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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 6 1938

REPORT FOR THE WEEK ENDING AUGUST 6, 1932.

JUDITH BASIN:

The weather during the week has been favorable for harvesting, and practically all winter wheat, oats, barley and flax on the station have been harvested. Spring wheat is rapidly approaching maturity and will be harvested next week. Grasshoppers have done some damage to oats and late seeded barley. Corn has made a rapid growth during the past two weeks and should make a good yield of fodder in those fields that were not destroyed by cutworms. A heavy hail and wind storm passed within $1\frac{1}{2}$ miles of the station July 30, and did considerable damage in the stricken area. This was the third destructive hail storm within a 10-mile radius of the station during the month of July, but the station has escaped damage.

K.S. Quisenberry is spending about two weeks at the station in the interests of the cooperative winter wheat project. H.A. Rodenhiser spent a few days at the station during the week.

Maximum temperature, 89; minimum, 44; precipitation, .04 inch.

HUNTLEY:

Ideal harvesting weather throughout the week has benefited farmers with large acreages of wheat, and it is reported that on some of the ranches the combines are being operated night and day. Yields range from 15 to 40 bushels to the acre, and the quality, in most cases, is high. Much of the wheat being harvested is volunteer and varies widely in yield. Threshing of small grains from the dry-land fields on the station was started on the 5th. The yields, so far, are below the average, and the quality is only fair. Straw yields on most plots threshed are heavy.

Maximum temperature, 95; minimum, 44; precipitation, trace.

SHERIDAN:

Weather continued mostly clear and dry the entire week. Nights were cooler and the days were not so hot as during the previous week. Late crops continued to hold up better than was indicated by appearances at the end of last week. Corn is firing some, but the grain is now fairly well developed on many ears, and there probably will be a fair crop if the weather does not become too hot. Much of the Sudan grass in close seedings is firing badly but will make a fair crop even if cut immediately. Sorgho in close seedings seems to be holding out as well as Sudan grass this year. Both of these crops in rows are still in good condition.

Threshing of fields for feed was started the 4th. Yields of some of the grain threshed were as follows:

Field G - Trebi barley, fall plowed, part after oats, part after barley -	
	5.2 acres -- - 50.2 bushels per acre.
Field I - Trebi barley, fallow - 2.3 acres - -	52.0 bushels per acre.
Field I - Winter wheat, Volunteer, after w. wheat - 3.9 acres	30.3 bushels per acre.
Field F - Vaughn barley for nurse crop - fall plowed after	
oats, about $\frac{1}{2}$ stand - 2.9 acres --	31.0 bushels per acre.

Spring wheat in the rotations and varieties was cut early in the week, and all other grain except late seedings was harvested the 4th. Sheep were weighed, and those on annual crops pastures were allowed into a small area of corn. Soil samples were also taken. Moisture on land cropped to small grain appeared to be exhausted to a depth of between 3 and 4 feet.

J.A. Clark visited the station the first of the week.

Maximum temperature, 92; minimum, 42; precipitation, none.

DICKINSON:

A rain of 1.02 inches on July 31 was of great benefit to the late crops-corn, flax, and millet. Moderate temperatures after the rain made favorable weather for harvesting and threshing. Spring wheat, winter wheat, and rye on the rotations were threshed August 5 and 6. Yields of spring wheat varied from about 13 to nearly 35 bushels per acre with bushel weights generally low, but winter wheat weighed above the standard for No. 1 wheat. Increase fields of Hamchen barley and crested wheatgrass were threshed. Grasshoppers have greatly increased in numbers during the past month and are now more numerous than they have been for several years.

Picking of plums was started on August 2. The Opata variety was the first to ripen. Yields are good, but the fruit is small in size and of only fair quality, having been injured to some extent by heat and drought in July.

Visitors during the week included: J.A.Clark, Cereal Crops and Diseases; and Messrs. McKenzie and Young, of the A.E. McKenzie Co., Limited, Seedsmen, Brandon, Can. Maximum temperature, 92; minimum, 48; precipitation, 1.07 inches.

MANDAN:

Agronomy: The past week, dry but fairly cool, has been favorable for all field work. Flax in the rotations was harvested, also 15 acres of oats for feed. Corn is starting to dry up on some plots and is in need of a good rain. Threshing of wheat was completed noon the 6th. The average yield per acre in the main field was 28 bushels, the highest average yield since 1915. The lowest yield was 17 bushels per acre on fall listing in the continuous cropping series, and the highest was 37 bushels on maturated fallow. The average acre yield on fallow was 32.8 bushels.

The total rainfall for July was 1.90 inches. The 55-year average for this area is 2.32 inches. The total precipitation, January-July, was 12.33 inches. The 55-year average is 11.62.

Maximum temperature, 94; minimum, 51; precipitation, .10 inch.

Cooperative Grazing Experiment: Grass in the pastures continues to dry up. The brome grass is now in poor condition for grazing. Following are the cattle gains for July. Flies were very bad during the month, and the gains are better than expected.

<u>Pasture (acres)</u>	<u>Number of steers</u>	<u>Pounds gain per head</u>	
		<u>July</u>	<u>75 days</u>
100	10	66.0	237.0
70	10	70.0	236.0
50	10 *	72.0	243.0
30	10	68.0	229.0
Rotation (70)	14 **	81.4	236.4
Brome (28)	10	47.0	227.0

* Steers received 1.5 lbs. of cotton seed cake per head daily during July. 1 lb. in June, and .32 lb. in May.

** Steers were turned into a new division on July 1.

Horticulture: Opata, Tecumseh, and Minn. 62 plums were picked during the week. The Opatas in particular are loaded down with heavy crops. Early apples and crabs, such as Yellow Transparent, Duchess, Anoka, Silvia, and Folgo, have also been picked. Heavy crops are generally produced, especially of crabs. Budding is now in progress in the nursery. Apple stocks are of good size but plum stocks are small. All fruit trees need moisture now. Red spiders continue to increase during the dry weather, and have partially defoliated some trees.

Station visitors included: A.E. McKenzie and J.A. Young, McKenzie Seed Co., Brandon, Can.; J.G. Churchill, Australia; A.C. Dillman, A.J. Johnson, J.A. Faris, H.H. Flor, J.A. Clark, and H.B. Humphrey, Bureau of Plant Industry.

Dr. Leighty arrived at Mandan August 4. He will be visiting the northern group of stations for the next two weeks, accompanied by J.M. Stephens.

BELLE FOURCHE:

Temperatures of around 90 or higher have been recorded nearly every day during the week, but the nights have been moderately cool. No precipitation was received, aside from one light, negligible shower.

All crops continue to suffer seriously from lack of moisture. Corn leaves remain curled constantly and are beginning to fire. Sorgo has been unable to complete heading. It is much more backward on spring plowing than on fall plowing. Late seeded spring wheat on the winter wheat plots is practically ripe, but the yield of grain will be very light.

Maximum temperature, 94; minimum, 49; precipitation, .03 inch.

ARDMORE:

The weather during the entire week was dry, with the temperature moderately high. On all but one day of the week the maximum temperature exceeded 90. It now appears certain that only a low yield of corn will be secured, as many of the stalks are barren. Sorgo continued to make good growth during the week, but its supply of moisture is now nearly exhausted. Field work during the week consisted of duckfooting roads and fallow plots and hoeing large weeds in the corn plots. John Kelso, formerly foreman at this station, visited the station on August 5.

Maximum temperature, 96; minimum, 50; precipitation, none.

ARCIER:

The weather has been dry and rather windy with warm days but cool nights. These conditions caused the drilled cereal crops to ripen rapidly. In some cases the spring and winter cereals are maturing at the same time. During most of the week the corn rolled badly. Potatoes and beans have made good growth. The millet hay crop is coming to a standstill, and the sunflowers are wilting. At times crops look as though they would not survive but they still hold on. The prairies are dry and brown. The major part of the work has consisted of harvesting the ripe grain plots, hauling hay from the dairy field, and some weeding.

Maximum temperature, 89; minimum, 47; precipitation, none.

AKRON:

The week was favorable for field work, with the exception of the first two days when the ground was too wet for working and shocked grain too wet for threshing. Work consisted of disking rotation plots for fall plowing, cultivating fallow and stubble land, and threshing. By the end of the week, oats, barley, and supplemental spring grain threshing was completed, and a good start was made on the wheat plots.

Temperatures were moderate, ranging from a minimum of 57, August 2, to a maximum of 92, August 5. A very heavy rain the night of July 30 caused erosion of soil in the vicinity, but no damage was done on the station. The total precipitation during July was 4.17 inches, or 38.8 per cent as much as during the whole of last year. Crops were greatly benefitted by the July rains, and row crops are looking especially good.

Maximum temperature, 92; minimum, 57; precipitation, 2.30 inches.

NORTH PLATTE:

This station experienced the most devastating storm in its history on August 5. Hail the size of hen's eggs and larger, driven by high wind, fell for about 20 minutes. The storm center struck at the station buildings. Crop damage is almost complete for about a mile east and west and for several miles north and south. Trees and shrubs are fully 50 per cent defoliated and injury to the bark is very extensive and severe. Screens and windows are demolished on the north. Roofs on all the older buildings will have to be replaced, and siding on the north is badly splintered. A number of chickens and turkeys caught away from shelter were killed, and livestock in the pastures was considerably bruised.

Threshing has been in progress during the week, and was within a few hours of completion when the storm struck. Yields have not been calculated but all are low. The row crop prospect had been good, but its destruction by the storm makes the present year one of the worst on record.

COLBY:

This has been another rainy week with four light showers. On Thursday evening there was a smattering of hail. The sorghums are making very rapid growth. Corn that was not badly burnt before the rains set in is earing nicely. The early worked plots for winter wheat now have a stand of volunteer wheat coming on. The fallow plots were worked to-day. The rotary rod weeder was used on all except the one that is worked only with a one-way and the one worked only with a duckfoot cultivator. Weeds were coming thick.

Maximum temperature, 94; minimum, 60; precipitation, .85 inch.

Maximum temperature for July, 105; minimum, 60; precipitation, 3.26 inches.

Precipitation 45-year average for July, 2.96 inches; January 1 to July 31, 9.32 inches. Precipitation January 1 to July 31, 1932, 8.78 inches.

GARDEN CITY:

Continued dry weather is beginning to affect sorghums and is causing firing on some plots. Some milo will be short, and, unless there is sufficient rain to carry the crop along some very poor yields may be produced on continuous plots. Milo on fallow is doing well, some is beginning to head. Corn is standing the continued dry weather exceptionally well. There is a big growth of Russian thistles around the edges of the wheat stubble plots that will be cut with a mower as it is not comparable to the vegetative growth over the entire plot. During the past week there were two showers, one of .13 inch and another the following night of .73 inch, this was enough rain to keep the crops in good condition but not enough to mature a crop of grain.

Maximum temperature, 101; minimum, 60.

HAYS:

The weather has been generally hot and sultry. Rain, occurring August 2, of 1.29 inches was of a torrential nature, so that much of it was lost by run-off, but enough went into the ground to be, together with the rains of the previous week, very beneficial to the feed crops. The late planted corn is now coming into tassel and silks with prospects good for a fair yield of grain. The corn on the Dry-Land project is unusually uneven in growth, ranging from 18 to 60 inches in height and is now coming into tassel. Kafir and milo on the project are now about 30 inches high and generally looking very good, except the portion of the milo which is suffering from the milo disease that has been reported in this section of the country in recent years. During the week kafir planted with a lister was cultivated; fallow plots were cultivated; some plowing was done including plots for peas, alfalfa, and brome grass next spring; and one plot of alfalfa sod and one plot of brome grass sod were broken. Stands of corn and kafir are being counted.

Precipitation for the month of July was 2.05 inches, or 1.25 inches below normal. The average temperature for the month was slightly above normal. The average maximum temperature, as per Weather Bureau readings, was the fifteenth highest on record, and the average minimum temperature was the second highest on record. The maximum temperature on the project was 106 and the minimum 60. Total evaporation for July was 10.562 inches.

Maximum temperature, 95; minimum, 64; precipitation, 1.33 inches.

TUCUMCARI:

Crops were revived by a shower of .52 inch the middle of the week, after hot weather and lack of rain had caused extensive rolling and some firing. Growth has been resumed and prospects for good yields are good, provided precipitation is normal throughout the remainder of the season. Cultivation is practically completed, but nothing is ready for harvest, except a few Sudan plots. Cowpeas will be harvested soon, and it was possible the past week to bring miscellaneous work up to date, before cowpea harvest arrived. This work included dragging roads, bagging heads, roguing, hoeing, and general clean-up of grounds and roadways.

Maximum temperature, 100; minimum, 58; evaporation, 2.637 inches; wind velocity, 4.2 miles per hour.

DALHART:

Grain sorghums on some of the rotations are beginning to show the lack of sufficient moisture. The shortage of moisture is beginning to show in the delayed heading of the grain sorghums in the May 15 date-of-planting. If a rain should come soon, yields would not be seriously decreased. The shortage is chiefly confined to definite areas rather than showing up as a general condition. The pasture is dry. Annual weeds along the roadsides are for the most part completely dried up. The corn plots present a very uneven appearance as not more than 40 per cent of the plants tasselled. This damage, by Southwestern corn borer, is apparently as severe on the station as on any farmer's field. Many fields do not show injury at the present time, although the borer may be present. Plant lice are seriously injuring many plants of milo. This injury is rare on the station, but an investigation of a farmer's field indicated rather severe damage to definite areas in it. The last two showers have been very local and neither furnished relief for more than a few days.

Maximum temperature, 98; minimum, 59; precipitation, .59 inch; evaporation, 2.622 inches; wind velocity, 3.8 miles per hour.

BIG SPRING:

The highest temperatures of the year have prevailed during the past week. A maximum of 106 on the 6th was the high point for the year, but the 100 mark was reached or passed on several days. Rain threatened on several occasions during the week, but each time the clouds passed around. Rainfall during July totaled only .23 inch received from two showers, the lightest precipitation for this month since 1918. All crops are holding up remarkably well and seem to be making a good growth. Cultivation of everything except cotton was completed this week. Other work consisted of bagging heads for seed, hoeing out fence rows and some increase fields of sorgo, and picking grapes.

J.M.Jones, Chief, Division of Animal Husbandry, Texas Experiment Station, visited the station August 4.

Maximum temperature, 106; minimum, 68; precipitation, none.

LAWTON:

The period of intense heat extending from July 27 to August 2 inclusive, with daily temperatures of 101 to 104 was lightly tempered by local showers of .48 inch on the 2nd and .05 inch on the 5th. Although the maximum temperatures were only lowered to 98 to 100, row crops seem to revive temporarily. The total precipitation of .74 inch in July was 2.32 inches below normal, but the rainfall for the first six months of the year is only .98 inch below normal.

Foliage on sorghum crops is about 50 per cent burned, and kafir is lodging rapidly on a comparatively large number of the rotation plots. This condition is especially true on plots that were treated with barnyard manure. It is very doubtful if harvest can be delayed until the grain is mature. Drilled sorgo in rotations 274 and 275 was so badly lodged that harvest was necessary August 2, and the M.C.H. plot of rowed sorgo was cut on the 5th for the same reason. Harvest of nearly all sorghums planted April 15 in the chinch bug resistance project will be completed within a few days. The .48 inch rain on the 2nd permitted some badly needed stubble disking and spring-tothing and other tillage on increase fields and plots that are in course of preparation for fall seeding. Cotton squares were heavily aborted during the week, especially after the rain. As yet, the number of bolls actually set and growing is rather small. However, there is sufficient time for additional fruiting under more favorable weather conditions.

WOODWARD:

This section has experienced another hot, dry week, with strong, scorching hot winds blowing July 31, and August 1. Temperatures on those dates reached 106 and 108, respectively. A shower of .43 inch on the night of August 4, was very local. Feed sown thickly is beginning to fire badly, and grain sorghums planted early are in some cases practically dead from drought. On a trip of 800 miles taken over Western Oklahoma during the last of July and first of August only two small localities were observed that were not in extreme need of rain. Cotton and sorghums still have time to make crops if rains occur by the middle of August. Corn, which gave such fine prospects for a big crop, where not already ripe, is rapidly being cut for fodder. The common garden phlox (*P. Drummondii*) has about done its bit for this summer, only faded blossoms at the extremities of plants remaining. This was planted at the station about 15 years ago and has since volunteered without spreading over much greater area. It is popularly supposed to run out or deteriorate with continual crossing, but this apparently has not done so. At least it still makes a lovely showing to mid-summer. While the annual phlox grows to only 12 to 15 inches, the perennial phlox rises to four feet. This over the past few years has been very successfully grown about this section of the country. It has been suggested that various species and varieties of sunflowers would give a wide enough variety for any dry-land gardener. One of the most attractive and weather resistant flowers on the station is a very double, small-flowered form of *H. decapetalus multiflorus*.

Many trees planted this spring have had a struggle to survive. Roots not yet well developed can apparently not supply water fast enough to keep up with transpiration during so hot and dry a summer. Grapes are ripening rapidly and are unusually good quality so far. Some of the later ones may shrivel. There is a great difference in varieties in tendency to wilt under dry conditions. Field work for the week consisted of binding corn, hoeing and roguing sorghums, and hoeing weeds out of the alfalfa. Other work consisted of picking grapes, spraying vineyards and orchard, watering nursery, and repairing roads washed out during June.

Maximum temperature, 108; minimum, 63; precipitation, .50 inch.

N O T E:

In lieu of contract book or General Schedule of Supplies for the fiscal year 1933 there is being sent under separate cover to each field station of this Division 12 classes of supplies. This division will draw usual requisitions for supplies as needed under the classes upon request from the field men.



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AUG 13 1932

REPORT FOR THE WEEK ENDING AUGUST 13, 1932.

HAVRE: (Report for the two weeks ending August 13, 1932.)

The past two weeks were generally favorable to harvesting operations. Maximum temperatures ranged from 100° on the 9th to 75° on the 12th. Minimum temperatures ranged from 46° to 57°. There was only one shower that was measurable and that amounted to 0.48 inch on the 10th. Threshing on the plots began on the afternoon of Aug. 10 and was interfered with by wind and later by rain. This operation continued on the 12th and 13th. The maximum oat and barley yields are running around 60 bushels and wheat around 30 bushels. Most of the small grain on the rotations will be threshed by the night of the 13th.

Corn began to burn quite severely the first part of the present week, but the rain and the cooler weather has revived it materially. The cars have fertilized in good shape. The second cutting of alfalfa on irrigated land started the week of August 6 with yields of 1.5 tons per acre. A field of irrigated land was seeded on the 12th on land that was prepared earlier in the season.

Visitors included Director F. B. Linfield, Professor McKee, and Mr. Bristol who has agronomy work with the Indian Agency.

Maximum temperature, 100; minimum, 46; precipitation, 0.48 inch.

JUDITH BASIN:

Weather continued favorable for harvest operations, and with the exception of some late seeded plots this operation has been completed. Crested wheatgrass and increase fields of winter wheat and oats have been threshed. Winter wheat averaged 35 bushels per acre and oats 26 bushels. The oats had been damaged 3 to 5 bushels per acre by grasshoppers. Threshing of field plots has just begun with good yields of winter wheat.

Station visitors during the week included Director Linfield, Louis Vinke, P.A. Young, and Ivar Nygaard, all of the Montana Experiment Station; G.W. Morgan, Northern Montana Field Station; H.R. Sumner, Northwest Crop Improvement Association; Dr. Thriesher, Germany; and Dr. Burnett, Wisconsin.

Maximum temperature, 96; minimum, 43; precipitation, 0.02 inch.

HUNTLEY:

Threshing of the dry-land small grains was completed early in the week. All grain yields were below the average but yields of straw were high in proportion to the grain on nearly all plots. Corn, soybeans, sorgo, and Sudan grass need rain but are still making some growth. Sunflowers have dried up to the extent that it is doubtful if a rain would be of much benefit to them. Fall plowing has been started, but as the ground is very dry, progress is slow and the plowed plots are cloddy, making seed-bed preparation difficult.

Maximum temperature, 100; minimum, 42; precipitation, 0.01 inch.

SHERIDAN:

Hot, dry weather continued over the entire week. Corn continued to develop much better than was thought probable under the adverse weather conditions, and it appears probable now that there may be a fair yield of some of that crop. Some cars are now in the soft dough. All close seedings of Sudan grass, sorgo, and millet varieties for hay, were cut, hauled, and weighed, good dry weights being obtained. Flax in the rotations and varieties and some of the late seedings of small grain were harvested. A 5.4-acre field of winter wheat on corn ground, a part of which was threshed last week, yielded at the rate of 37 bushels per acre. A part of the winter wheat in the rotations also

was threshed. Yields generally on those plots threshed were about the same as from the larger field, except on plots stubbled-in after small grain, where the yield was less.

Maximum temperature, 101; minimum, 42; precipitation, trace.

DICKINSON:

The weather was fair early in the week but became unsettled.

Threshing, except flax, on the rotations was completed. Yields were a little better than expected, although not so high as seemed possible earlier in the season. Barley and oat varieties were threshed, but owing to the damp condition of the wheat varieties, these were left until next week. Threshing of the cereal nursery was completed. Several varieties of plums ripened and were picked during the week. Farmers and others are taking the fruit as fast as it is picked.

Dr. C.E.Leighty and J.M.Stephens visited the station August 8 and 9.

Maximum temperature, 88; minimum, 42; precipitation, 0.03 inch.

MANDAN:

Agronomy: The past week has been cool, and cloudy on 2 or 3 days. No rain of value fell during the week. Threshing has been in progress all week. The rotation plots are now all threshed, as well as the feed fields of oats and barley. Oats in the main field averaged 57 bushels per acre. The highest yield was 78.4 bushels on manured fallow, and the lowest was 39.1 on continuous cropping following listing. The average is the second highest obtained at this station since 1915. Barley in the main field averaged 31.3 bushels per acre. The highest was 39.6 bushels per acre on fallow, and the lowest was 19 bushels on disked flax stubble. Feed oats averaged 59 bushels per acre on 15 acres, which was fallow last year. The cool weather has been favorable for corn, but indications are for a low yield.

Maximum temperature, 88; minimum, 47; precipitation, 0.09 inch.

Cooperative Grazing Experiment: Pastures continue to dry up. All grass is now burned badly. Bromegrass is furnishing very poor grazing.

Horticulture: Budding, which had been in progress for seven days, was finished on the 10th. Fruit is continuing to ripen and a number of apple, crab, and plum varieties were harvested during the week. Some of these, especially those included in some cultural method project, appeared decidedly premature in ripening with consequent inferiority in quality. The following varieties have been picked so far: Apples - Duchess, Yellow Transparent, and Anoka; crabs - White Arctic, Dolgo, and Ivan; plums - Opata, Sapa, Tecumseh, Hennepin, and Radisson. A number of other varieties are showing color and ripening fast. A considerable number of Black currant (Ribes odoratum) crosses were picked during the week. The yield was very good and berries large and of good quality.

Vegetables are now suffering from the prolonged drought. Tomatoes are ripening fast but are inferior in size and quality. Sweet corn varieties from commercial sources are almost a total failure at the station, while station bred selections show a decided drought resistance and improvement in heat enduring tassels. A field test of some purebred selections, including four date plantings, is showing up very fine at the present time. The first planting, May 8, is now harvested, and the second, May 20, is at its best. The two later plantings, June 1 and 15, will have to have rain in order to produce a yield.

Dr. C.E.Leighty and J.M.Stephens left by car on the 8th to visit stations in the northern district.

BELLE FOURCHE:

With the exception of two hot days, moderate temperatures have prevailed during the week. Three light showers were received, but the amount of precipitation was not sufficient to be of benefit to plant growth. The cool, damp

weather, however, afforded temporary relief to corn and sorgo. Most of the late seeded spring wheat was harvested, but the remaining few plots are ripening very slowly.

Dr. C.E.Leighty and J.M.Stephens visited the station during the week. Maximum temperature, 96; minimum, 47; precipitation, 0.52 inch.

ARDMORE:

The weather was characterized by cool days and nights during forepart and by hot, sultry days and warm nights during the latter part of the week. Field work consisted of weed hoeing and the cultivation of fallow plots.

One of the most destructive hail-storms in the history of the station passed through on the 12th. Although the storm was local in character, it was of very severe intensity. Corn and sorgo plots and fields show a large percentage of stripped leaves and many broken stalks. Beans seem to be completely destroyed. Potato plots do not show a great deal of damage. Garden crops, other than those of the root variety, were pounded into the ground. Shelter-belt and forest trees show a large loss of leaves and small branches. The bark on the trunks and larger branches is broken in many places.

Visitors during the week were Dr. C.E.Leighty and J.M.Stephens. Maximum temperature, 102; minimum, 46; precipitation, 2.03 inches.

ARCHER:

The weather has continued dry, and three days of the week were hot. The maximum temperature reached 95 and the minimum was 44. One shower of 0.07 inch which cooled the air occurred August 12. The total precipitation for July and August, to date, is 1.26 inches.

Corn, potatoes, beans, Sudan grass, and sunflowers still survive. The other crops have either been harvested or yielded to the drought. The above crops are very much in need of moisture. Work at the station has consisted of cleaning yards, cultivating trees and roadways, and repairing machinery for threshing and for harvesting the silage crops.

AKRON:

Completion of threshing of winter wheat occupied most of the week. The winter wheat on the rotations, variety plots, rate-and-date, and date-of-seeding plots was threshed during the week. Yields of rotation winter wheat ranged from 1/12th bushel to about 10 bushels per acre. The presence of large amounts of Russian thistles on almost every plot made it necessary to clean the grain to determine the yield.

The weather remained moderate, with no precipitation. The heavy rain of two weeks ago was mostly lost in run-off, and row crops are beginning to need rain badly.

Maximum temperature, 98; minimum, 52; precipitation, none.

COLBY

This has been an almost rainless week. It has been hot most of the time, but the temperatures have not gone as high as during the fore part of July. All the crops are holding their own. Corn will need a good rain soon to fill well. The sorghums are beginning to head. They are beginning to show a lack of moisture in spots.

Maximum temperature, 93; minimum, 53; precipitation, 0.11 inch.

HAYS:

The weather during the week has been partly cloudy, quiet, and sultry. Rains occurred on the nights of the 8th and the 12th. The recent rains are fine for all sorghum crops, which are responding with good growth and development.

The third date of tillage work with a lister, plow, one-way, and chisel was done August 10. Counting of stands of row crops has been finished. The heavy rains this year have caused more than the usual amount of washing of the drainage ditches in the roadways on the project. Work was started this week filling the washes and regrading the roads.

Maximum temperature, 96; minimum, 56; precipitation, 1.81 inches. The Weather Bureau reading shows 2.30 inches precipitation for the week.

TUCUMCARI:

Weather the past week has continued hot, with but 0.45 inch precipitation. Crops are continuing growth normally in most instances, but rolling and firing are occurring where moisture is most deficient. Rotation and other dry-land milo is in full head, and rotation kafir plots should be headed early next week. Cowpeas have made good growth, but unless additional rain is received very soon it will be necessary to harvest them within a few days. Alfalfa seeded the past spring in rows has reached a height of 12 to 16 inches and is blooming, but it is doubtful if sufficient growth will be made to warrant cutting, for the plants are very slender. Crops over the county are very uneven, due to local character of rains this year.

Work of the past week has included late cultivating, harvesting Sudan and early-planted cowpeas, picking grapes, roguing plots, working tree rows, and cleaning fence lines.

Maximum temperature, 99; minimum, 60; evaporation, 2.497 inches; wind velocity, 5.3 miles per hour; precipitation to date, 11.60 inches, compared with 27-year average of 11.02 inches for this period.

DALHART:

The weather continued dry during the week. A shower of 0.25 inch was the only precipitation. This shower fell Friday evening. South and east of the station a downpour reported to be 5 inches was received. The rotation sorghum plots are beginning to show dry spots, as are the May 15 date-of-planting of the sorghum varieties. The rotation sorghums are just starting heading, but some of the first date-of-planting of the varieties are fully headed. Those varieties which are not fully headed have been slowed up in heading or have had their heading period prolonged. The milo disease nursery has, the last half of the week, begun to show disease in most of the susceptible varieties. Smut heads of the different hybrid forms of smut are developing as in the previous year's work in the smut nursery. Cowpeas are showing normal development and are just now starting to bloom. Soybeans are showing rather spotted development. Cotton plants are very small, owing to the late start after being retarded by unfavorable conditions after emergence. Flowering willows along the station entrance drive have been full of bloom since July 1. Rather one-half of the bushes have been full of bloom. Those bushes which are now showing scant blooms were severely pruned this spring. A *Bignonia grandiflora* has been in full bloom on a trellis for about a month and has attracted considerable attention.

O.L. Barnes, Tempe, Ariz., was a station visitor during the week.

Maximum temperature, 98; minimum, 60; precipitation, 0.25 inch; evaporation, 2.242 inches; average wind velocity, 5.5 miles per hour.

BIG SPRING:

The first half of the past week remained cool and cloudy with rain threatening each day. Good rains were received within 5 miles of the station, but only 0.04 inch was received at this point. Cotton is making a good growth and is blooming freely, but the grain sorghums are going to need rain in the near future. The May 15 variety date of grain sorghums will mature a good grain crop on the present moisture, but the later dates, and sorghums in the rotations, will need more rain or the yields will be materially reduced.

Station work has consisted mainly of cleaning out the feed lots, repairing fences, and duckfooting roadways and fallows. Some mowed plots of Sudan, millet, and Sunrise kafir were stored for hay, and the May 15 date of Red Amber was harvested.

Station visitors included: Dr. O.F.Cook; Messrs. Wheeler and Jones, of the Forest Service; and Mr. Belz, of the Div.of Genetics and Biophysics.

Maximum temperature, 94; minimum, 71; precipitation, 0.04 inch.

WOODWARD:

Hot, dry weather prevailed throughout the week, with a fairly strong wind blowing most of the time. After 6 weeks of drought sorghum row crops and sowed feed are rolling and burning badly. However, a good rain soon would greatly improve the chances of late planted crops making fair yields. The hot weather has hastened ripening of many varieties of grapes before their regular season. Among the ornamentals crape myrtle, Bignonia grandiflora, and flowering willow are demonstrating their adaptability to severe dry, summer weather.

Station work for the week consisted of picking grapes and apples, cultivating and roguing sorghum, harvesting Sudan grass and corn, watering the nursery, repairing roads and leveling yards about buildings, and painting interior of office.

Maximum temperature, 103; minimum, 64; precipitation, 0.06 inch.

PENDLETON:

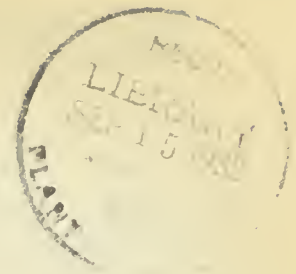
Harvest on the station was completed this week. All plant yields have been computed, and the threshing equipment has been dismantled and stored for another year. A slight shower one evening delayed harvest about half a day. Winter wheat yields in Umatilla County are considerably below the average. The spring wheat yields are much less than the winter wheat yields, in many instances the spring wheat yields are 60 per cent less than average. The test weight of all wheat is low, ranging from 55 to 59 pounds per bushel, with a few lots as low as 52 pounds. As a whole the 1932 wheat crop in Umatilla County is the poorest in many years, both in yields and quality. The following table gives the results with fertilizers on land continuously cropped to winter wheat:

<u>Treatment</u>	<u>Bushels</u>
Nitrate of Soda, 150 lbs. per acre at seeding time	30.4
Nitrate of Soda, 150 lbs. per acre in spring, top dressing	31.3
Check, no fertilizer	22.0
Complete fertilizer, 7-8-2 150 lbs. per acre at seeding time	26.7
Complete fertilizer, 7-3-2 150 lbs. per acre as top dressing in spring	24.1
Ammonium Sulphate 150 lbs. per acre at seeding time	33.0
Ammonium Sulphate 150 lbs. per acre in spring as top dressing	25.5

M.A.McCall, Cereal Crops and Diseases, was a visitor this week.

Maximum temperature, 90; minimum, 37; precipitation, 0.04 inch.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 20 1932

REPORT FOR THE WEEK ENDING AUGUST 20, 1932.

HAVRE:

Threshing was interrupted on the 15 and 16 by showers. Since that time threshing has progressed rapidly. Practically all plot threshing is complete with the exception of a few varieties for seed stock. Corn was benefited by the showers and cool weather during the week, and indications are now that it will make a fair yield. Native grass is maturing rather rapidly, and there is growth enough to cause some danger from prairie fires if this grass becomes real dry. Combining of wheat is progressing very rapidly over this section of the State. Yields over this county are somewhat spotted, those from good fallow varying from 15 to 35 bushels according to the locality.

A trip was made the first of the week east as far as Glasgow and south to Jordan and Cohagen. There are some sections between here and Glasgow, notably the Saco flat, where crop yields are very light, the best making probably is not more than 10 bushels per acre. South of the Missouri River from Glasgow conditions were considerably better. In the stock country between the Missouri River and Jordan a large percentage of the feed is corn, and this is in excellent shape this year. Corn is used for winter feed for livestock in this section. Native grass made a good growth over practically this entire area, and quite a large amount of native hay is being stacked.

Maximum temperature, 95°; minimum, 48°; precipitation, 0.36 inch.

JUDITH BASIN:

Several light showers, totaling 0.67 inch fell during the week and were of some benefit to corn, potatoes, and gardens. With the exception of a few plots of barley, spring wheat, and flax that were reseeded, all threshing on the rotations was completed during the week. Yields of spring wheat, barley, and oats were much better than had been anticipated. Yields were as follows: Spring wheat, from 6.2 to 18.8, average, 14.3; oats from 8.4 to 40.3, average, 25; barley from 10.2 to 33.3, average, 22.7; and winter wheat from 6.8 to 30, average, 22.1 bushels.

Maximum temperature, 94°; minimum, 44°; precipitation, 0.67 inch.

HUNTLEY:

High temperatures and hot winds during the week have scorched corn and other late growing crops. Much of the corn has begun to dry up, and on many of the plots no grain will be matured. The weather has been ideal for combine harvesting of wheat, and grain is going into the elevators and farm storage in excellent condition. Yields of wheat on the benchlands are much higher than those secured in the valley, and the protein content of the former is also greater, according to the tests that have been reported to the station. Fall plowing of all land but that in corn and sorgo has been completed on dry-land plots calling for that treatment. The extremely dry soil broke up in a cloddy condition, and considerable labor will be necessary to reduce the rough surface to a seed bed suitable for planting winter wheat.

Director F.B.Linfield and H.E.Morris were visitors during the week.

Maximum temperature, 100°; minimum, 53°; precipitation, trace.

SHERIDAN:

The weather continued hot and dry throughout the week. There was some cloudiness threatening showers, but no rain of consequence fell. The remainder of the late dates of seeding small grain, some of the dates of seeding flax, a part of the safflower, and Dakota Amber sorgo, and Sudan grass in

rows were harvested, and threshing was carried on during the remainder of the week. The remainder of the Kharkof winter wheat, Marquis in extra tillage plots, barley in the rotations, barley, wheat, and oats in the rates and dates of seeding that had been harvested, and a small part of the oats in the rotations were threshed. Final yields have not been calculated for any of these crops, but a rough calculation shows yields to be running as follows: (Yields in rotations) winter wheat, high, 45.0, low, 12.3, none in rotation with other crops below 33.5; barley, high 57.1, low 35.6; oats, 23 plots, high 66.9, low 40.6 bushels.

Except for barley on fallow, yields in the rotations did not generally equal the yields on the larger fields given the same treatment which were sown earlier, seeding in the rotations being delayed in order for the ground to dry sufficiently for spring plowing. Greater contrasts than usual were obtained in the date-of-seeding tests, where yields from some of the dates of seeding were as follows for the three principal crops:

	<u>Trebi barley</u>	<u>Markton oats</u>	<u>Marquis wheat</u>
Sown April 7	59.6 bu.	60.2 bu.	30.2 bu.
April 16	53.9	48.1	23.8
May 1	47.0	48.1	23.8
May 10	39.0	39.5	17.4
May 17	27.5	37.8	12.8
May 24	20.6	34.4	not threshed yet

Dr. Leighty and Mr. Stephens were at the station on the 19th and 20th. Maximum temperature, 100°; minimum, 54°; precipitation, 0.06 inch.

DICKINSON:

A shower of 0.72 inch on Sunday afternoon was followed by another rainy period, making a total of 1.19 inch during the week. Temperatures were moderate. Threshing of wheat, flax, and the grass varieties was completed during the week. Flax on rotation 12 was also threshed. Crested wheatgrass stubble is greening up from new growth since the rains. Corn on the rotations and increase fields was greatly benefited by the rains. Although most of the plants are very short, good ears are forming, so yields should be average or better. Grasshoppers are still numerous and damaging minor crops. Poisoned bran is being scattered nearly every day, but does little good now since considerable green material is found throughout the fields. Seeding of winter wheat and winter rye is being delayed because of grasshoppers, although the soil is now in good condition for seeding. Several varieties of plums were picked. Waneta plum now ripening has the heaviest yield this variety has produced so far at this station. Alexis and Dolgo crabs picked during the week have both yielded well, the best trees yielding better than 100 pounds per tree. Many farmers have visited the station during the week to get fruit.

Maximum temperature, 90°; minimum, 48°; precipitation, 1.19 inches.

MANDAN:

Agronomy: The past week was cool and dry. Corn is starting to dry up and will require harvesting soon. The yield will be low.

Only 0.55 inch rain has fallen since July 4, and this came in nine showers. Maximum temperature, 92°; minimum, 41°; precipitation, trace.

Cooperative Grazing Experiment: The pastures are very dry at present, but the cattle continue in good condition. The 30-acre steers have not lost in weight so far this month.

Horticulture: Several varieties of plums and crabs were picked during the week. Yields were generally heavy, but the size and quality of the fruit has been adversely affected by the long period of dry weather. Underwood and LaCrescent plums both bore heavy crops of good fruit this year. Compass cherries

yielded well. Florence and Dolgo crabs were loaded with fruit, while Whitney crabs bore but a light crop. The two first named varieties are perhaps the most reliable yielders grown at the station.

Strawberries and raspberries have been adversely affected by the dry weather, and no more fruit can be expected this year unless rain comes soon.

Newspaper publishers attending the District Meeting of the North Dakota Publishers Association visited the station to-day.

BELLE FOURCHE:

The drought which has prevailed since the forepart of July was broken on August 14. A total of 1.51 inches precipitation was received in a heavy downpour of short duration, but as the ground was closely checked with soil cracks 1 to 2 inches wide and 2 to 3 feet deep the loss of water through run-off from the dry-land fields was much less than might ordinarily be expected. Some hail was received, a number of the hail stones measuring over one inch in diameter, but the hail was not so injurious as a high wind, which blew down a large amount of corn and sorgo. Less than a mile west of the station the hail and amount of precipitation were much heavier. Crops were destroyed or seriously damaged over an area about 2 miles wide and 15 miles long.

Threshing of grain from the dry-land rotation plots was commenced late in the week, and was completed August 22. Average yields of oats and wheat were produced, but the yield of barley was approximately 50 per cent above normal. The poorest returns were obtained from flax. A summary of the yields follows:

Crop	Highest yield	Lowest yield	All plots	
			Average yield	Average weight per bu.
S.Wheat	24.5 bu. (Rot.15)	12.5 bu. (Rot.2)	17.7 bu.	56 lbs.
W.Rye	22.0 (Rot.411)	17.5 (Rot.410)	20.0	53
Oats	52.5 (Rot. 76)	27.5 (Rot. 32)	40.5	31
Barley	45.8 (Rot. 6)	35.4 (Rot.CC-F)	40.6	48
Flax	6.3 (Rot. 10)	3.8 (Rot. 11)	5.2	53
W.Wheat (1 plot)	(CC-C)		25.0	56

Maximum temperature, 92°; minimum, 55°; precipitation, 1.58 inches.

ARDMORE:

No field work was attempted during the week. Repairs were made on roofs and windows damaged by the recent hail-storm.

The steers used on the 80-acre intensive grazing pasture were placed in the 300-acre reserve pasture after showing a material loss for the period July 30 to August 17. The steers from the 20-acre crested wheatgrass pasture were moved into the reserve pasture with those from the 80-acre pasture. Although the wheat grass steers showed a gain for the 20-day period, the almost total lack of vegetation since the hail-storm of the 12th made the change compulsory. The gains made by the two lots of steers during the time they were on experimental pastures are as follows: 80-acre pasture, 146.8 pounds; and 20-acre crested wheatgrass pasture, 137 pounds per head.

Maximum temperature, 99°; minimum, 57°; precipitation, 0.37 inch.

ARCHER:

During the past week the weather has been cooler. The maximum temperature was 89° and the minimum 54°. Rain amounting to 0.58 inch occurred August 16. This brightened the growing crops and made conditions favorable for the seeding of winter cereals. The rain revived the sunflowers, corn, and millet and will give the potatoes the necessary moisture to produce tubers. The bean crop will also fill out better.

Dr. C. E. Leighty and J. M. Stephens were station visitors August 17. Melvin Morris, Asst. Botanist, Colorado Agricultural College and Wm. P. Snyder, North Platte Experiment Station, were also visitors at the station.

AKRON:

Work for the week has consisted of threshing rate-and-date wheat, and the winter wheat nursery, and plowing, listing, harrowing, and otherwise working the rotation plots.

Only 0.08 inch of rain has been received since the heavy rain of July 30, and the drought is being felt with increasing intensity.

An invasion of the beet web-worm (*Loxostege sticticalis* Linn) was experienced in the last week or so. Our observations are that this worm has a very selective appetite, concentrating on garden plants, soybeans, Chinese elms, etc. A concentration of them appeared around the station buildings, upon the doors, walls, and upon everything left out-of-doors. The projects where the invasion was most intense were sprayed with lead arsenate during the middle of the week in an effort to check the advance. According to data recently received, there are three to four "waves" of these worms, the third of which has been observed at this time.

Visitors during the week included J. O. Toliver, H.B. Osland, and G.M. Morton, Colorado Agricultural College; and J.M. Stephens, Dr. C.E. Leighty, and K.S. Quisenberry.

Maximum temperature, 94°; minimum, 53°; precipitation, 0.08 inch.

NORTH PLATTE: (Report for the two (2) weeks ending August 20, 1932.)

The chief station activity for the past two weeks has been cleaning up and repairing following the hail of August 5. Most of the 450 panes of glass broken out have been replaced. Of the approximately 200,000 shingles required for reroofing, about 90,000 have been laid. The weather has mostly been clear and favorable for this work. The only rain was 0.67 inch on the 12th, so that contents of buildings with damaged roofs have not been greatly injured.

The third cutting of alfalfa was reduced about two-thirds in yield by the hail. Corn, which is now being put into the silos, and which would under ordinary conditions cut 12 to 14 tons per acre, is making about 5.5 tons per acre.

A freak result of the hail was to splash more water from the evaporation tanks than was added. Ignoring this factor, the apparent evaporation for the day exceeded one inch.

Dr. C.E. Leighty and J.M. Stephens visited the station August 14 and 15.

COLBY:

Two showers fell this week, but droughty conditions continue to prevail. All crops are showing a lack of moisture. Corn is getting beyond the roasting ear stage. The feterita is headed, and the milo, sorgo, and kafir are showing some heads. The heading is uneven, as an insufficiency of moisture is holding the heading back on all plots except where the crop is on summer fallow. All the plots that were worked early for winter wheat were one-wayed this week to kill volunteer wheat and weeds which had come up thick.

Maximum temperature, 94°; minimum, 56°; precipitation, 0.47 inch.

GARDEN CITY: (Report for the two (2) weeks ending August 20, 1932.)

During the last week all fallows were cultivated with the duck-foot cultivator and tandem disk. Early fall listed plots were cultivated down with the ridge buster in preparation for wheat this fall. The soil was in excellent condition, and seed beds are working down in good shape.

Cowpeas are about ready to cut for hay. Growth is not so heavy this year as in the past. Continued hot, dry weather in July held growth back considerable. Sorghums are practically all headed and give promise of producing some fair yields.

Roadways were cultivated the past week in preparation for seeding to wheat. Mid-summer plowing, listing, and one-waying was done on the 16th and 17th for wheat seed-bed experiments.

Maximum temperature for the two weeks, 98°; minimum, 60°; precipitation total, 1.95, 1.54 inches on the 8th and 0.41 inch on the 13th. Run-off was unusually heavy from the rain on the 8th, practically all of which fell in one hours time.

HAYS:

During the week the weather has been comparatively cool. It has been clear most of the time. The conditions have been ideal during the past three weeks for germination of volunteer wheat and weed seeds with a result that all the wheat land is well covered with volunteer wheat or weeds, and fallow land is also weedy. The growth, however, is only well started and is in a good stage to destroy by tillage.

The ground was too wet for tillage work the first three days of the week, since then various kinds of machinery have been in action on all projects and in the commercial fields.

The late planted corn and all sorghums and feed crops are looking fine, except milo on the Dry Land project which is suffering severely from disease. Kafir and milo on the project are now heading.

During the week tillage work has been done as follows: All listed plots for wheat have been curled-in or the ridges split, some plots early disked were plowed and some were disked the second time. Three plots early plowed for rye were cultivated, weedy alleys have been cultivated, and considerable work has been done on the roads to reduce erosion from the ends of the plots. Another date of machinery experiment in the seedbed preparation for wheat, including the lister, plow, and chisel was started to-day.

With about five inches of precipitation during the last 30 days, it was decided to attempt securing a stand of alfalfa in rotation 142 by fall seeding instead of waiting until spring. An early fall plowed plot was worked into a good seedbed condition and was sown August 17.

Maximum temperature, 95°; minimum, 59°, precipitation, none.

TUCUMCARI:

Crops in this immediate vicinity are suffering severely from drought, although precipitation since January 1 is practically normal. High precipitation in June encouraged rank growth, and low rainfall the past few weeks has caused row crops to roll and fire extensively. Condition of crops in general has deteriorated rapidly the past ten days.

Work of the week included harvesting cowpeas and Sudan grass, pulling early broomcorn, bagging heads and roguing, and making plant counts.

Visitors of the week included E.F. Chilcott, Mr. Hammond of the State Game Department, Dr. H.L. Kent of State College, and John Carter of State Experiment Station. J.O. Belz is expected to arrive to-day.

Maximum temperature, 97°; minimum, 61°; precipitation, 0.20 inch; evaporation, 2.003 inches; wind velocity, 3.5 miles per hour.

DALHART:

The continued dry weather is beginning to injure seriously the sorghum plants in the first date of planting of the varieties. In addition to the varieties, several of the rotation plots of sorghum in the West and North fields are beginning to show dry spots which are fast increasing in size. The early varieties in the first date of planting are drying up and a few are, even this early, starting to lodge. Some of the later plantings are also beginning to show the need of moisture. Cowpeas are apparently not making much more than half of the normal growth. Sudan grass is making no second growth.

Visitors during the week included: E.F.Chilcott and J.O.Belz.
Maximum temperature, 94°; minimum, 57; precipitation, none; evaporation, 2.122 inches; wind velocity, 2.9 miles per hour.

LAWTON: (Report for the two (2) weeks ending August 20, 1932.)

Precipitation to the amount of 3.34 inches, recorded on nine dates from August 3 to 16, inclusive, broke the July drought and decisively relieved crop distress. Run-off and erosion were almost negligible. The maximum temperatures ranged from 60° to 70°.

Sorghum crops that were not too severely injured by chinch bugs were appreciably benefited by moisture and cooler weather. However, they have, in most instances, lodged quite heavily, and the grain is sufficiently mature to warrant immediate harvest.

Cotton aborted squares and small bolls quite heavily, but the plants now present a healthy, vigorous condition. It is likely that a late top crop will result from present conditions. A few bolls have been opening since August 10 on most varieties that were planted April 15.

Station visitors during the past two weeks include: Dean C.P.Blackwell, Stillwater, Okla.; Prof. R.H.Painter, Manhattan, Kans.; S.S.Burton, Woodward, Okla.; and J.O.Belz.

The Comanche County 4-H Club Fair will be held on the station September 8 and 9. The station will serve as host to this organization at that time because the Comanche County Fair will not be held this year. A general farm picnic will constitute part of the program on the second day. The entire event is conducted and managed by the Comanche County Advisory Board, which is made up of both men and women.

WOODWARD:

After a practically unbroken drought of 46 days a rain of 3.86 inches came just as the sorghums were beginning to head. It fell deliberately over three days, and there was very little run-off. As the soil was thoroughly saturated by June rains the sorghums have not been injured by drought, and the present rain should mature them with heavy yields even if no more occurs. In vicinities over this general region very heavy and damaging rains occurred.

Preparation of land for wheat over the country generally has been backward, due largely to the return to horse drawn tillage implements. Under the present fine moisture condition of the soil it will likely be rushed as much as possible.

The heavy precipitation and the succeeding cool weather will allow the blooms of crape myrtle, flowering willow, vitex, Bignonia grandiflora, and other flowering plants to continue a little longer than would otherwise be the case. But as is usual, they will mostly be gone by Field Day, September 10.

Several *Pinus ponderosa*, Western yellow pine, are dying on the station at about 17 years of age. While considered one of the most dependable evergreens over the central and northern plains they seem a little out of their range here.

Paulonia tomentosa, a tree with very large leaves and in general appearance like a giant sunflower, seems to find conditions here congenial.

The chinaberry tree is not hardy here, but after killing to the ground each winter makes a growth by the following fall of 8 to 12 feet. The foliage is very rich and dark and of great ornamental value.

Some sorghums and broomcorn on the Cereal project were harvested during the week. Work on the Dry-Land project consisted of harvesting cowpeas, bagging roads, counting wheat samples, and preparing plots for wheat. Other work consisted of picking grapes, grading roads, and repairing machinery.

J.O.Belz was a station visitor over several days of the past week. Maximum temperature, 102°; minimum, 59°; precipitation, 3.86 inches.

PENDLETON:

The chief work on the station the past week has been cleaning and treating seed wheat. The few scattered weeds on the fallow were cut with a hoe.

The fallow in this section has required at least two less weeding operations than in previous years. The fallow on the station has been weeded but once this year, in a normal year at least three weeding operations would be necessary.

Farmers are holding their wheat for an advance in price. A few small lots have been sold to finance harvest operations. The majority of the farmers have completed their harvest, but a few fields in the higher elevations close to the mountains are uncut.

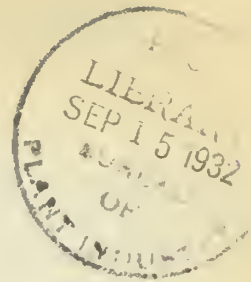
The following yields were obtained with Federation wheat, fall sown on early spring plowed fallow, in the crop residue experiments:

<u>Treatment, besides plowing</u>	<u>Bu. per acre</u>
Stubble fall disked	49.7
" spring disked	50.3
" fall disked and nitrate fertilizer	51.6
" spring " " " "	49.5
" fall burned	49.7
" spring burned	48.7
Barnyard manure 10 tons per acre on top of stubble	51.3
Legume straw	49.4
Stubble plowed under	49.0

Director Wm.A.Schoenfeld, of the Oregon Experiment Station, and Albert Burch, of the Oregon State Board of Higher Education, were station visitors on August 15.

Maximum temperature, 90°; minimum temperature, 40°; precipitation, trace.

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AUG 27 1932

REPORT FOR THE WEEK ENDING AUGUST 27, 1932.

HAVRE:

Rains, more or less torrential in character, prevented threshing until the afternoon of the 26th. 0.99 inches was recorded the night of the 20th, the larger part of which fell within 20 minutes. Showers also occurred the night of the 21st and 22nd. The air was humid and the grain dried slowly.

Threshing on the plots is being completed to-day, the 27th. Corn has made rapid progress. A large part of the rotation plots are colored. Rains of the past week should make corn of excellent quality for this section. Dakota amber sorgo and Sudan grass have made good progress, but they may be checked anytime now by low temperatures.

Dr. Leighty and J.M. Stephens were at this station on the 24th. C. McKee was a visitor on the 25th, and R.R. Millin of the Indian Service on the 27th.

Maximum temperature, 83°; minimum, 52°; precipitation, 1.72 inches; evaporation, 1.486 inches.

JUDITH BASIN:

A severe hail storm the evening of August 22 did considerable damage to unharvested grain, gardens, and corn, and broke windows and roofs. Only five plots of wheat on the station remained unharvested, the damage to these averaged about 60 per-cent. The leaves of corn were split and shredded, and the yield will undoubtedly be reduced. Plums in the orchard were approaching the ripening stage, and most of them were knocked off the trees. Practically all the threshing had been completed, so there was little damage to shocked grain. Hail storms have been numerous in Central Montana this year. In fact there are very few localities which have not been visited by destructive hail storms. Some areas have experienced 3 or 4 storms within the last six weeks.

Dr. Leighty, J.M. Stephens, and Prof. C. McKee visited the station during the week.

Maximum temperature, 84°; minimum, 42°; precipitation, 0.23 inch.

HUNTLEY:

A torrential shower early in the week broke the drought which has been in effect at this station since June 11. Cooler weather following the shower has aided crops in making the most of the precipitation, although many of the plantings are too dry to continue growth. Corn is ripening rapidly, and most plots will produce a light crop of grain. Hogs on the soy-bean - Sudan grass pasture were weighed and moved to the plot of soybeans and sorgo. The sorgo is a little too dry to be pastured, but the soybeans are fresh and well set with pods and appear to be very palatable.

Dr. Leighty and J.M. Stephens visited the station over the week end.

Maximum temperature, 95°; minimum, 47°; precipitation, 0.36 inch.

SHERIDAN:

The last few days have been somewhat cooler than for some time, with maximum temperatures below 90 on four successive days. The entire week was occupied in picking and cutting corn, harvesting sorgo, millet for seed, proso, safflower, and the late dates of seeding flax. All but 18 plots of corn in the rotations, which were not as ripe as the remainder of the plots, were picked and cut, and also the Northwest dent and a part of the flint corn in the varieties. Seed of the varieties used on the station was picked and put up to dry, and also of Dakota Amber sorgo. A yield slightly above the average is indicated for the corn picked.

Maximum temperature, 96°; minimum, 46°; precipitation, none.

DICKINSON:

Spring wheat and grass varieties in the grass nursery were threshed during the week. Dr. H.C.Hanson, N.Dak. Experiment Sta., accompanied by M.S. Morris, Colo. Agricultural College, Fort Collins, Colo., visited the station August 23 and 24 to make detailed studies of the pasture experiments seeded last spring. In both the early-May and mid-June seedings, alfalfa and sweet clover have better stands and dominated the weeds much better than either of the four species of grass. Reed Canary grass showed up surprisingly well in these dry-land pasture seedings, considering the fact that it is a swamp grass. Several varieties of plum and crabapple were picked during the week.

Maximum temperature, 91°; minimum, 45°; precipitation, 0.05 inch. Precipitation to date in August, 2.36 inches, including 1.02 inches recorded on the morning of August 1. Precipitation January 1 to date, 13.86 inches, or 1.40 inches above the 40-year average for the first eight months of the year.

MANDAN:

Agronomy: One or two hot days occurred during the week, but for the most part it was cool. No rain of value fell during the week. Corn in the rotations and the silage block was cut during the week. The yield of ear corn will be better than was thought possible sometime ago. Corn is practically ripe and a few leaves were dried up. The varieties cut for silage averaged from 4 to nearly 7 tons per acre. This is a little better than average and better than in 1931, when some very hot weather caught the corn before it was cut.

Maximum temperature, 95°; minimum, 50°; precipitation, 0.15 inch.

Cooperative Grazing Experiment: Grass in all pastures is badly burned, but there is an abundance of dry feed in the large pastures. The dam in the reserve pasture is getting very low.

Horticulture: Several varieties of plums and crabs were picked during the week. Good yields continue to be the rule, but the quality of much of the fruit has been adversely affected by the drought. This is an unusually good year for Japanese hybrid plums. They do not seem to be as heavily infested with red spider as do most americana varieties. Several new plums from the Minnesota Fruit Breeding Farm look very promising. Grapes are now being picked. Beta still appears to be at least as good as any of the others under test, considering its hardiness and productiveness. Vines covered last winter are yielding decidedly more on an average than uncovered vines.

The plots of tomatoes in the breeding project were gone over during the week and all sun-damaged and spoiled fruit picked. A new crop of fairly good quality is now ripening. Three of the numbered selections in four replicate plots show up quite well now, being uniform in fruit with healthy vines. Melons have set a fair crop but are very slow in ripening up, and those thus far picked are poor in quality. Vegetables in the acre garden are still holding up. Pruned and staked tomatoes show up especially well this year, the fruit being large, smooth, and free from disease.

Trees and shrubbery about the grounds where not benefited by seepage when lawns are irrigated, are now drying up badly. The same is the case with ornamentals and hedges under test in the field.

Arboriculture: E.J.George and J.M.Stephens, Jr., are expected to complete the field inspections planned for this year before the end of the month. The station broadleaf and conifer seedling nurseries are all suffering from the dry conditions, but most species have made good growth this year, and it is expected will be in fair condition for shipping to farmers next spring.

Prof.C.A.Iverson, Iowa State College, Dr.H.C.Hanson, N.Dak.State College, and Prof.M.S.Morris, Colo.State College, visited the station during the week.

BELLE FOURCHE:

Clear, hot, dry weather prevailed during the first half of the week, but the last three days have been quite cool. A couple of light showers were received, but the amount of precipitation was negligible. Conditions have been favorable for field work, and fall plowing of plots is in progress. Potato vines are rapidly drying, but corn and sorgo are maturing slowly. Sweet clover, bromegrass, and alfalfa have made a very noticeable growth since the heavy rain on August 14.

Dr. Trompeter, state veterinarian, has made his headquarters at the station most of the week while investigating a reported outbreak of anthrax in this locality, but no further signs of the disease have been found since the first case reported by the resident veterinarian.

Maximum temperature, 93°; minimum, 49°; precipitation, 0.02 inch.

ARDMORE:

Field work during the week consisted of fall plowing plots in accordance with the plans of the regular rotation work.

Visitors during the week were: E.W. Shoets, Animal Husbandry Division, Wash., D.C., J.A. Hill, Dean of Agriculture and J.A. Gorman, Animal Husbandman, of Laramie, Wyo., J.F. Wilson, Associate Animal Husbandman, College of Agriculture, Berkeley, California.

Maximum temperature, 99°; minimum, 52°; precipitation, 0.19 inch.

ARCHER:

The weather has been a mixture of summer and fall conditions. On this date it is cool and foggy. Crops are maturing without producing much grain. The potatoes have produced but few tubers, and the beans are dropping their leaves. Corn has burned considerably, and the best of it is short.

Threshing was in full swing when the cylinder shaft broke. The winter and spring wheats, the barley, and part of the oats on the rotation plots were threshed when the machinery broke. The silage corn is being cut, and preparations are under way for the storing of silage.

Mr. Riedl, of the University of Wyoming, was a station visitor August 24 for the purpose of taking notes on the cooperative potato work.

Maximum temperature, 93°; minimum, 49°; precipitation, 0.22 inch.

AKRON:

The weather continued favorable for outside work, with moderate temperatures the fore part, and rather cool weather toward the end of the week. Threshing of cereal nurseries was completed, which ends the season's threshing of cereal crops. Other work consisted of listing rotation plots, cutting rate-and-space test millet, harvesting forage hay and Sudan grass, and cutting rotation corn and sorgo, which was entirely burned out by drought and harvested for forage. Two light rains received during the week will help to finish out some of the row crops, watermelons, etc.

Maximum temperature, 96°; minimum, 53°; precipitation, 0.69 inch.

COLBY:

This week has been dry and on several days very windy. All crops are drying rather badly, especially corn. The sorghums are heading indifferently. Corn is in the early dent stage.

Maximum temperature, 98°; minimum, 59°; precipitation, none.

GARDEN CITY:

Continued windy weather with conditions getting more unfavorable for row crops was the general trend the past week. Sorghums are seriously in need of moisture, and many plots not on fallow will produce very poor yields. Fallow plots are holding up well and will produce fair yields, though many are showing pronounced lack of moisture.

Cowpeas were cut the past week. The crop is lighter than usual, and a considerable amount of the leaves were lost before the peas could be raked and bunched. Roadways were seeded to wheat the fore part of the week. There is enough moisture in the ground in the upper six inches to insure good germination and normal growth unless conditions get unusually dry. Volunteer wheat is beginning to show up in many plots that were fall listed or one-wayed after harvest. Farmers are seeding wheat in scattered areas. Many are giving their ground the third working with the one-way in preparation for seeding shortly. Some are one-waying ground this late for the first time, turning under a heavy growth of weeds. Possible yields from such preparation cannot be very promising.

Maximum temperature, 100°; minimum, 62°; precipitation, 0.54 inch.

HAYS:

Generally dry weather has prevailed. All row crops except milo on the experiment station look fine, but have been drawing heavily on the soil moisture, which is pretty well used up. If these crops are to make maximum yields, which is still possible, rain will be needed very soon. Except for one day, the temperature has been moderate for this season of the year; but it has been quite breezy, which increases the loss of moisture.

It has been a good week for the destruction of volunteer wheat, of which there was a good stand on all ground worked early after harvest. It has been necessary to surface work most all such plots during the week. Field D, all of which is being uniformly worked this year, was listed after harvest, one heavy crop of volunteer was then destroyed by ridge busting, and this week another heavy stand of volunteer was destroyed by use of a tandem disk.

Pink kafir on the project is in full head and in the bloom stage. Another good crop of heads is now about to emerge from the suckers which were started by the wet weather some time back. Milo is beginning to head. The milo on fallow looks fine - is abnormally tall for Dwarf Yellow, is very thick due to tillering, and is showing very little indication of the milo disease; but on continuously cropped plots E, F, and G most of the milo is only about 12 to 15 inches high and is dying from disease. Sumac sorgo in Rotation 58 is about 5 to 6 feet high, is headed and looks fine. Sumac sown for hay on C2-2 is only about 24 to 30 inches high, except for a fringe along the edge of the plot which is from 3 to 5 feet high. Corn is in the hard roasting ear stage and will make a normal or perhaps better than normal yield in spite of the fact some of it is affected with corn root rot.

Maximum temperature, 99; minimum, 62°; precipitation, 0.32 inch.

TUCUMCARI:

Crop deterioration has been rapid the past week, and many plots have been injured beyond recovery, irrespective of future precipitation. Broomcorn and milo have fired much more extensively than kafir and corn. Cowpeas have been harvested, after growth had practically ceased. Yields will be lower than average. With the exception of a few favored localities, other portions of the county are as dry as the station. Range grass is drying rapidly, and crops in general have fired badly. Crop prospects have decreased at least 50 per-cent in the past month. Precipitation in 1932 to date is only 0.65 inch below the long-time average for this period, but shortage of water the past five weeks, with the highest August evaporation on record, have speedily reduced potential yields.

Harvesting cowpeas, completion of plant and stalk counts, pulling broomcorn, and working fallows have comprised the work of the week.

Visitors included: J.O.Belz; E.Barker, State Game and Fish Warden; and F.Daniels, Agricultural Statistician from State College.

Maximum temperature, 94°; minimum, 61°; precipitation, none; evaporation, 2.552 inches; wind velocity, 5.8 miles per hour.

DALHART:

The dry weather continues. Premature ripening of the early seeded sorghums is daily lowering potential yields. The grain sorghums, which were planted in mid-June, are still making normal seasonal growth. Some of the plots have dry spots or areas, but they still have better prospects than the early seeded sorghums. Cowpeas started to dry the last of the week. Two varieties of early maturing cowpeas were harvested for hay. It will probably be necessary to harvest a large number of the cowpea plots in a few days. Drilled sorgo and millet were harvested during the week, as were also some row plots of Sudan grass. Broomcorn pulling on the station was started this week. A poor color of broomcorn brush will be obtained this year if the dry weather continues. Yields of the varieties of grapes which have been harvested have been equal to or above the average.

Maximum temperature, 94°; minimum, 55°; precipitation, 0.17 inch; evaporation, 2.350 inches; wind velocity, 1.5 miles per hour.

BIG SPRING:

Although parts of the county have received bountiful rains during the past two months, a section about five miles square, the southern part of which includes the station, has received only a few light showers since June 28. Cotton continues to fruit well, but the grain sorghums are firing considerably. The May 15 variety-date planting has matured a good crop of grain, but the later plantings and the grain sorghums in the rotations are deteriorating daily from the lack of moisture. Cool weather has helped most crops to hold on during this prolonged dry period.

Station work has consisted mainly of work on the cattle feeding plant and hoeing scattered weeds out of the cotton. Five plots of broomcorn were pulled and seeded, and several plots of sorghums of the May 15 date-variety were harvested. Cowpeas in the rotations and some in the varieties were harvested.

Maximum temperature, 96°; minimum, 61°; precipitation, none.

LAWTON:

A week of very low wind velocity and heavy dews at night resulted in very slow drying of sorghums that were headed early in the week and delayed threshing very materially. Another week of fair weather will be necessary to complete this work. A light to moderate picking of cotton on the early maturing varieties planted April 15 will have to be made within a few days. On the May 1 planting the first bolls of the same varieties are just beginning to open. Web worms are hatching in the alfalfa fields and immediate clipping is necessary, even though the growth is too limited to make a yield of hay of any consequence. August rainfall stimulated weed growth, and volunteer wheat, oats, and barley are coming up. Crapemyrtle, Hardy Lantana and a few roses lend beauty to the ornamental plantings.

Maximum temperature, ranging from 89° to 93°; minimum from 60° to 72°.

WOODWARD:

The sky has been cloudy part of the time during the week, but no precipitation has occurred. The wind has been rather strong during the latter part of the week and maximum temperatures have been running from 90 to 95 and

increasing each day as the moisture from last weeks' rain dries up. Crops revived by last weeks' rain are looking good, and sorghums are making rapid development. Station work for the week consisted of preparing land for wheat, cultivating and roguing sorghums, harvesting cowpeas, thinning cotton, and repairing roads. Grapes and apples were picked, and the nursery was cultivated. Oats were drilled in the vineyard and orchard to prevent soil blowing.

J.H.Martin, Div. of Cereal Crops and Diseases, visited the station this week. Maximum temperature, 95°; minimum, 61°; precipitation, none.

PENDLETON:

The work on the station the past week has consisted chiefly of cleaning up small odds and ends of work, repairing fences, and leveling off site for barn and seedroom. Construction work on the barn and seed room was started this week. The building will be 32 feet by 46 feet in size.

The following yields were obtained in the tillage experiments with winter wheat after fallow:

<u>Time of Plowing and Fallow Care</u>		<u>Depth of Plowing</u>	
		5"	9"
		(Bushels per acre)	
<u>Fall Plowed</u>			
Clean Cultivation		48.8	47.5
Minimum Cultivation		38.1	44.8
<u>Early Spring Plowed</u> March 15			
Clean Cultivation		46.7	48.5
Delayed harrowing, clean cultivation		47.0	49.7
Minimum Cultivation		44.5	45.0
<u>Medium Early Spring Plowed</u> April 15			
Clean Cultivation		49.7	49.0
Delayed harrowing, clean cultivation		46.7	48.5
Minimum cultivation		39.7	43.3
<u>Late Spring Plowing</u> May 15			
Clean cultivation		37.3	37.8
Minimum cultivation		31.7	34.3

Maximum temperature, 91°; minimum, 41°; precipitation, none.