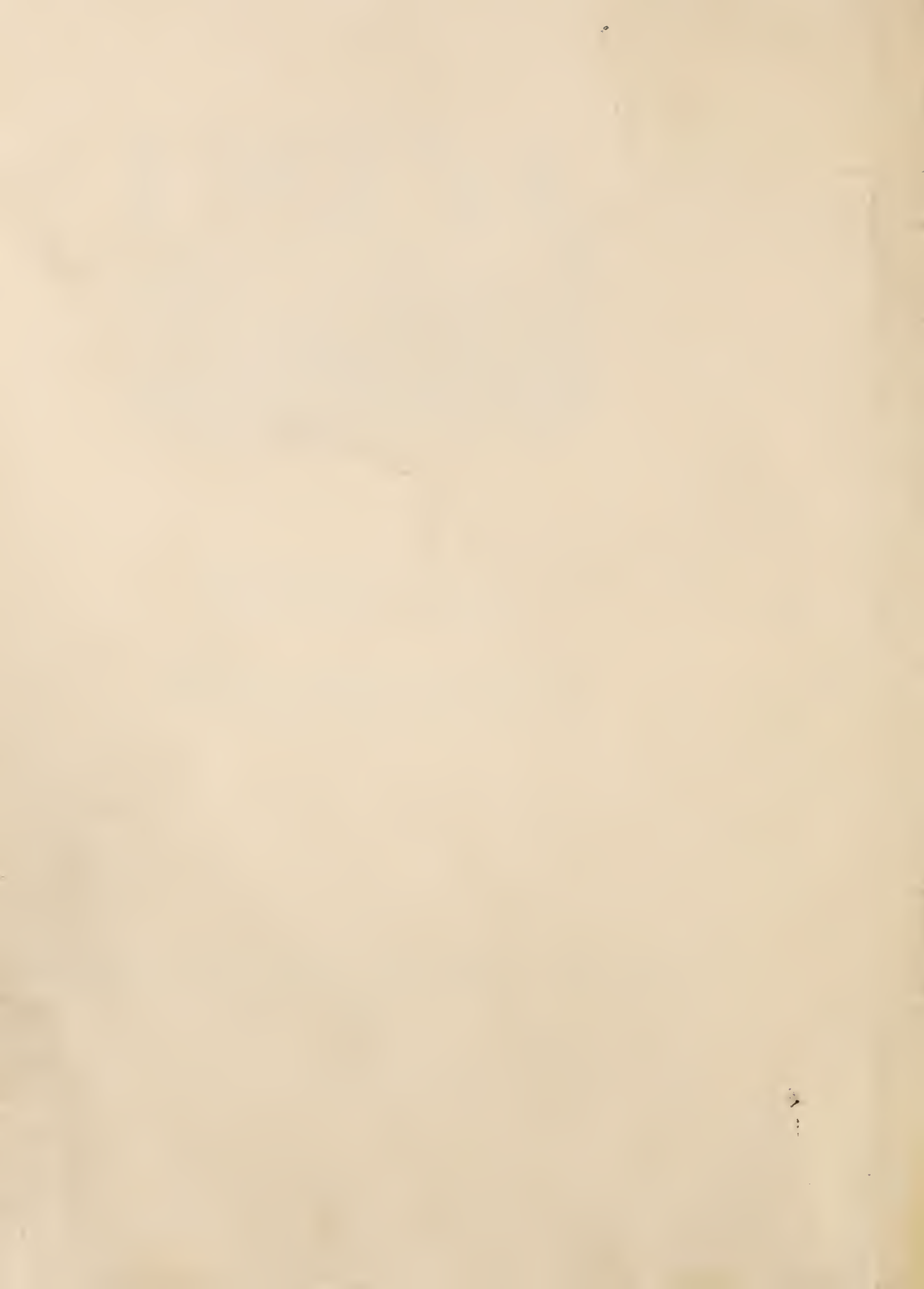
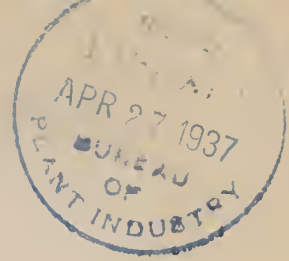


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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

MAR -- 1937

REPORT FOR THE MONTH OF MARCH, 1937.

HAVRE:

Precipitation totaling 0.28 inch was received in March, or about 50 percent of the average. Snowfall totaled 3.0 inches, a deficiency of 2.3 inches. The mean temperature of 29.2° was nearly normal. A maximum of 52° occurred on the 9th; and a minimum of 3° on the 25th. Wind velocities were slightly above the average, however, no severe storms occurred.

Relatively warm weather prevailed during the first two weeks of the month, rapidly drying cultivated land, with the result that several half days were spent in the experimental field working down rough fall plowing and summer fallow, which had remained in an extremely cloddy condition during the entire summer of 1936. Freezing weather and intermittent light snowfall beginning March 19 prevented the resumption of field work, with the exception of hauling manure and burning weeds on several occasions when the ground was frozen in the forenoon. An early spring planting of crested wheatgrass was made on March 16.

Calving began on March 22, with weather conditions none to favorable, however no losses have occurred thus far. Beaver Creek, which usually supplies a large part of the stock water for this station has remained dry over a record breaking period of time. The stream ceased to flow late in May 1936 and did not resume until March 6 of this year.

The W.P.A. work crew salvaged considerable lumber and material from an old cavalry barn, which will be used in the construction of a machine shed.

Maximum temperature, 52°; minimum, 3°; precipitation, 0.28 inches.

JUDITH BASIN:

Mean temperature for the month of March was normal. The average minimum temperature was 21°, and the average maximum temperature was 36°.

Precipitation in the form of snow was recorded for 13 days during the month, but the total amount of 0.47 inch is below the normal. With very little wind and only a small amount of drifting, almost the maximum benefit will be received from this moisture.

Winter wheat has not advanced enough to determine stands. Crested wheatgrass shows only a small start.

Maximum temperature, 55°; minimum, 2°; precipitation, 0.47 inch.

HUNTLEY:

Weather conditions throughout March were generally mild. Temperatures and wind velocity were about average, and precipitation was below average. The highest temperatures of the month occurred during the first 10 days, and during that period the snow cover carried over from February was melted and the frost left the ground. At no time during the month was the wind velocity high enough to cause soil blowing locally, and none was reported from neighboring districts where some soil movement usually takes place at this season.

Although precipitation for the month was below the average, the ground was too wet most of the time to permit field work. Much of the moisture was received in light snows which melted slowly. The only rain of consequence occurred during the night of March 30, when an all-night drizzle was received.

Field inspection of old plantings of alfalfa and crested wheatgrass indicate that the winter survival has been very good. Crested wheatgrass started vigorous growth about March 15, whereas alfalfa is getting nicely started at this date (April 1).

Winter wheat and rye have as yet made little spring growth, except in depressions where moisture has gathered. The plantings as a whole show rather thin stands at present, but some seed which did not sprout last fall appears to be alive and may improve stands later.

Fall-sown crested wheatgrass is well germinated and should soon be up. Because of continued wet surface no spring seeding of grass has yet been done. Grass plantings made in the fall of 1935 and the spring of 1936 seemingly were entirely destroyed by grasshoppers last year, as no surviving plants have yet been found.

Maximum temperature, 67°; minimum, 2°; precipitation, 0.55 inch.

SHERIDAN:

Precipitation for the month just equalled the highest previously recorded for March, in 1929. The mean temperature of 28° was about 3° below the station average. Wind movement was well below the average also, although there were a few days of high wind.

The first 18 days of the month were just mild enough for the snow on the ground at the beginning of the month and what little fell during that period to about completely disappear, except for remnants of some drifts. There was very little run-off from melting snow on fairly level land, and on some plowed fields there appeared to be none at all. There was a little washing in the rotation field from water coming from roadways and alleys, but very little apparently from the snow melting on the plots themselves.

Rain and snow totaling 0.86 inch precipitation, fell on the night of the 18th and the morning of the 19th, followed by colder weather for the remainder of the month, with two storms with a measurable amount of precipitation, the last being a heavy wet snow falling on the night of the 30th and the morning of the 31st, 0.75 inch of water. The month ended with about 5 inches of snow on the ground.

Moisture apparently penetrated the soil very slowly. No drying of the surface took place at all previous to the storm of the 19th. Consequently no field work was possible at any time during the month, except for a broadcast seeding of sweetclover in the rotations and methods of seeding test while the ground was frozen on the 11th. A soil sample made yesterday showed moisture to a depth of about 18 inches on stubble.

Some winter wheat began to green up a little by the middle of the month. In some places, however, it apparently is dead. Winter rye appears to be in good condition. Examination of crested wheatgrass sown October 29 showed healthy sprouts on practically all seed found.

Lambing began on the 19th, and pigs were farrowed the same week.

Maximum temperature, 53°; minimum, -12°; precipitation, 2.68 inches, (4.19 inches precipitation for year to date).

DICKINSON:

Mild pleasant weather prevailed during the first week in March, and nearly all snow except the larger drifts melted. Colder weather during the latter part of the month resulted in a normal mean temperature. Precipitation of 0.61 inch was slightly below normal. Most of this came on the 23rd and was accompanied by a strong wind, so that the snow drifted badly. By the end of the month the fields were bare except for occasional drifts. Most of the soil now contains enough moisture for preparation of a good seed bed and germination of the crop. Only a few days of mild fair weather will be sufficient to permit field work to start, unless more snow falls.

Livestock are generally thin and in poor condition due to lack of feed. Loss of horses has been heavier than usual during the winter. One hide and junk dealer in Dickinson, whose trucks cover four or five counties, states he has bought over 4,000 horse hides during the winter.

Funds for the operation and maintenance of this station by the State of North Dakota will be the same as during the past biennium. An increase of \$4,600 appropriated by the Legislature was vetoed by the Governor. An item which provides an additional 160 acres of land for the Station was approved.

Maximum temperature, 62°; minimum, -11°; precipitation, 0.61 inch.

MANFAN:

The mean temperature for the month of March was about 4° above normal. There was no below zero temperature during the month. The highest temperatures were during the first week of the month.

No field work was attempted. It was planned to do some grass seeding on the 24th, but it was delayed by 2 inches of snow. Snow fell on the 17th, 24th, and 31st, amounting to 3.75 inches.

The surface soil is in good condition for field operations as soon as the weather will permit. The weather has been cloudy and cold for the past few days, and the soil has been slow in drying from the recent snow.

Maximum temperature, 67°; minimum, 2°; precipitation, 0.48 inch.

ARCHER:

During the first half of March the weather was drier and warmer than during the last half. The total precipitation was 0.97 inch, all of which occurred since March 13. Since March 13 the prairies have been covered with snow a considerable portion of the time. This condition necessitated considerable extra feeding. The feed supply is very low at the present time. The snow was quite evenly distributed over the surface of the land and but little drifting occurred, therefore, early warm weather is hoped for in order to produce the needed early spring grazing. In places where the ground was moist crested wheatgrass had started to grow March 15.

Due to the above conditions no field work was possible. However, the frozen ground permitted the hauling of manure. Before the storm considerable winter wheat acreage was in a rather poor condition. That seeded on fallow was covered with a light layer of soil. This crop is now being watched to see how it responds to the moisture and the freezing and the thawing of the soil.

The moisture greatly improved the seasonal crop outlook, and it is quite possible that more extensive plantings will be made this year than during recent years.

Maximum temperature, 64°; minimum, 2°; precipitation, 0.97 inch.

NORTH PLATTE:

The first two weeks of the month were mild and clear, and no precipitation was recorded. The last two weeks, except for the last two days of the month were cloudy, foggy, and cold. On the 19th, 0.81 inch of water fell in the form of rain and snow. The precipitation was so distributed that none was lost by run-off. The accumulated precipitation since January 1 was 2.01 inches or 0.21 inch above normal. There were a few days of high winds, but the average wind velocity for the month was below normal. No severe dust storms have occurred during the month.

Spring wheat was seeded into the D. L. A. plots the first part of the month. Inclement weather conditions during the last two weeks of the month hindered field work. A few fallow plots have been reseeded to spring wheat, and there is a possibility that all winter wheat plots will have to be reseeded. Nearly all wheat plants which emerged last fall were killed by drought. Much of the seed sprouted in the fall and is just emerging. A few warm days will be necessary to determine whether or not reseeding will be advisable. The spring wheat variety plots were seeded the 30th, and the oats barley and field peas were seeded into the D. L. A. plots April 1.

Maximum temperature, 60°; minimum, 8°; precipitation, 1.09 inches.

AKRON:

Snowfall during the month was light and soon melted. The only rainfall was the slight amount that preceded the snowstorm on the 19th which amounted to 0.51 inch. The fore part of the month was open and favorable, but the ground remained frozen sufficiently to prevent plowing. Many farmers seeding on row crop land were busy during this period, and it is estimated that one-third to one-half the spring grain is in the ground. A start was made at spring plowing on the 18th, although the frost was not yet out of the ground. This work would have been continued, however, but inclement weather set in which has kept teams from the field to the present time. Had it not been for the spring plowing, doubtless the rotation plots could have been seeded by this time.

Winter wheat started active growth about March 6. Survival appears to be good on all preparations.

D. W. Robertson and T. G. Stewart of the State College staff called during the month.

Maximum temperature, 64°; minimum, 8°; precipitation, 0.82 inch.

COLBY:

March was mostly unsettled, rather cold, and comparatively wet. The first half of the month was warm and pleasant. A gentle rain of over two-thirds of an inch put the soil in ideal condition for seeding and for winter wheat to start growth. The last half of the month was rainy, snowy, and blustery almost continually. The heaviest precipitation during the last half was nearly half an inch in the form of rain and snow on the 24th, but it was accompanied by such a high wind that it turned into a bad blizzard which piled the snow into long drifts to the southeast of buildings, trees, fences and other obstructions. On seven days there was more or less soil blowing which did considerable damage to winter wheat.

The winter wheat is generally in fairly good condition over the country, but none of it has made sufficient growth to protect itself against soil blowing. Probably not over a fourth of the wheat has been seriously damaged by blowing so far, but about twice a week we have a dust storm which increases the damage. The wheat at the station and in this immediate vicinity shows a rather thin stand generally. The wheat made only scant growth in the fall, and during the winter most of it became covered by the dry, loose surface soil sifting into the drill furrows. Much of this was unable to come through this covering this spring. The stubbled in plots appear to be in much better condition than those which were bare.

The spring small grains were seeded on the 12th. The ground was amply moist, and the weather was warm. The next day it turned cold, however, and has been that way practically ever since. The seed is sprouting and should come up as soon as we have a few warm days. About half of the barley in this county has been seeded.

Maximum temperature, 67°; minimum, 3°; precipitation, 1.47 inches, snow, 8.8 inches; precipitation, January - March, 1.97 inches.

HAYS:

The weather was generally mild throughout the month. Although the mean temperature was slightly below normal there were no extremely low temperatures. During the month there were a few windy days but only one extremely heavy wind, which occurred on the 24th. There was less soil movement, however, on the 24th than on some days when the wind velocity was not so high. There were four dusty days, the worst being the 23rd when visibility was reduced to about the distance of a city block most of the afternoon. The wind velocity on that date, however, was not extremely high in this vicinity. The air was laden with dust that had been stirred up in some locality south of Hays.

Winter wheat of which the top growth had been killed by low February temperatures started new growth the first week in March and continued making a slow but satisfactory growth throughout the month. The earliest seeded fields have furnished considerable pasture. The leaves on the unpastured wheat measure from 2 to 6 inches long. There is sufficient moisture in the surface soil to carry the wheat for some time, possibly through the month of April without much rain. However, the subsoil condition remains about the same as has been reported in previous months.

Wheat drilled with the Peacock drill (which makes furrows 20 inches apart and places the seed on the slope of the ridge in rows 3 inches from the bottom of the furrow), presents an interesting picture at this time. Where the rows are drilled east and west, the wheat on the south slope of the ridge is much more thrifty than that seeded on the north slope of the ridge. The stand is thicker and the growth is twice as heavy on the south slope as it is on the north slope. The leaves average 5 inches long on the south slope and $2\frac{1}{2}$ inches on the north slope. Where the rows are drilled north and south, the wheat on the east slope of the ridge is heavier than it is on the west slope. The difference, however, is not nearly so great as it is where the rows are drilled north and south.

The spring small grains are sprouted, but have not emerged. Alfalfa on bottom land is making a nice growth. On upland it is only started. Pastures are getting green, but the growth consists of little barley and other weeds.

Maximum temperature, 73°; minimum, 6°; precipitation, 0.43 inch.

GARDEN CITY:

During March, a little below normal moisture was received, the amount being 0.33 inch while the normal is 0.78. Considerable of this came in snows of less than 0.10 inch, and thus the only benefit received was by preventing dust storms for a day or two. One snow storm brought 0.37 inch, but this was accompanied by high winds and thus drifted badly, leaving the smooth plots nearly bare, while others caught considerable.

Eleven days out of the month were dusty, but little damage was done to the wheat until the 23rd and 24th. Heavy particles swept across the plots, cutting off the wheat plants, even though the plots have a lister furrow through them and some are cultivated besides. Although the wheat has been damaged considerably, it will pull through if conditions are favorable.

Field work consisted of cultivating plots for prevention of soil blowing and working down plots for spring small grains. Several grasses are to be seeded this spring on plots for observational purposes. They will probably be western wheat, blue grama, buffalo grass, crested wheat, sand drop seed, alkali sacaton and bromegrass. Soil samples were taken on M.C. wheat A, B, C and D. What moisture there was, was down 1 foot on the plots that had been cropped last year and 2 feet on that which is on fallow, but the percentage was low.

Chinese elms (*Ulmus parvifolia*) were planted on the west side of the project and will be irrigated. Snow fencing was put up on the north and west side of the project to help prevent damage due to soil blowing.

Visitors at the station were E. F. Chilcott and C. O. Grandfield, agent in forage crops from Manhattan.

Maximum temperature, 72°; minimum, 6°; precipitation, 0.63 inch.

TUCUMCARI:

The first half of March was unusually calm, but a 10-day period extremely high in wind movement followed. The month ended with little wind. On March 18th and again on the 23rd the average velocity over the 24-hour period was 24.2 miles per hour. This has been exceeded only some five times since records were begun here. Over a 10-day period the average hourly velocity was 14.0 miles per hour, and over a 3-day period the average was 18.5 miles per hour. Much soil blowing occurred over this locality; station fields held fairly well, but some movement took place.

A wet snow containing 1.03 inches precipitation occurred March 5, and listing has been progressing rapidly the past 10 days. Surface moisture has not been so favorable in March for several years. Most fields will soon be in condition to withstand high winds without damage. Wheat that was not severely injured prior to March has recovered, made considerable growth, and is more promising than at this period since 1931.

An unusually cold period the last week of the month brought the mean temperature for the month to some 5° below the long time mean. Apparently many peach and hybrid cherry blooms and buds escaped damage. Apples have not been injured, but frost may be expected to at least April 20.

During the month the orchard and vineyard were pruned and sprayed, trees and shrubs set out, grass seedings made on drilled sorgo stubble, and some 60 acres of land listed. Darning attachments for use behind the lister were purchased, and a rather heavy rain to test their efficiency is now being hopefully awaited.

Maximum temperature, 76°; minimum, 19°; precipitation, 1.23 inches.

DAIHART:

The month was characterized by a series of windy spells and a few snows and showers. The total precipitation for the month was 0.60 inch, but the rather frequent high winds have taken this moisture from the soil. As during February, the high winds carried large quantities of sand and soil blowing was severe. Damage was largely confined to accumulations rather than to removal. All surrounding farm land is in blow condition, with soil movement whenever the wind blows.

The second highest average wind velocity was recorded for the month. The mean temperature was 2° below normal. There was one day, 24 hours, of the highest wind velocity that has occurred during the present drought.

Precipitation for the past 9 months is 4.14 inches, which is 40 percent of the average for the same period. The precipitation for the past 6 months is 1.21 inches or 32 percent of normal. The soil is dry and loose. With normal wind movement soil blowing will be severe in April again this year.

Maximum temperature, 75°; minimum, 16°; precipitation, 0.60 inch.

BIG SPRING:

Unusually high winds accompanied by considerable soil movement prevailed during the last half of March. These winds started soon after a hard rain, which had left the fields in an ideal condition for blowing. It was necessary to go over the whole station with various implements in order to roughen up the soil, and then soil movement was not controlled entirely. Very little soil movement was observed on the plots after they were roughed up, but the increase fields are still showing some movement.

Temperatures during the last week of March were unusually low. The minimum ranged between 24° and 28° on 6 of the last 7 days of the month. It is probable that all fruits which were in blossom have been killed; this will include all peaches, apricots, and some plums.

Station work during the month consisted chiefly of setting out trees and shrubs, hand threshing and cleaning sorghum seed, and land furrowing:

A group consisting of the County Agent, a County Committeeman, and a prospective Range Inspector from each of 28 counties of this part of the State met at the station March 29 for a three-day school for range examiners, who are to make ranch inspections under the ranch program of the Department. This school was conducted by representatives of the Forest Service and Extension Specialists of the College. Trips to different ranches were made, where the prospective inspectors were given instructions in determining the acre coverage and in classifying the different forage types found in the pastures.

Maximum temperature, 76^o; minimum, 24^o; precipitation, 1.51 inches.

LAWTON: (Report for the two months February and March, 1937.)

Weather conditions during February were moderate and in general favorable to farm operations and the maintenance of livestock on limited supplies of feed. Temperatures were slightly below normal. Dust storms from the southwest and the northwest that produced low visibility were recorded on several dates. The total monthly precipitation of 0.03 inch left small grains in need of additional moisture.

Spring seedings of oats in the variety tests, rate and date tests, rotation plots, and on increase fields were made on excellent seed beds and good stands emerged. The total oats on the station this year amounts to about 35 acres. No winter injury to fall seedings of oats and winter barley is evident. All the small grains made more than normal spring growth in February, where grazing was not practiced.

March was characterized by a wide range of weather conditions that varied from maximum temperatures of 72^o and 75^o on the 22nd and 23rd to freezing temperatures of 19^o to 27^o on the 27th to the 30th, and a 4-inch snow on the 29th. Only once has a heavy snow been previously recorded this late in the season. The snow this year was wet, fell without any wind, some of it melted a little as it fell, and added an estimated half-inch of water to the soil. The total precipitation of 1.75 inches recorded in March was decidedly beneficial to small grains.

Station plots of wheat, oats, and barley presented a rank, vigorous growth at the end of the month, and a well distributed supply of moisture will be required until maturity.

A large acreage of these crops is being grown in southwestern Oklahoma this year, and they have supplied an immense amount of feed, as grazing was continued in many instances until the first of April.

Green bugs have been reported as doing some damage in surrounding counties during the past two weeks. A survey covering 6 counties, made April 1 and 2, indicated that such infestations are rather scattering, in most instances quite light, and very largely confined to fields of volunteer growth. Parasites were found in all infested fields. Injury was usually very sharply localized, and present indications are that crop injury will not be at all extensive.

Growth of spring seedings of oats has been somewhat retarded by the late freezing temperatures in March, but the stands are good and the plants appear vigorous and healthy. Heavy leaf tip injury is present on rank growth of wheat, winter barley, and winter oats, but such injury is considered as negligible.

Seedings of sweetclover and alfalfa made March 12 were emerging to fairly good stands by April 1. Corn planted on the rotation plots March 12 is only well sprouted at the present time.

The March wind velocity was above normal, and high winds as well as dust laden skies with low visibility were recorded on several dates.

WOODWARD:

The month of March was generally moderate in temperature and wind velocity. There were 6 days when the wind averaged over 15 miles per hour, but none when it exceeded 20 miles. There were two short periods when minimum temperatures ranged around 20°. Otherwise, they were all above 30°. There were 10 days when precipitation was recorded, with a total of 1.78 inches. There were 19 days that were cloudy or partially so. Due to the warm weather and precipitation, wheat that was planted moderately early and stood heavily in the fall has made a very rapid leaf growth, and because of lack of other feed has been pastured right up to the present. It has now reached the stage where stock will have to be taken off. Late planted wheat did not root heavily and has still rather slight growth. There is moisture in the soil to a depth of 3 to 6 feet, and a good yield of wheat is confidently hoped for.

Due to the acreage in wheat there has been comparatively little soil movement in this part of the country. On a recent trip it was noted that wheat even as far west as Amarillo had made a rapid growth and had covered the soil so there was practically no danger of blowing. There has been some apprehension of a late harsh freeze that might harm the soft growth of wheat.

Chinese elms bloomed in February, and two periods of low temperatures have killed most of the seed. Peaches are in bloom today and blossoms will likely be killed. Spirea Van houttei is in bud and it is improbable it will come into bloom, as it is very tender.

Station work for the month consisted mainly of planting nursery stock, repairing roads, and cultivating fields to prevent soil blowing.

Maximum temperature, 72°; minimum, 16°; precipitation, 1.78 inches.

PENDLETON:

March was a very favorable month for field work as there were no extremes in temperatures. The lowest temperature for the month was 27°. Rain occurred on 13 days with 0.58 inch the most during any one day. March is normally one of our windiest months, however, this year the wind movement was far below normal, making field work much more pleasant. All the small grains and grasses were sown about the middle of March. Most of the early sown wheat has emerged with good stands. A few farmers near the foothills have been unable to seed their spring wheat on account of wet soil. No peas have been planted in the county as yet, most of the farmers are waiting until the soil gets little warmer, the acreage in peas will be about the same as last year, 26,000 acres.

The acreage sown to winter wheat was less than usual, due to lack of fall rains. Many farmers seeded their fall wheat too deep and a hard crust formed over their fall sown wheat during the winter, which was impossible to break up with a harrow this spring. As a result of this crusting considerable reseeding has been necessary. On the station all the fall sown wheat emerged with good stands.

The new residence under construction is progressing rather slowly, after a two months layoff. The plasterers are at work now finishing their job.

Normally in the spring our fallow land and stubble land have about the same moisture content in the early spring, this year the stubble land was wet down to a depth of only 2 feet on March 15. The fallow land is well supplied with moisture to a depth of 5 feet, moisture content being about 18 to 22 percent. This is somewhat below normal, but a favorable rainfall distribution during the growing season will insure good crops in this area. Land continuously cropped to small grains or peas is not in such good condition due to the lack of subsoil moisture, yields on these lands are entirely dependent on spring rainfall.

Precipitation for March, 1.89 inches; normal precipitation for March, 1.37 inches; precipitation since September 1, 1936, 7.09 inches; normal, 9.32 inches.

N O T E

The attention of the field men of this division is called to the following instructions received from the Department Division of Operation:

"Your attention is directed to paragraph 1834 of the Department regulations which reads in part as follows:

1834. Marking of Vehicles. All motor-propelled vehicles of the Department of Agriculture except motor cycles and railroad speeders, shall at all times be marked, on both sides, in suitable colors and in plain solid block letters.

"Trucks and passenger-carrying cars bearing U.S.D.A. tags have recently been observed without the slightest semblance of identification other than the tags.

"It is evident that the requirements of the above-mentioned paragraph are being disregarded, particularly in the case of passenger-carrying vehicles.

"Arrangements should therefore be made to have all cars in the possession of your Bureau marked in accordance with paragraph 1834."

N O T E

Advice has been received that the Procurement Division is compiling contracts for Government purchases of electric fans, and that it will be mandatory that all electric fan purchases be made under the contracts. Therefore, field men will send all orders for electric fans to the Washington office to be filled. When sending orders to this office the electric voltage and whether direct or alternating current to which the fans will be connected should be furnished.