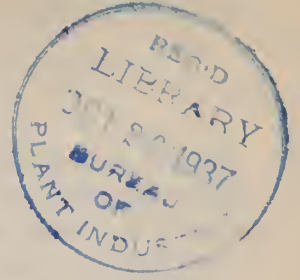


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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

0-1 - 2 1937

REPORT FOR THE WEEK ENDING OCTOBER 2, 1937.

HAVRE:

Cool, cloudy weather with intermittent precipitation continued the entire week. Very little field work was accomplished aside from fall plowing, which is about completed. Precipitation from April to September, inclusive, totalled 9.00 inches as compared with a 20-year average of 9.07 inches. However, evaporation for these same months was 43.702 inches, the 20-year average being 36.191 inches.

Miscellaneous forage plantings were made and also a date of planting winter wheat. Fall grains sown during the month of September are either emerged uniformly or germinating. With the frequent showers, many native grass clumps formerly appearing to be dead are now showing some indication of reviving.

Maximum temperature, 66°; minimum, 31°; precipitation, 0.50 inch.

JUDITH BASIN:

The past week brought renewed hopes to the Basin station. The 0.74 inch of precipitation and cooler weather should be sufficient to germinate fall grains. These rains have increased the amount of seeding in this area. Good stands are now in evidence in stubble, especially towards Lewistown.

Winter wheat has been seeded in the potato rotations. The corn in the remaining cold resistant corn test has been harvested with no grain yields, feed was ground, and implements were put in the machine shed.

Several insurance representatives called during the week, and Mr. and Mrs. A. E. Seamans from the Huntley station made a short visit.

Maximum temperature, 60°; minimum, 27°; precipitation, 0.74 inch.

HUNTLEY:

Showery weather early in the week was followed by the first heavy frosts of the season. Minimum temperatures of 29° two mornings in succession were sufficient to kill potato vines, corn, and the tender growth of alfalfa. Almost over night the trees, shrubbery, and other vegetation took on the customary fall coloring. Comparatively high daytime temperatures at the close of the week dried off the surface of the soil so that field work was possible, and a number of clean-up jobs were completed. Husking of corn from the earliest plantings was continued.

Maximum temperature, 81°; minimum, 29°; precipitation, 0.18 inch.

SHERIDAN: Report for the two weeks ending October 2, 1937.

Weather conditions changed abruptly on the 23rd with light snow falling on that date followed by a light killing

frost on the morning of the 25th. Conditions since have been quite variable, ranging from fairly cold weather for the season to quite warm, just about average for the season.

The frost killed the leaves on most tender vegetation, but did not entirely kill sorgo, Sudan grass, or soybeans. The remainder of the grain sorghums and soybeans were cut, excepting a few of the late maturing soybeans, which were left to see if they would mature seed. Moisture from the rain and snow was not sufficient to be of any benefit, the soil within 3 days being as dry as before the storm.

Husking of corn has been in progress throughout the entire 2 weeks, being finally completed this morning (10/2). The corn is being sacked in order that it may be gotten in quickly if necessary, but left in the field to dry further.

Very little seeding is being done yet in this section, on account of the dry condition of the soil.

Soil samples for chemical analysis, taken every ten years, were taken under the supervision of Dr. McCreary of the University.

Maximum temperature for the week ending September 25, 93°; minimum, 28°; precipitation, 0.46 inch. Maximum temperature for the week ending October 2, 82°; minimum, 31°; precipitation, none.

Total precipitation for September was 0.46 inch, 1.03 inches below the 20-year average, the lightest rainfall yet received here for both August and September together, except in 1930. Temperatures for the month averaged about 4° above the average for September, and only a fraction of a degree below the highest yet recorded for the month. The frost free period for the season, 152 days, was the longest recorded with the exception of 1932, 161 days.

DICKINSON:

Cloudy, threatening weather lasted most of the week, but only light showers fell.

September rainfall amounted to 1 inch. Although this was less than normal, it was more than had fallen during any September since 1931. Precipitation, January to September, inclusive, amounted to 14.96 inches. This is 1.66 inches above normal.

Corn on the rotations was husked. Yields generally were very light with a total failure of ear corn on some plots. The yield of fodder was a little above average. Potatoes were dug. Yields of Cobbler potatoes on the rotations were 5,010 pounds on fallow and 2,900 pounds on spring plowed wheat stubble.

Visitors included Dr. F. L. Daley, H. R. Leach, and R. R. Drake, Soil Conservation Service.

Maximum temperature, 66°; minimum, 28°; precipitation, 0.17 inch.

MANDAN:

Agronomy - The past week was cool and cloudy with several drizzles of rain. The sun was out for only a short time on one day. Potatoes were dug and yielded from 107

to 124 bushels per acre. The quality was good. The total rainfall for the month was 1.37 inches, which is nearly normal. The total precipitation for the year to date is 14.69 inches, which is slightly above normal.

Maximum temperature, 61°; minimum, 37°; precipitation, 0.07 inch.

Cooperative Grazing Experiment - The steers put on fair gains during the month. The gains may have been reduced somewhat because of the cool weather at weighing time. The steers in the mixed pasture showed the least gains. This may be because they grazed weeds to a large extent, that came into the thin stand of grass.

The following tables show the steer gains for September and for the season.

Pasture (acres)	Number steers	Gain per head	
		September	125 days
100	10	33.0	281.0
70	10	24.0	293.5
70 (Rotation)	14	22.1	251.1
7 (Crested Wheat)	4	18.8	238.8
12.5 (Mixed)	6	6.7	233.3
9.3 (Reserve)	12	32.5	261.7

Horticulture - Potatoes were dug on September 29 and 30. Some scab and knobby types were present, especially in Early Ohio, but for the most part the potatoes were of good size and quality. Average yields of the different varieties under test were as follows:

Chippawah.....	156.1 bu.
Triumph.....	142.3 "
Warba.....	125.2 "
Irish Cobbler.....	116.6 "
Early Ohio.....	111.2 "

In the potato spacing experiment yields generally favored 14-inch spacing over 20-inch spacing and 20-inch spacing over 28 inch.

Harvesting of vegetables has been in progress during the week. Rootcrops on the whole are poor with the exception of beets. There was no stand of parsnips, and onions had about a 5 percent stand. Spring plowing apparently does not pay with vegetables.

So far the frost has not been severe enough to cut down cannas and geraniums on the grounds, although they are not very presentable at the present time.

Visitors for the week included H. S. Smith, Cereal Crops and Diseases, F. L. Duley and H. R. Leach, Soil Conservation Service, and H. C. Hanson, North Dakota Agricultural College.

ARCHER:-

The weather during the week ending October 2 was mild with blustering winds during September 28. One light shower totaling 0.14 inch occurred. To date the total precipitation for the year is 10.84 inches. The seasonal precipitation was 9.61 inches. The 24-year average precipitation for these periods is 12.13 and 11.11 inches, respectively.

Thus far during the season the outstanding weather feature is the destructive hail storms of July 15 and 18 with precipitation totaling 0.36 and 0.72 inch, respectively. August and September were the driest months during the growing season with a total precipitation of 1.62 inches. During the history of the station August and September were drier during 1921 and 1928.

The dry period following the severe hail damage in July did not permit such crops as corn, potatoes, and millet to make normal growth. With the wheat, oats, and barley crops totally destroyed, the station feed situation would be critical if it were not for the rye hay harvested before the July hail storms and one year's surplus silage carried over from 1935.

Ralph Cowper, Vocational Agriculture Instructor at the Burns High School, and his class of 17 boys judged dairy cattle and sheep at the station October 1.

Maximum temperature, 78^o; minimum, 29^o; precipitation, 0.14 inch.

NORTH PLATTE:

Extremely dry conditions continue. During the week, several days were cloudy with light mist, but with no measurable rain. Nights have been cool, but no killing frost has occurred.

Winter wheat on fallow has made some growth, but the plants do not look thrifty. On cropped land only small scattered patches have emerged. Grasshoppers have thinned out considerably during the past month. Most of those remaining are small. In two D.L.A. experimental fields no damage from them is apparent, but in the field containing sod rotations, stands on fallow plots are reduced 25 to 50 percent.

September rainfall on the table came in five showers totaling 0.73 inch. For the year to date, the total of 12.40 inches is 76 percent of normal. A large proportion of the season's rainfall has been ineffective, as only 6.07 inches has occurred in amounts of more than one-half inch in 24 hours.

Maximum temperature, 83^o; minimum, 37^o; precipitation, none.

AKRON:

September passed with a total precipitation of 1.65 inches, slightly above the average. The only heavy precipitation was that of 1.48 inches on the 6th, which was not general. The total precipitation for the year to date is 10.33 inches, about two-thirds the normal for the period.

The harvesting of the sorghums and the millets was completed, and a start was made toward threshing the latter. Proso yields will be very light, probably not in excess of those obtained in the dry year of 1934.

Winter wheat seeded on the new 20 acres the 22nd has emerged to vigorous uniform stands. That seeded on the rotation plots the 10th still shows spots of non-emergence. This

is a condition that will not be corrected until the surface soil moisture is replenished.

The weather has remained cooler, but there has been no recurrence of frost.

Mr. Greenawalt and wife and two of his advanced students, the former the Vocational Agricultural Teacher at the Cope High School, visited the station last Sunday.

Maximum temperature, 85°; minimum, 35°; precipitation, trace.

COLBY:

This week was fairly warm, somewhat windy, and dry until Thursday night when it turned rainy and cooler. Only 0.08 inch of moisture fell, but it has been misty and foggy most of the time since. A good rain is needed.

The wheat on the fallow plots came up to a good stand generally, but on continuously cropped land the seed bed dried out before most of the seed could sprout. The plants that came up where the moisture is deficient are barely holding their own.

Soil samples showed that there was not over 11 percent of moisture in the continuously cropped land, except cornland, at seeding. In the corn plot there was almost 13 percent in the first two feet, slightly more than on the summer fallow plot M.C.C. On ground fallowed three years the moisture was down only 3 feet, but, whereas on the 1-year fallow the first two feet contained slightly less than 13 percent, this ground contained over 19 percent in the first two feet and 16 in the third. The plots where wheat was grown after four years of fallowing are still wet in the fifth and sixth feet, and in places down through the eighth foot. It seems that under conditions prevailing this year the wheat was unable to get enough roots below the fourth foot to use much of the moisture below that depth.

Maximum temperature, 86°; minimum, 34°; precipitation, 0.08 inch. Precipitation for September, 1937, 1.69 inches; 50-year average, 1.52 inches. Precipitation, January to September, 12.05 inches; 50-year average, 15.25 inches.

HAYS:

Heavy south winds were the rule during the first part of the week. The week ended with threatening rain clouds, which finally cleared away without yielding precipitation of value.

The dry, windy weather during the forepart of the week hastened the drying-up of feed crops upon which some of the foliage is as dry as if it had been killed by frost sometime previous. The grain formed (although the amount is insignificant) on these crops is practically all mature.

Pastures, for the most part, are brown, and the surviving trees on the upland are beginning to drop leaves due to drought. Many casualties have been added to the tree population during this season. Many trees located in the low places and in the ravines have perished this year. It is

likely that some of the trees which have remained green during the year will never leaf out again.

During the week all winter wheat plots on the project were drilled. There is sufficient moisture at seeding depth to justify the expectation of at least a fair germination, except on corn and sorghum stubble plots and plots on which seedbed preparation was not commenced until late in the fall. On these plots the seed will lay in dry soil until after it rains, unless devoured by worms.

A supply of grasshopper poison was spread over the project after wheat seeding was completed to protect the wheat plots from grasshopper injury. Three-hundred pounds of poison-bran-mash was spread the week previous to seeding. It is hoped that the grasshopper population will be sufficiently reduced by the time the wheat is up that no serious injury will occur.

All kafir plots that matured grain were headed during the week.

Maximum temperature, 92°; minimum, 36°; precipitation, 0.10 inch.

GARDEN CITY:

Although rain threatened several times, 0.03 inch was the only measureable amount that fell. There was a heavy fog this morning, which is rather unusual for this section. Soil moisture remains too low for wheat seeding, which is rather provoking, since the wheat is seeded and coming up to a good stand in the northwestern part of the county.

Soil samples were taken on the following milo plots: Continuously cropped, methods of fallow, diked, and wide-row.

H. L. Westover, Division of Forage Crops and Diseases; C. O. Grandfield, Kansas State College; J. H. Parker, Kansas State College; and Miles McPeck, Federal Statistician from Topeka were visitors of the station.

Maximum temperature, 93°; minimum, 42°; precipitation, 0.03 inch. Total precipitation for September, 0.77 inch; normal for September, 1.75 inches.

TUCUMCARI:

During the past week of calm, sunny, fall weather only 0.09 inch precipitation was received. Since the first week in June the only effective rainfall occurred the first week in September, but the results of that rain in crop development were very marked. Many crops appear to be maturing normally, although the soil is now deficient in moisture.

Cowpeas were harvested, broomcorn was pulled and the stalks cut, roadways were repaired, and the remainder of stalk counts was made.

Maximum temperature, 91°; minimum, 48°.

DALHART:

A shower of 0.17 inch during the week brought the September precipitation to 1.27 inches, the same as for

August. This precipitation was in the form of light showers and did not justify seeding of wheat or rye. Local showers were received in certain locations which did justify seeding wheat. Many farmers report loss of stands by grasshoppers. This is the first year that grasshoppers have caused any damage to crops here. The outbreaks have been confined to relatively small local areas during the summer. A greater number of grasshoppers than usual have been observed on the station, but they have been insufficient to warrant poisoning to protect row crops. Birds have been a serious pest to the sorghums as they mature; they have been especially severe where the plots were nearest the roosting grounds.

The absence of any reserve of moisture in the soil and the rather drying fall winds have hastened the maturity of the sorghums. A start was made late in the week of heading variety plots. The earlier varieties are fully mature in all dates-of-planting. Apparently most of the milo plots on the rotations will do to head as fast as the present crew can get to them. All drilled forage plots have been harvested as have the Sudan grass row plots.

Maximum temperature, 89°; minimum, 41°; precipitation, 0.17 inch.

BIG SPRING: Report for the week ending September 25, 1937.

Temperatures have been high until today when the first norther of the season arrived. Although the air temperature is not so low, it is quite a contrast to the high of the day previous.

Cotton picking is getting well under way throughout the County. Growers of some of the short stapled varieties are somewhat disappointed in the price received. Cotton this year is being purchased strictly on grade and staple, and as a result the grower of a good staple variety is receiving a fair price, while the short staple grower is receiving 3 to 4 cents a pound less for his cotton.

Hauling in cowpea hay from the increase fields and picking cotton has occupied the time of most of the station force. Other work has consisted of harvesting soybean varieties, sorghum varieties and kafir in the rotations.

Mr. Mario Estrada, Agricultural Agent for the Buenos Aires and Pacific railroad of Buenos Aires, Argentine visited the station September 22.

Maximum temperature, 92°; minimum, 59°; precipitation, 0.16 inch.

WOODWARD:

The main feature of the past week was two days with a combination of high wind velocity and high temperature. These caused not what is known as burning of sorghums, but rather desiccation, with withering and drying of the leaves until great whitened patches appear over fields. The high precipitation in September made for a rampant growth of foliage, but with a few more hot windy days there will be no hope of later sorghums maturing much grain. Kafirs have suffered more than milos. On many fields of milo the seed is

filling well, often on unusually large heads. On early maturing sorghums there are now a great many branch heads. Sowed feed is burning and going down.

There has been more soil drifting on wheat fields at this season than at any time in recent years. Many of the sandier fields have blown out entirely, and many roads bordering such fields are impassible. Much wheat was planted in late August and early September to insure pasture. Some of this seemed unable to withstand hot winds and withered and died. There seems a tendency on the other hand for a large proportion of farmers to plant somewhat later than usual, with the hope of getting the larger grain yields shown by station records, which county agents have given wide publicity.

The promise of prolific bloom of ornamentals has not been fulfilled because of hot winds. Roses and butterfly bushes, however, are giving a rich show. Perovskia is a thing of misty beauty, and is attracting much attention. It bids fair to become a leading ornamental.

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

NOTE:

The station reports of this division will be made and issued monthly during the months of November, December, January, February, and March. These should include monthly precipitation. The last report in October, 1937, should cover October 31. Following the issue for April 1-9, 1938, the weekly issue will be resumed.

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BIG SPRING:

Rainfall during the month of September was only 0.32 inch or 2.15 inches below normal. This amount was received in several showers and was of little or no value. Although a good rain now would be very desirable for planting wheat for winter pasture, it would be detrimental to cotton grades.

Nearly ideal weather for harvesting has prevailed during the past week. With cotton opening rapidly and with plenty of pickers available, the crop is coming to the gins at such a rate that they are running night and day.

Station work has consisted mainly of picking cotton, cutting sumac sorgo, and filling the trench silo.

H. W. Barre, in charge of the Cotton Division, Washington, D. C.; C. J. King, Superintendent of the U.S. Field Station, Sacaton, Ariz.; and H. D. Barker, Pathologist in cotton root investigations, visited the station during the week.

Maximum temperature, 92°; minimum, 48°; precipitation, none.

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OF THE DIVISION OF

DRY LAND AGRICULTURE

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U. S. DEPARTMENT OF AGRICULTURE

OCT 26 1937

REPORT FOR THE WEEK ENDING OCTOBER 9, 1937.

HAVRE:

Cloudy skies, intermittent precipitation, and sub-normal temperatures early in the week were followed by clearing, warmer weather. Snow fell to a depth of about 5 inches in the nearby mountain area, whereas precipitation in the form of rain totaled 0.53 inch at the station.

Field activities have been retarded frequently since September 20, but by taking advantage of every opportunity, most of the fall work has been finished. The cutting of corn stover in the experimental field was finally completed, and two tracts of bottom land were plowed in preparation for alfalfa to be sown next spring. Threshing of cereal nursery material stored in the seedhouse has been in progress during unsettled weather.

Maximum temperature, 67°; minimum, 30°; precipitation, 0.53 inch.

HUNTLEY:

Precipitation in the form of a gentle rain and wet snow fell almost continuously through a 48-hour period at the beginning of the week. The amount totaled 2.19 inches, almost a record fall in one precipitation for this station. The soil is now wet considerably below the depth of seeding, which will not only insure uniform germination but should provide moisture sufficient to carry fall-sown grains through the winter. Inspection of fall seedings indicates the grain sprouting well, and a few warm days should bring it up. Weed seed is also sprouting, and some areas are turning green with the growth of young Russian thistles and downy brome grass.

Although the last 3 days have been bright and moderately warm, the fields are still too wet to work, and no field work has been done during the week.

Maximum temperature, 81°; minimum, 32°; precipitation, 2.19 inches.

SHERIDAN:

Following some quite warm weather over the week end there was light rain on the 4th followed by cooler weather over the remainder of the week. With cool weather following the rain, the soil was left in good condition for seeding, with apparently enough moisture to germinate the seed and to sustain what growth there will be at this time of the year.

Seeding of fall grain was completed, and some crested wheatgrass was sown. Potatoes were dug, and shredding of corn stover from the rotations is now in progress. The last rain was sufficient to cause grass to green up considerably.

Maximum temperature, 87°; minimum, 30°; precipitation, 0.56 inch.

DICKINSON:

High temperature early in the week with a maximum of

90° on Sunday was followed by a stormy period with light precipitation including the first snow of the season on October 5. Moderate temperature followed with a minimum of 28°. The total precipitation during the week was 0.30 inch.

The damp weather was a benefit to vegetation. Winter wheat and winter rye are emerging with fair to good stands except on the very driest soil. On fallow, winter wheat has an excellent stand. Crested wheatgrass, bromegrass, and western wheatgrass seeded September 20 are beginning to emerge.

Farm sales are general in the district: An auctioneer in the locality was booked for sales on eighteen successive days in October.

Visitors included Dr. M. M. Hoover and A. D. Stoesz and party, also Mr. Allis and Mr. Delano, all of the Soil Conservation Service; and F. Gray Butcher, Extension Entomologist.

Maximum temperature, 90°; minimum, 28°; precipitation, 0.30 inch.

MANDAN:

Agronomy - The past week was a continuation of the previous one in being cloudy and cool, except the 3rd which was a fine day. Two or three light showers occurred. Corn shredding was started on the 4th, but rain stopped it after a half day.

Maximum temperature, 86°; minimum, 29°; precipitation, 0.43 inch.

Cooperative Grazing Experiment - The steers appear to be doing fairly well on their pastures for this time of year. Brands were clipped in readiness for the final weighing.

Horticulture - The land has been surveyed for the construction of terraces in the coulee orchards, hillside orchard, and plant breeding blocks for the purpose of checking soil erosion. All orchards have been given a late cultivation in order to leave the surface of the soil in a rough condition during the winter. Furrows will also be plowed as a further aid in checking soil blowing. Other work included the cutting out of dead wood and the pulling of discarded trees.

Arboriculture - The collection of green ash seed has been completed during the week. The seed is very "wormy" and is the poorest quality crop that has been produced for several years. The pulling of nursery stock has commenced. Leaves have not yet dropped, but the lateness of the season has made it necessary to begin pulling the trees. The soil is dry and consequently in poor condition for temporary heeling-in.

Visitors for the week included J. A. Munro, North Dakota State Entomologist and W. W. Austin, Agronomist, Soil Conservation Service.

ARCHER:

The weather during the week ending October 9 was cool and threatening. Precipitation was recorded on four days,

the total being 0.19 inch. A copious rain would be of great benefit to this section.

The growth of winter cereals on fallow was satisfactory, but on cropped land only spotted stands were obtained, and growth is at a standstill. Corn in the shock is drying, and at the station husking was started. In this section the potato harvest is drawing to a close, and in the irrigated districts the beet harvest is in full swing. Livestock are in good condition, and feed generally is sufficient.

During the week the fall plowing on the rotation plots was accomplished. The soil was very dry. Most of the plowing is 4 inches deep. Where the plow could be gotten into the soil deeper, the plowing is 10 to 12 inches deep. Subsoiling varied from 16 to 18 inches deep.

Dr. F. L. Duley, H. R. Leach, and Raymond R. Drake of the Soil Conservation Service were station visitors October 3.

Maximum temperature, 76°; minimum, 28°; precipitation, 0.19 inch.

NORTH PLATTE:

Open, fall weather has prevailed. Nights have been cool, with white frosts occurring several times but with no freezing temperatures. Rain threatened several times, but two very light showers were all that materialized here.

Station work has consisted of topping early kalo, digging potatoes, irrigating in preparation for next year's crops, receiving feeder calves, and hauling feed.

Winter wheat on fallow adjacent to grass in the sod rotations has been considerably damaged by grasshoppers and is being reseeded today. On cropped land the soil continues too dry for seed to germinate, and very scattered stands have emerged.

Maximum temperature, 84°; minimum, 31°; precipitation, 0.15 inch.

AKRON:

Another week of clear, cool weather. There has been no rainfall of importance since September 6, and faulty stands of winter wheat by reason of dry surface soil have not improved. Melons, beans, and tomatoes were killed by the minimum of 29°. Potatoes were harvested, and progress was made towards threshing the millets. Potato yields were light, but the quality of the tubers was exceptionally high.

Honey locust and hackberry leaves are coloring nicely, lending agreeable evidence to the season of the year.

F. L. Duley and R. R. Drake of Lincoln, and H. R. Leach of Washington, officials of the Soil Conservation Service, visited the station Monday. A. K. Hopperly, Agricultural Agent for the Burlington, and P. M. Pierce, Federal-State Supervisor of turkey grading, both of Denver, visited Thursday. T. G. Stewart, Warren Leonard, Mr. Wiant, D. W. Robertson, and J. J. Curtis came down from Fort Collins Thursday and harvested the date of seeding and variety corn experiments. They also harvested and stored the bagged heads from the sorghum nursery.

Maximum temperature, 87°; minimum, 29°; precipitation, trace.

COLBY:

The weather continues dry and somewhat cooler, but no frost has occurred as yet this fall. It has been windy on two days, but there was practically no soil blowing.

Winter wheat on fallow continues to make slow growth. That on the continuously cropped plots which came up is not more than holding its own. Some of the plots show spotted stands, because the seed bed dried out in places before the seed could germinate, and the seed lies in the dry soil in apparently the same condition as when sowed.

The sorghums have dried considerably but are still making slight growth. In the edge rows the seed is beginning to ripen, but there are almost no heads in the inside rows. Scattering heads are emerging low, mostly on second growth tillers.

Maximum temperature, 92°; minimum, 33°; precipitation, trace.

HAYS:

Dry weather prevails. The stand of winter wheat on the project is generally spotted and none too good. More wheat is slowly emerging, but the stand will be very poor until after it rains. Feed crops are being rapidly harvested.

Work during the week has consisted largely of collecting soil samples for moisture and nitrate determinations.

Maximum temperature, 93°; minimum, 33°; precipitation, trace.

GARDEN CITY:

The average frost-free period ends October 12, and as yet no frost has occurred. The lowest temperature thus far this fall is 34°. Only a trace of moisture was received this week, and therefore no wheat has been seeded on the Dry-Land project.

Sorghum harvest has begun on irrigated land, and the yield for Dwarf Yellow milo is estimated to be 85 bushels per acre.

Field work consisted of harvesting cowpeas, which produced no pods.

Visitors of the station were A. L. Hallsted and A. F. Swanson of the Hays Experiment Station; H. E. Tower of the Soil Conservation Service, Washington, D. C.; Mr. Hines, Regional Associate Agronomist, Soil Conservation Service, Amarillo, Texas; and the vocational agriculture classes from Holcomb and Garden City, Kans.

Maximum temperature, 92°; minimum, 34°; precipitation, trace.

TUCUMCARI:

Somewhat cloudy, cool weather has delayed crop maturity the past week. Sorghums planted in early June are still too green for harvest, in many instances late suckers heads being more numerous than the early, main stalk, heads. Dwarf hegari planted in early June showed full head only the past week, with few heads past the milk stage at present. No other variety

has reacted so acutely to unusual weather conditions, although all sorghums are slower than usual in maturity.

During the county fair the coming week a field tour of the station is planned, primarily to view trees and shrubs. Farm Bureau members of several counties have been invited, and a large crowd is expected.

Maximum temperature, 89°; minimum, 42°; wind velocity, 5.8 miles; precipitation, none.

DALHART:

Work for the week has been largely seasonal and has consisted chiefly of harvesting milo rotations, stover and heads, and stover of grain sorghum varieties. All cowpea plots were weighed during the week. Actually harvesting is just well under way and will be a continuous job for about another month. Judging from the bulk of the heads removed from the milo rotations, the yield on the plots harvested will range all the way from near failures to 20 bushels. Just a few of the kafir plots are mature. Very little heading has been done on farms. The chief farm job at this time of the year is the harvesting of bundle feed.

Maximum temperature, 88°; minimum, 40°; precipitation, trace.

BIG SPRING:

Rains totaling 0.92 inch have been received during the past two days; this is the first of any value that has been received since August, and should be sufficient for planting wheat pastures. It will probably not last long if more is not received in the near future.

Cotton is opening very fast, and sorghums are maturing rapidly. Most of them will be ready for harvest at an early date.

Station work during the past week has consisted mainly of picking cotton and completing the silo filling job. Picking increase cowpea seed has also required some time.

Station visitors during the week included Roy Saunders of the Greenville cotton breeding station, E. A. Miller, Extension Agronomist, and Mr. Leitch, Extension Ginner.

Maximum temperature, 90°; minimum, 49°; precipitation, 0.92 inch.

LAWTON: Report for the two weeks ending October 9, 1937.

A wide fluctuation of maximum temperatures ranging from 98° on October 5 and 97° on the 6th to 64° on the 9th terminated with 1.09 inches of rain on the 8th that was a boon to small grains. Early seeded wheat, oats, and barley were suffering from hot, dry weather; and many fields have not emerged. Considerable seeding remains to be done as soon as field work is possible. This is the first rain since September 7, and cotton picking has progressed steadily throughout this part of the State. Practically all cotton is being snapped, and the low yields coupled with an extremely low market leaves the cotton farmer financially depleted.

Wheat on the rotations was "dusted in" on well prepared seedbeds October 4 and 5, and present moisture conditions

should provide good emergence. The wheat, oats, and barley varieties will be seeded as soon as the ground is dry enough to permit surface tillage.

Station visitors during the past week include Walton G. Wells, Director of Cotton Culture, Department of Agriculture, Brisbane, Queensland, Australia; and Dr. F. A. Fenton and Mr. L. L. Ligon, A. & M. College, Stillwater, Okla.

WOODWARD:

The past week has had less high wind and lower maximum temperatures than previous weeks, and hence has been more favorable to crops. Friday there was 1.56 inches of rain coming in three hard showers with considerable run-off. This rain will carry sorghums through to maturity in fine shape, if frost does not occur. It will also insure a stand of late planted wheat.

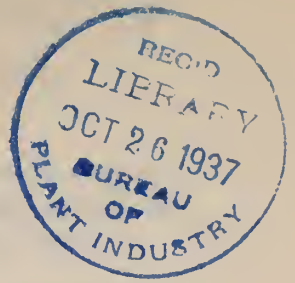
Trees are gradually assuming fall colors. Most flowering plants seem to assume that winter is near and are ceasing to bloom.

Work of the week consisted of gathering grass seed and planting wheat varieties.

NOTE:

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

OCT 16 1937

REPORT FOR THE WEEK ENDING OCTOBER 16, 1937.

HAVRE:

Considerable cloudiness but only light precipitation characterized the weather of the past week. Minimum temperatures were somewhat lower, heavy frosts occurring nearly every night.

Potatoes were dug, the final soil moisture samples were taken, and various plantings of winter wheat and crested wheatgrass were made.

Because of frequent snow squalls and glaze storms, the experimental beef cattle herd was moved from the upper southwest pasture of the mountain lease to a lower elevation.

Maximum temperature, 67°; minimum, 23°; precipitation, 0.02 inch.

JUDITH BASIN: Report for the two weeks ending October 16.

The weather during the past two weeks was typical for this time of year. One shower on the 5th totaled 0.17 inch. Fall grains have emerged with good stands. The moisture has refreshed the pastures with a fair growth of grass.

Crested wheatgrass was seeded in the triangle next to the railroad, and one seeding was made on the old depleted bromegrass pasture. The corn from the cold resistant experiment and bulk fields was hauled in. The bunt nursery was seeded on the 7th under very favorable conditions. Some measurements were made of the conifers in the shelterbelts. Miscellaneous painting of buildings and odd jobs occupied the remainder of the time.

Maximum temperature, 77°; minimum, 26°; precipitation, 0.30 inch.

HUNTLEY:

Raw, cloudy weather with threatened snow prevailed over the first half of the week and was followed by clear days and nights of heavy frosts when the lowest temperatures of the fall occurred. Late potato vines and other semi-hardy plants were killed, and seemingly almost overnight the trees and shrubbery took on their autumnal coloring.

Winter wheat and rye appear to be coming up nicely on all plots and commercial fields sown before the rains of early October. The favorable soil moisture conditions have induced some additional wheat plantings on the benchlands, notwithstanding the lateness of the season.

Field work has consisted of hauling and stacking seed-alfalfa in the threshing yard, husking corn, and hauling fodder.

Maximum temperature, 69°; minimum, 23°; precipitation, none.

MANDAN:

Agronomy - The past week was a continuation of cloudy and cool weather with the temperature dropping to the lowest point so far this fall. Corn shredding was finished during the week, and fallow plots were duckfooted. This completed the plot work for this season.

Maximum temperature, 60°; minimum, 12°; precipitation, trace.

Cooperative Grazing Experiment - The grazing experiment was closed for the year. Final weights were taken on the steers, and they will be shipped early next week. The October gains of the steers were fair on the larger native pastures, but they showed losses on cultivated pastures. On the very few occasions we have had new growth on cultivated pastures for fall grazing, the cattle have shown poor gains. The following table shows the steer gains for October and the season.

<u>Pasture (acres)</u>	<u>Number Steers</u>	<u>Gain per head (lbs)</u>	
		<u>15 days</u>	<u>140 days</u>
100	10	25	306.0
70	10	9.5	303.0
70 (Rotation)	14	3.9	255.0
7 Crested wheat	4	-16.3	222.5
12.5 Mixed	6	-25.0	208.3
93 Reserve	12	27.6	289.3

Horticulture - The terraces of the hillside orchard were built up during the week. These terraces had become low on their lower sides so that water freely flowed down the hillside. Dirt was scraped from the upper to the lower sides of the terraces, and ridges were built up that should hold and drain water. A number of other terraces have been surveyed for construction, but it is doubtful if time will be found to work on them before the ground freezes.

All vegetables have been harvested and stored. Yields were fair, but the quality seems decidedly below par, especially in regard to fall crops. Hot and dry weather in August and September no doubt contributed much to this.

Tulips were planted during the week, and cannas were stored. With the exception of Gaillardia which still produces a show of blossoms, the station grounds have been devoid of color except for fall foliage. Golden currant and Tartarian maples have been unusually striking this season. Three varieties of hardy asters received from the Division of Foreign Plant Introduction last year seem very promising ornamental material for this region. They were very floriferous, semi-dwarf, and of striking color with very large individual blossoms. Hardy chrysanthemums were better this year than for the past two seasons. A few varieties produced good sprays of pleasing appearance. The majority, however, were cut down by frost before the buds opened up.

Arboriculture - The pulling of nursery tree stock has continued during the week. The heavy freezing temperatures have not been sufficient to cut the leaves on Chinese elm, chokecherry, and Russian-olive seedlings. The soil is dry, making it unfavorable for digging and pulling stock.

Visitors for the week included Dr. M. M. Hoover, In Charge, Grass Unit, Section of Conservation Nurseries, Soil Conservation Service; Dr. A. D. Stoesz, Regional Nurseryman, Soil Conservation Service; and Wayne Austin, Agronomist, Soil Conservation Service.

SHERIDAN:

Cool and partly cloudy weather prevailed over the most

of the week. Hauling and weighing of corn stover and sorgo, and shredding of same, was completed, with the last of the sorgo being hauled and stacked today (10/16). The grain sorghums remain to be threshed yet. Seeding of crested wheat-grass in meadows where the stand of either the grass or alfalfa is poor was continued at intervals when the corn stover and sorgo were too damp to haul and weigh. Some ground was worked with the damming lister.

Maximum temperature, 72°; minimum, 25°; precipitation, none.

BELLE FOURCHE: Report for the two weeks ending October 9.

Cool, blustery weather prevailed most of the period, but one warm day occurred in which the temperature was fourth to the highest of record for October. The sky frequently was overcast and threatening, but only a few light showers were received. The cool weather and recent frosts checked plant growth; and grasses, alfalfa, and sweetclover remained at a standstill. Winter wheat is up with perfect stands on summer fallow, but owing to lack of moisture in the surface soil the stands on other cultural treatments range from 50 to 85 percent.

A. W. Krofchek, Horticultural Field Station, Cheyenne, Wyo., is visiting the station in connection with tree root investigations in the dry-land orchard.

Maximum temperature, 89°; minimum, 28°; precipitation, 0.18 inch.

ARCHER:

The weather during the week ending October 16 was cool and foggy. Precipitation was recorded during five days. The precipitation recorded during four days was very slight, and the ground was dry by 10:00 a.m. On October 15 a rain totaling 0.52 inch occurred. This will greatly aid the winter cereals and, to some extent, retard soil blowing.

The husking of corn progressed until the weather made it necessary to discontinue this work. Other work consisted of cleaning the yards and general repair work.

Director W. L. Quayle of the University of Wyoming and County Agent H. O. Wilcox of Media, Penn., visited the station during the week.

Maximum temperature, 72°; minimum, 24°; precipitation, 0.54 inch.

NORTH PLATTE:

Cool, cloudy weather has prevailed for most of the week. Temperatures have hovered near the freezing point nearly every night, but as yet have not dropped below. Leaves have put on considerable fall coloring, but as yet practically none have fallen, and fall flowers are still in good condition.

Topping early kalo was completed during the week. Threshing of sorghums is being delayed by unfavorable weather. Gentle rain has been falling for the past 18 hours, but the quantity so far received is still below 1/3 inch.

The irrigation pump has been run steadily in an attempt to restore depleted subsoil moisture on station fields.

AKRON:

Cloudy, rather inclement weather with heavy fog Friday and Saturday. This later stopped field threshing, which was being carried on under difficulties. Millet threshing had just been completed, and everything was in readiness for starting the threshing of the sorghums. Corn also remains to be brought in, but only a few plots will warrant searching for grain to husk. Inside work was the grinding of feed for the fattening pigs, and the building of doors for the new implement shed.

There has been no hard freezing weather as yet, and leaves on the deciduous trees are coloring nicely. Faulty winter wheat stands have not as yet improved.

Maximum temperature, 80°; minimum, 32°; precipitation, 0.02 inch.

COLBY:

This week has been chilly, cloudy, misty, and rainy. It has been drizzling all night and this forenoon with no signs of clearing up. Over a half inch of moisture has fallen, and all of it soaking in. The temperatures have been in the thirties most of the time for several days but did not drop to freezing. The moisture was badly needed as much of the early wheat was dying, some was being destroyed by grasshoppers, and on many fields it was so dry that the seed had not sprouted.

Most of the sorghum plots were cut yesterday. The rest would have been cut today but for the rain. The stalks were nearly all practically dried up, and there was no seed except in some of the border rows.

Dean Call of the Kansas State College visited the station Wednesday.

Maximum temperature, 80°; minimum, 35°; precipitation, 0.74 inch.

HAYS:

The weather during the week has been generally cloudy, damp, and cool. A light rain October 12, moistened the soil to the seeding depth of wheat. The stand, as previously stated, is very spotted and uneven, and it is hoped the rain will be sufficient to germinate the seed which has been lying in dry soil.

The harvest of feed crops in this locality continues. The acreage is very small except on the Fort Hays Experiment Station and is mostly harvested. The Experiment Station is busy at this time filling silos. Two double-row corn binders are being used, and the work is being rushed.

Maximum temperature, 81°; minimum, 36°; precipitation, 0.86 inch.

GARDEN CITY:

Most of this week has been cloudy with 0.27 inch of rain falling on the 12th, and 0.22 inch falling last night and this morning until 8:00 a.m., and it is still raining. No wheat has been seeded yet, but the prospects appear to be better.

Most of the kafir was too short to bind. It was cut with a mower and then picked up with a fork. No grain yields were taken. The feterita plot was headed, but only a small yield was obtained.

Maximum temperature, 79°; minimum, 35°; precipitation, 0.49 inch.

TUCUMCARI:

A rain of 1.69 inches last night should be of great benefit to wheat in this entire locality but will probably only delay sorghum maturity. Sorghums are suckering and putting out branches heads, but seem determined to postpone maturity as long as possible. No frost has been received, and it now appears probable that nearly all plots and increase land will be left until frost.

Precipitation to the close of September was 14.21 inches or about $\frac{1}{2}$ -inch above normal for the nine months. Most of this fell in late May and early June: after the first week in June no effective precipitation was received until the first week in September. The rain last night will no doubt again induce plants to continue vegetative growth unless temperatures are too low.

Yesterday some 200 members of the Farm Bureau of this and adjoining counties spent several hours on the station viewing and discussing shade trees, shelter belts, and grapes.

Maximum temperature, 77°; minimum, 42°; precipitation, 1.84 inches.

BIG SPRING:

Weather conditions during the past week have not been favorable for field work, being either misty or raining in small amounts during 6 days. Rain was received on five days, but the total was only 0.43 inch, just enough to stop field work, but not enough to do much good. The sun has not been visible for the past 10 days.

The moisture received during this spell should be sufficient to get wheat up, but it will not keep it growing very long. Cotton picking throughout the county was stopped during the entire week, but it will get well under way again as soon as the weather is favorable.

Station work has consisted of making and installing water troughs and building ensilage carrying equipment.

Maximum temperature, 79°; minimum, 45°; precipitation, 0.43 inch.

LAWTON:

The weather was wet, cold, and cloudy from the 8th to the 16th, and there is no indication of a change at present.

Rainfall during this period amounted to 2.50 inches, and very heavy fogs have predominated. Practically all the rain penetrated the soil. Maximum temperatures ranged from 50° to 72° and the minimum from 46° to 59°.

Wheat that was "dusted in" on the rotation plots October 4 and 5 was emerging on the 15th. Alfalfa and sweet-clover seeded on September 15 and 16 emerged to good stands by October 15. It appears doubtful if these tender young seedlings will survive the fall frosts and freezes that are due in the near future.

The present supply of moisture should provide much fall and winter pasture on the earlier seedings of wheat, oats, and barley.

It is estimated that 70 to 75 percent of the cotton crop has been ginned in this territory. The wet weather has damaged the grade of open cotton, and the low temperatures are retarding the maturity of unopened bolls.

WOODWARD:

A rain of 1.56 inches on October 8 was very beneficial. The surface soil had dried out since the rains of September 15, and much later planted wheat might not have come up. A rain of 1.95 inches came in three hard, beating downpours on October 12. Most of this ran off and caused great erosion. It also hammered young, tender wheat into the soil as hard rains did in 1923, greatly to its detriment.

Sorghums are marching ahead very gallantly toward maturity. With two weeks of warm, sunny weather there would be unusually high yields, but everyone expects frost after this rainy spell.

As rains continue, more and more land is being planted to wheat. Even shinnery oak pastures are being disked up and put into wheat.

Only a few trees are showing much autumn coloring. Cool weather has discouraged free blooming of most flowers except the native asters and chrysanthemums. These appear remarkably bright and cheerful under the heavy skies.

PENDLETON: Report for the two weeks ending October 16.

Dry weather still prevails throughout the Columbia River Basin. Precipitation for the fall season is about an inch below the normal. Precipitation for October on the station has totaled 0.54 inch. This occurred on five dates. Very little wheat has been sown to date, due to dry surface soils and the failure of the weed seeds to germinate after the showers. Tar weed is quite often a pest in the fall sown wheat, and most farmers like to get the tar weed seed germinated and killed before they seed their fall wheat. Wheat sown on October 6 in the furrow drill trials emerged on October 15 with good stands. On the station the crop residue and part of the fertilizers trials have been seeded and will probably emerge within a few days with good stands.

Many varieties of perennial and annual flowers are still in bloom on the station. Watermelons, peppers, and egg-plants are still producing. The black locust has held its leaves unusually long this year; most trees are heavily loaded with leaves.

Maximum temperature, 76°; minimum, 32°; precipitation, 0.54 inch.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

OCT 23 1937

REPORT FOR THE WEEK ENDING OCTOBER 23, 1937.

HAVRE:

Somewhat higher temperatures prevailed during the past seven days, with a maximum of 73° on Friday. Recently sown winter wheat, winter rye, and crested wheatgrass have germinated and will emerge if warm weather continues. Corn stover is drying rapidly, and field weights possibly will be obtained next week.

Two carloads of cows were culled and shipped from the beef cattle herd, and a car of steer calves was consigned to the Animal Husbandry department at Bozeman for winter feeding trials. The breeding herd of about 150 cows will remain at the Bear Paw lease until December on a 1,200 acre grass pasture which has not been previously grazed this year.

Station visitors included D. W. Crittenden and H. G. Lewis of the A. H. department, Montana State College; also, R. E. Bodley, County Agent leader and other Extension Service representatives.

Maximum temperature, 73°; minimum, 30°; precipitation, 0.02 inch.

JUDITH BASIN:

The first part of the week was rather cold, but the latter part was ideal fall weather. Winter wheat has made a fair growth and should go into the winter in good condition.

Another date of seeding of crested wheatgrass was made with the furrow drill in the old bromegrass pasture.

Pulling of the old orchard was started, and a few dead trees were removed from the old belts west of the buildings. Storm windows were put on, the mess hall was repapered, and some miscellaneous painting was done.

Professor Harrington from the Montana State College at Bozeman was a visitor on official business during the week. The Future Farmers of America from Moccasin and Stanford together with a few farmers were present on Tuesday for a study of tillage implements.

Maximum temperature, 70°; minimum, 30°; precipitation, 0.05 inch.

HUNTLEY:

Two light showers early in the week did not wet the ground sufficiently to halt field work with the exception of bean threshing, which had to be postponed for a day or more. The remainder of the period has been bright and warm although rather windy at times.

Fall grains have made marked progress under the very favorable growing conditions. Early-sown fields in this locality are looking the best in several years, the winter wheat being well tillered and having a good stand. Later sowings are emerging rapidly and show promise of going into the winter in a very thrifty condition. There appears to be sufficient

moisture in the soil to carry the crops through an average winter and up to the time we may expect spring precipitation. On the plots all seedings are up and growing well. At present the winter wheat on disked cornland does not look as promising as that on fallow or stubble seeding, due to the fact that it did not come up as quickly as on the other methods.

Field work has been of a general nature with corn husking filling in the odd moments.

Maximum temperature for the week, 72°; minimum, 34°; precipitation, 0.08 inch.

SHERIDAN:

Weather conditions over the week were quite variable, ranging from cool and cloudy with high winds and one light sprinkle, to fair and quite warm on 2 days. The week was occupied mostly in threshing the last of the miscellaneous crops, such as the grain sorghums, sorgo for seed, soybeans, and Great Northern beans. Some fair yields of grain sorghum were obtained, the highest, by Sooner, being 26.7 bushels per acre for the average of 3 replications.

The surface soil has dried out badly again, and fall grain seedings are emerging quite spotted.

Maximum temperature, 68°; minimum, 28°; precipitation, 0.18 inch.

MANDAN:

Agronomy - The past week has been favorable for field work, with the exception of two windy days. Three or four days were cold and raw, but today, the 23rd, is pleasant and mild. Most of the week has been spent in making late fall seedings of crested wheatgrass on areas around fields and places where other grasses were killed out by the drought of 1936.

Maximum temperature, 65°; minimum, 12°; precipitation, trace.

Horticulture - Garden plots were plowed during the week. The soil seems to be in fair condition as to moisture, except where long season crops such as tomatoes or cabbage were grown. In these patches the soil seemed powder dry. Very little sub-soil moisture below 8 - 9 inches was noticeable.

Arboriculture - The past week has been spent in plowing shelterbelt fields and pulling trees.

ARCHER:

The weather during the fore part of the week was damp and cool. The remainder of the week was somewhat brighter.

Corn husking was resumed October 20. Due to hail damage the yields are light. The average weight per plot is in the neighborhood of 60 pounds of ear corn. Samples are being taken from each plot for drying.

Maximum temperature, 62°; minimum, 28°; precipitation, 0.14 inch.

AKRON:

The storm period continued to near the end of the week, with windy, blustery weather the chief manifestation here. The section is still waiting for the rainfall that will wet the surface sufficiently to insure germination of the non-emerged wheat.

Sorghum threshing was started, though high winds made it impossible to handle the shocked grain on several occasions. Improved Coes yielded 12.0, 7.0, and 14.5 bushels per acre on the continuously cropped fall plowed, spring plowed, and fall listed sorghum land. Two plots on early fall plowed small grain stubble land averaged 5.2 bushels per acre. A start was made on the threshing of the grain sorghum variety experiment. About the only grain production here will be on the fallowed land.

C. J. Funk, brother, and neighbor, the former the owner of the pigs on feed here at the station, visited early in the week. He was well pleased at the thrifty appearance of the pigs.

Maximum temperature, 69°; minimum, 28°; precipitation, 0.06 inch.

COLEY:

Cool and mostly cloudy weather followed the rains which fell generally over the State at the close of last week. The soil is now wet down to more than 6 inches. Wheat that was in dry ground before the rains is beginning to sprout but has not emerged yet. Wheat that was up is making only slow growth during the cool weather. The temperature dropped to 30° Friday morning. Some white frost was noted, but no evidence of vegetation being frosted in the least has been observed.

Cutting of the sorghum plots was finished Wednesday. Plot 2 of the sorgo seed bed series was onewayed. The ground was almost too wet to work good.

Maximum temperature, 68°; minimum, 30°; precipitation, 0.76 inch.

HAYS:

The weather was generally quiet, cool, and partly cloudy, broken by sunshine two or three days.

Enough rain has fallen to keep the surface soil moist and provide what appears to be a favorable condition for germination of the wheat sown in dry soil, however, the wheat is emerging very slowly, and some of it is having difficulty coming to the surface, as if the soil was crusted. For this reason, we are not yet assured of a good stand on plots where the wheat did not germinate immediately after sowing.

Work during the week has consisted of collecting a few soil samples, hauling off stover crops, and some late tillage work.

Maximum temperature, 69°; minimum, 29°; precipitation, 0.33 inch. The first killing frost occurred on the morning of October 22 with a minimum temperature of 29°. A light, but

very noticeable frost occurred October 19, with a minimum temperature of 35°.

GARDEN CITY:

This week has been very pleasant autumn weather with low wind velocities and mostly clear skies. The first killing frost occurred on the night of October 18, which is six days past the average date. Moisture conditions still remain too low for wheat seeding.

Field work consisted of finishing the cutting of kafir, feterita, broomcorn, and Early Sumac sorgo. No grain yields were recorded.

A. E. Aldous, Professor of Agronomy, Kansas State College, was a visitor of the station.

Maximum temperature, 75°; minimum 33°; precipitation, 0.15 inch.

TUCUMCARI:

Clear, calm, moderately warm weather the past week has permitted harvesting to progress rapidly. No killing frost has been received, but station crops are being cut as fast as possible, even though many sorghum plots are not fully mature.

The majority of milo and kafir plots planted in early June are not completely ripe, and pinto beans planted the same date are too green to harvest, and nearly all crops are from 10 to 20 days later than normal in maturity. Cotton and peanuts, however, are ripening as early as usual.

Rotation kafir, M. C. sorgo, all cooperative forage sorghum plots, and a large amount of Sudan grass on increase land have been cut and shocked. Cowpeas and cotton were picked, and a late seeding of wheat varieties was made.

Maximum temperature, 81°; minimum, 34°; precipitation, none.

DALHART:

The 0.85 inch of rain received the night of the 15th furnished sufficient moisture for seeding winter wheat and winter rye at this time of the year. Seeding of rotations to these crops and bare areas to rye was completed the first three days of the week. A rather hurried examination shows that good germination has taken place, and emergence should occur by Monday. While it is late to expect much growth for a cover crop, the tree plantings and vineyard were planted in the event that growing weather might prevail this fall. One day of severe soil blowing occurred during the week, and a light frost was received--apparently only a few tender leaves were nipped with the frost. The gathering of seed heads of sorghums was a rather continuous job during the week. There still remain a few nursery heads to remove. Heading of mature grain sorghums on rotation and variety plots has been completed. It is now planned to harvest the remaining stover plots the first of the coming week. There still remains a full week of heading to be done.

Maximum temperature, 74°; minimum, 32°; precipitation, none.

BIG SPRING:

Weather conditions during the past week have been very favorable for farm work in general. Warm days have hastened the maturity of sorghums and the opening of cotton. After a week of inactivity cotton is coming to the gins at a rapid rate, and as a result they are all running night and day.

Station work has consisted of picking cotton in the varieties and rotations, harvesting grain and forage sorghums in the variety tests, and heading milo in the spacing test. The winter wheat plots were planted, but it is doubtful if good stands will be obtained, as the surface moisture has dried out very rapidly during the week. All roadways and the orchard were drilled to wheat to prevent soil blowing.

Maximum temperature, 85°; minimum, 38°; precipitation, none.

LAWTON:

Mostly clear, open weather prevailed during the past week. The mean temperature was about 4° below normal, and strong north winds on the 18th and 22nd made field work disagreeable. Precipitation of 0.05 inch came mostly from very heavy fogs.

The first killing frost of the season was recorded on the morning of the 23rd with a minimum temperature of 32°. Only a medium heavy frost was observed. Cotton leaves were partly killed, and late planted sorghums and second growth of such crops showed but little injury.

Varietal tests and nursery plantings of wheat, oats, and barley were planted October 21 to 23 on well prepared seed beds that contained sufficient surface moisture to insure prompt germination. Good stands of wheat and barley obtain on the rotation plots.

WOODWARD:

The past week has been one of clouds, mists, and threatening rain and frost. Only two light showers were received, and frost did not materialize.

Wheat is now up so that the whole landscape is green and pasturing has begun. Planting of wheat in every available odd corner continues.

Milo seed is slowly maturing, and a few days of clear, bright weather would ripen and harden a great deal of grain. Much that is practically ripe remains soft through excess moisture. Kafir heads are for the most part still green. All sorghum on the station which might be useful for seed is being allowed to stand. This will make for a big rush of harvesting when frost hits.

Trees and shrubbery are very rapidly assuming fall colors, and a few days more will see a display as rich as any Turkish carpet over thousands of acres of shinnery oak country. The variety test of chrysanthemums seems to be coming into bloom more slowly than usual this year.

Maximum temperature, 74°; minimum, 34°; precipitation, 0.11 inch.

BELLE FOURCHE: Report for the two weeks ending October 23.

The first two days of the period were clear and warm, but cold unsettled weather prevailed thereafter until October 22. The last two days were comparatively warm. A light snow was received October 12, and a number of showers occurred during the following week, but in no instance was more than 0.04 inch of precipitation recorded. Disagreeable, strong winds were of almost daily occurrence, but there was no soil blowing.

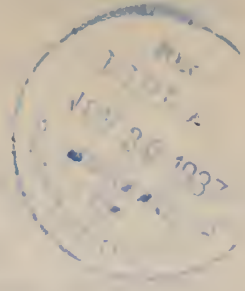
Winter wheat and winter rye made a fair growth, and satisfactory stands have developed on continuously cropped land and corn ground, but there has been comparatively little improvement in the stands of fall grain on sorgo ground. Potatoes were harvested October 18, and the average yield of the two plots following small grain was 98.1 bushels per acre, 70.6 percent of the tubers being of marketable size.

Maximum temperature, 73°; minimum, 23°; precipitation, 0.07 inch.

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

OCT 31 1937

REPORT FOR THE PERIOD OCTOBER 23-31, 1937.

HAVRE:

Unusually warm weather prevailed for this late in the season, with a maximum of 81° on October 28. Precipitation in October was 0.57 inch, the total since January 1 being 10.42"; 0.73 inch less than the 20-year station average.

Winter wheat and winter rye have made good growth, and crested wheatgrass plantings in weedy, abandoned farm land have emerged. Corn stover weights were obtained from all experimental projects early in the week.

Visitors included Director Clyde McKee; E. G. Davis of the U. S. Entomological Laboratory, Bozeman; and Fred Purdy, Chairman of the Hill County allotment committee, who conferred about tillage and fall plantings of crested wheatgrass.

Maximum temperature, 81°; minimum, 31°; precipitation, none.

JUDITH BASIN:

The mean temperature during the past week was 44°, compared to a normal of 43°. Precipitation in the amount of 0.03 inch in the form of snow was recorded on the 31st, leaving the total for the month at 0.38 inch.

Winter wheat still maintains a very good condition, although somewhat small in growth due to later seeding.

Work for the past week has consisted of pulling trees from the experimental orchard and shelter belt and measuring the growth on those remaining.

Maximum temperature, 77°; minimum, 30°; precipitation, 0.03 inch.

HUNTLEY:

Conditions for field work have continued favorable throughout the period, and numerous odd jobs were completed on the plots. The winter wheat smut nursery was planted, alfalfa seed was threshed, and the last of the corn was husked.

Winter wheat and rye have made a good growth during the last few days, and on some of the earlier seedings and most advanced plots the wheat now covers the ground between the drill rows, a condition which has not obtained here for several years.

The comparatively moist soil this fall has encouraged more fall tillage than usual. Plowing is still under way on the non-blow farms, and on farms north of the Yellowstone River where soil blowing has become serious during the recent dry years some fall listing is being done.

Maximum temperature, 78°; minimum, 28°; precipitation, 0.09 inch.

SHERIDAN:

Fair weather with high temperatures for the season prevailed over the most of the week. Work consisted mostly of miscellaneous odd jobs necessary to be done before cold weather.

Fall wheat in field I, on fallow and on plowing following volunteer winter wheat, has emerged with a good stand. On most other seedings, including the rotations and varieties, only a scattering stand here and there has emerged, with the most of the seed now in dry soil. Light rain last evening (10-31) hardly more than moistened the surface.

The mean temperature for October was about 4° above the station average. Precipitation for the month, 1.03 inches, was 0.46 inch below the station average, and none of it came in sufficient quantity at one time to be of much benefit. Wind movement was just about average. The month was most favorable for all kinds of outside work excepting plowing, the ground being too dry and hard to work well.

Maximum temperature, 83°; minimum, 26°; precipitation, 0.29 inch.

DICKINSON:

Dry, mild weather continued to the end of October. Precipitation of only 0.37 inch during the month was practically the same as in October 1936 and less than half of normal for the month. Total precipitation in 1937 to the end of October was 15.33 inches. The soil is so dry that fall seeded grains and grasses have made little development during the latter part of the month.

A late seeding of brome grass, crested wheatgrass, and western wheatgrass was made October 25 in stubble with the common and the furrow drills. A mixture of winter rye, crested wheatgrass, and yellow sweetclover was seeded with the furrow drill on small areas in the pasture on October 21. Some increase patches were seeded to crested wheatgrass.

Small trees in the orchard were wrapped with burlap to try to prevent rabbit injury.

Maximum temperature, 90°, minimum, 18°; precipitation, 0.37 inch.

MANDAN:

Agronomy - Weather during the reporting period was mild and pleasant. The best week for field work since September. There has been very little wind. Today (November 1) is cloudy and raw with a high wind.

Late fall seeding of crested wheatgrass continued during most of the week. All seeding is now completed with the exception of that in Field P, between the terraces, and part of the field where brome grass was killed out.

The precipitation for October was 0.43 inch, or less than half of normal. The total for the year to date is 15.12 inches or near normal.

Maximum temperature, 81°; minimum, 34°; precipitation, none, for week of October 25-31.

Maximum temperature, 86°, minimum, 12°; precipitation, 0.43 inch, for October.

Horticulture - Nursery stock has been dug and heeled-in during the week. A good supply and selection of varieties of apples, crabapples, and plums is on hand for cooperative work in 1938.

Grapes and raspberries were pruned, and the canes were laid down and covered. There was no crop of raspberries and only a very light one of grapes in 1937, and the canes made a rather poor growth during the season. Pruning of gooseberries and the making of hardwood cuttings are in progress, as is also some pulling of old and discarded plum, chokecherry, and other fruit selections.

The greenhouse has been overhauled and broken glass and loose putty removed and replaced. Owing to the protracted dry weather, considerable watering of perennial flower and bulb beds has been found necessary. The display of chrysanthemum blossoms was cut short by the heavy frost experienced a week ago, although other plant growth remained undamaged. Blossoms of perennial aster selections mentioned in last week's newsletter, were but little damaged by frost and are still presenting a very cheerful appearance.

Arbrciculture - Pulling of nursery tree stock has continued the entire week. This operation will be completed about the middle of next week if weather conditions remain favorable.

Visitors for the week included P. V. Cardon, In Charge, Division of Forage Crops and Diseases; A. E. McClymonds, Regional Conservator, A. D. Stoesz, Wilkie Collins, and W. W. Austin, Soil Conservation Service, Rapid City, S. Dak.

BELLE FOURCHE:

The weather was clear and abnormally warm. Strong winds prevailed during the first two days and the last two days of the period, but the intervening four days were relatively calm. Precipitation was limited to a trace of rain on October 25 and a light shower on the night of October 31. The total precipitation for October was only 0.19 inch, as compared with the 29-year average for the month of 1.20 inches. The mean temperature for October was 3° above normal.

The surface soil has become quite dry since the last beneficial rain was received on September 9, and corn ground appears too dry and hard to permit cultivation for soil blowing control. A heavy growth of volunteer grain and Russian thistles has utilized nearly all available moisture on grain stubble land, and the soil is cracking badly. There has been no further improvement in the stands of fall grain on sorgo ground, but otherwise winter wheat has made the best fall growth in 8 years, and it is in excellent condition at present. Husking of corn was practically completed, and the few plots which have been weighed indicate an average yield of approximately 14 bushels of grain per acre.

Maximum temperature, 84°; minimum 29°; precipitation, 0.01 inch.

ARCHER:

The weather during the period October 24-31 was warm, clear, and favorable for the harvesting of corn. The corn on the rotation plots was husked and stored. In sections where the soil was moistened by the rain recorded October 16

the winter cereals have made good growth. Seed that was in dry soil has emerged and produced good stands. In sections which did not receive the rain of October 16 much of the seed remains in dry soil, and that which germinated produced poor stands and weak plants. The winter wheat at the station has emerged with good stands.

During two trips into winter wheat producing areas it was found that the winter wheat in the northern part of the Nunn district in Colorado and the region north of the Union Pacific Railroad in eastern Wyoming and western Nebraska had, for the most part, made good growth. South of these regions the crop was in rather poor condition. During the trips, which covered 275 miles, only five fields were passed that had been seeded with the common drill, all others being seeded with the furrow drill. Two fields were seeded in rows, the rows consisting of two drill rows 6 to 7 inches apart. The distance between these rows was 35 to 36 inches. Stubble fields showed that this method of seeding had been used the previous year.

Director W. L. Quayle visited the station October 26. Maximum temperature, 75°; minimum, 32°; precipitation, trace.

NORTH PLATTE:

The last week of the month remained warm and dry, completing a month of slightly above normal temperature. Rains on five days during the month supplied a total precipitation also somewhat

above normal. October was the first month since March without a rainfall deficit. For the year to date, the deficit at North Platte Weather Bureau is 5.39 and at the Substation table gauge 3.74 inches.

Favorable moisture and temperature conditions have improved the stands of winter wheat somewhat. However, on cropped land the cover is not sufficient for protection against winter blowing, and much of the wheat seeded since the rains, of which there is considerable, will not emerge until spring.

Sorghum threshing has been completed. The highest yield was again made by Early Kalo, but its margin above Day Milo, Akron Sel. 6, and Cheyenne was slight. Sorghum variety yields on fallow ranged from 3.2 to 27.7 bushels in comparison with 7.5 bushels for corn and on cropped land from 0 to 6.9 bushels in comparison with no yield for corn.

On the rotation plots, corn produced no grain except on the single fallowed plot and small amounts on the 80 and the 120-inch row plantings. Fodder after standing in the shock 62 days averaged 187 pounds per plot.

October temperatures: Maximum, 88°; minimum, 28°. Below freezing temperature occurred on only one day; precipitation, 1.27 inches.

AKRON:

This, the last week of October has been warm and fair. Steady progress was made with field work, and generally fires were not needed indoors. Sorghum threshing was completed, and most of the rotation corn plots were hauled in and weighed.

Some very creditable yields of grain sorghum were obtained from the fallow-land preparation.

October passed with considerable inclement weather but only 0.08 inch of precipitation. The October deficiency added to that already accumulated for this year makes better than 5.5 inches to date, November 1.

Winter wheat, on preparations other than fallow, is wilted badly and turned to a purplish-brown color. It seems unlikely that this suffering wheat can pass through the winter without appreciable replenishment of the surface soil moisture.

Hurley Fellows arrived this week-end to make pathologic studies of root diseases of varieties and of differently emerged dates of winter wheat.

Maximum temperature, 81°; minimum 27°; precipitation, none.

COLBY:

Calm, warm weather prevailed throughout this period. It was ideal weather for the growth of winter wheat, except that it was warm enough for the grasshoppers, which are still numerous, to be very active. Wheat seeded after the rains of the middle of the month is just beginning to come up and is likely to be eaten off to a large extent. There has been no killing frost.

The late fall plowing and listing were done the 28th. The ground was in excellent condition for working and turned up mellow. Volunteer growth has come up on most of the spring small grain plots which were worked earlier.

Maximum temperature, 86°; minimum, 34°; precipitation, none.

Precipitation for October, 1.50 inches; 50-year average, 1.07 inches. Precipitation, January-October, 1937, 13.53 inches; 50-year average, 16.32 inches.

HAYS:

The weather during the past eight days has been dry, clear, quiet, with temperatures somewhat above normal. It has been very favorable for all kinds of field work.

Most of the wheat, even that sown in dry soil, has come up to a fair stand, but some of it is curled under and will not reach the surface. Generally, the wheat has been making a satisfactory growth, and the early seedings now furnish considerable pasture.

The total precipitation for the month of October is 1.32 inches on the Dry-Land project and 1.59 inches by the Weather Bureau gauge on the Station campus. The precipitation according to Weather Bureau figures was 0.10 inch above normal. This is the 3rd month of this year in which the precipitation was above normal, the other two months being January and July. The total precipitation for the 10-month period, January-October (Weather Bureau) is 17.28 inches, which is 5.50 inches below normal for that period. The total shortage of water in the form of precipitation, in Ellis County, from January 1933 to October 1937 is 24.95 inches.

Maximum temperature, 89°; minimum, 34°; precipitation, none.

GARDEN CITY:

October ends with less than one-half normal precipitation for the month. The normal is 1.32 inches and only 0.64 inch fell. The total thus far this year is 7.92 inches, whereas the normal for the same period is 16.51 inches.

Soil sampling on M.F. milo L-N, M.C. milo A-B, milo diked plot, and the wide row milo plots was completed for the year. Only a few inches of moisture was found on the continuously cropped plots.

Maximum temperature, 87°; minimum, 37°; precipitation, none.

TUCUMCARI:

Unusually warm, calm weather permitted harvesting to progress rapidly the past week. All station crops have been harvested, with the exception of rotation milo plots. These plots are barely mature, and heading will be underway next week. Threshing promises to be late, because both headed and shocked sorghums will require some time to cure completely.

Harvesting of both plots and increase land really began ten days ago, only corn and cowpeas being harvested previously. Extremely favorable weather, with no frost, permitted all crops to be garnered without loss of either crops or time.

Maximum temperature, 83°; minimum, 41°; wind velocity, 3.1 miles; precipitation for October, 1.84 inches, somewhat above normal; precipitation, 1937 to date, 16.05 inches, about 1 inch above normal for the 10 months.

DALHART:

The last 9 days of October were nearly ideal fall weather. The wind movement was moderate, the temperatures were unusually mild with no killing frost, the minimum temperatures for the last 9 nights of the month ranged from 40° to 42°. This weather permitted excellent emergence and good seedling growth for both winter wheat and rye which emerged from the 25th to the 27th. These crops now give promise of producing sufficient fall growth to withstand spring wind punishment if the soil moisture is not reduced before a killing freeze. Winter rye is now past the danger of fall wind damage; it is very susceptible to wind injury for the first 7 days following emergence and highly resistant to wind injury, if there is any soil moisture available, after that critical week. The warm weather has caused rather leisurely harvesting of grain sorghums. The low mean temperatures have rather retarded the maturity of sorghums, so that now the later sorghums are no more mature than they were 10 days ago--or at least only perceptibly so. The early maturing grain sorghums planted the 19th of July would have reached full maturity except for a shortage of moisture during October. They have rather dried to maturity except for some of the thinner spacings. The Early Kalo appears to be better than the Sooner milo in this test.

Threshing will start the coming week but will of necessity not be rushed until after a killing freeze. Milo rotations are ready to thresh and, while the yield will be low,

the quality will be excellent. With the exception of two listed kafir plots, all the rotation plots and the sorghum varieties are ready for threshing.

Maximum temperature, 83°; minimum, 40°; precipitation, none. The total precipitation for October was 0.95 inch, and the total for the first 10 months is 14.01 inches. The average precipitation for the past 7 years ending October 31 is 13.04 inches and for the past five years is 11.64 inches. This is the first time in five years that the yearly rainfall will be as much as 14 inches.

BIG SPRING:

Another week of almost ideal harvesting weather has given the farmers a chance to move a lot of cotton. The gins of this county report they have ginned more than 20,000 bales to date, which is 2,000 bales more than the total for last year, and it is estimated that the crop is little more than half picked. Based on these estimates, the county will produce the largest cotton crop in its history.

Winter wheat, which was planted last week, has emerged to fair stands on all plots except those which were worked late. On these the stands are very spotted.

Station work during the week has been devoted to picking cotton and harvesting sorghum plots. With the exception of some late planted plots and some increase milo, the harvesting is practically completed.

Maximum temperature for the week, 90°; minimum, 42°; precipitation, none.

LAWTON:

The past week was one of clear, balmy weather. The wind velocity was very low, and maximum temperatures ranged from 77° to 87°. The minimum for the week was 43°. Naturally, these conditions have been ideal for the growth of small grains, cotton picking, and the maintenance of livestock.

Wheat, oats, and barley seeded October 21-23 are emerging nicely, and fall seeded alfalfa that emerged early in October is making a nice growth. Sweetclover and alfalfa that did not emerge until about October 15 have made little perceptible growth.

The first killing frost, recorded on the 23rd, produced but little injury to upland cotton and sorghum crops. On the bottom fields growth was entirely killed.

Picking cotton on the experimental plots has been in progress most of the week. This cotton has been open a long time, the bolls were small, the burrs have rotted, and the work is very slow and tedious. It is quite probable that another picking will be necessary the latter part of November or some time in December. Practically all cotton throughout this part of the State is being snapped this year.

WOODWARD:

The past week was one of calm, clear weather and moderate temperatures. No frost has yet occurred. Kafirs and

milos have made rapid progress toward ripening. Apparently considerable very good seed of both will be matured on the station.

Wheat has made moderate substantial growth and is being pastured very generally over the country.

Fall colors have come on with a rush over the past few days, and the landscape is a great riot of brilliant colors.

Maximum temperature, 88°; minimum, 42°; precipitation, none.

NOTE:

The station reports of this division will be made and issued monthly during the months of November, December, January, February, and March. These should include monthly precipitation. Following the issue for April 1-9, 1938, the weekly issue will be resumed.

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PENDLETON:

Temperatures were above normal during this period. The most outstanding thing about the weather during the latter part of October was the number of clear nights without frost. Many flowers are still in bloom in the garden. Rainfall during the period amounted to only 0.19 inch. Very little seeding has been done in this area. Practically all the fall seeding has been completed on the station, the only seeding remaining to be done is on fall plowed wheat land. The fall plowed land has turned up very dry and ashy, in many places it simply pushes ahead of the moldboard instead of turning over. A considerable acreage east of the station has been fall plowed in preparation for seeding peas in the spring. Wheat sown during the first half of October is beginning to emerge with very good stands.

Maximum temperature, 74°; minimum, 30°; precipitation, 0.19 inch.

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