these plots. Although the corn is surviving drought better in Field C than in Fields A and B, there is no hope for grain yields and little hope for more than a light crop of fodder.

Kafir throughout the project is surviving drought better than corn, but on many plots it has been damaged beyond the point where full recovery can be expected, even with good rains in the future. The kafir surviving the drought best is on the plots in Field C, the next best is on Rotations 501 - 510, inclusive.

Shortgrass pastures are perfectly brown. Shrubbery and trees are very much in need of moisture and in some cases are already dropping leaves.

Maximum temperature, 109°; minimum, 66°; precipitation, 0.14 inch.

#### GARDEN CITY:

Except in local spots favored with heavy showers, crops throughout southwestern Kansas have suffered intensely from heat and drought during the past two weeks. Many fields of kafir and milo are so badly burned that it is doubtful if grain will mature on them, even if the remainder of the season is favorable. Late planted sorghums show promise of yielding more than the ones planted near June 1.

On the station, sorghums following wheat are burned worse than where following row crops. This is probably due to row crops being

killed by heat and drought early last summer and allowing partial fallow during the late summer.

A trip through a portion of the Southern Great Plains revealed that although nearly the entire area needs rain, crops in the Texas panhandle were wilting less than in other large areas. Southeastern Colorado and northwestern Oklahoma, as well as southwestern Kansas, are very dry, except for the small areas that have been favored with heavy showers. Flood and soil erosion control work on the Colorado projects of the Soil Conservation Service has just started.

A. L. Hallsted was a station visitor on August 2 and O.R. Mathews on August 9.

Maximum temperature, 107°; minimum, 66°; precipitation, 0.32 inch.

#### TUCUMCARI:

The past week has been the most favorable of the season for crop growth, and all station crops have made rapid headway. Temperatures have been considerably lower, and precipitation totaled 1.83 inches. Wind movement and evaporation have been unusually low.

In most instances plots seem to have fully overcome drought injury, although corn plots, early broomcorn and a few rotation milo plots still show marked indications of previous, severe firing.

Work included cultivation of increase, picking of grapes and peaches, cultivation of fallows, and considerable mowing of weeds and hoeing.

Crops in northeastern New Mexico are very uneven and spotted, as rains have been local in character. Very few good fields were noted in a 500 mile trip over this area the past week. Much of the wheat land where the crop died the past winter, 70 to 100 miles north of Tucumcari, is now being worked for the first time, drought preventing timely cultivation. Since the rains of a week ago it has been possible to list or disk plow a heavy crop of weeds, which in many cases had completely died from drought.

Maximum temperature, 93°; minimum, 63°; wind velocity, 4.7 miles per hour.

#### DALHART:

Without any appreciable moisture during the week, the early planted crops have deteriorated rapidly. All corn and early planted sorghum plants are still alive, but with the exception of those growing on fallow, they would not respond sufficiently to give a yield of grain if good rains came soon. The later planted sorghums are now showing a decided drought injury, but with seasonable rains a good yield could be produced. Rotation plots of milo and kafir are starting to head, but on account of the dry soil heading will not be uniform. Thistles were mowed from the edges of the pasture terraces. Bagging of sorghums was continued.

Maximum temperature, 96°; minimum, 63°; precipitation, 0.06 inch.

#### BIG SPRING:

Weather conditions remain unchanged from the previous week, as another week of still, hot days with no rain passes. Sorghums are beginning to roll badly, but cotton is growing nicely and is beginning to bloom. Cowpeas in rotation and variety blocks are ready for harvest and probably will be cut the first of next week. Two plots of cowpeas were plowed under for green manure during the week. The soil



was found to be very dry and cloudy, but soil samples showed more moisture a little deeper.

The remainder of the grapes were picked, also a few peaches and plums. All produced small yields of fair quality.

Maximum temperature, 101°; minimum, 68°; precipitation, None.

LAWTON:

Maximum temperatures on five days the past week ranged from 103° to 106°, and the average maximum for the week was 102°.

Scaring temperatures since August 1 have been disastrous to much of the sorghum acreage in this part of the State. Early planted fields, mostly Hegari, matured a good crop of grain, and harvest has been rushed along to save all the feed possible. Late planted fields of sorghums that are not yet booting, although severely burned, still have a chance to make a crop. Wherever such crops are booting, failures are certain. Station crops of sorghums are severely fired, and lodging is progressing rapidly. Cotton has depreciated rapidly the past week. Leaves are turning brown, and progress in fruiting has ceased. Most of the native pasture grasses are quite brown, and available forage is being rapidly curtailed.

Dr. J. O. Ware, Division of Cotton and Other Fiber Crops and Diseases, and J. B. Sieglinger, Woodward, were recent station visitors.

WOODWARD:

There was a 60 per cent cloudiness this Saturday morning, as there was a week ago, but at 11 A.M. the sky is clear. Most sorghums are attempting to head but are burning in the boot and so suffering great injury. However, if rains come within 10 days, branches and suckers which would result would have time to mature grain. Trees over the country are generally suffering worse than they have at any previous time during the several years of drought. The attacks of various insects have now been added to that of drought, and in their weakened condition they cannot withstand them. Work of the week has consisted of cultivating sorghums and nursery, cleaning out fence rows, binding corn plots, taking soil samples, picking fruit, and watering nursery.

Maximum temperature, 107°; minimum, 71°; precipitation, None.

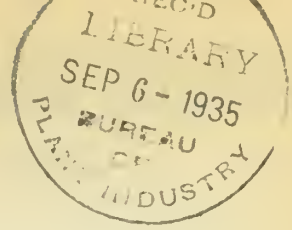
PENDLETON:

The small grain harvest was completed on this station August 8. All plot yields have been computed, and grain saved for seed is being recleaned. The majority of farmers have completed their harvest, but a few fields on the higher elevations near the foothills remain to be cut. Yields of seed peas are reported to be very satisfactory, with a number of 30 bushel per acre averages.

Maximum temperature, 96°; minimum, 45°; precipitation, None.

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**WEEKLY STATION REPORTS**

**OF THE DIVISION OF**

**DRY LAND AGRICULTURE**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**



REPORT FOR WEEK ENDING AUGUST 17, 1935.

HAVRE:

Except for the last two days when there was a decided drop in temperatures, weather conditions the past week were continuation of the previous week. Wind velocity was rather high at certain times, reaching an average of 13.3 miles per hour for the 24-hour period on the 10th. Evaporation was fairly high during the early part of the week. The growth of corn was materially checked, and the chances for grain production are rather small. The second cutting of irrigated alfalfa was completed. Threshing of the plots began on the 15th. Combining of spring wheat is general, with yields up to 15-18 bushels in certain favored places. Because yields of winter wheat and winter rye are fairly good this year, there is a good demand for both of these grains for seed. Grasshoppers are fairly numerous, more especially around irrigated alfalfa fields, but the damage seems less than the number of grasshoppers would indicate. The Says plant bug has completely taken scattered fields of spring grain over this section.

Frank Rabak, Drug and Related Plants, was a visitor on the 14th.

Maximum temperature, 99°; minimum, 40°; precipitation, 0.13 inch.

JUDITH BASIN:

The temperature the past week ranged from a high of 97° on August 13 to a low of 41° the night of August 16. Wind velocity was high making harvesting and threshing disagreeable tasks. All the threshing on the rotations was completed, the yields being very disappointing. The yields of winter wheat ranged from 1 to 12.7 bushels, spring wheat from 0 to 10.8 bushels, oats from 0 to 23.4 bushels, and spring rye from 0 to 7.3 bushels. Maximum yields for all crops were on summer fallow. Grasshoppers continue to do heavy damage, with poisoning of little relief.

Maximum temperature, 97°; minimum, 41°; precipitation, None.

HUNTLEY:

High temperatures and hot winds the first half of the week scorched corn and other late crops to the point where it is doubtful if the plants can recover sufficiently to reach a normal maturity. Grasshoppers have settled on the corn plots as the only remaining green vegetation in the dryland fields and are rapidly stripping the leaves from the stalks, despite the continued application of poisoned bait. The bait has been effective in killing large numbers of the insects, but the replacements have been too rapid and too numerous to be controlled.

Hogs on the soybean-Sudan grass pasture were weighed and showed good gains, notwithstanding the hot weather of the last two weeks. The forage appears to be about 60 per cent consumed, some of which reduction may be attributed to grasshoppers.

Winter wheat harvest on the benchland farms is now practically completed. Reported yields on large acreages range from 15 to 27 bushels to the acre, with much of the grain bringing a premium above the market price as a result of high weight and quality.



Maximum temperature, 104°; minimum, 42°; precipitation, None.

SHERIDAN:

Weather over the week was alternately hot and cool, the last two days being cloudy and quite cool, with a light shower on the evening of the 16th and again this morning. Threshing was continued throughout the week, except when necessary to stop for harvesting the remainder of the small grain and Sudan grass for forage the first of the week, and cutting Sudan grass for seed and some sorgo the latter part of the week, and this morning on account of dampness. Threshing of the rotations was completed except for barley, flax, and extra fallow plots of spring wheat. Yields have not been calculated, but the following are the approximate yields in bushels per acre of the highest and lowest yielding plots of oats, winter wheat, and spring wheat:

	<u>High</u>		<u>Low</u>
Oats	34.7	Rot. 47, Disked corn	6.9 577B, fall plowed (cont.)
Winter wheat	25.	" 116, G.M. peas	4. MCF cont. disked & D.F.
Spring wheat	17.	" 44, disked corn	3.5 Rot. II-5, fallow

The average yield of the other fallow plots of spring wheat was about 11 bushels, with rotations 5 and 18 yielding only about 7 bushels per acre.

Dr. Leighty was at the station from the 11th to the 13th.

Maximum temperature, 105°; minimum, 55°; precipitation, 0.24 inch.

DICKINSON:

Threshing of the small grains on the rotations was completed early in the week. Increase blocks of Steigum barley and crested wheatgrass were also threshed.

The following summary is of the old rotation field in plots since 1907:

	<u>Disked corn ground</u>	<u>Spring plowed</u>	<u>Fall plowed</u>	<u>Fallow</u>	<u>Green manure</u>	<u>Average</u>
wheat	10.5	11.4	5.5	11.5	11.6	10.4
Oats	19.4	22.3	14.8	22.0	22.1	19.3
Barley	12.3	22.3	13.1	19.2	-	17.8

Low yields are a result mainly of injury to the crop by heat and drought in late June and early July and by extreme heat on July 28. Rust was also a factor in wheat, but there was very little rust on oats and barley in the rotations.

Wheat yields ranged from 2.7 bushels on rotation 62 to 16.2 bushels on rotation 31. The highest yield on field N was 20.2 bushels on plowless fallow. Four plots of durum wheat on field N averaged 7.6 bushels, and the 4 comparable plots of Marquis averaged 12.4 bushels. Bushel weight of the wheat on rotation plots averaged 57.2 pounds. Late wheat in the locality was so badly injured by heat and rust that some was not worth cutting, and much of the crop averaged 48 to 55 pounds per bushel.

Three plots of rye averaged 17.0 bushels and weighed 54 pounds to the bushel.

Dr. C. E. Leighty visited the station August 6 and Dr. M. A. Mc Call on August 17.

Maximum temperature, 103°; minimum, 44°; precipitation, 0.33 inch.

MANDAN: Agronomy -

Threshing was continued during the week until stopped by rain on the 16th. Kubanka wheat in the rotations averaged about 22 bushels per acre, with a maximum of 28 bushels on fallow. Oats averaged 40 bushels per acre, with a maximum of 50 bushels on fallow. Barley averaged 33 bushels per acre, with a maximum of 38 bushels on fallow. Corn suffered from the heat during the week. Part of the millets were cut early in the week.

Maximum temperature, 104°; minimum, 50°; precipitation, 0.52 inch.

Cooperative Grazing Experiment - Blue grama grass is starting to dry up. The steers are still on the crested wheatgrass pasture, but they will need to be moved soon, unless the recent rain starts some new growth of grass.

Horticulture - The high temperature in the early part of the week did considerable damage to garden crops at the station. Tomatoes scalded, cucumber vines and corn foliage dried up, and everything in general wilted badly. The rain on August 16 with cooler temperatures helped to repair the damage, however, especially to late plantings. The following crops have been cleaned up: Peas, beans, early cabbage, cauliflower, 2 plantings of sweetcorn, and cucumbers. Midseason plantings of Golden Bantam sweet corn, tomatoes, peppers, eggplant, potatoes, all root crops, onions, etc. are in their prime at the present, and the quality on the whole is good.

Shrubbery and tree groups about the station were hoed after the recent irrigation. The flowerbeds now are a blaze of color and doing well. Lilies, such as regal and tiger, are still in bloom and making a fine show. Both are excellent cut flowers, lasting 5-6 days in water after being cut.

Sandcherries were picked on August 16. Some of the new selections produced heavy crops of good fruit and appear to be worthy of propagation. The three yellow selections are not as good as some of the blacks. Sioux sandcherries in the sandcherry variety test, where they are close to other sandcherry selections, bore heavy crops, but this variety bore but little fruit in the west field where plum trees but no other sandcherry varieties are near. It is likely that many of the plums bloom too early to properly cross pollinize the sandcherry.

Opata plums are being picked, but light crops prevail. Tecumseh plums are ripe. This appears to be one of the best early varieties. Yellow Transparent apples and Silvia crabs are being picked. Both are yielding heavy crops.

Visitors during the week included Dr. H. L. Walster, Dr. Trowbridge, and Professor Yeager of the North Dakota Agricultural College; and Dr. McCall, Assistant Chief of the Bureau of Plant Industry. Members of the State Horticultural Society attending their annual meeting in Mandan visited the station on the 16th.

ARCHER:

During the past week the weather, for the most part, was warm and dry. On August 16 a shower totaling 0.35 inch occurred. This cooled the air and brightened up the growing crops. To date the total precipitation for August is 0.47 inch.

The barley and oats are ripe, and these crops in the rotation plots have been harvested. Most of the wheat is approaching the ripe stage. Most of the corn ears are in the blister stage. Potatoes are



at a standstill, and the beans have stopped setting on new pods. The prairie grasses are curing. Work at the station consisted of hoeing and harvesting.

A group of farmers from the Guernsey, Wyoming locality spent most of August 16 studying the results and experimental plots at the station.

Maximum temperature, 95°; minimum, 42°; precipitation, 0.55 inch.

#### AKRON:

The hottest temperature of the season, 101°, was experienced on the 15th. The sky was overcast a goodly portion of the time, but only a trace of precipitation was recorded. It has now been exactly two months since a good rain was received at the station.

Threshing experimental plots of the early spring seeded cereal grains was completed early in the week. Early fall soil preparation on the rotation plots was started by the week end.

Corn on the station still holds good color and is filling a short ear. Beans are setting pods. The poorest looking plots today are the foxtail and proso millets. These are not appreciably more promising than last year. First rate and date seeding of winter wheat was made on the cereal project on the 15th. It is not expected even the fallow plots will emerge until rain falls.

C. E. Leighty visited the station Wednesday.

Maximum temperature, 101°; minimum, 50°; precipitation, trace.

#### NORTH PLATTE:

Severe drought conditions have prevailed. The entire week until today has been bright, warm, and with intermittent strong winds. Today, Saturday, is starting in cool and cloudy, which is the first sample of such weather since June. Thin, clean corn has held on well, but thick stands and weedy fields have suffered severely. The heavy growth of grass produced early in the season has dried on the uplands, and will soon become a fire hazard if present conditions continue. River bottom hay is producing an unusually heavy crop and is being put up rapidly. The local market for all hay is very sluggish.

Dr. Leighty visited the station on the 16th, leaving the morning of the 17th for Colby.

#### COLBY:

The weather continues dry and most of the time extremely hot. Occasionally rain threatens, and it gets cooler for a day or so. Very light showers have fallen in very limited localities in this section of the State, but all crops continue to dry up. All but three of the corn plots had dried almost to the ground and were cut this week. The sorghums are going fast, even on fallow. From present appearances, most of the milo will not be big enough to cut except by hand.

Dr. Leighty and Mr. Weakly visited the station Saturday.

Maximum temperature, 106°; minimum, 57°; precipitation, 0.01 inch.

#### HAYS:

High temperatures and drought continues. The prospects for corn are gone. Some farmers in this vicinity are now cutting corn with a mower, hoping to be able to gather up a little feed with a rake. All sorghums are seriously damaged but still have a chance to make some feed.

Maximum temperature, 110°; minimum, 54°; precipitation, None.



GARDEN CITY:

Continued hot, dry weather is rapidly decreasing the prospect for a crop of sorghums in southwestern Kansas. Nearly all the scattered fields of corn are burned beyond possibility of producing grain.

Moisture samples taken on plots planted to milo in 44-inch, 88-inch, and 132-inch rows reveals the following:

1. Roots are taking moisture from a distance of at least 66 inches from the plants in the plots where rows are 132 inches apart.
2. Practically all available moisture is gone from plots of milo in 44-inch rows.

Milo in the widest spacing is not yet turning brown, due to lack of moisture. All other plots in the series are burning or are burned nearly brown.

A recent detailed soil survey of the station farm reveals that six soils which differ from each other in one or more physical characteristics or depth to lime are represented on the D.L.A. plots.

Maximum temperature, 107°; minimum, 52°; precipitation, 0.01 inch.

TUCUMCARI:

The week was dry, but with moderate temperatures and low wind movement. Early planted crops are again in need of moisture, but late crops are making rapid growth. Precipitation of 8.84 inches this year to date is 2.5 inches below normal for the period. Work included cultivation of fallows and tree rows, picking grapes, cutting and shocking Sudan grass, bagging sorghum heads, and making plant counts.

Maximum temperature, 96°; minimum, 60°; precipitation, 0.01 inch.

DALHART:

No precipitation was received during the week, and the sorghums, especially the early planted ones, continued to deteriorate. It is now thought that there can be but spotted heads on the early planted plots. The late planted plots, while definitely shortened and drought injured, can still produce a fair yield should moisture come at once. Heading has been at a standstill this week. Only a few plots put out additional heads. Bagging was chiefly confined to marginal heads in an attempt to obtain seed stocks. Soil moisture sampling was done on several additional plots from the regular routine to get information on varietal and rotational effect on drought injury. All Sudan grass plots were harvested during the week. Several variety plots of completely dried broomcorn were also bound. Two corn plots were also harvested, as they were dried completely.

Maximum temperature, 100°; minimum, 62°; precipitation, trace.

BIG SPRING:

Continued hot, dry weather during the entire week has caused some of the varieties of the early plantings of grain and forage sorghums to burn beyond recovery. Others, in this planting and in the rotations, are maturing with such a lack of moisture that the heads are poorly filled and promise small yields. Two plots of corn, in rotations, had to be cut before maturity as they were falling over. The later plantings of sorghums are still in fair condition, and the cottons are growing some and blooming a little.

Most of the cowpeas were harvested this week, and fair yields were obtained from all plots. All the milo in rotations and spacing

plots headed this week, and the broomcorns are heading slowly but will need rain soon to head thoroughly. Station work consisted of the cultivation of all the cotton, evergreen planting, and roadways; hoeing evergreen planting and fence rows; and harvesting cowpeas.

Maximum temperature, 102°; minimum, 67°; precipitation, None.

#### LAWTON:

Hot, dry weather continued in this vicinity throughout the week. Good rains were reported in several places in the southwestern part of the State on the 12th and 13th. Station records include only 0.02 inch. Maximum temperatures for the week ranged from 92° to 105°.

Rapid deterioration of the sorghums continues, and grain production is confined to early maturing varieties that were planted in April or about the first of June or a little later. Rotation plots of feterita will produce good yields of grain with only a few exceptions. The crop is practically mature, and heading and harvesting of the stover is pretty well completed. On 12 rotation plots of kafir that were recently harvested, the plants were well headed, and the grain was formed; but it did not develop, as the heads dried out and the foliage burned beyond recovery.

Cowpeas did not produce seed, and the foliage was severely burned before the crop was harvested on the 14th. Cotton is suffering severely from drought. Although abortion of young fruits has not been so heavy as might be expected, blooming is light. Growth of alfalfa on the upland soils has been at a standstill for several weeks. Sweet clover appears to be holding its own.

The farm attendance at the Sorghum Field Day, held on the station August 13 included 175 to 200 people. Several county agents from surrounding counties were present, and about 20 4H Club boys participated in a grain sorghum judging contest under the direction of the State Extension Service. The crowd spent the forenoon in the fields observing the various sorghum projects and enjoyed a cold lunch at the noon hour. The noon lunch was followed by a short program that included talks by the station officials, and State officials from the A. & M. College, Stillwater, Okla.

Station visitors were Dr. V. G. Heller, Dr. W. B. Gernert, Prof. H. F. Murphy, Dr. F.E. Whitehead, and Messers L. W. Osborn, and Dan Diehl from the A. & M. College, Stillwater, Okla.; Dr. R. H. Painter, Kans. State College; Mr. H. N. Shen, Waukung, China; and Dr. John H. Martin, Washington.

#### WOODWARD:

Another week of hot, dry weather has passed. It would seem that vegetation cannot survive much longer under such conditions, but it is remarkable how green the general appearance of the landscape stays. However, many varieties of trees and shrubs are beginning to suffer severely from the drought, and very little grass growth remains to be grazed in the native pastures. Sorghums wilt badly during the hot day time and are beginning to struggle to recover from wilt during the nights. Practically no preparation of land for fall wheat planting has been accomplished over the country, because of the hard, dry conditions of the soil.

In the face of continued dry weather crape myrtle, trumpet creepers, and flowering willows are blooming brightly and profusely. Station work consisted of picking grapes, tomatoes and melons; hoeing

and watering nursery; taking soil samples; and repairing plot roads.

Maximum temperature, 108°; minimum, 59°; precipitation, None.

PENDLETON:

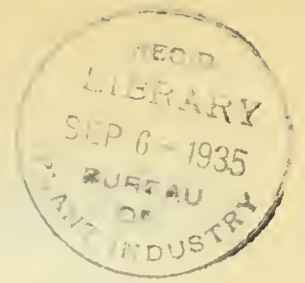
Work on the station the past week consisted mainly of cleaning up the odds and ends of harvest. Pea land was gone over with the rotary rod weeder to destroy Russian thistles. Weeds along fence rows were hoed. Crested wheat grass selections were harvested.

Maximum temperature, 96°; minimum, 34°; precipitation, None.

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**WEEKLY STATION REPORTS**

**OF THE DIVISION OF**

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**U. S. DEPARTMENT OF AGRICULTURE**





REPORT FOR THE WEEK ENDING AUGUST 24, 1935.

HAVRE:

Threshing operations on the station are complete, with the exception of safflower. Corn is drying and will be cut in the near future, there will be practically no grain. Grasshoppers continue to be fairly numerous. The reports from the range country are to the effect that they are causing damage to grasses. Livestock are in very good condition, and shipments are becoming more numerous.

Visitors of the week were Dr. M. A. McCall; and Professor D. W. Chittenden, Animal Husbandry Dept. of the Montana Experiment Station.

Maximum temperature, 97°; minimum, 42°; precipitation, 0.04 inch.

HUNTLEY:

Two light showers early in the week were the first measurable precipitation since July 23. The moisture had little effect on crops or soil, as the ground was dry shortly after the rain ceased. Corn has deteriorated seriously during the week, and any hope that the crop might mature grain in some plots has vanished. Grasshoppers continue to strip the leaves from the plants, and preparations are being made to harvest the corn as soon as possible in order to obtain a fodder yield at least.

Threshing of the dry land plots occupied most of the week. The yields of all grains were below the average but somewhat higher than those of the last three years. The highest yields were wheat, 26.0 bushels; oats, 31.0 bushels; barley, 12.0 bushels; and flax, 6.0 bushels to the acre. The proportion of straw to the total weight of the crop appears to be considerably higher this season than for a number of years. This relatively heavy straw growth has resulted in most farmers over-estimating their grain yields.

Alfalfa and grasses have made practically no growth since they were cut early in the month, and the ground in most plots is badly cracked by drought.

Dr. M. A. McCall and J. Allen Clerk were station visitors early in the week.

Maximum temperature, 97°; minimum, 39°; precipitation, 0.28 inch.

SHERIDAN:

Following the light showers of the first of the week, moderate temperatures prevailed over the first five days of the week. The last two days were warm again. Some plots of corn are now beginning to ripen or dry up. Except for some left to mature seed, Dakota Amber sorgo was cut the first of the week while grain was too damp for threshing. Threshing was continued through the week, completing the threshing of small grain except rye, late dates of seeding, and flax.

Maximum temperature, 98°; minimum, 43°; precipitation, 0.17 inch.

MANDAN:

Agronomy - Threshing was delayed early in the week because of dampness of the grain. Grain varieties and some flax varieties were threshed the latter part of the week. Fallow plots were duckfooted.

Corn is almost ready to cut. The 23rd was hot with a high wind which dried the corn badly.

Maximum temperature, 98°; minimum, 50°; precipitation, 0.26 inch.

Cooperative Grazing Experiment - Steers are still on the crested wheatgrass pasture. They are dependent on new growth, which is slow. Cattle on the native pastures are in excellent condition with an abundance of feed.

Horticulture - Orchard fruits are commencing to ripen. A number of crabs, plum varieties, and early apple varieties were picked during the week. The earliest plum of quality was Tecumseh. This is a trifle larger than Cree and a week earlier than Opata. The Underwood plum was especially good this year as was also the sandcherry hybrid Sapa. Budding has been in progress during the week and should be finished in a day or two.

Sweetcorn is still at its prime. Early plantings are gone, but the date of planting experiment with station seed of Golden Bantam, pure lines open pollinated, continues to yield excellently. The May 20 planting is past, and May 30 is at its best with June 10 coming on very nicely.

Tomatoes have picked up a little since the recent rains but show considerable damage to early fruit from sunscald and the extreme heat experienced during the week. Navy beans are ripe and are being pulled and stacked.

Visitors for the week include A. A. Hoover and G. L. Weber, Soil Conservation Nurseries; J. Allen Clark and F. A. Coffman.

#### BELLE FOURCHE:

High temperatures and hot winds continued until August 15, when a sharp drop in temperature followed a light rain of 0.34 inch. The weather remained cool and cloudy for nearly a week, and a few light showers were received. The precipitation was not sufficient to be of any benefit to plant growth, but the cool, damp weather afforded temporary relief from the high temperatures and scorching winds. Extensive drought injury was resumed during the hot weather of the last three days. Sorgho on fall plowing and corn on all cultural treatments has burned beyond recovery.

Thrashing of all grain grown on the dry land rotations was completed. The yields of all crops were unusually low, and the grain was badly shrunken and light in weight. A summary of the yields is given:

<u>Crop</u>	<u>Highest Yield</u>	<u>Lowest Yield</u>	<u>Average Yield</u>	<u>Aver. Wt. per Bu.</u>
W. rye	15.7 Bu.	6.8 Bu.	11.6 Bu.	54 lbs.
W. wheat	15.8 "	8.0 "	11.4 "	54 "
S. wheat	13.5 "	2.5 "	6.9 "	56 "
Oats	36.3 "	14.7 "	23.3 "	24 "
Barley	24.0 "	14.0 "	19.4 "	42 "

Maximum temperature, 105°; minimum, 43°; precipitation, 0.58 inch.

#### ARCHER:

The weather during the week was warm and dry, except the two last days when it was more humid and partly cloudy with light, local showers.

Early seeded spring grains are harvested, and the late seeded grain is turning. Harvesting, combining, and threshing are all pro-



growing. The barley is threshed, and the threshing of the oats is under way. Row crops are in serious need of rain. Beans are ripening, corn is at a standstill, and potatoes have set on a fair crop but the tubers are not growing.

Ranchers and farmers are complaining considerably because of the large percentage of weeds in the prairies. This is especially true where the grasses have been overgrazed, but on the whole there is more grass in this section than there has been for a long period, and it is practically all cured. The dairy herd is doing well on this kind of pasture with 1 pound of grain to 6 pounds of milk.

Station visitors were F. A. Krantz, University Farm, St. Paul, Minn.; F. J. Stevenson, Washington, D. C.; H. C. Moore, East Lansing, Mich.; Dr. A. C. Hildreth, Cheyenne, Wyoming; and Harry E. Weakly, North Platte, Nebr..

Maximum temperature, 92°; minimum, 52°; precipitation, 0.03 inch.

#### NORTH PLATTE:

Weather conditions for the week were less severe than for some time. Temperatures were lower, there was some cloudiness and several showers. So far, these have not wet through the plow depth on cultivated land, but vegetation is temporarily benefitted. Threshing of variety grains was completed on the 20th. Winter wheats ranged from 44.7 to 56 bushels on fallow and from 32.7 to 41.3 on corn land. Test weights were 56 to 58 pounds per bushel. Oat varieties on cropped land ranged from 42.8 to 62.5 bushels. Barley varieties ranged from 37.3 to 52.3 bushels per acre.

Maximum temperature, 89°; minimum, 64°; precipitation, 0.49 inch.

#### AKRON:

Last Saturday there was a rain of 0.44 inch. The fall was reported to be much heavier southwest and south of the station. LeRoy, approximately 35 miles northeast of the station, reported 1.01 inches Friday. Rains have been quite general over northeastern Colorado the past week, but quite generally light and inadequate. This 0.44 inch was the heaviest single precipitation since June 11. Threshing of small grain fields was completed. Good progress was made with nursery threshing, which should be completed next week. Early fall preparation of the rotation plots was completed early in the week. Ground turned up very cloddy with not enough moisture to make seed bed preparation possible. Those plots to go through the winter will certainly be in nice cloddy condition to resist soil blowing.

Sorgo seeded on the rotation plots June 8 is ripening seed at about shoulder height. Rate of seeding proso experiment was harvested this morning. Tepary beans in the variety experiment are ripening.

Visitors K. S. Quisenberry and J. L. Shields, Colorado State Extension Economist.

Maximum temperature, 95°; minimum, 55°; precipitation, 0.44 inch.

#### COLBY:

The drought was broken by a fairly heavy rain and showers Thursday afternoon and night. The rain was fairly general in this vicinity, although much heavier in some places than in others. It is evident since the rain that most of the sorghum plots were burned beyond recovery, except along the edges. Only a few will make much growth as a result of the rain. This is the first moisture of con-



sequence that has fallen on much of the summer fallow ground since it was plowed.

Maximum temperature, 99°; minimum, 59°; precipitation, 0.77 inch.

#### HAYS:

The temperatures during the past week have averaged somewhat cooler than the previous week, and the drought was interrupted by two showers amounting to 0.66 inch on the Dry Land project. The rain brought temporary relief to crops only to the extent of slowing up the drying process. There is no evidence of new growth. The corn, row sorghums, and drilled feed crops appear to have been so injured by the prolonged drought they have not yet been able to respond to the moisture of the past week. The rain moistened the dirt to a depth of only 2 inches, and it may be that all the roots within the first 2 inches of soil are dead. No vegetation has made any response to the moisture.

Kafir on the plots ranges from 18 to 36 inches high, the taller plants being a result of marginal effect. Most of it is quite uniform at from 24 to 30 inches. For three weeks the most forward plants have been endeavoring to head but not more than 2% of the plants are showing heads, and none of the heads have fully emerged. In most cases only the tips of the heads are showing and all have more or less blight. Milo appeared to be taking the drought more gracefully than kafir at first, but now the milo is suffering more than kafir. The milo is not showing any heads. Wheatland milo appears to be suffering even more than the milo; and drilled sorgo is suffering most of all, being practically all dead at a height of from 8 to 12 inches.

Farmers continue cutting corn, which in many cases is not more than 2 to 3 feet high, and mowing sowed feed of which the top growth is dead and which varies in height from 6 to 24 inches.

The remainder of the corn plots were harvested the 23rd. Shallow soil samples have been collected on a number of plots upon which special soil moisture studies are being made. August 20 the 4th set of plots was worked for the first time by the various implements being used in the machinery-date-tillage experiment.

Dr. C. E. Leighty, E. F. Chilcott, and E. W. Johnson were visitors at the station Sunday and Monday. Dr. Martin is also visiting at the station.

Maximum temperature, 106°; minimum, 82°; precipitation, 0.66 inch.

#### GARDEN CITY:

Nearly all fields of row crops are showing severe damage from hot, dry weather except where irrigated. On the station irrigated sorghums are 5 to 8 feet high and fully headed. They furnish a pronounced contrast to the dry land plots where the highest plants are barely 3.5 feet and no heads visible, even on fallow. Sorghums following small grain are burned brown and crisp. Those following row crop (which failed to come up last year) and on fallow are still green but badly wilted, and the leaves remain rolled even after a shower of rain.

Dr. Leighty and Messrs. Chilcott and Johnson were station visitors August 20.

Since July 1, 0.68 inch of moisture has fallen in 6 light showers. On 30 days the maximum temperature was 100° or above and on only 2 days of the 55 did the thermometer fail to reach the 90° mark. Total evaporation was 25.2 inches.

TUCUMCARI:

Temperatures have moderated, but crops are badly in need of moisture. Precipitation of 9.5 inches in 1935 to date is 2.5 inches below normal for this period. In the past two years there has fallen only slightly more precipitation than the average annual of 16.63 inches.

Early milo will be practically a failure, but late plots still show possibilities of good yields if rains occur. Cowpeas will soon be harvested, with comparatively little wining taking place. All late sorghums are in fairly good condition, with good yields possible if timely rains occur.

Grape yields were high for most varieties, with only two late varieties still to be picked. A light crop of choice peaches was obtained. Other fruits were a failure.

J. E. Smith, formerly of the Woodward station, now with the Soil Conservation Division; and several army engineers and other employees connected with the construction of the Conchas dam were station visitors.

Maximum temperature, 93°; minimum, 62°; precipitation, 0.01 inch.

DALHART:

Crop prospects, in the main, are poorer now than they were a week ago. This may sound illogical when it is reported that two rains, of 0.46 and 1.11 inches, respectively, were received during the week. The first rain of 0.46 inch received on the 18th was followed by two warm days, and no appreciable change was noticed in any vegetation. The rain of 1.11 inches fell the evening of the 20th in something less than half an hour. Considerable quantities of this rain was lost in run off from all plots and fields. The rain was accompanied with considerable quantities of fine hail and a very strong wind. The hail seemed to be strongest on the southeast part of the station, although the entire station was damaged. The blades of the sorghum plants were stripped to the midrib where the hail was the most severe. All plants look extremely ragged. Head injury, where there were heads on the sorghum plants, does not seem to be severe. The trees, with the exception of a very few small twigs and leaves, show no hail damage. Cowpeas in the path of the hail show approximately half of the leaf surface knocked away. The paper sacks used in bagging withstood the hail remarkably well. It was necessary to replace some 500 of the bags the day following the hail.

Maximum temperature, 95°; minimum, 60°; precipitation, 1.57 inches.

BIG SPRING:

A local shower of 1.29 inches August 22 has greatly revived crops on the station. Cotton, milo, broomcorn, and Sumac have taken new life and are growing rapidly, but the rain came a little late for a few plots of kafir and corn in the rotations. Those sections of this county that were most in need of rain received light showers this week. The first cotton in this section will probably be picked next week.

Cotton leaf worms threatened again this week, and considerable poisoning had to be done. Poisoning was started on the station cotton Saturday morning and will be continued next week. Other work consisted of rebuilding fences washed out by the heavy rains in June.

Maximum temperature, 98°; minimum, 64°; precipitation, 1.30 inches.



LAWTON:

Crop deterioration continues as in the past weeks of August. Several threats of rain failed to materialize, and the maximum temperatures averaged 101° for the week.

Harvesting of sorghums in the variety test, the chinch bug sorghum resistance project, and the rotation plots is about completed. The varietal project planted April 25 produced good crops of grain except Reed and Hydro kafir; Atlas, Ajax, and African millet; all of which were forced to maturity with reduced grain yields and poor quality of seed. Kafir in the rotation plots produced grain failures, but fairly good yields of grain were produced on the feterita plots. A few plots of kafir that were replanted at a late date are still in a condition to recover under favorable weather conditions.

Foliage on April planted cotton is burned brown, and much of it is lost. June plantings look quite fresh in the early mornings, but the plants droop and wilt early in the day. There are from 2 to 6 half grown bolls on plants that have made fairly normal development, and there is not any chance of an increased yield from now on. On the deep, sandy soils on river and creek bottom fields a pretty good yield of cotton will be produced.

Messrs. Quinby and Stephens from the Chillicothe station were visitors on the 20th.

WOODWARD:

It seems that nearly every Saturday the sky clouds up about the time the weekly report is to be written, as if to give assurance that this would be the last adverse report necessary. But so far rain has not materialized. Farmers have lost hope of securing anything but a light yield of seed from sorghums. There is still time, however, for an enormous yield of forage, as there is so great an acreage in sorghums over the southern plains.

On the station a great many of the short season early maturing strains of sorghums recently created give promise of giving good yields of grain. Because they cannot produce much forage, the moisture originally in the soil has gone into grain production.

Practically no moisture has been stored during the entire summer to start wheat this fall. When little or no moisture is stored for winter wheat during the summer, the chances of a good yield the following spring are not great.

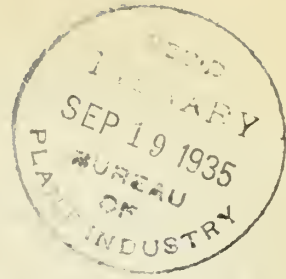
There seems an unusually heavy infestation of borers this fall, and drought stricken elms and honey locust are rapidly succumbing to them. The drought has taken a heavier toll of trees this summer than heretofore.

Crane myrtle, vitex, and flowering willow still lend cheer to the station grounds.

Maximum temperature, 102°; minimum, 70°; precipitation, None.

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**WEEKLY STATION REPORTS**

**OF THE DIVISION OF**

**DRY LAND AGRICULTURE**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**



REPORT FOR WEEK ENDING AUGUST 31, 1935.

HAVRE:

With the exception of some late dates of forage, grain, and safflower, the harvest is complete on the station. Corn, except a few plots on the MC series, was cut for feed. There will be a light yield of grain on the MCA and fallow plots. The week was dry, and conditions are not favorable for fall plowing. The surface is also too dry for the germination of winter grains.

The minimum of 37° on the 25th was unusually low. Damaging frost was reported along the valley and in the mountains.

There was a delegation of farmers and stockmen from Saskatchewan on the 25th.

Maximum temperature, 76°; minimum, 37°; precipitation, 0.02 inch.

JUDITH EASIN:

The weather continues warm and dry. Soil moisture conditions are extremely poor, and there has been little incentive to seed winter wheat. Grasshoppers are also numerous, and with the lack of moisture will undoubtedly cause many farmers to delay seeding. Winter wheat seeded on fallow on the date of seeding project has been destroyed by the grasshoppers as soon as it has emerged.

The steers on the bromegrass pasture were removed August 28 with a total pasture season of 127 days. Those on the native grass were removed from the pasture August 1 at the end of 70 days. There is still some feed in the crested wheatgrass pasture. The gains in all pastures have been above those of last year.

All threshing on the station has been completed. Fall plowing on the rotations has also been finished. Recent station visitors have included Dr. M. A. McCall and L. F. Gieseke.

Maximum temperature, 93°; minimum, 37°; precipitation, 0.40 inch.

HUNTLEY:

Rain has threatened several times during the week, but only a trace of precipitation was received. Unseasonably cool nights have delayed the maturity of such late crops as Sudan grass, sorgo, and beans, which have to date survived the drought and promise to make a fair yield. Corn in the rotation plots was harvested early in the week. Because of injury by grasshoppers no grain yields will be obtained, and the yields of fodder will not be representative of the cultural treatments. Fall plowing and the preparation of land for winter wheat and rye was begun. The soil is very dry, and where plowing enters into the tillage for those crops the seed-beds will be extremely rough and cloddy. Dry seed-beds throughout this section are delaying fall planting operations on most farms.

Maximum temperature, 88°; minimum, 39°; precipitation, Trace.

SHERIDAN:

With the exception of one day, cooler weather prevailed over the week than since some time in May. Heavy wind on several days, however, dried corn and late forage badly. The most of the corn on



fall plowing in the rotations, and all but one of the varieties of corn were cut early in the week. Seed was picked from seed blocks of Northwestern Dent, Minn, #23, and Gehu, and from a few plots in the rotations. The seed blocks, the Northwestern Dent on potato ground on the north slope in field O, and the others on corn ground produced much better corn than any of the other corn on the station, except for another seed block of Falconer on corn ground. Seed from these blocks is about as good as can be expected in almost any year here. Good seed ears are very scarce in any of the other corn on the station.

Threshing of all crops ready to thresh was completed yesterday. A seed block of winter rye, #2148, on the north slope of the hill in Field G, on fallow, yielded at the rate of 28.2 bushels per acre, whereas the same variety in the variety test on fallow yielded at the rate of 16.7 bushels per acre, and other varieties about the same.

Maximum temperature, 94°; minimum, 40°; precipitation, 0.27 inch.

**MANDAN:**

Agronomy - The past week was favorable for all field work. Part of the week was cool. A heavy frost occurred on the night of the 27th, when the temperature dropped to 32°F. Leaves on corn and sorgo were frozen badly, especially in the lower places. Corn in the rotations was cut during the week. Corn varieties and varieties for silage were also cut. Oats for feed in field P were threshed. The yield was light. Rust hit this field worse than others on the station.

Maximum temperature, 87°; minimum, 32°; precipitation, 0.01 inch.

Cooperative Grazing Experiment - Native vegetation has dried up a great deal during the past couple of weeks. Blue grama grass is now curled. The steers made good gains during the month. The steers in the crested wheatgrass pasture were short of feed and lost heavily during the last of the month. The two steers that were added to the pasture on July 1 showed a loss for the 60 days, and this reduced the average gain per head for the pasture. New growth which started on the grass near the middle of August failed to continue because of dryness.

The following table shows the gains by pastures for August and for the season.

<u>Pasture</u> (acres)	<u>No. steers</u>	<u>Gain per head (lbs)</u>	
		August	90 days
100	10	85.5	324.0
70	10	94.5	314.5
70 (Rot.)	12	75.4	282.1
7 (Crested wheat)	7 (1)	-45.7	116.1
93 (Reserve)	9	33.9	284.4

(1) 7 head in July and August, 6.33 for 90 days.

Horticulture - Navy beans were threshed during the week. The yield was fair. This crop has proved rather unstable at the station, no yield having been obtained since 1929. Melons are beginning to ripen but are rather slow this season. If the weather continues cold with near freezing nights, these and other vine crops will give a rather poor yield. A light frost did some damage to sweetcorn, tomato vines, and squash vines, but not heavy enough to spoil anything. The last planting in the date of planting project is just coming on. Roasting ears have

been harvested since the latter part of July and have been of excellent quality. Onions were harvested during the week. This vegetable produced a bumper crop of medium size, firm onions.

Cuttings of geraniums and other bedding plants were started on during the week. The light frost did but little damage to the semi-formal flower groups, and cannas are especially resplendent at the present time.

Arboriculture.-- Work during the week has consisted of collecting and cleaning chokecherry seed for the Mandan shelter belt project and the Soil Conservation Service. A total of 4,300 pounds has been collected and about half of it cleaned.

Reports from field men collecting data from established shelter belts show the majority of deciduous belts to have come through in excellent condition. More 5 year-old belts were found in poor condition than those of older ages. Considerable variation in the behaviour of species has been found, certain species of the same age being 100 percent successful in some localities and a complete loss in other localities. The factor of soil type undoubtedly plays a very important part in the survival of trees during the dry years. Many large conifers were found dead, probably as a result of their being planted on the insides of shelter belts where they collected no drifting snow. Trees are generally extremely weedy this year, except in old belts which have developed good shade.

Visitors for the week included Dr. A.S. Dahl and Dr. A.D. Stoesz, Soil Conservation Service; R. L. Shotwell, Bureau of Entomology; Norman Sherer, U.S. Indian Service; George T. Salzman, Belcourt, N.Dak., and J.A. Munro, North Dakota State Entomologist.

#### BELLE FOURCHE:

The first of the week was quite warm, but a sudden change in temperature occurred during a light shower on the evening of August 25, and abnormally cool weather prevailed thereafter. Precipitation was negligible. No rain heavy enough to be of any benefit to crops has been received since the middle of June. Sorgo on fall plowed land dried beyond all possible recovery and was harvested, but sorgo on spring plowed land has not suffered so seriously from hot, dry weather, and is in fair condition. About half of the corn plots were harvested, as the production of ears was nil. The yield of grain from the remaining plots will be very light. Fall plowing of plots is in progress.

P.A. Young, of the Soil Conservation Service, Mandan, N. Dak., visited the station September 1.

Maximum temperature, 92°; minimum, 43°; precipitation, 0.20 inch.

#### ARCHER:

On the whole the weather during the week ending August 31 was that of early fall - rather cool and pleasant. The latter part of the week was quite humid and at times threatening. These conditions were of aid to corn, millet, sorghums, and sunflowers in that they helped them to hold on. Most of the small grains have ripened, and threshing is coming into full swing in this locality. Potatoes are at a standstill with very small yields. Great Northern beans are either ripe or ripening and are being harvested.

Work at the station consisted mostly of threshing. All but a few plots were threshed. Sudan grass and beans are being harvested today. Preparations are under way for putting up silage.

The dairy cows have practically cleaned up the native pasture.



They have been weighed and turned into the Sudan grass pasture.

Director W. L. Quayle was a station visitor during the week.  
Maximum temperature, 83°; minimum, 44°; precipitation, Trace.

#### AKRON:

Rains have been general throughout the week, but very spotted in quantity. Weather has also been decidedly cooler, with the fall season apparently now in force.

The total precipitation for August was 0.63 inch. This is the third lowest August rainfall, and combined with the low July rainfall makes the lowest July-August rainfall within the 27-year period at this station.

Nursery threshing was completed and also the grading of the foundation winter wheat seed. Current field work included harvesting the rotation sorgo plots, pulling the Tepary beans, and harvesting Sudan grass in the forage variety experiment. Winter wheat seeded in the rate and date experiment has emerged on fallow preparation. Grain and forage sorghums in the variety experiments are showing nicely at this stage but are slightly under normal height. Early grain sorghums are in soft to hard dough stage of development and promise good yields.

Maximum temperature, 92°; minimum, 48°; precipitation, 0.29 inch.

#### NORTH PLATTE:

Weather for the week has been cool, damp, and cloudy. Measurable precipitation occurred on four days. Alfalfa cut on Monday is not sufficiently cured for stacking today, Saturday. Threshing, of which there is still considerable to be done in the community, has been at a standstill. Moisture has finally penetrated below the plow depth, and late seed bed preparation for winter grains will be accomplished without difficulty. A heavy crop of volunteer is starting in grain stubble fields.

Visitors during the week included M. A. McCall; F. D. Keim and C. A. Suneson of the Lincoln Station; and Paleau Pana of Roumania, who this year will be a senior in Illinois Agricultural College.

Maximum temperature, 95°; minimum, 40°; precipitation, 1.09 inches.

Precipitation for August to date, 1.72 inches

#### COLBY:

The weather has been cool, rainy, and cloudy nearly all week. All crops continue to dry up. The rain of last week revived them appreciably, but moisture conditions had been favorable enough to prevent much deterioration previously. Pastures have greened up some. The sorghum plots on the station show revival chiefly along the edges.

Ground that was worked for fallow before the weeds had made much growth after the rains started in the spring is moist to a depth of from 1 to 2 feet. Ground on which the fallow tillage was not started until after the rains ceased in June is generally moist only a few inches, the depth of the penetration of the rain last week.

Maximum temperature, 96°; minimum, 43°; precipitation, 0.11 inch.

Director Call, Prof. Throckmorton, and Prof. Atkeson of Manhattan visited the station today.



#### HAYS:

The weather has been cloudy considerable of the time, and two showers occurred during the week. These showers together with showers of previous weeks have been sufficient to start some new growth of buffalo grass, but the cultivated crops do not show much improvement. Only a few heads of kafir, milo, and wheatland have fully emerged on the plots, and these are on the marginal rows. These heads are very poorly developed.

The lister, plow, oneway, and chisel were used August 30 for the initial operation in the preparation of wheat stubble plots for wheat. Soil samples for moisture determinations were taken on a number of plots.

Maximum temperature, 98°; minimum, 46°; precipitation, 0.65 inch.

#### GARDEN CITY:

Rain varying from 8-inch cloudbursts to a mere shower fell on southwestern Kansas this week. Areas that received heavy rains and were well fallowed promise to be in good condition for seeding wheat. In a few places sorghums will probably produce grain. On the station 0.25 inch of rain fell. This with the cool weather has served to check the rapid firing of the sorghums on dry land. Feterita is the only sorghum that has headed and will probably be the only crop that produces grain this year. Crops on irrigated land are in excellent condition with promise of heavy yields.

Director Call, R. I. Throckmorton, and C. O. Grandfield were station visitors this week.

Maximum temperature, 92°; minimum, 52°; precipitation, 0.25 inch.

#### TUCUMCARI:

Frequent showers, cloudy days, and a marked drop in temperatures characterized the past week. Precipitation for August was 3.64 inches, or considerably above the August normal. Early sorghums will make but little recovery as a result of the recent rains, but late crops will be greatly benefitted. A large acreage of wheat has already been sown under exceptionally favorable conditions, and the remaining acreage will be seeded as fast as possible, farmers stating soil conditions are the most promising in several years.

Visitors included Drs. C. E. Leighty and J. H. Martin and Messrs. Chilcott and Mathews.

Maximum temperature, 95°; minimum, 60°; precipitation, 1.14 inches.

#### DALHART:

Temperatures are appreciably lower than in the preceding weeks, and several showers have been received since last Saturday, but the crop prospects are no better than a week ago. A few late heads are coming out on a few of the plants, but, for the most part, the sorghum plants were too severely injured to respond to rains. This year it was simply a case of moisture coming too late for row crops. The marginal heads on many of the plots and plots which had not suffered too completely before heading are continuing normal development. Cowpeas and soybeans are showing normal development only on low lying ground. Corn will possibly produce a few ears on fallow and listed plots. The few heads of grain sorghum which will be produced will be harvested by the birds if the present flocks continue.

Visitors during the week included: Dr. C. E. Leighty, Dr. John H. Martin, E. F. Chilcott, O. R. Mathews, and J. E. Smith.

Maximum temperature, 96°; minimum, 52°; precipitation, 0.44 inch.

#### BIG SPRING:

Threatening clouds have hampered station work practically all week, with only one light shower of 0.24 inch which came on the morning of August 30. A few plots of kafir and corn were cut in the rotation block early this week. These plots were burned beyond recovery, and plants were falling over without having headed out. Several varieties in the May 15 date of planting were harvested. The cowpea varieties were picked over for the second time. An increase block of cowpeas is ready for cutting. Cotton leaf worms have threatened in this section again during the past week; and all farmers have been poisoning with calcium arsenate. The worms have done very little damage to station cotton, and it has not been necessary to poison for them during this attack.

Station visitors for the week included: Dr. C. E. Leighty, E.F. Chilcott, John H. Martin, and O.R. Mathews.

#### LAWTON:

A good rain that spread well over the State on August 28 broke the heated period of drought that began about the first of July. Maximum and minimum temperatures dropped to 70° and 60°, respectively, and the rainfall measured 1.31 inches at Lawton. Subsequent temperatures have been very moderate, and semi-cloudy skies have prevailed.

Native grasses and legumes, late crops of feed, and the half grown bolls of cotton on early June plantings will be greatly benefited. Early planted cotton was badly burned on both creek bottom and upland fields. Bolls on the April 15 and May 1 plantings of cotton were cracking open quite rapidly during the last week of hot, dry weather. Plants in the early June plantings were still quite green, but they supported only a small number of bolls.

The moisture penetrated the soil to a depth of 8 inches in cultivated land and made it possible to plow cowpeas under for green manure in unusually good shape. A rowed plot of alfalfa in rotation 142 that failed to make a stand from the spring seeding was reseeded August 30. All wheat plots that were in a lumpy, rough, plowed condition were also put in good shape after the rain.

Farmers are busily engaged in preparing seed beds for fall seeding of small grains. There is no reserve moisture in the soil, and fall seedings are still dependent upon additional rains.

Dr. F. A. Fenton, A. & M. College, Stillwater, was a station visitor during the week.

#### WOODWARD:

Temperatures have been rather cool for the most part of the week, and a gently falling rain of 0.58 inch temporarily relieved the past 10 weeks' drought. Sorghums and cotton are recovering somewhat from the drought damage, but they will require more rainfall to develop only light yields at best. Farmers over the country are preparing fields for fall wheat planting, but with the slight amount of rain received only shallow listing and disking can be accomplished. Station work consisted of watering trees, picking grapes, taking soil samples, spraying vineyard, and hoeing and cultivating nursery.

Maximum temperature, 100°; minimum, 53°; precipitation, 0.58 inch.

PENDLETON:

Field work in this section is practically at a standstill as all major crops have been harvested. Work on the station the past week has consisted chiefly of building some temporary fences for pasture, cleaning seed wheat and watering shrubs.

Maximum temperature, 92°; minimum, 39°; precipitation, None.

Precipitation for August, 0.17 inch.

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