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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

77-2-103

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REPORT FOR THE WEEK ENDING SEPTEMBER 2, 1933.

HAVRE:

The week was uniformly cool and threatening with very light showers on three days. Humidity was high, evaporation rather low, and drying rather slow. Fall plowing is well along. Winter wheat seeded on August 15 is up. Grasshoppers seem very inactive except during the warmest part of the day. Corn was put in the silo. Third cutting alfalfa under irrigation is ready to cut.

Maximum temperature, 85°; minimum, 43°; precipitation, 0.04 inch.

JUDITH BASIN: (Report for the two weeks ending September 2, 1933.)

The severe drought of July and August was broken by rather copious rains during the period August 20-24. The moisture came too late to benefit any vegetation except grass. All grasses have responded wonderfully since the rains, and with a few weeks of warm weather should make considerable growth. All field work, except seeding winter wheat and digging potatoes, has been completed on the rotations. Some corn in the general fields remains to be harvested. The labor force has been reduced to virtually a winter basis.

Maximum temperature, 83°; minimum, 40°; precipitation, 3.03 inches.

HUNTLEY:

The ground has dried slowly since the rains of a week ago, and no tillage work was possible until the last two or three days. Land which had plowed up dry and cloddy was harrowed down and fall plowing was resumed. The recent precipitation penetrated below the depth of plowing, and the soil is in ideal condition for this work. Weeds are starting vigorously on farm and waste land, and the country is again beginning to look green. The favorable soil conditions have renewed interest in the seeding of fall wheat, and farmers are preparing land and planting it as speedily as possible. Alfalfa seed and sorgo seed have been harvested in the miscellaneous plantings. The hogs on Sudan grass and soybean pasture, having cleaned up these crops, were weighed up and placed on the soybean-sorgo pasture. The soybean forage is scanty, but the sorgo has made a good growth and appears to be very palatable.

Maximum temperature, 87°; minimum, 42°; precipitation, 1.84 inches.

SHERIDAN:

Light showers fell the first of the week but were not sufficient to wet more than the surface of the ground. Except for one day temperatures remained fairly low, although higher than last week. Seed corn was picked from the rotations, the corn was picked and the stover cut from 29 plots in the rotations and Northwestern dent in the varieties. Rotation sorgo was cut. Sudan grass was hauled from Field O. The sheep were weighed and all except the lambs to be sold were placed in Field O. Hogs were hauled to market. Maximum temperature, 96°; minimum, 40°; precipitation, 0.46 inch.

MANDAN:

Agronomy - The past week has been cool and dry. Russian thistles were mowed from plots where they were too thick for fall plowing. Alfalfa for seed was cut. It was so short that it had to be cut with a mower. The total rainfall for August was 0.41 inch, or 1.44 inches below normal. The total precipitation for the year to date is 9.67 inches or 3.80 inches below normal. The most rain recorded in any 24-hour period this season was 0.65 inch in April. Maximum temperature, 92°; minimum, 41°; precipitation, 0.01 inch.

Cooperative Grazing Experiment - The steers were weighed at the end of August. The gains were about normal in pastures where they had plenty of grass. The steers in the 50-acre pasture are about out of grass. They just about held their own during August, and this was because they had cotton seed cake. Following are the steer gains for August and for the season to date:

<u>Pasture (acres)</u>	Number <u>Steers</u>	<u>Gain in pounds per head.</u>	
		<u>August</u>	<u>105 days</u>
100	10	51.0	295.5
70	10	62.5	292.5
50	10	12.0	251.5
30	10 *	124.0	230.0
70 (Rotation)	14	54.3	251.4
Bromegrass	10 *	53.5	276.5
Crested wheatgrass	4 *	17.5	257.5

* On Reserve pasture during August.

Arboriculture - The week was spent in irrigating nursery stock and cultivating after the irrigation was completed. The fields absorbed a considerable amount of water, which will greatly help the stock that will remain in the field for another year, and will help the plowing operation for the trees to be dug this fall.

Horticulture - Several varieties of plums and crabs were picked. The Surprise plum yielded a fair crop of good fruit, but most varieties gave light yields. The Amur crab looked attractive because of its bright red color and yielded a fair crop. Sel. 22 also looked good. A few of the apple varieties were also harvested, including a number of station selections. Selection of muskmelon strains was completed during the week, as was also the majority of watermelon. The latter were considerably more uniform in type and appearance than last year. Quality and flesh color has not yet been determined. Sweetcorn selections are ripening fast and harvesting is to start next week. There will not be as good a stand of selfed and crossed ears as at first anticipated. There seemed a good supply of pollen at pollination time, but it was evidently much damaged by the intense heat at that time. Vegetables as yet in season are carrots, beets, cabbages, tomatoes, sweetcorn, and New Zealand spinach. The latter apparently flourishes under very dry conditions. Geranium beds are now at their best, but require constant watering to keep up the show.

ARCHER:

The drought was broken the evening of August 25 with 0.47 inch precipitation. The next day it rained 0.90 inch, and at noon August 27 it hailed and rained a total of 1.35 inches in about 10 minutes. The hailstones were large, approaching an inch in diameter, and were driven by a high wind. The run-off was probably the worst in the history of the station. An additional light shower made the precipitation 2.77 inches for the period. The damage from the storm was the worst in the history of the station. Practically new screens over ordinary sized windows gave way and allowed the glass to be shattered. Most of the glass in windows on the west side of the buildings was broken.

Small animals such as rabbits, hawks, and chickens were killed. Practically all leaves were stripped from trees, and most trees were badly barked. All small grains and even the stubble were cut to the ground. Sudan grass which had reached a growth of about shoulder high, was cut to the ground. Nothing was left of the potato, bean, and squash vines. All corn in the center of the storm was cut off at the ear, and a considerable portion was cut off at the ground. The sunflower stalks stand peeled and white without any heads. A considerable portion of the silage crops had been harvested, and only a few hours threshing remained to be done. The storm damage was rather extensive. Work since the storm has consisted of building fence, preparing soil on the rotation plots for winter wheat seeding, and seeding varietal and rates of seeding winter wheat experiments. W.L.Quayle and Arnold King visited the station during the week.

Maximum temperature, 85°; minimum, 42°; precipitation, 2.30 inches.

AKRON:

Land intended for winter wheat is in the best condition for seeding for many years. Second date and rate seeding of winter wheat was made on the 1st. The August 15 seeding emerged promptly. About 16 acres of the new 20-acre block was seeded to winter wheat during the week, observing tenth acre plot dimensions. Rotation corn and sorgo plots and rate and spacing corn harvesting has held attention during the week. The late summer has been especially favorable for the pig weed, and this station has had a continuous fight to prevent these weeds from dominating the fall maturing crops. Visitors were: C.E.Leighty, J.M.Stephens, John H.Martin, and D.W. Robertson. Maximum temperature, 90°; minimum, 52°; precipitation, 0.43 inch.

NORTH PLATTE:

Weather continued cool during the week until the 1st, when 90° was reached for the first time since the 18th. This was followed by a minimum of 50°, and minimum temperatures were in the 50° range during most of the week. Rainfall was recorded on 12 days in August with a total of 2.93 inches, or 0.54 inch in excess of normal. These rains were unusually effective for moisture storage. There was practically no run-off, and cool, cloudy weather following each shower reduced evaporation loss to a minimum. The chief station activity for the week has been silo filling. Dr.Leighty and J.M.Stephens visited the station on the 29th, and J.H.Martin on the 30th.

COLBY:

This has been another rainy week. Precipitation was reported every day but two. The ground is now well soaked up, and crops are looking much better than a week ago. The sorghums which had begun to dry up without heading are now beginning to head. Dr. Leighty, E.F.Chilcott, Dean Call, and John H. Martin visited the station the 1st. Maximum temperature, 89°; minimum, 57°; precipitation, 2.86 inches; August precipitation, 4.92 inches.

GARDEN CITY:

The fore part of the week was cloudy and accompanied by frequent showers. Ground was too wet to do any field work. By the middle of the week fields were getting dry enough that some tillage work and cultivation was started to control weed growth and prepare seed beds. Most of the plots going into wheat this fall were rod-weeded on the 1st. Rye for green manure was planted on the 1st. The first date-of-seeding wheat was also put in. Austrian field peas and winter vetch were planted the middle of the week for green manures. Sorghums are making good growth, though many will probably be caught by frost. Farmers are seeding a considerable amount of wheat. Many seem to be anxious to get it in the ground while an abundance of moisture is available for germination and quick growth.

Maximum temperature, 87°; minimum, 59°; precipitation, 1.30 inches.

HAYS:

The drought was broken too late to greatly benefit sorghum grain yields, but the tonnage of forage crops will be increased. Pastures, which were brown and some of them very short, are now green and cultivated fields are covered with a new growth of weeds. Wheat fields, upon which there had not been enough moisture since harvest to germinate the wasted wheat, are now covered with a green growth of volunteer. Visitors during the week included Dr. Leighty, J.M. Stephens, E.F. Chilcott, J.H. Martin, and L.E. Call.

Maximum temperature, 90°; minimum, 56°; precipitation, 0.44 inch.

TUCUMCARI:

Total precipitation for August was 8.38 inches, the second highest month on record. Rain was received every day the 24th to the 31st, totaling 3.73 inches. Roads were in many cases impassible, bridges washed out, and train service in nearly all directions practically at a stand-still for two days. The third cutting of alfalfa has been practically ruined by the continued rains. Brush on the first date of broomcorn plots was harvested. Crops are making rapid growth and promise good yields. Total precipitation for the year is 15.13 inches, of which 11.79 inches has fallen since July 13.

Maximum temperature, 84°; minimum, 57°.

DALHART:

Three additional rains were received the first of the week. These delayed the completion of planting until the 2nd. The row crops planted the previous week have emerged to stands. The rotations are now seeded as outlined for the year. Mature ash trees are budding and bursting into leaf for the first time this year. A few are rather slow in putting out buds and may fail to leaf. The birches have shed their leaves, on account of the drought, and appear lifeless. There now appears to be 17 or 18 Chinese elm trees along the south fence that have been lost. The native bunch grasses, the sandy soil types, are putting forth new growth and, while appreciably thinned, will soon make grazing for a limited time. The buffalo and grama grasses are very appreciably thinned out by the prolonged drought and in many places appear to be dead. These two types, for the most part, really never started growth this year. Maximum temperature, 89°; minimum, 57°; precipitation, 1.83 inches.

BIG SPRING:

After eight months of extremely dry weather this section has been favored with an abundance of rain the past week. The two rains received on August 26 and 27 totaled 4.14 inches, which was 0.57 inch more than had been received during the entire year up to that date. This will mature a good feed crop for those that obtained a stand in June, and for those that planted during the later part of July it will mean enough roughage to take care of their needs. Most of the farmers will now plant a few acres of wheat for fall and winter pastures. If a good wheat pasture can be obtained, it will relieve the grain sorghum shortage to a considerable extent.

Maximum temperature, 89°; minimum, 64°; precipitation, 2.45 inches.

LAWTON:

Cool temperatures together with many periods of cloudy, threatening weather, local rains and showers during the month of August changed the burned and withered fields and pastures of southwestern Oklahoma to a luxuriant vegetative growth. Most of the August rains were quite local and widely scattered, and there are still a few unfortunate places in the county that have been very dry all summer. The rank growth of grasses, weeds, and late

planted feed crops have used all the moisture that fell, and the soil in general carries only a scant supply of subsoil water. A large acreage of sorghums planted since August 1 for feed still have a chance to produce a lot of valuable roughage. Native pasture grasses are in good condition where they have not been grazed too heavily. August weather conditions were very favorable to the development of Boll-weevil in the cotton fields and farm complaint of such injury is quite general, especially on creek bottom land where the cotton is rank in growth. Considerable Boll-weevil and Boll-worm injury is present on station cotton. Cowpeas in Field B were harvested August 25. Subsequent weather was so unfavorable that the crop was weighed green and 20 pound samples were taken from each plot for further drying. Harvest of cowpeas in Field A where the vine growth is very vigorous is being delayed for more favorable weather. The annual farm picnic, held on the station August 23 was attended by more than 500 farm people. The crowd was widely representative of this section and showed a keen interest in present crop experiments and past results. Station employees were impressed with the fact that nearly every one came with the idea of getting specific information on some particular crop problem with which he was confronted. Honorable Jed Johnson, Representative from the Sixth Congressional District of Oklahoma, and Prof. Earl Weaver, head of the dairy department, Stillwater, Oklahoma, presented the speaking program in the afternoon.

Precipitation for August, 1.90 inches.

WOODWARD:

Weather during the past week was favorable for the development of sorghums, with little rain and rather strong, dry winds during the latter part of the week. Station work for the week consisted of harvesting alfalfa hay, cultivating sorghums, picking the first dates of cotton, and planting clover. Orchard and windbreaks were cultivated and drilled to oats to prevent soil blowing. Grapes, melons, and tomatoes were picked; and cuttings of ornamental shrubs were made and planted.

Maximum temperature, 94°; minimum, 56°; precipitation, 0.11 inch.

PENDLETON:

The weather the past week has been ideal with warm days and cool nights, a marked change from the previous weeks. A slight rain of 0.05 inch delayed the few farmers not yet finished with their harvest. The beans on the rotation plats were harvested September 1 with a revolving rod weeder. The following are a few of the 1933 wheat yields:

<u>Date of plowing</u>	<u>Depth of plowing (inches)</u>		<u>Average</u>
	<u>5</u>	<u>9</u>	
Fall, October 15.	46.9	45.5	46.2
Early spring, March 15.	45.5	49.0	47.3
Med. early spring, April 15.	46.1	46.2	46.2
Late spring, May 15.	40.4	46.6	43.5
Average, all dates of plowing	44.9	47.0	

These yields are for spring sown Federation wheat after fallow. This experiment calls for winter wheat after fallow, but the extremely cold weather in December killed all the fall-sown wheat.

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OF THE DIVISION OF

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U. S. DEPARTMENT OF AGRICULTURE

SEP 9 1933

REPORT FOR THE WEEK ENDING SEPTEMBER 9, 1933.

HAVRE:

The week was cool and somewhat cloudy with no precipitation. Dew was especially heavy on three or four nights. Corn stover was weighed, fall plowing completed, most of the late dates harvested, and corn from commercial fields put in the silo. Rains the last of August followed by cool weather greatly improved the third crop of alfalfa on irrigated fields. It is being cut at this time. Maximum temperature, 86°; minimum, 38°; precipitation, 0.

JUDITH BASIN:

Weather conditions have been favorable for all kinds of field work, and farmers are rushing the seeding of winter wheat. The acreage seeded to this crop in the Judith Basin will probably be greater than that of the past three or four years. The very disappointing performance of spring wheat during the past few years is responsible for this swing back to winter wheat. Winter wheat and rye were seeded on the rotations Sept. 5 and 6. Seed-bed conditions were above average, so germination should be prompt. Cool, cloudy weather during the week has held grasshoppers in check for the time being.

Maximum temperature, 86°; minimum, 39°; precipitation, 0.

HUNTLEY:

Damp and cloudy weather during part of the week slowed up tillage operations to some extent, as the soil was too wet to work well. Fall plowing was completed on the Dry-Land fields, however, and another days work should finish the preparation of land for fall seeding. The recent rains have germinated weeds and volunteer grain to the extent that some extra labor has been necessary on the plots to be planted. On many of the dry-farms the heavy germination of volunteer grain has solved the problem of fall pastures. It has been a common practice in the past to let much of such volunteer crops remain to be harvested, but as most of our farmers have signed the wheat allotment agreements it is doubtful if much of the volunteer wheat will be allowed to mature.

Maximum temperature, 92°; minimum, 42°; precipitation, 0.05 inch.

SHERIDAN:

Temperatures considerably above the seasonal average prevailed over the most of the week, with lower temperatures and cloudy weather on the last day. The remainder of the corn in the rotations, except for plots where the greatest part of the corn did not emerge until after the rain of June 23, and all the remainder of the corn in the varieties was picked and a part of the stover cut. Some gravel was hauled to the buildings. Winter wheat where grown continuously was practically a failure, but where following another crop, as on oats ground stubbled in, the yields were among the best obtained. Maximum temperature, 97°; minimum, 41°; precipitation, 0.08 inch.

DICKINSON:

The soil is so dry that fall plowing of the rotation plots and seeding of winter wheat and rye have been postponed. The rainfall in August amounted to only 0.72 inch, and no effective rain has yet fallen in Sept. Late varieties of plums and crabs are being picked, but the yields are very low. Many farmers of the district are coming to the station to get fruit. We have been able to supply only 1/10 of the demand. Recent station visitors included Mr. Story, H.C.Hanson, H.H.Barnett, Dept. of Botany, North

Dak. Experiment Sta., and C.A.Helm, Missouri Agricultural Experiment Sta.
Maximum temperature, 99°; minimum, 42°; precipitation, 0.02 inch.

MANDAN:

Agronomy - Two or three days during the past week were warm for this time of year. No rain of value fell. Fall plowing was started early in the week, and the main field has been completed. The ground was hard and dry, which made plowing slow and difficult. The soil has been dry during other years, but never in the condition that exists this year. Most of the plots plowed up in lumps, but a few were loose. Bromegrass and crested wheatgrass made practically no fall growth.

Maximum temperature, 96°; minimum, 43°; precipitation, 0.04 inch.

Cooperative Grazing Experiment - Hay in the mowing experiment was cut during the week. The average yield of the units cut once in two years was 433 pounds per acre. The grass in the units cut every year was so short and thin that the rake would not pick it up. The steers in the rotation pasture were removed from their pasture, as they were out of feed and had started to lose weight. The steers in the 50-acre pasture are just about holding their own. They are now getting 2.5 pounds of cotton seed cake per head daily, which is keeping them as there is practically no grass in the pasture.

Horticulture - Most of the late varieties of plums and crabs have now been picked. Some varieties, such as Wyant and DeSoto, produced fair crops of fruit in plantings where the trees were widely spaced, but the fruit of these varieties was hard and sour and of no value in blocks where the trees were closely spaced. Virginia again appears to be one of the best late season crabs. Due to the long continued drought, aided by damage from red spiders, the summer casualty list for fruit trees has been higher than usual. Unless good rains come this fall, it is feared that many trees will enter the winter in a weakened condition. A crew of men is at work repairing the roads on the station. Gathering seed of sweetcorn, both crossed and open pollinated ears, has been in progress during the week. The ears are well filled on the whole and unusually well ripened. The last planting of sweet corn is still yielding well, although corn-ear worm has done damage. Growth of other vegetables is almost at a stand still. Early cabbage yielded fairly well, especially the variety Golden Acre. Late cabbage will be almost a total failure. Break O'Day tomato is still showing up well. It is of fair size, smooth, and free from Blossom End rot.

Arboriculture - All nursery fields that were irrigated the previous week have been cultivated. A number of spruce trees have been moved with a ball of earth, to complete the row west of the soil house. Caragana seed has been cleaned and work commenced on removing the pulp from chokecherry seed.

BELLE FOURCHE:

Abnormally hot weather prevailed for three days during the middle of the week, and a strong, hot wind on September 6 caused rapid drying of corn and sorgo. A heavy rain of 0.70 inch was received September 8, and it has been raining intermittently to-day, the 9th. Sorgo was harvested, and binding of corn was nearly completed when work was stopped by the rain.

Maximum temperature, 98°; minimum, 50°; precipitation, 0.70 inch.

ARCHER:

The recent supply of moisture and the warm weather made conditions favorable for plant growth. The prairies are green, and the trees are sending out new leaves. Crested wheatgrass on the manured plots has produced leaves six inches long. Potatoes and beans are producing new leaves, and the fields and small grain plots are green with new plant growth. Conditions have been favorable for the seeding and emergence of winter cereals. All station seedings that have been in seven days have emerged with good stands. All experimental winter wheat seedings, except the late dates-of-seeding, have been made, and a 20-acre field is being seeded to winter wheat for the production of hay for the dairy herd. The sunflower stalks, which were stripped of their leaves and heads by the hail of August 27, have been cut and put in the silo. W. I. Quayle visited the station September 8.

Maximum temperature, 92°; minimum, 51°; precipitation, 0.20 inch.

AKRON:

The week has seemed unseasonably warm, and the moisture is fast leaving the surface soil. This warm weather has served to further the maturity of beans, prosos, foxtail millets, and grain and forage sorghums. These crops should be ready for harvest next week. Winter wheat varieties were seeded the 8th. Third annual crops field day was held the 7th with a free barbecue dinner to 500 persons. After a tour of the station in the forenoon, the remainder of the day was devoted to an indoor program. Prominent officials present were: F.R. Cummings, Congressman from this District; O.O. Waggoner, Agricultural Staff, Burlington Railroad; and the following from the Agricultural College, E.P. Sandsten, A. Kezer, G. Morton, T.G. Stewart, D.W. Robertson, W. Austin, C. Dodson, H.B. Osland, and G. Beach.

Maximum temperature, 97°; minimum, 53°; precipitation, 0.

NORTH PLATTE:

The favorable weather conditions of August have not been carried over into September. There has been rather a reversal to the hot, dry conditions that prevailed during June and July. Wind has been strong and persistent, temperatures and evaporation high, and precipitation none. Late corn is being injured and early corn dried out rapidly. The soil has dried out so that fall seeded grains will have little chance of germinating on cropped land. Fall army worms have stripped Russian thistles and some other weeds, but so far have done little damage to crops. Grasshoppers, while quite numerous early in the season, are at this time almost completely absent.

COLBY:

Only two light showers fell this week. For the most part the weather was favorable to the growth and maturity of the sorghum crops. The last two days have been very windy, however, drying out the surface soil more than is desirable at wheat seeding time. Some of the kafir, milo, and sorgo plots where the heading was checked by the dry weather in July and August are now beginning to head.

Maximum temperature, 92°; minimum, 55°; precipitation, 0.15 inch.

GARDEN CITY:

Late fall tillage work such as listing, plowing, and one-waying was done for wheat the past week on various seed-bed treatments. Ground is in ideal condition, and at the present time there seems to be sufficient moisture in the soil for normal development of the fall seeded wheat for at least a few weeks. Many farmers have seeded their wheat, partly for the purpose of early pasture and to be sure to get it up while there is a

plentiful supply of moisture. During the past week a brood of fall army worms has made its appearance and is causing serious loss to many beet fields in the irrigated sections. Some farmers complain of the pests eating up their early seeded wheat. Some beet fields have been absolutely stripped clean of any growth. Station visitors were Dr. Leighty, L.E.Call, and E.F.Chilcott.

Maximum temperature, 93°; minimum, 58°; precipitation, 0.78 inch.

HAYS:

The weather has been generally fair during the week. Sorghum crops are developing very slowly on the Dry Land project, kafir and milo are about two-thirds normal height and still slowly heading. There having been no growth of alfalfa on these plots since the first crop was clipped early in the season. On bottom land the third crop has been harvested, although the tonnage of hay is lighter than usual. Bromegrass is still brown. There occurs on the project at this time a clear cut demonstration of the value of the subsurface soil packer to start germination of volunteer wheat on one-wayed ground. Not until recently has there been sufficient moisture to sprout wheat on the stubble fields either tilled or untilled. Since the rains, where the subsurface soil packer was used after one-waying there is now a heavy stand of volunteer wheat, whereas one-wayed ground not packed has a much thinner stand of volunteer. In this section it is of considerable advantage to have early germination of volunteer in order that it may be destroyed early in the season. Weeds are thick all over the fields, especially on fallow and row crop land. The writer does not recall having before seen such a thick stand of weeds emerge so late in the fall. Visitors included L.E.Willoughby, J.S.Glass, H.H. Laude, J.H.Parker, and A.L.Clapp, Kansas State College; and J.K.Freed, of Scott City, originator of Freed sorgo and some other crops.

Maximum temperature, 97°; minimum, 69°; precipitation, 0.79 inch.

TUCUMCARI:

Crops have continued growth satisfactorily the past week, with indications pointing to good yields with the exception of cotton. Range conditions are the best in recent years, with grasses in full head. Broomcorn brush was pulled and seeded, early cowpea plots harvested, wheat and rye plots prepared and seeded, and orchard, vineyards, and roadways drilled to wheat. Dr.Leighty and E.F.Chilcott visited the station en route from Dalhart to Big Spring. Other visitors included G.R.Quisenberry and E.C.Hollinger, State College, N.Mex.

Maximum temperature, 90°; minimum, 60°; precipitation, 0.

DALHART:

The pastures are making rather good growth for the bunch types of grasses, but the native turf grasses still appear dead or with only sparse vitality. Excellent emergence has been secured from the belated seeded rotation row crops. The ash trees north of the office are continuing to leaf out, except for three trees which have not started emergence as yet. Work during the week has consisted of the working of increase fields, cultivating of row crops, seeding of winter rye in the south field, weed hoeing, and miscellaneous repairing. Dr. Leighty and E.F.Chilcott were station visitors September 4.

Maximum temperature, 91°; minimum, 57°; precipitation, 0.54 inch.

BIG SPRING:

Excellent growing conditions have prevailed, and weeds as well as crops have taken advantage of the warm weather and favorable moisture conditions. Weed seed that had failed to germinate during the dry months of summer are now sprouting and emerging in great profusion. Milo is heading very rapidly, and all of the later planted sorghums are making a very rapid growth. Pinto beans were planted Sept. 1, on five plots where cotton stands were not obtained. This late planting was made to see if

beans planted at this time would mature before frost. Dr. Leighty and E.F. Chilcott visited the station during the week.

Maximum temperature, 93°; minimum, 68°; precipitation, 0.

WOODWARD:

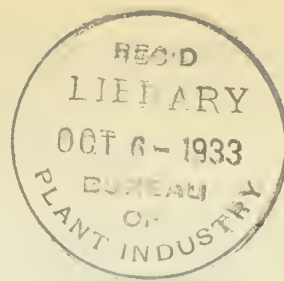
Sorghum crops made rapid development during the week, and cotton is maturing satisfactorily. Wheat and oats planted last week in roadways, orchard, vineyard, etc., to prevent soil blowing are emerging to good stands. Farmers over the country report feed crops making good progress, and many are hopeful that late planted sorghums will mature before frost. Due to sufficient rainfall occurring in August and September to date, farmers have been able to prepare wheat land earlier, easier, and more thoroughly than for several years past. Most farmers will drill wheat early to obtain fall pasture. Station work for the week consisted of harvesting corn and cowpeas, drilling alfalfa, drilling wheat in roadways, roguing milo, treating seed wheat to prevent smut, grading plot roads, and cleaning fence rows of weeds. Orchard, nursery, and vineyard were sprayed, and the nursery was hoed and cultivated. Maximum temperature, 96°; minimum, 60°; precipitation, 0.87 inch.

PENDLETON:

Field work on the station is practically at a standstill. All small grains have been threshed, and corn is the only crop left to harvest. The corn yields will be lower than usual on account of uneven stands and slow growth early in the season. The corn plants are still green and thrifty. On account of so much spring wheat in this section this year, there are more Russian thistles than usual on the stubble land. All stray thistles on the station land have been hoed off. Peas on the station yielded from 14 to 27.7 bushels per acre.

Maximum temperature, 88°; minimum, 42°; precipitation, 0.24 inch.

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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

OCT 15 1933

REPORT FOR THE WEEK ENDING SEPTEMBER 16, 1933.

HUNTLEY:

Weather during the week has been quite variable, but field work has been possible nearly every day. Fall tillage work was completed, winter wheat and rye were planted in the rotations, and some crested wheatgrass in the miscellaneous series was sown in a methods of seeding experiment. Alfalfa seed was threshed, and fodder weights of corn were taken. Sorgo and Sudan grass have made a rapid growth during the last two weeks and are now fully headed. These crops made very little growth during the first part of August, as a result of the severe drought, which accounts in part for their lateness. Early sown winter wheat on neighboring farms is beginning to come up, and in some places is meeting severe competition through an unusually heavy growth of weeds, seed of which has lain in dry soil throughout the summer. Military grass (Bromus tectorum) is especially prevalent this fall in roadsides, fields, and rangeland where the infestation is causing some concern among stockmen as well as farmers. Visitors during the week included G.W.Morgan and M.A.Bell of the Havre Station, and W.H.Fairfield and W.D.Hay of the Lethbridge Experimental Farm. Maximum temperature, 86°; minimum, 40°; precipitation, 0.08 inch.

SHERIDAN:

Weather conditions remained fair over the most of the week, with temperatures continuing above the seasonal average. A light frost the 16th injured the leaves to some extent on Sudan grass, corn, and vines in low places. Cutting corn was continued through the week, as the corn ripened sufficiently to harvest. A few plots still remain standing in the rotations, where the greater part of the corn did not emerge until late and still remains green. Cutting of all sorgo and Sudan grass for forage was completed. All flax of the variety used in the rotations, Bison, was threshed. Yields in the rotations were below the station average. Yields of all crops were below the station average in the rotations, for nearly all methods of tillage. In the dates of seeding test with spring grain, on disked corn ground and a slightly lighter soil than in the rotations, yields for earlier seedings were good. Yields of the varieties corresponded more with those of the rotations. Bulk seedings of spring grain for feed and seed yielded much higher than similarly tilled, but later seeded, plots in the rotations. The average yields in the dates of seeding test were as follows, in bushels per acre:

Dates of seeding	4/17	4/27	5/1	5/15	5/24	6/1	6/8
Spring wheat (Marquis)	30.5	27.8	25.1	17.4	15.6	13.2	-
Oats (Markton)	57.9	61.9	57.3	44.4	38.4	29.2	24.1
Barley (Trebilcock)	45.4	49.7	45.3	36.7	30.2	24.8	13.7
Flax (Bison)	-	10.2	9.3	10.2	5.6	4.6	5.2

Maximum temperature, 88°; minimum, 32°; precipitation, 0.08 inch.

DICKINSON:

Moderate temperatures prevailed. A light shower on the 15th was preceded by two days and followed by one day of high wind. The soil is still so dry that fall seeding and plowing is being delayed. Virginia crab is the only fruit now left in the orchard. Most of these were blown off by the high wind. Fruit trees planted last spring were all wrapped with burlap as protection from jackrabbits. C.N.Ainslie, Sioux City, Iowa, formerly with the Bureau of Entomology, and J.W.Taylor, Extension Forester, were visitors.

Maximum temperature, 80°; minimum, 41°; precipitation, 0.32 inch.

MANDAN:

Agronomy - Part of the past week was warm and dry, but the latter part was cool and cloudy with a light rain. Field plowing was completed. The soil was so hard and dry that plowing was slow and difficult. Most of the plots plowed up very rough. Fall listing has not been completed. Winter rye and winter wheat were planted on the 13th in dry soil. There is no chance for germination before a good rain. Residents in this country for many years say that conditions have never been so dry in all respects as at present. Practically the only growth of vegetation since harvest has been a light growth of Russian thistles. Maximum temperature, 82°; minimum, 48°; precipitation, 0.20 inch.

Cooperative Grazing Experiment - Pastures continue to decline rapidly. It will be necessary to ship the cattle earlier than usual, because of a shortage of pasture.

Arboriculture - The past week has been spent in terracing land which has been subjected to severe washing during periods of heavy rainfall, hauling brush, and digging tree stumps. Rain is badly needed for the growth of trees, many of which are now going into the dormant stage.

Horticulture - Field work is practically completed. Considering the dry weather, the Virginia crab showed up well, and fair crops have been picked of the Haroldson and Selection #25 apples.

AKRON:

Rotation winter wheat plots were seeded the 11th. Other field work has consisted of harvesting soybeans, beans, forage sorghums, grain sorghums, and prosos. The soybean variety and the forage sorghum variety harvesting was completed, as was also the rate-of-seeding proso experiment. About half of the proso varieties were harvested, and a start was made at harvesting the grain sorghum varieties. Nursery seeding of winter wheat was started the 15th. The weather the past week has been decidedly cooler, there being a suggestion of frost on several mornings. The rain the forepart of the week insured emerged stands of winter wheat on all soil moisture preparations on the rotation plots for the first time in many years. It is believed there is sufficient moisture on all soil preparations to carry winter wheat into the winter. Maximum temperature, 87°; minimum, 41°; precipitation, 1.13 inches.

NORTH PLATTE:

All corn on the D.L.A. projects, except where wheat is to be drilled in the standing stalks, was cut during the week. Winter wheat varieties seeded last week have emerged to excellent stands. The potatoes on the D.L.A. plots were harvested the 15th. Total yields ranged from 26.1 bushels per acre for potatoes after winter wheat to 78.5 bushels in rotation 107 where they follow summer tillage. Silo filling was completed on the 11th. A yield of 20.3 tons of silage per acre from one of the irrigated fields was the highest yet obtained on the station. There was practically no run-off from the rain during the week.

Maximum temperature, 95°; minimum, 40°; precipitation, 2.25 inches.

COLBY:

Showery weather most of the week has kept the sorghum crops and early seeded wheat supplied with surface moisture for growth. The nights have been so cool, however, that the sorghums have not made the growth expected. Grasshoppers are very numerous where ever there is any cover for them. Many fields of newly sprouted wheat have been destroyed. The late plowing on the D.L.A. project was done the 15th. The ground was moist and worked up mellow. Everything is now in readiness for seeding the 18th.

Maximum temperature, 92°; minimum, 43°; precipitation, 0.61 inch.

GARDEN CITY:

Most of the past week has been so wet that very little field work was done. Crab grass and weeds of all kinds seem to make excellent headway. Some fallows and plots that go to wheat will require extra working in order to kill the weeds. Cowpeas were cut on the 15th. They are about a month later this year than last. Sorghums are maturing slowly, and some will very likely be injured by early frost. Many farmers have seeded most of their wheat. All wheat is coming up to excellent stands, and indications are that winter pasture will be ideal this fall and winter. On the afternoon of the 12th, 2.20 inches of rain fell in slightly over an hour. Fields were washed badly in places. Run-off was heavy.

Maximum temperature, 94°; minimum, 49°; precipitation, 2.23 inches.

HAYS:

An inch of rain early in the week, following other showers of the last two weeks, was fine for pastures and late feed crops. If this can be followed with a late growing season the feed crop situation may be materially improved. Pastures are now good and late sorghums are heading. Wheat stubble land and fallow being prepared for wheat, and which had been cultivated just previous to the last rain, will now require another cultivation to clear the ground before seeding. The extra cultivation will, however, improve the seed-bed condition and will not be wholly lost. The annual Sorghum Field Day on the station was held the 15th. It was attended by 200 or more visitors, mostly farmers, all of whom showed considerable interest in the sorghum crops being grown on the various projects and on the commercial fields.

Maximum temperature, 98°; minimum, 51°; precipitation, 1.01 inches.

TUCUMCARI:

All station crops are developing normally, but with danger of frost within 30 days it seems apparent that late plantings and late varieties should lose no time. Cowpeas have been harvested and cocked, beans harvested, and fence-line and roadway noxious weeds destroyed during the week. Picking of grapes was completed. Wheat and rye plots seeded the 7th emerged to stands on all by the MCA plots within a week. Orchard, vineyard, and roadways seeded to wheat are slower in emergence. Visitors included J.H. Martin, and O.R. Mathews.

Maximum temperature, 91°; minimum, 54°; precipitation, 0.04 inch.

DALHART:

The week was characterized by rather windy weather. Soil movement, on bare fields, was largely confined to abrasive action of the surface sand. Field work during the week consisted of completing the cultivation of row crops, disking of fallow and increase fields, and seeding rye for a cover crop. The latter operation was not rushed for the reason that surface moisture conditions were not such as to warrant an expectation of emergence.

Maximum temperature, 91°; minimum, 50°; precipitation, 0.

BIG SPRING:

All of the later planted crops are making a rapid growth, and will make a large amount of roughage even if they do not mature. Many of the varieties of sorghums planted June 1 are ripening and will be harvested during the coming week. Milo heads in the rotations and in the increase fields are starting to ripen. Every head examined now has one or more corn ear worms in it. The worms are destroying some grain, but at present it is impossible to determine how much damage is being done. There has been an infestation of worms in the California privet hedges on the station and also among the hedges in town. They must have worked in large numbers, for many of the plants were nearly defoliated on top before the damage was noticed. Station work has

consisted mainly of spraying cotton for leaf worms, picking cowpea seed, and harvesting cowpea varieties for hay. O.R.Mathews and J.H.Martin visited the station the 15th. Maximum temperature, 93°; minimum, 65°; precipitation, 0.32 inch.

LAWTON: (Report for the two weeks ending September 16, 1933.)

Six rains from the 1st to 13th inclusive, amounting to 2.68 inches were accompanied by much cool, cloudy, threatening weather. Intervening periods of sunshine were sultry and oppressive with maximum temperatures around 90° or less. September rains fell gently, resulting in practically no run-off. Farmers are seeding wheat, barley, and oats under the existing optimum conditions, hoping to obtain as much fall and winter pasture as possible. Late planted feed crops are in a vigorous, thrifty condition, but they will require much warm weather to attain even a semblance of maturity. Second growth on some of the grain sorghum plots on the station is rank, and a few of the early maturing varieties are heading. Approximately 900 bales of cotton were ginned in Comanche County the past week in spite of the inclement weather the first half of the week. Local prices ranged from 8½ to 9 cents per pound. The first picking on station plots was begun the 15th. Except in a few instances, only a small percentage of the total crop is ready to pick. Dr. Leighty, E.F.Chilcott, O.R.Mathews, and J.H.Martin visited the station the 10th and 11th.

WOODWARD:

Precipitation was recorded on 14 days in August with a total of 4.78 inches, and precipitation has been recorded on 6 days in September with a total of 1.37 inches. The frequent rainfall has kept sorghums growing nicely, but as these were planted after the middle of July many of them will not mature. They will however furnish an abundance of rough feed. The goodly amount of rainfall has also put land that has been kept cultivated in fair condition for planting wheat. Where weeds have grown they have used all the rain as it fell, and the soil is bone dry. With many farmers this is the case. One of the brightest and showiest of shrubs at this time is the caryopteris. There are several species of this, all much alike. It is related to the Vitex and like the Vitex is tender to severe freezes, but will come up from the roots the following year. Parolsela formosa, a legume, collected from the wild last year, makes a round topped bush to 3 feet. It has minute leaves and small pink blossoms at tips during fall. Very dainty and different. Should be hardy throughout the southern plains. Cissus incisa, with deeply cut, fleshy, glossy leaves is an attractive quick growing high climbing vine also collected from the wild last year.

PENDLETON:

The soil of rotation plots is too dry to plow, and the fallow soil is dry to a depth of about three inches. The rotation beans were threshed this week, and very low yields were secured, averaging only about one bushel per acre. A good rain would be welcomed at anytime now. Rain would start weeds on fallow land and give the farmers ample time to prepare seedbeds for fall planting which usually starts about October 15.

Maximum temperature, 83°; minimum, 40°; precipitation, 0.01 inch.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR THE WEEK ENDING SEPTEMBER 23, 1933.

JUDITH BASIN:

Weather was unsettled with several light showers. The temperature dropped to 31° the night of September 22, but a strong wind prevailed the greater part of the night and there was no frost damage. Wheat seeded three weeks ago has emerged to good stands, and the damage done by grasshoppers has been negligible. Grass, alfalfa fields, and volunteer wheat have made a wonderful growth, and the landscape has all the appearance of spring. The seeding of winter wheat continues on a large acreage throughout central Montana. Maximum temperature, 82°; minimum, 31°; precipitation, 0.23 inch.

HUNTLEY:

Weather during the week has been characterized by several very windy days and an abrupt drop in temperature to below freezing. Garden crops, sorghos, beans, and corn were injured more or less depending upon the location. Growing conditions have been good for winter grains, and in fields planted early the crop is making satisfactory progress. Winter wheat and rye in the rotations is coming up with good stands on fallow and disked cornland, but the stubbled-in and green-manured plots show only scattered plants. Hauling hay, husking corn, harvesting beans, and planting the winter wheat smut nursery occupied the week. Maximum temperature, 91°; minimum, 30°; precipitation, 0.

SHERIDAN:

Fair weather with day temperatures continuing above the seasonal average prevailed over the most of the week. The temperature dropped to 29° on the 23rd. Tomato vines and beans near the buildings were killed, but beans, sorgho, and Sudan grass in the field still remain largely untouched by frost. Heavy frost was reported from Sheridan and other nearby localities early in the week. Fall seeding of grain was completed except for rye in pastures, where corn remains to be grazed down before it is seeded. Corn stover from plots cut previous to Sept. 11 were hauled and weighed, and a part of the corn weighed and hauled. Yields of corn, as with other grain crops, were slightly below the station average for the plots weighed. All of the corn harvested previous to the date mentioned is in excellent condition for dry weights, but that cut later still contains some original moisture. No fall plowing has been attempted yet, except for plots to be sown to winter wheat, which usually plows in fair condition anyhow when dry. Russian thistles, where thick enough to interfere with the plow, were removed from plots to be plowed. A.C. Hildreth and Mr. Babb, Cheyenne Horticultural Station, arrived here the 23rd to go over the fruit and vegetable crops.

Maximum temperature, 92°; minimum, 29°; precipitation, 0.

DICKINSON:

Dry windy days have continued through the week. First frost of the fall was recorded on the morning of Sept. 20. This was a week later than average and gave a frost-free period of 132 days. Hot weather rather than low temperature was significant in reducing crop production of 1933. Potatoes on the rotations were dug Sept. 23. Yields of the Cobbler variety were 41 bushels after wheat and 109 bushels after fallow. These potatoes are of good quality. Corn varieties were husked during the week. These have not been weighed, but all yields were low.

Maximum temperature, 93°; minimum, 32°; precipitation, Trace.

MANDAN:

Agronomy - The past week has been characterized by high winds and soil blowing. Fall listing was done on the 18th. The soil is so dry now that it assumes a powdery consistency when subjected to cultivation.

Maximum temperature, 97°; minimum, 36°; precipitation, Trace.

Cooperative Grazing Experiment - Continued drought has so dried up pastures that the forage on all is becoming very short. Plans now are to close the experiment for the season at the end of the present month.

Horticulture - Tomato selections have been picked and the seed washed out. The main field of tomatoes has also been picked. Yields were low. The final picking of watermelons and cantaloupes is now in progress. Dead wood is being removed from the orchard trees and dead trees are being pulled out. The dry summer has resulted in the death of a considerable number of trees, particularly in closely planted blocks.

Arboriculture - Work during the week has consisted of hauling brush, picking seed, and digging trenches around nursery fields to check the serious competition to seedlings by older hedges and other trees. Some rather interesting differences in rooting habits and their effects upon seedling growth were observed as a result of digging the trenches, which were from 15 to 20 feet away from the trees. Green ash roots were found to be from 2 to 4 feet deep and from 0.5 to 1 inch in diameter at 18 feet from the trees. These roots prevented seedling growth this year for a distance of 50 feet away from the trees. Scotch pine roots were mostly found between 2 and 3 feet deep, and red cedar roots from 2 to 4 feet. These two species have not offered serious competition, although a large number of roots were present at the edge of the first row of seedlings. American elm roots were found between the 2 to 4 foot levels at 18 feet from the trees. These roots were all very small at this distance. They have, however, offered the most serious competition of any species, their effect being distinctly noticeable for a distance of 75 feet from the trees. Russian olive roots 2 inches in diameter, were found from 2 to 3 feet deep at a distance of 16 feet from the trees. This species has had a serious competitive effect on Caragana seedlings for a distance of 50 feet from the trees.

BELLE FOURCHE:

Two days, 17 and 18, were abnormally hot for this season of the year, and a strong, hot wind prevailed on the 18th. High winds have been of almost daily occurrence, and an excessive amount of evaporation has taken place during the week, the maximum daily evaporation being 0.390 inch on the 18th. Sweet clover and alfalfa have made considerable growth, and satisfactory stands have survived on all plots seeded this spring. Field work has consisted of duck-footing fallow and green manure plots, plowing corn stubble and late fall plowed plots, and preparing winter wheat plots for seeding.

Maximum temperature, 95°; minimum, 37°; precipitation, 0.

NORTH PLATTE:

Winter wheat and rye were seeded on the D.L.A. plots 21 and 22. Winter wheat seeding has been general in this section during the past week. There is moisture in the soil to insure germination, but not sufficient to carry the crop for a very long season. Rains the early part of last week wet the soil from 8 to 12 inches in depth. Strong winds during the past few days have dried the surface, and land recently plowed will soon be too dry for a good seed bed. Corn is well matured, and present indications are that yields in this section will be somewhat above normal.

AKRON:

The week has been open and favorable, and good progress was made with current field work. Two plots of proso seeded June 6 on the rate and spacing corn project yielded 7.7 and 9.6 bushels per acre. Two plots of soybeans seeded May 25 yielded 4.5 and 3.8 bushels per acre. The best yielding soybean variety, seeded June 1, was Soysota 18311, 7.8 bushels per acre. Irish Cobbler potatoes on one plot of the rate and spacing corn project harvested yesterday yielded at the rate of 110 bushels per acre. The Red McClure plot is not yet ready to harvest. The winter wheat was seeded yesterday on all plots of the rate and spacing corn project except the potato. Other work was the harvesting of the ripe grain sorghum varieties, the ripe proso varieties, the threshing of the dry date of seeding proso plots and the rate of seeding proso plots. Variety bean harvesting was completed during the week. Winter wheat seeded on the rotation plots Sept. 11 had emerged to good vigorous stands on all preparations early the past week.

Maximum temperature, 89°; minimum, 46°; precipitation, Trace.

COLBY:

This has been a typical fall week. There was no precipitation. The nights have been quite cool generally, and the days very hot for the most part. Grasshoppers are still continuing to reduce the acreage of wheat. Poisoning before seeding at the station has reduced their number by about 90 per cent. Where the poisoning was delayed until the wheat was coming up, it has been rather ineffective. All the wheat plots, except where wheat follows beans, were seeded on the 18th. The rye plots were seeded on the 18th and 19th. The seed bed was generally moist. Most of the plots are showing some emergence to-day, 23rd. The sorghums are beginning to ripen fast. About 150 bankers and their families who attended the Kansas Bankers' Association, Group 8, convention here visited the station the 21st.

Maximum temperature, 94°; minimum, 46°; precipitation, 0.

GARDEN CITY:

Final preparations and work previous to seeding wheat were mostly completed the past week. Some tillage work was done to get ground in readiness for wheat planting starting the 25th. Cowpeas were harvested and weighed. The yield was considerably below the average. Many plots did not produce much over 800 or 900 pounds per acre. The past week has been dry, windy at times, and ideal for the maturing of sorghums. Wheat seeding over the country is progressing rapidly. Many fields are up to good stands, and sufficient moisture is available to insure some pasture and at least normal top growth. Station visitors were J.H.Martin, Miss Charlotte Elliot, L.E.Melchers, J.H.Parker, and O.R.Matthews. Maximum temperature, 97°; minimum, 48°; precipitation, 0.

HAYS:

Dry, warm, breezy weather prevailed for the most part of the week and hurried along the development of the sorghums. That the year has been a dry one is indicated by the unusually heavy marginal growth on all plots. Even on fallow plots, the marginal rows are considerably better than rows on the interior of the plots. Pink kafir and milo on the project range in stage of development from heads just emerging to mature heads. There are, however, but few mature heads. Earlier varieties seeded on the Cereal and Forage projects are mature and harvest is in progress. A heavy crop of late weeds on the fallow plots and volunteer wheat on stubble plots being prepared for wheat made necessary another tillage operation during the week on practically every plot. The one-way disk and the duckfoot cultivator were the implements used for this tillage. Except for kafir stubble plots, all plots are now ready for

drilling. The harvesting of the kafir plots which are to be disked for wheat, is being postponed because there is still prospect of some fair yields of kafir, should the first killing frost be unusually late.

Maximum temperature, 98°; minimum, 52°.

TUCUMCARI:

The week was unseasonably warm. Many plots are showing drought injury, although at the close of August it seemed likely all crops could mature normally without more moisture. Milo is firing extensively, is starting to lodge, and heads are fast turning to a mature color. In three days the past week there occurred more visual maturity of crops than usually appears over a ten-day period. During the week Sudan grass was harvested, cowpea seed picked, cowpeas harvested, broomcorn pulled and the stalks cut, and late cultivation of fallows and peanuts performed. Visitors included O.S. Fisher, Extension Service, Washington, and Messrs. Elser, Extension Director; Hollinger, Asst. Extension Director; and R.L. Strong, all of State College. Maximum temperature, 94°; minimum, 53°; precipitation, 0.

DALHART:

Three days of rather high wind velocities caused the surface soil to blow badly. The field south of the station caused us not a little worry. A start was made in the erection of a picket fence along the south station limits to check this soil movement. The fields north and west of the station were one-wayed and drilled to wheat this week. These fields are in a finely pulverized condition, so that unless rain should come soon we rather pessimistically expect punishment every time the wind blows this winter. Row crops planted the last of August still continue to grow. Wheat planted by farmers at that time is reported to be suffering from dry surface soil. The rye planted on the north half of the south field is up to an excellent stand.

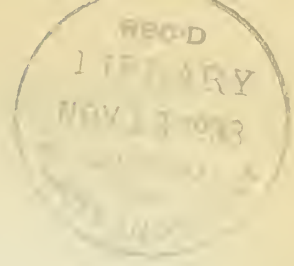
Maximum temperature, 95°; minimum, 45°; precipitation, 0.

BIG SPRING:

During the past week temperatures have remained unusually high for this time of the year. These temperatures have been very favorable for plant growth, in that they have caused late planted sorghums to make a rapid growth and have started cotton to open. Many farmers have started to pick cotton during the past week. Station work has consisted mainly of selecting seed in the sorghum varieties and hoeing weeds. Excavating was started for the addition to the foreman's cottage and the old feeding shed was torn down. J.M. Jones, Chief, Animal Husbandry Division, Texas Experiment Station, was a station visitor to-day, 23rd. Maximum temperature, 99°; minimum, 65°; precipitation, 0.

WOODWARD:

Weather during the past week continued dry and quite hot for the season. The wind blew strong on two days of the week, and surface moisture disappeared rapidly. Cotton is ripening remarkably fast, and the sorghums are making rapid progress. Much of the rowed milo and sowed feeds, however, are firing and are in need of rain for maturing naturally. Cooler weather and rain are needed by early planted wheat. On the station all wheat has been planted except the late dates of seeding. There is sufficient moisture left in the ground to bring all wheat up, except on the poorer methods of preparation. All the cowpeas have been harvested, and Sudan grass was cut and stacked for hay. Early dates of cotton have been partly picked and are showing good yields. Other station work for the week consisted of picking tomatoes and melons, budding trees, planting trees for the time of planting experiment, and picking shrub and tree seed. Maximum temperature, 97°; minimum, 47°; precipitation, 0.02 inch.



WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR THE WEEK ENDING SEPTEMBER 30, 1933.

HAVRE: (Report for the three weeks ending September 30, 1933.)

With light precipitation the past three weeks have been favorable for farm work. The first killing frost occurred on the 25th with a minimum of 27°. This is 10 days later than the average. Winter wheat has made good growth with very little grasshopper injury. Weeds and volunteer grains have made excessive growth, and new growth of many native grasses is large enough for grazing. Some gramma has headed. Livestock are generally in good condition. Shipping of lambs and cattle has begun. Lambs are in good condition. Maximum temperature, 86°; minimum, 27°; August precipitation, 5.46 inches; Sept. precipitation, 0.57 inch.

HUNTLEY:

The first hard frost of the season was received during the week. Garden crops, potatoes, and all of the most tender vegetation were killed. For the most part, the weather has been ideal for the growth of fall-sown grains and for carrying on field work. Sorghos, Sudan grass, and soybeans were harvested; corn fodder was hauled in from the plots; and the fall growth of weeds was cleaned out of the fence rows. The hard frost killed the sorgho in the pasture plot, and the hogs were weighed up and removed to the dry-lot for finishing. The quality of the sorgho was unusually good for grazing this year, and it is estimated that less than 10 per cent of the crop remained on the plot when the hogs were removed. Winter wheat and rye appear to be fully emerged, and the stands on all plots are excellent. A rain at this time would benefit these crops, especially on the poorer tillage methods, where dry seed-beds during the winter have been largely responsible for the depletion of stands before spring, during the last few years. Winter wheat seeding is still in progress on neighboring farms, and from reports there is still a large acreage to be planted.

Maximum temperature, 81°; minimum, 23°; precipitation, 0.06 inch.

SHERIDAN:

Light rain and snow fell the first of the week, but hardly more than enough to dampen the surface of the ground. The temperature dropped to 28° on the morning of the 26th, the first killing frost general over the entire station. The temperature was below freezing for about two hours, but did not kill all second growth Sudan grass and sorgho. All corn and sorgho was hauled and weighed except the last cut, and that is being hauled to-day, 30th. Potatoes were dug. Some plowing was attempted, but, except for plots in winter wheat this year, about all that was accomplished was to scratch the surface.

Maximum temperature, 89°; minimum, 23°; precipitation, 0.39 inch.

MANDAN:

Agronomy - The past week has been windy and dry. The wind has continued high for the month and will no doubt prove one of the highest on record for September. No field work was done during the week. The first frost of the season came on the night of the 25th.

Maximum temperature, 80°; minimum, 30°; precipitation, trace.

Cooperative Grazing Experiment - The grazing experiment was closed on the 28th for the season. All pastures have been pretty well cleaned up, and there was not enough feed left to carry the steers another 15 days. This is the first time it has been necessary to close the grazing season early because of feed shortage. The final weights indicate that the gains for September will be light.

Arboriculture - Two hundred and sixty pounds of Russian olive seed and forty pounds of buckthorn seed have been picked during the week. A considerable quantity of seed of these two species was taken by birds and scattered by high winds before it was ready for collection.

Horticulture -- Cutting dead wood out of orchard trees was continued throughout the week. Some of the closely spaced trees in the breeding block are very weak as a result of the long continued dry weather. September growth notes have been taken. New growth was generally short this year. Sweet corn has been harvested from the corn breeding blocks. Such vegetables as pumpkins, squash, and watermelons have also been harvested. The lawns were cut in the early part of the week.

BELLE FOURCHE:

With the exception of two warm days the week has been quite cool. A light rain was received on September 24 and 25, and the first killing frost of the fall occurred when the weather cleared after the rain. A minimum temperature of 25° prevailed for about two hours during the night of September 25, and the temperature remained below 30° for over seven hours. Potato vines, corn, and all of the more tender crops were killed by the frost. Winter wheat and winter rye were seeded early in the week. J.W. Wilson, S. Dak. Experiment Sta.; C.F. Swingle, Horticultural Crops and Diseases; and D.A. Spencer, Animal Husbandry Division, visited the station during the week. Maximum temperature, 87°; minimum, 25°; precipitation, 0.10 inch.

ARCHER: (Report for the three weeks ending September 30, 1933.)

During the period September 10 to 30 the weather was favorable for plant growth. Winter cereals and volunteer crops have made rapid growth. The prairies are quite green, and alfalfa is 6 to 8 inches high. Harmful frosts have occurred only in limited local areas. During the night of Sept. 25 a rain totaling 0.97 inch occurred. This improved growing conditions and was also favorable for livestock interests. The corn in the experimental field was cut and shocked during the week ending Sept. 16. The early fall plowing was also done during that period. E.F. Chilcott, G. R. Dawson, Bureau Dairy Industry, and W. L. Quayle were station visitors.

Maximum temperature, 83°; minimum, 34°; precipitation, 1.01 inches.

AKRON:

Maximum temperatures of 91° were recorded on Sept. 24 and 29. The 120 tenth-acre plots of winter wheat on the recently acquired 20 acres were trimmed. Other work was the harvesting of the last proso variety and the Foxtail millet variety experiment. Some harvesting was also done on the grain sorghum variety experiment. The bean variety experiment was turned during the week with the hope that this would dry the shocks so that threshing could be done next week. Rotation corn appears to be dry enough to shuck and haul-in. Fall seeded winter wheat and rye are making nice growth.

Maximum temperature, 91°; minimum, 40°; precipitation, trace.

NORTH PLATTE:

Weather for the week has been typical for the season. Nights are cool, days warm, winds strong, and no precipitation. Germination of fall seeded grain has been unusually rapid and complete. Emergence had begun on the sixth day and was complete on the eighth day after seeding. This is the first time in three years there has been a complete emergence in the fall. Unless severe cold comes unusually early, there should be sufficient fall growth to prevent blowing during the winter or spring. Light frost has been reported on the low lands but none has occurred at the station.

COLBY:

This was another typical fall week with very cool nights and some hot and some rather cool days. The sorghum crops are beginning to dry up again in spots. Otherwise they are maturing rather slowly. The winter wheat is up to good stands on nearly all the plots, except where it was drilled between milo rows. The seed bed was too dry for prompt germination in the milo ground. In corn ground the stand is somewhat spotted. Grasshoppers are fairly numerous, but do not seem to be damaging the wheat much.

Maximum temperature, 91°; minimum, 40°; precipitation, trace.

GARDEN CITY:

Wheat seeding operations occupied most of the time devoted to field operations the past week. This is the first time in three years moisture conditions were favorable at seeding time. No rain has been received now for three weeks, but under a surface crust the soil is well supplied with sufficient moisture for quick germination and some immediate growth. Some harvesting of corn and early milo was finished during the week. Row crops are from two to three weeks later this fall than normal. Some injury to late varieties will probably occur from early frost. Milo seems to be ripening up fast the last week. High temperatures for this time of the year accompanied by considerable windy weather is forcing maturity.

Maximum temperature, 97°; minimum, 47°; precipitation, 0.

HAYS:

The weather has continued generally warm except for cool nights, dry and windy. All wheat plots were seeded, except where wheat is to be drilled on kafir ground and in corn stalks. The plots where wheat is to be drilled in kafir stalks and in corn stalks with a one-horse drill will be seeded October 2. Where the kafir is to be harvested with a binder and disked for wheat, the seeding will be deferred until more of the kafir is mature or is caught by frost. On all plots having received some tillage in preparation for wheat the top soil is in excellent condition for seeding and has plenty of moisture for prompt germination, but the subsoil carries a very small amount of moisture on cropped land. Fallow plots which were in wheat last year are in much better condition. Fallowed plots where the previous crop was sorghum, which used the water late in the fall, are short of subsoil moisture, due to the fact there have been few good rains during the fallow period this year.

Maximum temperature, 100°; minimum, 38°; precipitation, 0.19 inch.

TUCUMCARI:

September, with only 0.04 inch precipitation, was the driest September on record. It also was one of the hottest. After copious rains throughout August it seemed certain all crops would mature normally without additional moisture, but the past 10 days of warm, dry, windy weather has caused extensive firing. Harvesting of a number of corn, forage sorghum, and MC kafir plots before full maturity was necessary to prevent extensive lodging. Main heads on milo plants are maturing, but sucker heads are drying up while still green, indicating that lodging is impending. Work has included hauling cowpeas, which averaged 2,450 pounds cured hay per acre in rotation plots; binding broadcast sorgo increase and plots; hauling and stacking increase-land tepary beans; and harvesting of early variety and MC corn plots, MC kafir plots, and a number of forage sorghum variety plots. Rotation pinto beans were threshed, averaging about seven bushels to the acre. Some rotation kafir plots and many late-date variety grain sorghum plots are far from mature, and if rain is received soon it is likely they will not fully mature before frost. Without rain, harvest before full maturity is likely, to avoid extensive lodging which seems sure to occur. Maximum temperature, 94°; minimum, 52°; precipitation, 0.

DALHART:

The weather continued dry during the week. The rye seeded south of the buildings continues to grow and not to show any drying during the day. Late seeded row crops are just now starting to grow after being severely punished with blowing sand on several occasions. A few fruit trees and rose bushes are blooming. A start was made in trimming out drought injured trees and branches of trees during the week.

Maximum temperature, 93°; minimum, 49°; precipitation, 0.

LAWTON: (Report for the two weeks ending September 30, 1933.)

Hot, dry weather prevailed September 14 to 30. A good many days of strong southwest winds also helped to sap the soil of surface moisture and curtail the growth of late planted feed crops. Early seedings of wheat, oats, and barley have not had sufficient moisture to sustain growth, and in many instances severe damage has been inflicted by chinch bugs. Seedbeds, in general, contain just about enough moisture to permit a fair emergence of small grains, but insufficient to insure subsequent growth of the young seedlings. A good many farmers are waiting for rains, and a few are seeding at a shallow depth in the dry soil. Cotton opened so rapidly during the last 10 days that nearly all of the entire crops are ready to pick. Leaf worms practically defoliated the plants in less than 10 days, and this condition contributed to the rapidity of opening. Pickers are well employed, and the crop is coming to the gins rapidly during the existing period of dry, fair weather. The first picking on the station was completed September 22, and the second picking is now in progress. But little cotton will remain on the plants when the second picking is completed. Small grain seeding will be delayed until October 10 to 15 unless moisture conditions improve in the mean time. The maximum temperatures the past two weeks ranged from 92° to 97° and the minimum temperatures from 59° to 73°. September precipitation, 2.68 inches.

WOODWARD:

Over the past two weeks there has been only 0.10 inch of rainfall. Over the same period there have been numerous days with maximum temperatures over 95° and several days of high winds. As a consequence of these conditions, sowed feed which made a rank growth during August and early September has burned badly and is being cut. Sorghums in rows, which came up during the middle of July, made uninterrupted growth and have excellent heads and no branches or suckers. Heads are now in bloom, to milk and have a chance of maturing if frost is late and more rain falls. This condition of sorghum crops is very general over a large region westward from Woodward into Colorado. Wheat planted before September 20 is up to a good stand. Since then soil has dried so rapidly it has been impossible to secure stands. The weed growth on apparently a large acreage over the southern wheat section developed so rapidly during August as to exhaust practically all soil moisture. Several species of wild asters about the country and several species of asters and chrysanthemums in the garden now give beautiful displays.

Maximum temperature, 101°; minimum, 51°; precipitation, 0.08 inch.

PENDLETON:

During the past two weeks 0.95 inch of rain has fallen, making the September total 1.20 inches. This rain occurred in scattered showers but was sufficient to start a part of the weeds on the fallow land. The last half of the week drying winds took much of the surface moisture. Some of the farmers in the true winter wheat section are undecided whether or not to go on with their seeding. On the station we shall seed our first rate and date of seeding trial on October 2. Visitors the past week included Wm. A. Schoenfeld,

Oregon Experiment Sta., E. L. Potter, Oregon State College, H. A. Scoth, Oregon State College, W. A. Rochie, and A. L. Hafenrichter, both from Pullman, Wash. Maximum temperature, 83°; minimum, 27°.

Percent of normal precipitation received at field stations in the Great Plains during certain periods in 1933:

<u>Station</u>	<u>Jan.-July</u>	<u>Jan.-Aug.</u>	<u>Station</u>	<u>Jan.-July</u>	<u>Jan.-Aug.</u>
Assimboine	86	136	Akron	109	125
Judith Basin	99	114	Colby	78	100
Huntley	89	116	Garden City	71	93
Sheridan	123	124	Hays	54	58
Dickinson	82	76	Tucumcari	69	119
Mandan	80	72	Dalhart	20	54
Belle Fourche	137	138	Big Spring	33	65
Ardmore	89	113	Lawton	125	120
Archer	85	97	Woodward	48	70
North Platte	89	93	<u>Average</u>	<u>82</u>	<u>99</u>

N O T E:

Under date of September 1, 1933, Doctor W. W. Stockberger issued P.B.A Circular No. 241, reading, as follows:

"AIR MAIL

"The Executive Council has sent the Department under date of August 17 the following communication:

'In order to reduce the expense of communications, it is directed that all Executive and Administrative agencies use the air mail for the transmission of all communications on which the greatest possible amount of speed is not needed.

'The penalty privilege does not extend to air mail, but the air mail postage of eight cents plus ten cents for a special delivery stamp will insure the speediest transportation and delivery of a letter at a much lower cost than either telegraph or telephone.

'For the convenience of all bureau heads, there is attached a schedule showing the speed with which communication may be maintained by air between Washington and the principal cities of the country.

'The foregoing is sent in compliance with the action of the Executive Council.'

"The schedule mentioned in the letter which is merely illustrative is not attached hereto. It shows, however, such possibilities as the delivery in San Francisco at 11:55 a.m. and in Portland, Oregon, at 12:00 noon of letters air mailed from Washington 3:20 p.m. of the day before. It demonstrates that practically air mail is often as speedy as night telegrams and that almost always it cuts by well more than half the difference between telegraph and ordinary mail.

"Since air mail is much less expensive than the telegraph, it offers a wide field for economy. Administrative officers responsible for the selection of the transmittal medium should equip themselves with the air schedules from their cities and arrange to receive supplements. Air mail should always be considered as an alternative to the night telegram, and should be carefully considered in the cases where the utmost expedition is not strictly required. "

N O T E:

The station reports of this division will be issued monthly instead of weekly during November, December, January, February, and March. The report for the week ending October 28 should be extended to cover the period to October 31.