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**WEEKLY STATION REPORTS**

**OF THE DIVISION OF**

**DRY LAND AGRICULTURE**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

**JUN 6 1936**



REPORT FOR THE WEEK ENDING JUNE 6, 1936.

HAVRE:

There was no precipitation of consequence, although cooler temperatures prevailed later in the week. Most crops on dry land continued to deteriorate, and prospects as a whole are, perhaps, the poorest in the history of the station. Some idea of the severity of the present drought can be indicated by noting that precipitation for the previous 10 months has totalled only 3.58 inches, or 41 percent of normal.

Work in the experimental field consisted of cultivating cereal nurseries and roadways; turning under for green manure very poor stands of winter rye and sweetclover; and making various dates of seeding Sudan grass, sorgo, sweetclover, and corn. Rain is necessary to complete the germination of practically all plantings made later than May 10, stands being very irregular, regardless of the method of seedbed preparation. Irrigated alfalfa is blooming, and a 10-acre field has been mowed.

Unless conditions change, acute shortage of grass, diminishing water supplies, and an extremely unfavorable outlook for winter feed may result shortly in the shipment of considerable livestock from this section. Grasshoppers appear to be increasing rapidly in some localities.

Maximum temperature, 95°; minimum, 37°; precipitation, 0.01 inch.

JUDITH BASIN:

The weather continued dry throughout the week, but temperatures were much cooler. It has been a month since beneficial rains were recorded here at the station, although scattered parts of the Judith Basin have received moisture during the week. Owing to the cool weather, spring-seeded crops have been able to hold out against the drought and can still produce a good crop if growing conditions improve. Pastures and forage crops have suffered materially. Heavy stands of crested wheatgrass are burned beyond any hopes of a normal harvest.

Work has included fallowing and fencing on the regrassing project, cultivating roadways, and killing weeds in the shelter belt.

Maximum temperature, 84°; minimum, 32°; precipitation, 0.06 inch.

HUNTLEY:

The first day of the week was hot, but the temperatures dropped rapidly, following a torrential shower, to a point where frost warnings were broadcast by the local Weather Bureau. Frost was not received at the station but was reported from nearby points. The week as a whole was comparatively cool and cloudy with several showers which revived crops to some extent. Enough moisture was received to practically complete the germination of corn, and all plots now present a fair stand. Soybeans, sorgo, and Sudan grass are sprouting but no plants have come up. Winter rye is now fully headed with the older heads showing bloom.

Grasshoppers continue to hatch in large numbers on both the irrigated and dry land, and poisoning operations are still under way. State entomologists estimate the hatch as only 40 percent complete to date. Stockman and farmers report many hundreds of acres of range and crop lands already stripped by grasshoppers.

Field work has included plowing fallows, continued cultivation of roadways and alleys, and scattering poisoned bait for grasshoppers. Maximum temperature, 95°; minimum, 39°; precipitation, 0.52 inch.

#### SHERIDAN:

Temporary relief from the drought was afforded by rain on the 1st, continued cool and cloudy weather since, with a maximum temperature of 70° for the first 5 days of the month, and a light shower on the 5th. Twice the amount of rain was received at Sheridan as at the station, with heavier amounts beyond toward the mountains. Precipitation dwindled to the east to practically nothing 12 to 15 miles from the station.

Except for the earliest spring seedings and what was the best of the winter wheat early in the season, the condition of small grain shows some improvement over the week. Deterioration of grass and alfalfa was apparently checked for the time being, but no improvement in condition can be noted. Ravages of grasshoppers also were apparently checked temporarily by the cool weather. For the same reason poisoning does not appear to have had much effect, and the number of the insects is undiminished. Crickets after coming within about 3 miles of the station are reported to have turned and gone in the other direction.

Plowing for fallow and seeding of all Sudan grass and sorgo originally contemplated was completed. The fall seeding of grasses and alfalfa, which failed to emerge, and an early spring seeding of crested wheatgrass which was cleaned up by grasshoppers were plowed and sown to sorgo. A 10-acre field intended for fallow is now being sown to sorgo. Without considerably more rain it probably will be fallow anyhow, but if there should be sufficient rainfall there is a possibility of making up for the failure of grass and alfalfa.

Flax was sown in the rotations and varieties. None of the earlier seedings in the dates of seeding test have emerged yet, except a few scattered plants in the earliest seeding, sown when conditions at the time appeared to be exceptionally favorable.

Maximum temperature, 90°; minimum, 41°; precipitation, 1.11 inches.

#### DICKINSON:

Crops seem at about the same stage as a week ago, except that weeds have grown some while the grain has stood still. Lower temperature permitted the crops to endure the drought better than during the previous week, but no rain fell. If dry weather continues another week, the condition of most crops will be worse than at the same date in 1934, for in that year 2.30 inches of rain during the first week of June gave temporary relief.

Winter rye is being plowed under today on the green manure rotations. The stand of rye is only about 20 percent, and it is heading at 6 to 12 inches in height.

The orchard was sprayed the second time early in the week, and the hedges were dusted with a 6 to 1 mixture of lime and sodium arsenite to control blister beetles. A home-made spreader for grasshopper poison bait was tried out and worked satisfactorily. Grasshoppers are not yet big enough to do much damage but are fairly numerous in this locality.

Visitors for the week included: Dr. Stoesz and Mr. Webber, Soil Conservation Service; J. P. McDonald, Farm Credit Administration; A. S. Hagenston, Resettlement Administration.

Maximum temperature, 91°; minimum, 32°; precipitation, trace.

MANDAN:

Agronomy - The past week continued dry, but has been cool, except for the first two days. Plowing for fallow was completed early in the week. Small grain is now showing injury from the drought. Grain on fall plowing is about burned up, but that on fallow and corn ground is still in fair condition. Grasses and alfalfa made no growth and are practically dried up. The stand of corn is very spotted.

Maximum temperature, 92°; minimum, 43°; precipitation, 0.

Cooperative Grazing Experiment - Native pastures are still in good condition for grazing because of the carry over of old grass. Crested wheatgrass is dried up, except in a low spot. The mixed pasture (crested wheat, brome grass, and sweetclover) is in very good condition for grazing and is furnishing an abundance of feed. This pasture was seeded in 1935, and the weeds were allowed to grow. The weeds held an abundance of snow, which is the reason for the good pasture at present.

The steers were weighed at the end of May after being on their pasture for 5 days. Two of the steers were taken to Fargo by the Agricultural College for a slaughter test.

Gains of yearling steers for 5 days:

| <u>Pasture<br/>(acres)</u> | <u>Number<br/>steers</u> | <u>Gain per head<br/>(pounds)</u> |
|----------------------------|--------------------------|-----------------------------------|
| 100                        | 10                       | 34.0                              |
| 70                         | 10                       | 30.5                              |
| 50                         | 10                       | 40.0                              |
| 30                         | 10                       | 42.0                              |
| Rot. (70)                  | 14                       | 37.9                              |
| Crested wheatgrass (7)     | 4                        | 32.5                              |
| Mixed (12.5)               | 6                        | 20.8                              |
| Reserve (93)               | 13                       | 10.0 *                            |

\* Two of the steers lost weight because of sickness or injuries.

Horticulture - Horticultural fields were hoed during the week. Weeds have not been growing much, due to the dry weather. Russian thistles seem to be the most troublesome.

Light sets of most varieties of fruits are the rule. Native plum varieties show better sets than hybrid varieties. All trees and shrubs are suffering from the drought, and many trees will doubtless be lost. Other work included suckering budded stock, watering trees planted this spring, lettering field stakes, and hauling brush.

There is very little improvement in the growth of vegetables. Aside from a sparse stand of the first planting of sweetcorn and peas, no germination of varieties planted has taken place.

Transplanted stock such as cabbage, cauliflower, tomatoes, eggplant, and pepper, due to copious watering at the time of setting out, are holding their own, but unless rain comes in the near future, they too will succumb. Tomato plants for the breeding plots are still remaining in coldframes. The soil being so dry and cloddy but little success can be expected in setting the plants in the field.

Shrubbery about the grounds is being pruned and dead growth removed. All spireas are killed back to within a foot of the ground, but new growth from the base seems quite abundant and vigorous. Persian lilac also is badly injured, while villosa, josikea, japonica, French hybrids, and vulgaris, were entirely uninjured. Syringa villosa at the present time is making an excellent display of bloom. Peonies are commencing to bloom, Festiva maxima and Karl Rosenfeld being fully open. The blossoms are much smaller than normal, and the plants seem to have suffered from drought. Other perennials in bloom on the station are Aquilegia in variety, Pyrethrum roseum, and Lillium umbellatum.

Arboriculture - The cleaning and hauling of stumps, brush, and other material from the test blocks and windbreaks has been continued during the week and is now practically completed.

A few pounds of American elm seed has been planted in beds where it is possible to water. Tree seedlings are rapidly burning off, and very few now remain above the ground. A good rain may bring a further emergence, as stands generally were poor.

#### BELLE FOURCHE:

Cool, cloudy, unsettled weather prevailed the greater part of the week. Heavy showers appeared imminent nearly every day, but only a few drops of rain were received. The cool, cloudy weather afforded some relief to plant growth, and there was noticeable improvement in the condition of small grain on fallow and rye green manure, but two warm, drying days caused drought injury on other cultural treatments to become more pronounced. Winter rye and winter wheat have suffered more extensively than spring crops, and barley is burning more severely than oats and spring wheat. Flax has withstood the drought with comparatively little damage, except on ordinary summer fallow where the crop is beginning to burn. Native pastures have become quite brown, and there is an acute shortage of grass and water for livestock in some sections.

Field work has included plowing under winter rye for green manure, duckfooting and harrowing sorgo plots, planting sorgo, and cultivating corn.

Maximum temperature, 84°; minimum, 44°; precipitation, 0.01 inch.



ARCHER:

The weather during the week ending was, on the whole, cool and cloudy. During the last four days the maximum temperature ranged from 59° to 69°. Rain, accompanied by some small hail, occurred during the afternoon of June 4 and continued until 9:00 p.m. The total precipitation of this storm was 1.09 inches. The storm was rather general over southeastern Wyoming and adjoining portions of Colorado and Nebraska. Farmers are very much pleased with the rains and are making preparations for more late seeded crops.

The weather conditions were favorable for most crops except corn. The potatoes, beans, millet, and Sudan grass have just been planted in the experimental field, therefore, serious damage to these crops, due to weather conditions, is not anticipated. Small grains have made good growth. Winter rye and crested wheatgrass are heading.

Maximum temperature, 80°; minimum, 37°; precipitation, 1.26 inches.

NORTH PLATTE:

Good rains have occurred over most of this area during the week. Cloudy and cool weather prevailed.

All the winter wheat is headed, and the oats and barley are beginning to head. Thinning of corn is still in progress and has been completed on the variety and rotation plots. The grain sorghum varieties have been planted. This year the station will have 27 varieties; 16 are in eight-row plots and the remainder in single rows for observation. Twenty acres of early kalo has been planted and will be harvested with the combine harvester. Sudan grass is being seeded in vacant areas around the plots. Alfalfa cutting has been delayed because of rain. The yield of alfalfa at this station is reported to be the highest in several years. H. M. Tysdal, Associate Agronomist in charge of alfalfa, from Lincoln, visited this station during the week to make observations of his nursery. A good quantity of seed of different strains of alfalfa being grown here will be harvested this fall.

The final plans for the Crops Day program to be held June 25 have been completed. The principal speeches will be made by Dean W. W. Burr of the College of Agriculture, Lincoln; D. A. Savage, Fort Hays Experiment Station, Hays, Kansas; F. D. Keim, Chairman of the Agronomy Department at Lincoln; and L. L. Zook, Superintendent of the station. The afternoon will be spent at the new agronomy farm. M. L. Baker, Animal Husbandman for this station attended the Live-stock Growers' meeting at Chadron, Nebr.

Maximum temperature, 83°; minimum, 44°; precipitation, 1.35 inches.

AKRON:

Rainfall of consequence continued over the past week, and of the same general drizzling character. There has been 3.46 inches of this type of rainfall over the past 9-day period, interfering with current seeding operations, but adding materially to the accumulation of soil moisture since there has been practically no run-off. This makes the present agricultural outlook for northeastern Colorado very bright. In the comparatively few instances where winter wheat survived the winter, it is looking especially promising. Spring wheat, while not nearly as far advanced, looks equally as promising. The precipitation

was very timely for the winter wheat and rye, and the barley and oats here on the station, the former blooming, and the later breaking into full head. Barley and oats do not generally promise more than average yields. Corn seeded on the rotations May 25 emerged promptly on the 1st. Reseeding of four plots was necessary on account of damage by squirrels. Rate and spacing corn project seeded on the 25th emerged on the 2nd with perfect stands. To date there has been very little damage to corn stands by either squirrels or cutworms.

Seeding of the corn varieties and the forage sorgo varieties was completed Monday afternoon. Seeding of the grain sorghum varieties was again interfered with by rain. The corn-variety experiment seeded before the rainfall reported last week was harrowed to prevent formation of crust. Nursery and cereal variety fallow was duck-foot cultivated, the orchards likewise. Rotation roadways were rod-weeded, and rotation alleys about three-fourths cultivated before wet soil interfered. Rotation green-manure peas were plowed under Tuesday. Peas showed straggly ground cover, but the plants were 14 inches tall showing first bloom. Grass nursery was weeded in the rows by hand during the period of wet soil. Much experimental seeding remains to be accomplished, but the date is not yet dangerously late for such work.

Dean Anderson and Mr. Whitney of the State Agricultural College, visited Friday afternoon.

Maximum temperature, 85°; minimum, 42°; precipitation, 1.95 inches.

#### COLBY:

This has been another favorable week for crop growth. A drying wind blew all day Sunday, and it was dusty in the afternoon. The balance of the week has been mostly cloudy and rainy, however.

The winter wheat which survived the winter is partially headed and making rapid growth. The spring small grains are also nearly headed and making excellent growth, but are weedy in places. Corn is up to excellent stands. The sorghums were planted today. The ground was amply moist and worked up mellow.

Maximum temperature, 82°; minimum, 49°; precipitation, 0.33 inch.

Precipitation for May, 3.48; precipitation, January - May, 5.20 inches.

#### HAYS:

Cloudy and damp weather prevailed throughout the week. Barley, oats, and winter wheat crops are fully headed and in bloom, the earliest heads having passed that stage. Spring wheat is about 30 percent headed; peas have reached a height of 24 inches and are being plowed under today (June 6). Newly seeded alfalfa and brome grass both up to a good stand are making a nice growth. Wild buckwheat and many other varieties of weeds are thick in the spring grains and offer considerable competition. However, the grain crops are in the lead.

Corn was planted on the plots June 4, on ground none too dry for planting. The sorghum crop planting has been necessarily postponed until next week on account of the soil being too wet.

Maximum temperature, 86°; minimum, 49°; precipitation, 0.34 inch.

GARDEN CITY:

Rainfall dropped considerably this week, totaling 0.83 inch, compared to 2.94 inches last week. Soil sampling shows that the moisture has only penetrated about 2 feet.

Field work consisted of rod-weeding plots to be surface-planted and drilled. Milo, kafir, Sudan, broomcorn, early sumac, feterita, flax, corn, and cowpeas were seeded. Several of the plots were too wet and will be seeded next week. The flax plot was redrilled as a stand was not obtained from the earlier seeding.

Visitors at the station were A. E. Aldous and C. O. Grandfield from Kansas State College.

Maximum temperature, 86°; minimum, 53°; precipitation, 0.83 inch.

TUCUMCARI:

Field work has progressed rapidly the past week, for the first time this season. Moisture is sufficient to insure germination of seeds, but more rain will soon be needed. The majority of rotation plots are planted; corn, forage sorghum, cowpea, and bean variety-date plots are in, and next week it is hoped the remainder of the rotation plots and the early grain sorghum plots may be planted.

The temperature has been moderate, but high wind movement has caused exceptionally rapid evaporation from all fields. Of the total of 2.45 inches precipitation since January 1, 1.28 inches was received in the week May 22 - 28.

Maximum temperature, 90°; minimum, 55°; precipitation, 0.

DALHART:

The first of the sorghum varieties date-of-planting tests was planted on the 1st. First emergence is occurring today, and indications point to a good emergence. Other planting consisted of the duplicate soybean nurseries, a block of sorghum varieties, and part of the variety test on fallow. All land was harrowed or ridge-busted in preparation for additional planting. Two days were lost for planting the last of the week because of rain. Corn is emerged to thick stands and will do for thinning next week. Cotton is showing only scattered emergence and probably will show poor stands. This is due to the character of the rain received Thursday afternoon.

One of the weirdest storms ever witnessed (which is a common comment) came up Thursday soon after noon. The day had started off cool and partly cloudy. A light shower the middle of the morning delayed planting only for a few moments. At noon the sky gave every indication of staying partly cloudy for the day. But soon afterward what must have been immense dust clouds began to gather in the southwest and gradually spread over the entire heavens at a relatively high elevation. There was only an appreciable amount of wind on the surface. As the dust cloud gathered, storm clouds also gathered and spread over the sky. The peculiar part was that while storm clouds were heavy the pall of a bright yellow-brick-red dust formed a deep background for the clouds like an immense painted canvas. So heavy was the curtain of clouds and dust that almost all light was obscured. It was so dark that two planting crews rushing to complete some variety and nursery plantings were practically obscured one from the other, although they were less than 1/4 mile apart. In coming from the field it was necessary to use the car lights to find the field roads. A cloudburst resulted but was of relatively short duration. The dust

cloud showed the vivid, awe-inspiring color through the half hour of downpour. A total of 1.70 inches of rain was received and much was lost by run-off. The pasture terraces held the water completely between the terraces in many places. Capacity was reached on many of the terraces, and several overflows cut shallow holes in them. This rain certainly emphasized the need for closed ends to the terraces, at least until they are sodded over.

The thick stand of the blue gramagrass seedlings from the seedings with blue gramagrass straw continues to be an amazing sight. This hay was scattered with a manure spreader and was pressed in with the disks of a drill. The plots and terraces seeded with threshed blue gramagrass seed are showing the expected stand for the amounts of seed sown.

Maximum temperature, 84°; minimum, 51°; precipitation, 1.70 inches.

#### BIG SPRING:

Weather conditions were very favorable for field work during the past week. Planting was rushed during this time to the limit of station equipment, with the result that all the plots and most of the increase fields have been completed. Milo, kafir, corn, and broomcorn in the D.L.A. project was completed, as was also the June 1 date of grain and forage sorghums and cotton. Cotton varieties and cotton in the spacing, which was planted the previous week, has emerged to good stands, and cotton in the rotations is now emerging. About one more day of planting in the increase fields will complete the season's planting, with the exception of late dates of grain and forage sorghum varieties.

Weeds are presenting pretty much of a problem at present, due to the fact that very little weed seed germinated early on account of dry weather. Now with the May rains weeds are coming up with the crops.

Maximum temperature, 99°; minimum, 58°; precipitation, 0.

#### LAWTON:

Five days of clear weather permitted a vigorous prosecution of field work. On the night of the 5th a torrential rain of 3.35 inches was recorded the largest rain since July, 1933. The eastern part of the county received only a shower. In the western and southwestern part of the county more than 5 inches were recorded. Crop loss and property damage from hail and wind was heavy and extensive. A mere scatter of hail fell without damage at the station. On the 6th the southwestern part of the county was again deluged with rain, battered by hail, and ravaged by wind. Seventeen farm homes within the county were destroyed by the two storms and the crop loss was very heavy. The precipitation at Lawton on the 6th amounted to only 0.11 inch. Many streams within the State are reported at flood stage.

Harvest of small-grain experimental projects, except 5 rotation plots of wheat and a few oats varieties, was completed during the week. About 32 or 33 acres of oats, grown for feed were also cut and shocked. Practically all row crops were cultivated, and sorghum thinning is pretty well completed.

The ground is thoroughly soaked, and row crops are in position to continue rapid growth. The second cutting of alfalfa on creek bottom fields is making a good yield of hay, and in many instances a large acreage was in the windrow when the heavy rains fell. Corn on spring plowing top-dressed with manure was showing the first tassels on the 5th. A rather heavy infestation of grasshoppers is well scattered throughout the county, and some crop injury is being reported.

V. G. Heller, Head of the Agricultural Chemistry Research, A. & M. College, Stillwater, and three members of his staff spent three days at the Lawton Station making chemical analyses of several varieties of sorghums.

Station visitors were, F. A. Fenton and L. W. Osborn, both from the Oklahoma A. & M. College.

June precipitation to date is only 0.02 inch below the monthly normal of 3.48 inches. Maximum temperature, 90°; minimum, 59°.





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JUN 13 1936





REPORT FOR THE WEEK ENDING JUNE 13, 1936.

HAVRE:

Rainfall totaling 0.85 inch June 6 and 7 alleviated the drought for several days. However, with very little additional precipitation later in the week, many crops are again in need of moisture at present. Ranges appear slightly improved. Early sown spring rye has headed short, and other small grains are ready to begin fruiting. The first cultivation of an unevenly emerged corn crop is now in progress, with evidence in some instances that army and pale western cutworms have slightly damaged the stands. Following the rains, long delayed plantings of flax, alfalfa, and grasses were completed.

Scales for obtaining weights of cattle while on summer pasture were installed at the Bear Paw Mountains lease, additional fences built, calves vaccinated, and the breeding herds divided.

D. W. Chittenden and A. Walker of the department of Animal Husbandry, Montana State College, spent several days at the station in connection with the beef-cattle projects. G. Allen Mail, Assistant Entomologist at the State College, investigating the Says Plant bug situation, was also a visitor.

Maximum temperature, 86°; minimum, 44°; precipitation, 0.94 inch.

JUDITH BASIN:

The drought that started May 6, was ended by rain on three successive days (June 6-8) that totaled 1.16 inches. Grasses that were burned from lack of moisture have not improved noticeably, and it will be interesting to note what recovery these stands can make at this stage of growth.

Spring grain prospects, both on the experimental plots and in commercial fields, are very good at this time, but fields of winter wheat are weedy and growing slowly. The emergence of corn on some spring plowed plots on the rotations and general field plantings has been delayed because of insufficient moisture, but with the present moisture supply it should soon be complete.

Work during the week included fencing of the regrassing test south of the Judith River, cultivation of the tillage plots, harrowing corn, and cultivating potatoes on the rotations.

D. W. Chittenden and A. Walker of the department of Animal Husbandry at Bozeman visited the station June 13.

Maximum temperature, 85°; minimum, 38°; precipitation, 1.23 inches.

HUNTLEY:

Dashing rains early in the week cooled the atmosphere to some extent but, because of excessive run-off, did not add much to the moisture content of the soil. One shower amounting to 0.76 inch fell in less than 30 minutes and caused some damage to young crops by beating them down and covering them with puddled soil. Cultivators have been started to relieve the crusted condition on plots of row crops. Spring-sown small grains continue to make a fair growth although most plots show some drought injury. Winter wheat is jointed and a few early heads are appearing. Because of the thin stands, the fall-grain plots are very shaggy with weed patches. Grasshoppers continue to hatch, and poison bait was again scattered over the infested areas on and adjacent to the dry-land fields.

Field work has consisted of cultivating row crops, plowing under rye for green manure, poisoning grasshoppers, and weighing hogs on pasture.

Maximum temperature, 96°; minimum, 47°; precipitation, 1.26 inch.

#### SHERIDAN:

While the crickets previously observed coming down the valley from the southeast of the station apparently had turned back at least temporarily as noted last week, other bands coming directly from the hills on the east arrived on the station the 8th, and by the latter part of the week were overrunning the entire station. In some places it has been reported that the crickets have gone through and cleaned up the grasshoppers as they went, but nothing of that nature can be observed here. Although large numbers of dead grasshoppers can be found in places as a result of poisoning, there seems to be no lessening in the numbers still alive and working. Considerable damage to some plots in the varieties and rotations is evident, although as yet only one plot, a guard plot of Reward wheat in the varieties, has been cleaned up entirely. Crickets seem to be working more on grain that is well headed, principally the rye so far, eating most on the heads. Bulk rye in Field I is being cut for hay today in order to save the little feed there is. Some dusting for the crickets has been done, and while apparently fairly effective in keeping the crickets off, it is very slow and it seems that little can be done.

Temperatures remained fairly moderate until the last two days. On the first day of fairly high temperatures firing was evident again with much of the grain. Winter wheat where the stand is good has been completely headed for some time, and where the stand is poor it is heading slowly. Brunker oats sown fairly early on fallow headed early in the week, at less than a foot in height. Reward wheat and early varieties of oats in the varieties are just beginning to head, very low.

Cutting over hay land has been in progress the most of the week. Plots of alfalfa were weighed and hauled. Although a little hay is being obtained the crop will rate as a total failure.

Flax, sorgo and Sudan grass, sown previous to the rain emerged during the week with an irregular stand. That sown after the rain emerged at about the same time with a good stand. Corn that lay in dry soil also is coming, but much of it is being eaten off as fast as it nears the surface. All plots of corn and a part of the bulk seedings were gone over with the rotary hoe.

Maximum temperature, 95°; minimum, 43°; precipitation, 0.10 inch.

#### DICKINSON:

Another week of dry weather has brought the drought to a more critical stage. The best grains on fallow are now showing considerable firing. About half of the crop is past any possible yield fit to thresh, even if heavy rains come soon. The best that can be hoped for now is to get enough feed to carry the livestock through the winter. Pastures are so short that livestock can no longer maintain their weight. Some farmers have already turned into the grain fields.

Rainfall to date in 1936 amounts to 2.47 inches, which is less than received to this date in any of the previous most severe drought years during the 44 years of record at Dickinson. In 1934 at this time 4.52 inches had been received and in 1919, 5.42 inches. Since September 1, 1935, only 3.77 inches have been received.

Visitors: William Leary, Extension Agronomist; Harper Brush, District Agent; Albert Buchli, County Agent, Dickinson; and William F. Cockburn, County Agent, Killdeer; visited the station June 9.

Maximum temperature, 96°; minimum, 39°; precipitation, 0.09 inch.

MANDAN:

Agronomy - Another week without rain and crops have further deteriorated. Small grain on fall plowing is all dried up, on spring plowing it is now practically gone, it is burning on disked corn, but it is still in fair condition on fallow. The stand of corn on the plots is very spotted. In some places only a few hills are up. A good rain would help the corn and some of the small grain. Part of the week was cool, but the past couple of days have been hot with high winds, and a hot wind on the 12th.

Maximum temperature, 93°; minimum, 41°; precipitation, 0.10 inch.

Cooperative Grazing Experiment - The pastures went down badly during the week. The sweetclover in the mixed pasture is now starting to dry up on the higher part. It was so heavy on the lower third that it was cut for hay during the week. With rain the mowed part should make a rapid recovery.

Arboriculture - All kinds of tree growth are suffering severely from the drought. American elm seed planted under irrigation is now emerging. All conifer seeds have also emerged to good stands. Continuous watering is necessary to keep any tree seedlings alive.

Horticulture - Winter injury notes are being taken. As might be expected from the severe winter and drought, severe killing back has taken place. Japanese hybrid plums generally show severe injury, but native varieties look much better on an average. Apples show considerable sunscald and killing back of large branches. Currants show severe injury, but gooseberries came through in fair condition. Currants and gooseberries in the coulee are in much better condition than those in the upland variety test. Grapes are in fair to good condition, except vines not covered with soil which show severe injury. Raspberries killed back to the ground when not covered with soil, but came through in fair shape when covered. Covering with straw was not so effective as covering with soil. Sunbeam appears to be the hardiest of the red varieties under test. Strawberries were severely killed, and the planting will be plowed up. Such native fruits as sandcherries, juneberries, chokecherries, and buffaloberries came through the winter in good condition and have set good crops of fruit.

Dead wood is being removed from the trees. Plants set out in the field this spring are being watered a second time.

Another week of torrid weather and no signs of improvement in the growth of vegetables in the field. About 4,500 tomato plants intended for seed production of the new varieties introduced this spring were set out in the field the 9th and 10th. Needless to say they look sick. Rain received soon would revive some of them. Plants in the coulee garden are still holding their own. Early cabbage, sweetcorn, and lettuce look fairly good, but there was no germination of radishes, spinach, carrots, beets, etc., due to dry topsoil, and these crops are conspicuously absent.

Peonies, Josikea and Villosa lilacs supply a bit of color about the grounds. The recently planted flowerbeds are doing well, but there is little bloom as yet.

Visitors to the station for the week included - W. W. McLaughlin, Irrigation Engineer, Bureau of Irrig. Engineering, Berkeley, Calif.; E. G. Davis, Bureau of Entomology, Bozeman, Mont.; Ernest Wright, Assoc. Pathologist, U. S. Forest Service, Lincoln, Nebr.; L. S. Matthews, U. S. Forest Service, Jamestown, N. Dak.; I. N. Chapman and A. E. Jones, Soil Conservation Service, Huron, S. Dak.; E. J. Dieringer, A. H. Lunt, Shane McCarthy, W. W. Scott, Regional Office, S. C. S., Rapid City, S. Dak.; E. J. Thompson and L. M. Roderick, N. Dak. Agricultural College.

#### BELLE FOURCHE:

The drought continued unbroken, except for a shower of 0.22 inch on June 8. Cool weather following the light rain afforded some relief to plant growth, but high temperatures and drying winds during the last half of the week were very injurious to all early-seeded crops.

Small grain on fallow and rye green manure ground is commencing to burn. The growth and condition of grain on other cultural treatments vary in conformity with the depth and location of winter snow drifts, but all the small grain is burning, and there are areas on many of the plots on which it has burned beyond recovery. Winter wheat, oats, and barley are attempting to head. Winter rye has finally succeeded in completely heading, but the crop has been injured so extensively by the drought that recovery is impossible. Flax is withstanding the dry, hot weather remarkably well and is beginning to bloom. Corn has made a good growth, but sorgo seeded last week will not come up until after rain is received. Sweetclover reseeded this spring for green manure and field peas commenced burning, and were plowed under. The various sod plots to be cropped to flax in 1937 were also plowed.

Maximum temperature, 94°; minimum, 39°; precipitation, 0.22 inch.

#### ARCHER:

The weather during the week ending June 13 was cool and wet until June 12 when the sky cleared. The total precipitation for the week was 2.03 inches. The total precipitation for June to date is 3.23 inches. This precipitation had a very favorable effect on vegetation and greatly improved the crested wheatgrass pasture on which the dairy cows are grazing. This pasture will probably furnish grazing for the dairy cows until July 1. Owing to the wet condition of the soil practically all field work has been delayed during the past 10 days and weeds have become quite large. Today a start is being made to plow the rye green manure plots and the fallow plots which will permit working. During the week the 168-acre native grass pasture was made sheep tight.

Roland McKee, Division of Forage Crops, and H. M. Benedict, Cheyenne Horticultural Field Station, were station visitors June 12.

Maximum temperature, 82°; minimum, 46°; precipitation, 2.03 inches.

#### NORTH PLATTE:

The weather for the first three days of the week continued cool with rain on June 9. The remainder of the week was warm with high wind. The temperature for the first two weeks of June was below normal.

Poor stands of early kalo in the rotation plots have resulted from the wet weather and low temperatures. Reseeding will probably be necessary. All the small grains except the oats in the variety plots are headed. The oats and barley have made good growth this spring and will be harvested with little difficulty. Corn cultivation has started, and alfalfa cutting has been resumed after delay of a week

because of wet weather. The roadways of the rotation plots have been graded and weeds cleaned away from the edges of the plots. The potatoes on the dry land are beginning to bloom.

Mr. Chase of the Chase Plow Company of Lincoln visited this station to inspect the work being done with the basin lister. Several changes and improvements will be made before planting season next year. An excellent stand of corn was obtained on plots listed with this attachment. A few rows of corn planted in this manner have been cultivated with the ordinary lister cultivator. This method of cultivation has proved quite successful and no additional cultivating equipment will be necessary.

Maximum temperature, 84°; minimum, 54°; precipitation, 0.39 inch.

#### AKRON:

More rain consisting of two showers of 0.40 inch or more which penetrated the already wet soil slowly and interfered further with current seeding and field work. Station looks verdent, but rather unkempt, as much of the field cultivation during the past two weeks has delayed but not eliminating the weeds.

The seeding of the grain sorghum variety experiment was finally completed last Saturday afternoon, and even this last seeding is emerging by this week-end. Bean variety seeding was started Monday but not completed until Friday. Rotation kafir plots were also seeded Friday and increase plots of grain and forage sorghum on Saturday (13th). Tractor and duck-foot cultivator and rod-weeder have been in the field whenever the soil was in condition.

June rainfall to date is 2.91 inches. The normal for June is 2.37 inches. There was damaging hail in the Burdette region with this week's rainfall.

Station winter wheat looks very promising. Good stands of corn and sorghums have been obtained. Oats and barley are in head and are more promising than has been anticipated. Komar spring wheat in the rotations is heading.

D. W. Robertson of the State College came down Tuesday bringing Mr. Carpenter, a student from the Western Slope section of Colorado, for summer aid with the Cereal Experiments.

Maximum temperature, 86°; minimum, 49°; precipitation, 0.96 inch.

#### COLBY:

Part of the time the weather this week was favorable for crop growth, cool and cloudy. Most of the time, however, drying winds prevailed, sapping the soil moisture rather heavily.

Oats headed this week and the spring wheat and barley are partially headed. The winter wheat on 571A, the only plot of winter wheat left, is heading also. All the small grains, except those on fallow are drying considerably. They are all short. The peas and rye have made a fair growth. The rye is in bloom and the peas are showing blooms here and there. There will not be much material for plowing under on the rye plots, as the rye is less than a fourth of a stand, and there are almost no weeds.

The corn plots were thinned this week. The corn is making excellent growth and is now about 3 inches high. The sorghums all came up to good stands during the last three days.

Maximum temperature, 83°; minimum, 49°; precipitation, 0.13 inch.

#### HAYS:

This week passed without rain, although there was considerable cloudiness during the first part of the week. The last few days have been sunny and breezy, and the temperatures have been climbing upward. In the small grain plots, the soil is getting very dry and large cracks are developing.

The hot weather and scanty supply of soil moisture is hurrying the development of the wheat, oats, and barley. The grain is well formed, and much of it is already in the dough stage, the most advanced is in the stiff dough stage. To look over the fields, the color is remindful of the approach of harvest time. Thus far, the grain is filling very well, but should hot weather continue from this time on, the harvest will be too much hastened for best yields.

Corn is now up to a fair stand, and sorghums planted the first of the week are already coming up with prospects good for a satisfactory stand.

Alfalfa, surviving on only one plot was mown the 11th. It had made a growth about 15 inches high, but the stand was very thin and the plot was very weedy. Spring seeded alfalfa and brome grass look good, and although weedy, there are fewer weeds in these crops than there usually are in spring seeded grasses.

Multitudes of young grasshoppers are now making their appearance. It looks like danger ahead for the row crops.

Maximum temperature, 94°; minimum, 51°; precipitation, none.

#### GARDEN CITY:

No measurable amount of rain fell this week, and therefore all our spring planting was finished. Crops that were planted this week were Sudan grass, cowpeas, milo, and kafir on those plots that were too wet the preceding week. Milo was also surface planted on a diked plot, which has been leveled and diked to prevent any run-off. Most of the row crops are coming up and making a good stand.

Soil samples were taken on the differently spaced milo plots, on several plots of the M. C. wheat series, M. C. and M. F. milo series, and on the diked plot. The moisture seldom penetrated deeper than 2 feet.

Dean call visited the station on June 13.

Maximum temperature, 101°; minimum, 53°; precipitation, trace.

Mild dust-storm June 9.

#### TUCUMCARI:

Three showers totaling 0.95 inch early in the week were of great aid in insuring stands on all crops previously planted. Plantings made the 6th were up to stand on the 12th. Range grass and trees show the effects of the recent rains to a marked degree. During the week the remainder of the rotation plots were field cultivated and planted, and cooperative plantings were made. Tilth was excellent, and stands should result from all plantings. There remains to be planted considerable increase land and late dates of cooperative grain and forage sorghums, corn, cowpeas, and beans.

Maximum temperature, 103°; minimum, 54°.

DALHART:

Weather and soil conditions remained favorable for planting after Monday. While the planting was not rushed, only one planter being kept in operation, satisfactory progress was made. All the kafir and milo rotation plots were planted, as were one planting of sorghum varieties, duplicate plantings of the sorghum nursery, a sorghum spacing and method of seeding test, a selection nursery with Sedan kafir, and some miscellaneous plantings. There seemed to be ample moisture for good germination and good emergence is expected unless a hard rain should come soon. Weeds really made their first growth this week. Fallow plots were plowed except two for which time did not permit. Experimental planting remaining includes the June 15 date-of-planting test with sorghums, the milo-disease nursery of some 230 strains and selections, the forage plots in the rotations, the cowpea variety test, and increase seed plots.

The corn rotation plots were thinned to stands during the week. The cotton nursery is going to show thin to good stands. Soybeans, in the duplicate nurseries, are beginning to show good emergence since the crust was broken, and peanuts planted under the same conditions are showing excellent stands to stands which necessitated replanting. Corn varieties planted Tuesday are showing first emergence. Grama seedlings are apparently getting well established.

Maximum temperature, 98°; minimum, 51°; precipitation, 0.20 inch.

LAWTON:

Field work was resumed on the 9th following the rains the latter part of the previous week. Harvesting and sorghum thinning were completed, and cultivation of row crops was pushed along as rapidly as labor and equipment would permit. Weed growth has been difficult to control since the first of May, and row crop cultivation has been much more extensive than in the past two or three years.

Station plots of corn are tasseling, and sorghums and cotton are making excellent growth. Cotton chopping was started on the 13th. Four and one-half acres of rowed sweetclover were harvested June 11. An excellent crop of seed was produced. The plants were too short to cut with a row binder, and the job was done with the grain binder, with the reel removed. In the western half of the county where rain, wind, and hail have been so destructive cotton and feed crops have been replanted two and three times and the fields are still weedy. In general these crops are fully as late or later than they were in 1935. In the eastern part of the county there has been practically no crop damage, the fields are clean, and row crops are in good condition and normally advanced in growth.

Small grain harvest throughout the county and over most of the territory between Lawton and Oklahoma City is very late this year. In local territory wheat and oats are generally too short to cut with the binder and combines will be used quite extensively. Some wheat from the southeastern part of the county has been delivered to local markets and the quality reported good - average test about 59. A few late green heads are present but not in sufficient quantity to warrant a market penalty. A few yields are reported to 6 to 10 bushels per acre, but there is very little acreage that will go that high. There will be practically no oats on local markets this year.

E. W. Johnson of the Woodward Station was a station visitor during the week.

Maximum temperature, 95°; minimum, 62°.

WOODWARD:

There has been no precipitation over the past week. The sky has been partly cloudy, and the temperatures have not been excessively high. This condition has allowed wheat to fill well and ripen normally. With a few clear hot days it should be in fine condition for combining.

The main business of everyone in the Southwest over the past week has been planting row crops, for which the soil is for the most part in splendid condition.

Trumpet vines and hollyhocks are the ornamentals most in evidence on the station at present.

Station work for the week consisted of planting sorghums, peanuts, and cowpeas, harvesting Cereal wheat plots, general cultivating, taking soil samples, spraying ornamentals, and hoeing weeds.

Maximum temperature, 99°; minimum, 56°; precipitation, none.

PENDLETON:

Rainfall the past week totaled 1.59 inches. This amount of rainfall insures good crops in most of eastern Oregon, although in some areas the winter wheat was too far along to be very greatly benefited. Spring wheat yields will be well above the average, present indications are that the spring wheat will yield considerably more than winter wheat. The rains were of great benefit to the late sown peas. The early varieties of peas were yielding below average, the rains will bring up the late peas to above average. The pea harvest is now in full swing, the harvesting going on 24 hours a day.

Maximum temperature, 80°; minimum, 43°; precipitation, 1.59 inches.

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**WEEKLY STATION REPORTS**

**OF THE DIVISION OF**

**DRY LAND AGRICULTURE**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

JUN 20 1936



REPORT FOR THE WEEK ENDING JUNE 20, 1936.

HAVRE:

Some rainfall was recorded, one shower totaling 0.47 inch. Temperatures for the most part were moderate, and in general growing conditions seemed favorable. Spring wheat, oats, and barley are commencing to head. In many cases stands of earlier sown small grain and corn were improved by late germination. Following the rains of last week, flax, grasses, alfalfa, and sweetclover have emerged uniformly. Cultivation of alleys, roadways, and row crops were the most important field activities. The first cutting of alfalfa grown under irrigation is now being stacked.

Station visitors included Clyde McKee and A. H. Post, Department of Agronomy, Montana State College.

Maximum temperature, 93°; minimum, 47°; precipitation, 0.54 inch.

JUDITH BASIN:

Two showers were received during the week, and temperatures have been relatively low. These factors have helped to maintain the condition of most spring seeded crops at their previous level.

Spring plowed plots on the dry land rotations are very weedy and, along with late seeded spring grains, will deteriorate rapidly unless additional moisture is received soon. Crops seeded on fallow, green manure, or corn stubble can still produce a fair yield. Spring grains are heading, and alfalfa and some rye hay will be harvested soon.

Field work accomplished during the week included cultivation of fallow on the rotations; cultivation of corn, staking plots, and weeding in the shelter belt.

Station visitors during the week were Clyde McKee, A. H. Post, Fredrick K. Numms all of the Montana Experiment Station, Bozeman, Mont.

Maximum temperature, 85°; minimum, 35°; precipitation, 0.21 inch.

HUNTLEY:

Drought conditions prevailed throughout the week, leaving a marked effect on all crops. Grains are now fully headed on short straw, and most plots look very dry. Corn has made a little growth but shows the need of moisture. Spots in the fields where run-off water has concentrated are clearly defined by much taller and greener crops than those on adjacent areas. The rains of two weeks ago appear to have stimulated weed growth to a greater extent than the growth of crops, and plots which a short time ago seemed to be free from weeds now show considerable infestation.

Grasshoppers continue to hatch and move into the crop lands from all sides, necessitating the frequent use of poisoned bait as a control measure. To date the only plots showing grasshopper injury are those on the outside edges of the fields. However, an increasing number of the insects are arriving at the adult stage, and their ability to fly will make control measures less effective.

Maximum temperature, 98°; minimum, 42°; precipitation, 0.02 inch.

SHERIDAN:

Hot weather accompanied by high winds continued over the most of the week. Crops continued to deteriorate, until now it appears that only crops on fallow might be benefited to any extent by rain, excepting corn and late forage, where the latter were not eaten off by insects as they emerged. The crickets which were overrunning the station last week moved on, and only a few scattered ones were noted during the current week. No damage could be noted by them except to the rye noted last week as being cut for hay. Many of the crickets were killed, apparently from eating the poisoned grasshoppers. Although dead grasshoppers are fairly thick, the live ones continue to increase with resulting increase in damage to what crop there is left.

A large part of the cattle in this section have been sold or shipped to pasture elsewhere. Sheep are moving to the mountains 10 days earlier than previously allowed, because of the shortage of pasture on which to hold them on the lower lands. Rains in the mountains during the last month have been sufficient to improve the range there materially.

Maximum temperature, 95°; minimum, 46°; precipitation, 0.07 inch.

DICKINSON:

A shower of 0.47 inch on the night of June 15 was of some benefit to crops. It freshened gardens and stopped burning of field crops for a few days, but its permanent effect was not marked. Much of the crop was too far gone to be helped. Wheat on summer fallow is beginning to head at the height of 6 to 12 inches. On methods having less moisture, occasional plants are heading even shorter. Early barley and wheat on fallow in the nursery have headed 10 days to 2 weeks earlier than 1935 but at about the same date as in 1934.

Corn in the rotations was cultivated. The stands on the best plots is only around 75 percent and the poor plots about 10 percent. Since the shower, the corn lying dry in the soil has germinated but has not yet emerged.

Crested wheatgrass planted on fallow in 1935 has headed and is now in bloom at a height of about 15 inches. A low yield of seed may be obtained on the plots seeded in rows on fallow, but older stands, both broadcast and in rows, have not headed except in an occasional low spot or where snow drifted. Crested wheatgrass greened up some after the shower but is drying again now.

Grasshopper poison was spread on two days. Little damage has been noted so far from hoppers. They are fairly numerous throughout the district and are now large enough to travel, so considerable damage may result later. Because of the poor crop prospect, very little poison is being spread in the area.

Painting of the station buildings was started June 18.

Maximum temperature, 89°; minimum, 45°; precipitation, 0.52 inch.

MANDAN:

Agronomy - Drought continued throughout the week, with wind above normal. Heat was not excessive, but hot wind occurred on one or two days. Grain on summer fallow is still holding up. Corn made little progress during the week.

Maximum temperature, 93°; minimum, 49°; precipitation, 0.05 inch.

Cooperative Grazing Experiment - Native vegetation is now all dried up, and the cattle are dependent on dry feed. Steers were moved from the crested wheatgrass to the reserve pasture.

Horticulture - The gradual killing of fruit trees and shrubs by drought continues. Only heavy rains can relieve the situation, and they fail to appear. Considerable damage from sunscald is apparent on the southwest sides of apple trees. No blight has been seen this spring. Cutting out of dead wood from fruit trees continued throughout the week. Tulip bulbs are being dug. Shrubbery on the grounds is through blooming.

Arboriculture - Work during the week has consisted of hoeing, watering seed beds, and spraying against attacks of blister beetles. Older trees are continuing to look fairly good, but young trees planted this spring are about all dead.

Visitors at the station for the week included Dr. Gorse and Mr. Livingstone, Pathologists, U. S. Forest Service, Lincoln, Nebr.; Rudolph D. Anderson, S. C. S., Colorado Springs, Colo.; and V. F. Holker, County Agent, Dawson County, Mont., with 7 ranchers.

#### BELLE FOURCHE:

High temperatures and warm winds during the week increased the severity of drought injury to plant growth. Small grain on fallow and rye green manure is burning badly but apparently will succeed in heading. Grain on other cultural treatments has burned beyond recovery, except on a few favored areas. Corn made a fair growth, but the leaves curled extensively on hot days. Potatoes are up with good stands.

Owing to lack of water and feed, increasingly large numbers of livestock are being removed from the range and shipped to other regions. Fifteen carloads were shipped out of Newell during the latter part of the week, and another 16 carloads left Newell this morning, June 22.

Maximum temperature, 99°; minimum, 52°; precipitation, 0.01 inch.

#### ARCHER:

The weather during the week ending June 20 was warm and dry. During June 18 a warm, dry, south wind prevailed, however, no crop damage resulted because the soil was sufficiently supplied with moisture. All vegetation made a rapid growth, especially weeds. Winter rye is in bloom, and early seeded barley is in boot. Corn responded to the moisture and warm weather. Rain would improve the condition of the small cereals.

Work at the station consisted of cultivating roadways and alleys. The fallow plots and larger fallow fields have been plowed or duckfooted. The fields to be seeded to millet and Sudan grass have been duckfooted and are ready to be seeded.

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

#### NORTH PLATTE:

Warm weather prevailed over this area this week. No moisture was recorded, and all small grain is in need of rain. The dry, warm weather is bringing the harvest date earlier than usual this year. The winter wheat on corn and stubble ground and a few plots of barley are ripening fast and will be harvested next week. A large part of this early ripening wheat will be shriveled. The rest of the small

grain has not shown any signs of burning, but moisture is needed to produce a normal yield.

The corn is growing fast, and the first cultivation has been completed. The kalo in the rotation plots failed to grow, and these plots have been reseeded. The field peas were plowed under. All alleys, summer tilled plots, and roadways have been weeded. The variety potatoes received their first irrigation on June 16. The alfalfa cutting is completed and the variety plots have been cut and weighed. The yield of alfalfa for the first cutting is above normal.

Dr. Giesick from San Antonio, Texas, visited the station this week. He is studying the rust situation in the Great Plains. The normal amount of rust is present this year which is not sufficient to cause much damage.

R. W. Goss and Mr. Livingston, and a group of agricultural engineering students from the University of Nebraska were visitors at the station.

Maximum temperature, 97°; minimum, 53°; precipitation, none.

#### AKRON:

The first heat period of the summer was inaugurated last Saturday to reach a peak of 102° on Thursday. Cool northwest wind on Friday offered a temporary respite and possibly a break of the heat wave. Monday was dominated by a hard, driving south wind, very disagreeable to field workers, very depleting of the surface soil moisture supply, and somewhat damaging to the more succulent growing crops. Corn, sorghums, and soybeans have grown very actively during the hot weather.

Aside from fallow and sorghum-land cultivations, the latter for Sudan grass this year, the rotation fallow and green-manure plots were duck-foot cultivated. Rate and spacing, and surface planted rotation corn plots were rotary hoed. Rotation listed corn plots and the increase corn, were spring-tooth harrowed. Sorghum variety experiment was also rotary hoed. Variety corn, smaller, was spike-tooth harrowed. The rotation and rate and spacing potato, bean, millet and Sudan grass plots, and the millet variety and rate of seeding experiments were seeded.

It might have been reported two weeks ago that the grasshopper egg hatch appeared to be fully 100 percent. Poison bran has been scattered on three different occasions with fair success at decimating the myriads which are yet concentrated along fence rows and on sod-land areas.

Maximum temperature, 102°; minimum, 51°; precipitation, none.

#### COLBY:

This has been a most unfavorable week for crops. High temperatures prevailed all week, and several days were windy. Monday was a very hot, windy day which sapped the soil and plants of much moisture. On Thursday the temperature went up to 110°, the highest on record for June, and a scorching hot wind blew all day. In the evening it became very dusty for several hours. Temperatures of 100° or more prevailed on four days.

Wherever there is any vegetation, the soil moisture has been exhausted in most cases. Oats, which are headed, are turning white rapidly. Spring wheat and barley are drying up without being able to head out fully. Winter wheat has been damaged severely in most cases.

Corn seems to be doing well, where clean, but the sorghums are having a struggle to get started. The corn plots were cultivated during the week. The corn was 6 - 8 inches high. The rye and peas were turned under the first of the week. The rye was thin and not weedy, so there was still some moisture left in the soil. The peas had made a fair growth, and the ground turned up dry and very loose. The June 15 plowing of fallows was also done. Where the weeds had been allowed to grow the soil was very dry, but where the ground had been kept free of weeds it was wet and turned up mellow. All the other fallow plots were surface worked to kill scattering weeds which had started.

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

#### HAYS:

The past week has been one of high temperatures and hot winds. All small grain crops have been drying out rapidly, and to such extent that harvesting of barley plots was commenced today. Oats will be ready for harvest by Monday. Winter wheat is dry enough for binder harvesting. The drought, heat, and winds of the past week have reduced yields materially below estimates of a week ago.

Grasshoppers are reported to be thick in many parts of the State and in some places considerable damage has already been done. Two hundred pounds poison-bran mash was spread around the dry land plots during the week. Thus far, no grasshopper injury has occurred on the station. The county is providing material free to the farmers for making poison-bran mash.

Maximum temperature, 111°; minimum, 56°; precipitation, none.

#### GARDEN CITY:

Field work consisted of replanting the blank places in the row crop plots. The crops are coming along well with possibly the best stands in two years. Sorghum thinning has started.

Soil samples were taken again this week on the differently spaced milo plots; the M.C. milo plots A and B; the M.F. milo plots L and M; the A, B, C, and D plots of the M.C. wheat series; and on the diked plot. The surface soil is becoming rather dry as there has been no rain since June 5, and the last few days have brought hot winds and a little dust.

E. F. Chilcott visited the station this week.

Maximum temperature, 108°; minimum, 60°; precipitation, none.

#### TUCUMCARI:

Cloudless days, periods of high wind movement, and high mean temperatures have depleted the soil of moisture very rapidly the past week. Emergence of crops was prompt and as a rule good stands resulted, but rain will soon be badly needed. Trees and ranges are already showing the effects of the heat and drying wind.

Late planting of corn, forage sorghums, and broomcorn was made. Considerable acreage of both rowed and drilled increase land was planted. Much of the time was devoted to mowing weeds and to cultivating and hoeing the forestry plantings.

Precipitation of 3.40 inches since January 1 is approximately one half of normal for this period. Over the past 30 months precipitation has likewise been about 50 percent normal.

Maximum temperature, 101°; minimum, 62°.

DALHART:

This week saw the completion of all experimental plantings. It is rather believed that there is sufficient moisture for ample stands except for the last seeding of gramagrass, sweetclover, and crested wheatgrass which was made today. Until today emergence has been secured during the past 10 days within 4 days after planting and full emergence on the 5th day. Farmers report that many have ceased planting because of the dry surface soil. There still remains a rather large acreage to plant. Some acreage would probably not have been planted had conditions remained favorable for planting. A few farmers are going ahead with planting even though there is not moisture for germination; their excuse is that they desire to kill the present crop of weeds.

The thinning operation was started yesterday. Apparently there is going to be ample stands for the sorghums.

D. A. Savage and party of eleven are charting native grass recovery and also natural revegetation in this vicinity. Native grasses and weeds are showing pronounced wilting during the middle of the day. So far sorghums and corn are showing no tendency to wilt.

Maximum temperature, 102°; minimum, 61°; precipitation, none.

BIG SPRING: (Report for the two weeks ending June 20, 1936.)

Weather conditions for the past two weeks have been warm and for the most part dry and most crops have made rapid growth. In many instances the soil dried out in the subsoil furrow before the seed had time to germinate and good stands were not obtained. June 1 planting of sorghums and cotton has emerged to good stands, and the June 15 date is emerging. All planting including June 15 date and increase fields was completed this week, and for the most part emergence is fairly good at this writing.

Knifing and cultivating occupied the greater part of the time. Some thinning was done in the May 15 date of sorghums and cotton. Thinning of sorghums and cotton in the rotations will be started during the coming week.

J. M. Jones and Geo. Barnes of the Texas Experiment Station, spent several days here during the past week assisting in closing out the cattle feeding experiments for the year.

Dr. Howe, Chief of the Division of Animal Nutrition, Bureau of Animal Industry, also visited the station during the week.

Maximum temperature, 99°; minimum, 65°; precipitation, 0.35 inch.

LAWTON:

Row crops were forced to draw heavily on subsurface moisture during the past 9 days of high temperatures. Maximum temperatures of 97° to 108° from the 15th to the 22nd made an 8 day average of 99.9°. Wind movement during this period was extremely low, and the parching temperatures were injurious to both animal and plant life. A dust storm from the north and a shower of 0.17 inch on the evening of the 22nd, following a maximum temperature of 108° brought a sharp reduction in temperature, and a brisk north wind continues on the 23rd as this is being written.

Station plots of corn have been silking and tasseling under the unfavorable weather. Although sorghum crops have rolled extensively the past few days, they are still in good condition.



Chinch bug infestations on station sorghum crops are becoming generally heavy, especially so where such crops are near small-grain fields. In the chinch bug resistance project an intense infestation exists and sharp, vivid contrasts are developing rapidly.

Cotton chopping was completed on the 17th, and the crop has grown rapidly during the period of hot weather.

Combines are rapidly completing small grain harvest throughout the county. Local complaint of grasshopper injury continues comparatively light and infestations appear to be well localized. However, about 35 counties within the State are combatting such injury with control measures.

#### WOODWARD:

The sky has been cloudless throughout the week and temperatures have been high. On three days they were over 100° and the maximum on the 18th was 105°. Wheat was for the most part so near maturity that it was not injured by the high temperatures or the lack of precipitation.

All row crops on the station and on farms generally are up to a good stand.

The most outstanding ornamental at present is the hybrid trumpet creeper - which is a cross between the American and Chinese creepers. The flowers are red and three times as wide as those commonly seen. The blossoms of the balloonflower are larger than usual and are produced in greater abundance. There are several fine displays of asters, and lavender is just coming into bloom to remain so throughout the summer. The ever-blooming honeysuckle is just beginning its third vigorous blooming period.

Station work for the week consisted of harvesting alfalfa, wheat and rye; planting sorghums; taking soil samples; sprouting grapes; and digging water line ditch.

Maximum temperature, 105°; minimum, 64°; precipitation, none.





**WEEKLY STATION REPORTS**

**OF THE DIVISION OF**

**DRY LAND AGRICULTURE**

**BUREAU OF PLANT INDUSTRY**

**U. S. DEPARTMENT OF AGRICULTURE**

JUN 27 1936



REPORT FOR THE WEEK ENDING JUNE 27, 1936.

HAVRE:

There was practically no precipitation during the week, and rather high temperatures prevailed, the average maximum for seven days being 91°.

The first cutting of alfalfa, approximating 110 tons, is in the stack. Unless heavy rains occur the second crop will be light, owing to failure of the water supply in Beaver Creek. The main irrigation ditch is now completely dry.

Flowless fallow received a first cultivation, and hoeing of corn is in progress. Continued dry weather will shorten the fruiting period of cereals, and an early harvest is in prospect.

Station visitors included Frank M. Harrington and V. C. Iverson of the Department of Horticulture, Montana State College; R. O. Whyte of the Plant Breeding Station, Aberystwyth, Wales; and S. L. Sloan of the Soil Conservation Service, Great Falls.

Maximum temperature, 101°; minimum, 51°; precipitation, 0.01 inch.

JUDITH BASIN:

The weather continued dry and hot throughout the greater part of the week. A shower of 0.23 inch on the 25th gave only a few hours relief from the drought. So far in June the Station has only recorded 1.74 inches of precipitation. The normal rainfall for the month is 2.94 inches. This lack of moisture, together with high temperatures and strong winds, has reduced the prospects of all small grains to a figure far below average. Spring grains seeded on spring or fall plowed land cropped continuously are a failure at this writing, but those seeded on fallow, green manure, and corn land may still produce a small yield. Spring wheat headed during the recent hot weather and many white caps are evident. Corn has made good growth but is in need of moisture. Russian thistles are very numerous and have made very rapid growth during the recent dry weather.

The bulk of the fallow on the station was worked with the duckfoot, rye and alfalfa in the general fields were cut, and hay yields of alfalfa and crested wheatgrass were taken on the forage plots.

Maximum temperature, 94°; minimum, 49°; precipitation, 0.24 inch.

HUNTLEY:

Hot weather has continued throughout the week, and although two light showers were received they brought little relief from the high temperatures or drought. Corn is growing well and as yet has shown no sign of needing moisture, but grains are burning badly and unless good rains come soon the heads cannot fill. Except where grasshoppers have destroyed the seed stalks most of the grain plots still have a chance to produce a crop should rains occur in the near future.

Grasshoppers in great numbers continue to move in from the surrounding range lands and settle upon the station plots. Poisoning operations have been continued during the week, and although heavy kills have been made damage to crops has increased over that of a week ago.

Field work has consisted of roguing plots, cultivating row crops, fencing pastures, and weighing pigs on pasture. The spring pigs were moved from the acre rye pasture to the acre of field peas in the annual-crop pasture experiments.

Maximum temperature, 103°; minimum, 55°; precipitation, 0.20 inch.

CHERIDAN:

The past week was only a continuation of the same conditions as reported over the past few weeks, excepting for higher temperatures than before and a greater increase in the grasshopper population. Heavy kills from poisoning were obtained on parts of the station, but over most places they are thicker than at any time previous. Crops remaining continued to deteriorate, excepting sorgo and Sudan grass. Where these crops were not kept eaten to the ground by grasshoppers and killed out they made a rapid growth.

Maximum temperature, 103°; minimum, 55°; precipitation, trace.

MANDAN:

Agronomy - Another week of continued drought, accompanied by extreme heat and hot wind. Grain on fallow is starting to burn in spots. What little corn came up has been curling badly the past few days. Grasshoppers are becoming thick and are doing a good deal of damage. The first real hot day was the 24th, when the temperature went to 106° with a very hot wind all afternoon and evening.

Maximum temperature, 106°; minimum, 54°; precipitation, 0.28 inch.

Cooperative Grazing Experiment - The cattle appear to be doing well on the dry pastures. Sweetclover is still furnishing green feed and is in good condition for grazing.

Horticulture - The drought continues without abatement. A fair crop of raspberries set, but the berries and canes are drying up. Red spiders are beginning to get bad, as is generally the case during long dry periods. The fields have been hoed for the second time, and dead trees and brush are being removed. Softwood cuttings are now being made.

Vegetables are deteriorating steadily. There were prospects of a small crop of cabbage, sweetcorn, potatoes, and tomatoes, but these are now almost gone. Copious watering keeps lawns and shrubbery about the buildings alive. Bedding plants are beginning to show some bloom, and along with gypsophila and umbellatum lilies the landscape is fairly cheerful as yet.

Visitors for the week included - C. R. Enlow, Washington, D. C., and Otto Brown, Alabama, Soil Conservation Nurseries. E. A. Cole and E. R. Steen, Soil Conservation Service. Prof. Harding National Resources Board, Univ. of Calif. 6/22 - County Agents and group of farmers from Mercer County. 6/23 - County Agents and group of farmers from Oliver and Bowman Counties. 6/24 - 4H Clubs. 80 girls and boys. 6/25 - County Agents and group of farmers from Morton and Burleigh Counties. 6/26 - County Agent and group of farmers from Grant County. About 250 farmers visited the station in the above groups.

E. J. George is inspecting shelter belts.

BELLE FOURCHE:

The greater part of the week was exceptionally hot. The temperature rose above 100° on 3 days and attained a maximum of 106° on June 24. This was third to the highest of record for June; and the minimum temperature, 74°, on June 24 was the highest minimum of record for June. The drought continued unbroken, except for a negligible shower on June 27. Although the rain was too light to be of material value to plant growth, the 0.34 inch precipitation received was 0.04 inch greater than the total amount recorded during the previous 8 weeks.

Small grain on fallow withstood the hot weather remarkably well and will produce some grain if rain is received within the next week. Corn made a fair growth, but the leaves curled badly on hot days. Grasshoppers have migrated in from the dry range lands in considerable numbers, but have not become sufficiently numerous on the irrigation project to cause serious damage to crops.

Maximum temperature, 106°; minimum, 47°; precipitation, 0.35 inch.

ARCHER:

During the week ending June 27 the weather was warm and dry. No local showers of any importance occurred. Crops that showed the first signs of burning a week ago are now beyond recovery, and others will soon be in the same condition unless bounteous rains occur very soon. The severity of the drought is affecting the oats, barley, and wheat in the order named. Crops are surviving best on fallow and row crop land. Crops on stubble land, regardless of the tillage, are beyond recovery. The prairies present a gray-green appearance. The crested wheatgrass pasture is still green. Trees are still in good condition.

The cultivation of the rotation corn and potato plots was completed as was also the cultivation of the dairy-field corn. The trees were duckfooted, and those which were transplanted are being hoed and watered. The winter rye hay was stacked. The yield was slightly more than a ton per acre. If the drought continues it will become necessary to cut the spring wheat and barley, which were seeded for hay, before the proper growth has taken place. Millet and Sudan grass were seeded during the past week. These crops will not germinate until rain occurs.

Howard L. Millsap spent the week at the station looking after the Soil Conservation Service grass nursery. Hunter Spence of Chappell, Nebr., with part of his High School agricultural class, visited the station June 25. T. R. Stanton in charge of Oat Investigations, Washington, D. C., was a station visitor June 27.

Maximum temperature, 92°; minimum, 49°; precipitation, 0.07 inch.

NORTH PLATTE:

Hot, dry weather continued this week with temperatures near the 100° mark. No rain has been recorded since the first week of June, and all crops are suffering for lack of moisture. The winter wheat on the summer tilled land is mostly green, but that on the stubble ground in the rotation plots is being harvested. The barley and oats are ripening fast. The barley will be somewhat light and chaffy. Most of the corn has been cultivated twice. The irrigated variety potatoes received the second watering June 25, and the corn varieties under irrigation were watered for the first time June 26.

The annual Crops Day held June 25 was well attended. Approximately 250 people were present, and a great deal of interest was shown in the work being carried on at the new agronomy farm.

J. Allen Clark visited the station this week to inspect the small grain and especially the spring wheat.

E. A. Burnett, the University of Nebraska, visited the station. Maximum temperature, 101°; minimum, 56°; precipitation, none.

#### AKRON:

The heat wave was only temporarily broken last week-end, and the week has been oppressively hot with three separate maximum readings of 100° or above. To date there have been 4 such days, whereas the greatest previous number of such days in June was two.

Small grains are ripening rapidly, and it is feared, prematurely. Winter wheat is in hard dough stage of development, and barley and oats promise to be ready to harvest by next week-end.

Late spring seeded crops are making nice progress, though the largest corn, now about knee high, is rolling during the afternoons.

The corn and the sorghums were cultivated for the first time. Other work was hoeing escaped weeds, roguing headed grain, mowing weeds, and scattering grasshopper poison.

Grasshoppers now promise to be a real menace to the corn, sorghum, and millet plots. Kills from the scattered poisoned bran appear to have been quite good, but as yet there appears to be 100 hoppers to every one killed.

T. R. Stanton and J. A. Clark of the Department, visited Wednesday and Thursday, respectively. Martin Reinholt and William D. Blackley of the Resettlement Office at Amarillo, visited Tuesday afternoon. R. P. Yates, State Seed Registration Service, was here Friday afternoon inspecting foundation seed plantings of small grains.

Maximum temperature, 101°; minimum, 52°; precipitation, 0.04 inch.

#### COLBY:

The weather this week has been a continuation of last week's drought and heat, but somewhat less intense. It has been somewhat cooler and not so windy when the temperatures were the highest. The temperatures have been above 100° on four days, and the minimum temperatures have dropped into the 50's on three days.

The spring small grains at the station have continued to dry up. The oats being headed appear to have suffered somewhat less than the spring wheat and barley which failed to head fully. Corn is growing rapidly and appears promising. The sorghums are also making fair growth, but are not well rooted yet, due to the heat and the thorough drying out of the surface soil.

Winter wheat harvest has begun in parts of this county. The wheat is ripening about two weeks earlier than would have been the case if normal weather had prevailed. The moisture is exhausted in nearly all fields, and the straw in most cases is brittle, even though in many cases it is of a greenish color. The grain appears to be going through a drying out and shriveling process.

Insects are numerous, especially grasshoppers. They have been working in the small grain fields but are now moving to the corn fields, in many of which considerable damage is being done.

Maximum temperature, 107°; minimum, 52°; precipitation, none.



HAYS:

One more week of drought and heat has been added to the record. Small grains dried up rapidly. All oat plots and the few plots of winter wheat to be harvested with a binder were harvested Monday. Most of the wheat is now dry enough for the combine, except for a few green heads along the margin of the plots. The combine was started on plots yesterday afternoon, and will continue today after a late start this morning due to a light sprinkle of rain during the night. Weather being favorable the harvest will start in full swing Monday morning and will be rushed to the finish. If result of the few plots harvested yesterday is a correct indicator, the drought and heat-stricken wheat will turn out better yields than was expected after the past two weeks high temperatures. Some 20-bushel yields were secured from plots which were thought to be among the average yielding plots. Maximum yields further east and south in the State are reported to run as high as 40 to 50 bushels.

Corn on the project is about 8 inches high and generally looking good. Sorghums are not so good. The ground was planted slightly wet, since when there has not been a drop of rain until last night. As a result, the ground dried out rapidly and hard around the seed, and some of the plants have died before getting well started. It has become necessary to replant kafir plots in Rotations 501 to 510; kafir CC. Plot-F; and milo on C.C. Plots-F and G.

Thinning of sorghum row crops is about finished except for the plots replanted.

Maximum temperature, 112°; minimum, 51°; precipitation, 0.11 inch.

GARDEN CITY:

Field work this week consisted of finishing the thinning of the row crops and mowing and hoeing weeds around the project. The first rain since June 5 was 0.10 inch on the 27th. The crops are needing moisture, and some are showing the effects of the lack of it.

A trip was made to Hays during the week, going by way of Jetmore and La Crosse, and returning by way of Wakeeney, Ransom, and Scott City. The best wheat we saw was at the Hays Station and that was on fallow. Fair wheat was noticed east of Jetmore, but it had been damaged some by the hot, dry weather. The heads near Wakeeney were only partially filled and most of the grain shriveled. The header was being used mostly in that section with now and then the binder and combine.

A group of agricultural students from Ames, Iowa, are here today, June 27, and will leave sometime tomorrow. We are showing them the station and the surrounding country today, and tomorrow we will show them some of the country south of here.

Maximum temperature, 107°; minimum, 57°; precipitation, 0.10 inch.

TUCUMCARI:

A slow rain totaling 0.98 inch the night of June 23 was of great benefit to young row crops and ranges and brought the total for the year to date to 4.38 inches. Good growing weather the past week has resulted in rapid growth of all crops. The second planting of grain sorghum variety plots and nursery rows and the third date of cowpeas and of forage sorghums were made this week. Planting will be completed with a late date of broomcorn plots and cowpea and bean variety plots, about July 1, with considerable drilled sorgo in increase land also to be seeded.

Visitors of the week included D. A. Savage and J. E. Smith, Jr., and party plotting vegetative stands on abandoned crop land and native sod; and representatives of the Resettlement Administration and Soil Conservation Service.

Maximum temperature, 99°; minimum, 62°; precipitation, 0.98 inch.

#### DALHART:

The week has remained favorable for field work. Fields, planted previous to the hard rain the first of the month, have been cultivated. Thinning of row plots to comparable stands has progressed normally so that about another week of this work remains. Plants are just slightly small for thinning. Border plots and plots which caught a thin layer of soil were hoed to kill weeds.

The weather has remained warm and dry. Plants are drying appreciably during the middle of the day but recovery of row plots is good. Pasture grasses and weeds are badly dried. Farmers report rather unfavorable conditions as regards stands and possible crop prospects. As this is written, late Saturday evening, a local shower is falling which will apparently be of sufficient amount to revive clean row crops.

Visitors during the week has included D. A. Savage and field party; D. L. Jones, Supt. of the Lubbock, Tex., station; some representatives of the Resettlement Administration who were studying farmstead plantings; and a representative of the Federal Land Bank of Houston who was interested in the rehabilitation of blown soil.

Maximum temperature, 102°; minimum, 59°; precipitation, 0.02 inch.

#### BIG SPRING:

Although temperatures have not been unusually high, the hottest weather of the season has prevailed during the past week. There has not been enough wind to keep the windmills running, and as a result many stockmen are tying gas engines to their pumps in order to keep a sufficient supply of stock water on hand.

Crops in general throughout this section are looking good and are making a rapid growth. However, they are going to require more rain before long as the surface soil is getting rather dry. Rainfall for June so far is only 0.43 inch as compared with a normal of 2.17 inches for this month.

Thinning of the sorghums and cotton has been in full swing during the entire week. With the exception of the late dates of planting, practically all plots will have been thinned this week. Other work has consisted of knifing increase fields and cultivating plots.

Maximum temperature, 104°; minimum, 65°; precipitation, none.

#### WOODWARD:

Combining of wheat in this section has progressed rapidly over the past week, and harvesting on the station was finished. Three days when the maximum temperature was less than 100° gave needed relief from the heat. There has been no precipitation since June 5, and row crops, especially on sandy soil, are beginning to suffer for moisture. In addition to drought grasshoppers are in some sections a scourge on row crops, especially cotton, which they have in many neighborhoods completely destroyed. On the station there is some

slight evidence of borers at work on elms, and it is feared that if drought continues a general attack on many trees will occur as it did last season. Those within reach of water lines will be watered, though with large trees this is expensive.

The Chinese trumpet creeper is now a flaming show, there being a dozen of them in full bloom. The delicacy of shading in the flowers make them more valuable than the native or hybrid sorts. They are likely not hardy much further north than Woodward. Mallows at present give a holiday display of bloom during the morning.

Harvesting wheat and digging water line ditch has comprised the week's work except for station routine activities.

Maximum temperature, 106°; minimum, 60°; precipitation, none.

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NOTES:

Fay A. Wagner, Superintendent of the Garden City Branch Station, was given an appointment as Agent, effective June 1. Howard J. Haas, who graduated this year from the Kansas State College of Agriculture and Applied Science, was appointed Agent effective May 27 to assist in the work of the station.

O. R. Mathews, who has been transferred from the field to the Washington office, arrived in Washington with his family June 16.

C. E. Leighty left Washington June 29 for an extended field trip starting at Mandan.

