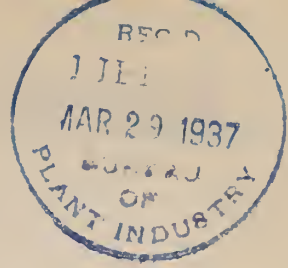


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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

REC - - 1937

REPORT FOR THE MONTH OF FEBRUARY, 1937.

HAVRE:

The characteristics of the present winter have included an unusual snowfall which thus far totals 48.3 inches; a large number of cloudy days with the percentage of sunshine somewhat below normal; frequent strong winds which on at least five occasions caused severe blizzards; and low temperatures uninterrupted by chinook winds which often modify the severity of cold waves in this district.

Temperatures during the early part of February were a continuation of the cold of the previous month. The next two weeks witnessed a return of more moderate weather with some thawing. Subzero temperatures again prevailed near the end of the month. The mean temperature for February was 10.6° , or 5.5° below normal. There were 13 days having temperatures of zero or lower, and 8 days on which maxima were 32° or higher.

In spite of the fact that precipitation occurred on 10 days and skies were overcast much of the time, measured snowfall totaled only 2.3 inches, the precipitation, in terms of melted snow being 0.7 inch. From the 9th to 20th strong winds persisted, the daily average during this period being 14.3 miles per hour. The average wind velocity was 9.5 miles per hour, being the second highest ever recorded for the month. Snowdrifts near buildings, in shelter belts, and along drainage courses reached unusual depths. Country roads in general have remained blocked. The main station entrance has not been used from early in December until the present writing.

Station activities have been principally caring for livestock. The hauling of hay even from station fields, and feeding, watering, weighing, etc., all have presented many difficulties. Roads in and about the premises required daily attention to make them passable. Certain experimental lots of cows receiving rations of Russian thistles and cake had to be shifted over to alfalfa earlier in the month, on account of loss of condition and general weakness of some of the cattle. Several animals were lost, but with the inclusion of alfalfa in the ration these lots now show considerable improvement. It is believed that in a winter less severe than the one just experienced a Russian thistle and cake ration would be utilized more successfully.

Maximum temperature, 41° ; minimum, -25° ; precipitation, 0.07 inch.

JUDITH BASIN:

Below zero temperatures were recorded for 12 days in the month of February, and the average minimum was 4° . The average mean temperature was 17° .

Precipitation in the form of snow was recorded for 10 days, with a total of 0.91 inch, 0.88 inch falling on the 21st and 22nd with a depth of 15 inches of snow. With only slight drifting, and to the extent of thawing at present, this moisture should be of great benefit to the Judith Basin area.

Maximum temperature, 47° ; minimum, -19° ; precipitation, 0.91 inch.

HUNTLEY:

The cold period which began in January extended into the first 10 days of February, all but one of which had minimum readings below zero. Rising temperatures began on the 11th and reached a maximum of 55° on the 16th. The last half of February was again marked by dropping temperatures with sub-zero readings down to -14° the final 4 days of the month.

All snow melted during the warm period. There was no run-off nor was the ground wet at any time, the moisture seemingly having evaporated as the snow melted. Beginning February 21 a snow-storm, which extended over most of 5 days was received. The snow was light, and as there was no wind to drift it, a uniform depth of between 8 and 9 inches covered the ground at the end of the period. The total moisture received, according to the amount of snow caught in the gauge, was but 0.32 inch. At the close of the month the snow was 4 inches deep.

The snow cover will be of great benefit to winter wheat, which, when exposed during the middle of the month, showed the ground to be deeply cracked along the drill rows, subjecting the plants to drying conditions.

Wind velocity on most days of the month was below normal, but high winds of a "chinook" nature on 4 days during the warm period brought the mean for the month up to the 25-year average.

Maximum temperature, 55°; minimum, -33°; precipitation, 0.53 inch.

SHERIDAN:

Temperatures through February were much more moderate than during January, but the mean of 16° was about 7° below the average for the month. Light snows were frequent throughout the month, with one heavy snowfall the 22nd and 23rd. Precipitation for the month was over 3 times the average for February, being the heaviest yet recorded here for the month. Wind movement was slightly above the average for February.

Although the snowfall during the month was greater than usual, the most of it over the first 20 days of the month either was blown into drifts or melted in a short time, leaving much of the ground bare the greater part of the time until the 22nd. The snow of the 22nd and 23rd has not blown at all, and the month ended with from 7 to 10 inches of snow laying fairly level.

Examination of fall seedings about the middle of the month showed winter wheat to be in very poor condition and doubtful of survival, but rye still appeared to be in good condition.

No thawing occurred during the month sufficient to cause any run-off from melting snow. Consequently many ranchers depending upon creeks for stock water are still short of water for stock.

Maximum temperature, 49°; minimum, -28°; precipitation, 1.38 inches.

DICKINSON:

February weather was about average in severity, yet it was in marked contrast to February 1936, which was noted for extreme cold. The mean temperature was 8.4°. This was 5° below normal but 20° above the mean for February 1936.

Snowfall was slightly below normal. There was enough on the ground to drift badly, particularly on February 5, when strong winds following a light snowfall early in the day filled the air with snow and blocked the roads.

Temperature during the last of the month was moderate, and most of the snow melted, except where it was drifted. About half of the soil remains dry where the snow had blown off.

Most of the livestock in the area is in poor condition, due to lack of feed as well as the poor quality of that available. Farmers are interested in used machinery, as more than the usual number will depend on tractors for most of their field work.

Maximum temperature, 48°; minimum, -27°; precipitation, 0.39 inch.

MANDAN:

The cold weather that prevailed during January continued to February 10. After that time the weather was mild. Thawing took place on numerous days during the last half of the month. The mean temperature for the month was slightly below normal.

Snowfall during the month amounted to 6.85 inches and precipitation 0.49 inch. There was several days of strong steady wind. Highways were blocked on several occasions.

Maximum temperature, 42°; minimum, -22°; precipitation, 0.49 inch.

BELLE FOURCIE:

The cold weather, commencing January 4, continued unbroken until February 9. Minimum temperatures were below zero on 35 days during this period, and subzero temperatures were recorded every day from January 11 to February 5, inclusive, exceeding by 5 days the previous record of 21 consecutive days with temperatures below zero. The weather turned warmer on February 10 and remained mild until the last few days in the month, when lower temperatures prevailed. The mean temperature for February was 18°, which is 3° below normal. Precipitation was negligible, and the 3.1 inches of snow received were removed from cultivated fields by strong winds. Wind movement was much greater than usual for February. Strong winds were of almost daily occurrence, but there were no extremely high winds, and practically no soil movement took place.

Moisture has penetrated the ground to a depth of only 4 to 6 inches, and the surface 2 inches of soil on cultivated land has become too dry for the germination of seed. Lack of moisture endangers the continued survival of fall grain, but winter wheat and winter rye are in good condition at present, and are on the verge of coming up.

Drilling of the artesian well on the experiment station has progressed to a depth of 3,800 feet. It is expected that a heavy flow of good water will be obtained from sands in the Minnelusa formation at a depth of 4,100 to 4,400 feet. Natural gas was encountered at a depth of approximately 3,600 feet, just beneath a water sand from which an artesian flow of alkaline water was obtained. The quantity and pressure of gas cannot be determined

until the artesian water is sealed off, but present indications are sufficiently favorable to cause leasing of surrounding acreage for further development.

Maximum temperature, 55°; minimum, -17°; precipitation, 0.30 inch.

ARCHER:

Temperatures during February were more moderate than during January, but the wind velocity was considerably higher. This caused considerable soil blowing in some sections. Slight soil drifting occurred in places at the station.

The winter cereals are covered with a light covering of fine soil. Ridges made by the furrow drill appear firm and probably will withstand further blowing. Winter rye made a slight growth during February. The rabbits, notwithstanding a large number have been killed, have drifted in again and are damaging the winter rye in the dairy field.

The weather during February was favorable for winter grazing, and with normal weather livestock should go through the remainder of the winter in good shape.

Work at the station consisted of repairing and painting machinery, and general routine work.

Maximum temperature, 55°; minimum, -6°; precipitation, 0.04 inch.

NORTH PLATTE:

Five days with temperatures of zero or below were recorded during the first half of the month. Mild weather conditions prevailed during the last half of the month, and the light coating of snow which covered the ground since December has melted. Precipitation for the month was 0.23 inch below normal. Most of the moisture came in the form of snow on February 26. The total precipitation for January and February is normal.

The reports for 1936 have been completed. The winter wheat that emerged last fall has been covered with dust but is still green and alive. If the month of March is mild and warm, some winter wheat may be expected. There have been very few days of soil blowing, but if the spring is below normal in precipitation, serious damage from blowing may result.

Maximum temperature, 58°; minimum, -11°; precipitation, 0.23 inch.

AKRON:

February was a cool month, but not disagreeably or outstandingly so. A minimum of -3° was recorded on the 2nd. A maximum of 62° was recorded on the 17th. Precipitation as snow amounted to but 0.19 inch, well below the established average for the month of 0.43 inch. Wind movement reached high velocities on only about two days, but picked out many winter pastured and trampled corn fields ready to blow. These will doubtless soon be seeded, which should reduce the tendency to blow. Some have reported winter wheat fields seeded on fallow to be dangerously blowing. Such light soil should be strip fallowed and cropped. In some other cases blowing has been started by soil blowing across from less well anchored soils. This indicates the community nature of the soil blowing problem. The sky was dingy on several other days from blown-in dust when there was no local blowing. The snow covering of the past two months melted during the

last few days. Winter wheat inspected March 1 does not look too happy. It is not expected, however, that there will be killing sufficient to affect plot stands.

Maximum temperature, 62°; minimum, -3°; precipitation, 0.19 inch.

COLBY:

February was mostly dry, windy, and somewhat below normal in temperature. A temperature of -9° on the 1st was the only below zero temperature recorded during the month. Slight amounts of precipitation were recorded on five days, all but one in the form of snow. The snow all drifted considerably. There was more or less soil blowing on 16 days. Very severe dust storms with considerable soil blowing continued all day on the 15th and 17th, damaging much wheat. The surface soil is loose and blows readily.

Winter wheat appears to be alive on nearly all fields, except on some fields and portions of fields here and there which blew severely. There was very little top growth on any of the wheat, and what growth there was froze down to the ground in January. On many fields the entire plant is covered with a thin layer of soil, even where there has been practically no blowing. It is green under this layer, but shows a tendency to turn yellow in places.

There appears to be an ample supply of moisture 2 or 3 inches below the surface. The wheat appears to be greening up much better, however, where melting snow drifts have saturated the surface soil thoroughly.

Maximum temperature, 70°; minimum, -9°; precipitation, 0.17 inch; snow, 3.5 inches; precipitation, 50-year average, 0.59 inch.

HAYS:

The temperature ranged between 62° and -3°. The mean temperature for the month was 31.3°, or about normal.

There were no blizzards and only one real dust storm, on February 15, which was not a bad one compared with those of two years ago. The wind sprung up during the night and continued heavy most of the day. Many fields were dusting slightly, but only spots in a few fields were actually drifting. None of these were damaged sufficiently to cause loss of crop. Visibility was reduced to 1/4 mile or less from about 11:00 am to 4:30 pm.

Heavy wind sprung up during the early mornings of February 14, 16, 17, and 18, but calmed by noon or soon after each day, however, the air was laden with foreign dust from early morning to night, dimming the sun and reducing visibility to a mile or less a good portion of each day. Some times the sun was hid, but the dust was not sufficiently dense to cause complete darkness as in previous years. February 7 and 8 were also dusty, due to dust coming in from other counties. Since February 18, the weather has been calm, free of dust, and clear.

Winter wheat, although brown above the ground, is in good condition. It is, however, still in danger of soil drifting should heavy winds prevail. The surface soil has been reduced to a fineness by the little moisture and freezing, until it is no longer in a good condition to resist soil drifting, however, very little wheat has actually been damaged, and of the amount damaged, I think very little has been damaged beyond recovery under favorable conditions from this date on. The surface soil is in such condition that heavy winds could cause a vast amount of damage in short order.

Despite this discouraging but true statement, I believe the area in danger is much smaller in this and adjoining counties than in 1935. While all the top soil is very fine and in a condition that will move very easily, there is a much smaller portion of the land completely bare and exposed. More of the land has some protection in the form of weed or stubble cover. All wheat stubble land prepared with the lister, one-way, or disk and worked only when necessary is protected by some stubble cover and generally in no immediate danger. On the contrary, the fields that are in danger are those where wheat was drilled on row-crop stubble land from which the stover was removed for feed, wheat stubble land that was burned before drilling, plowed ground where all of the stubble was turned under, and some fallowed land.

Upon the land that is in danger, much more effort is being made than has ever been observed before to protect the wheat by some means of tillage. For most part, the shovel cultivating tools of some form and the lister has been used. I am inclined to feel that little wheat will be completely lost by wind damage in the area mentioned.

Precipitation for the month of February, all of which fell in the form of snow, 0.39 inch.

GARDEN CITY:

Mean temperature during the month of February was 2° below normal. Temperature changes from day to day, generally speaking, were gradual, there being few wide swings in temperature on successive days. Average hourly wind velocities were also somewhat above normal, being 9.4 as compared with a long time average of 8.2 miles per hour. Wind velocities varied greatly from day to day, ranging from a low of 3.2 miles to a high of 21.6 miles an hour for different 24-hour periods. Dust storms were quite severe during the month, and on 8 days approached in severity the worst of previous years. There is, however, greater interest on the part of farmers to strip list or cultivate in some manner to control soil blowing, and farms thus protected are holding well except where soil has blown onto them from unworked fields.

The present session of the Kansas Legislature has passed a soil erosion law requiring all farmers to work their land to prevent blowing and making it mandatory upon county commissioners to list any land that has been blowing and which the operator has failed to cultivate within five days after being notified that drifting soil from his farm is damaging adjoining land. Most boards of county commissioners are waiting for a ruling from the State Supreme Court as to the constitutionality of the law before putting the law into actual practice. It is not likely, therefore, that we will derive any great benefit from the law during the present emergency period.

Precipitation for the month was below normal but two light snows during the last half of the month helped greatly to reduce soil blowing for the time being, even though the precipitation was light.

Wheat growing on the D.L.A. Annex was considerably damaged early in February by soil blowing from an adjoining, unworked farm, but favorable weather during the latter part of the month has permitted a good recovery, and the wheat on most plots is now in fair condition. Wheat on the main dry land project is in good condition at present, but it will need moisture before heavy growth starts.

Field work consisted of strip listing and cultivating to resist soil blowing. A drift fence was also built along the north side of the place in an effort to stop soil from drifting onto the plots from the neglected farm on the north.

Lambs in the feeding experiment continue to make good gains, and the present plan is to feed for at least another 30 days. It appears now as though our Lamb Feeders' Day will be held about April 10, although that date has not been definitely decided upon.

H. J. Haas returned to his duties on the station on February 28, after spending the past four months in Washington.

Maximum temperature, 68°; minimum, 5°; precipitation, 0.28 inch; wind velocity, 9.4 miles per hour.

TUCUMCARI:

Early February was marked by very high wind movement and some soil blowing; the latter half by nearly calm weather. Average hourly velocity during the first half of the month was 8.9 miles; for the last half, 5.5 miles, from the anemometer near the buildings. The field instrument showed corresponding averages of 11.1 and 7.1 miles per hour.

The mean temperature closely approached the long-time average mean. The total precipitation of 0.08 inch was below normal. Precipitation since the close of September totals 1.06 inches.

Livestock are in fair condition, open weather and lower wind movement of the past two weeks partly off-setting feed shortage. Wheat on the plains to the south and east of Tucumcari is surviving remarkably well considering the lack of moisture. Soil blowing has been surprisingly light, but many fields are not in condition to withstand much more high wind without damage to land and crop.

Maximum temperature, 73°; minimum, 8°

DAIHART:

The first 19 days of the month were unusually windy, with several days giving severe soil blowing. Probably the most severe soil blowing of the current drought was on the 7th. There was so much sand in the air that drifts were formed around isolated fence posts, and there was a rather uniform deposit in the vineyard -- much of this latter has since been shifted about. Damage on the station has largely been confined to accumulations of soil. Plot land to date is fairly secure. Following one wind, 20 wagon loads of blow sand was hauled from the south side of one house. Sand apparently swept from an adjacent field in a path approximately 100 yards wide with the station buildings near the center.

Station work has largely consisted of cultivation to control the station soil from blowing and the removal of accumulations around the buildings.

Maximum temperature, 74°; minimum, 6°; the average wind velocity was the greatest for February since 1922, and in an exposed location the greatest so far recorded for the month. Precipitation, 0.10 inch, which brings the total for the past 8 months to 3.54 inches.

BIG SPRING:

Weather conditions during February were comparatively mild, although the minimum temperature dropped below freezing on about half of the days. Wind velocity during this period was below normal; only on one occasion, February 20, did the wind start soil movement, and then only on farms where preventive measures had not been taken. Total precipitation for the month was only 0.09 inch, and this was received in the form of snow. About an inch of snow was received at this time.

Wheat fields throughout the county are very short; heavy grazing, together with lack of rainfall, has not allowed wheat to make much growth. Station wheat in the plots presents a very healthy color and has the ground very well covered.

Station work during the month has consisted of listing increase land for sumac, pruning grapes and trees, and resetting trees. Work was also started on the installation of a septic tank.

W. H. Black of the Bureau of Animal Industry and J. M. Jones of the Texas Station, visited the station February 27.

Maximum temperature, 80°; minimum, 18°; precipitation, 0.09 inch.

NEW NICOTINE OIL SPRAY.

Reprinted from the Daily Digest (Dept. of
Agriculture) February 26, 1937, Vol. LXIV,
No. 38.

P. O. Ritcher and R. K. Colfee, of the Kentucky Experiment Station, have developed "a new nicotine-oil spray that will kill practically all insect pests of fruit and vegetable crops," says the Farm Journal (February). "It is made by combining a highly-refined oil with nicotine, by-product of the Kentucky tobacco crop. Extensive tests show that the spray is fatal to such hardy pests as squash bugs, white flies, mealy bugs, red spiders and June beetles. Both chewing and sucking insects are killed by it. Heretofore, it has been necessary to use a stomach poison for chewing insects and a contact poison for sucking insects. Work is going forward on a new type of sprayer for applying this new spray, which is not mixed with water, but applied as a mist or fog. Injury to foliage, the drawback of oil sprays, is absent because the oil used in the new spray is a highly-refined one, with those properties removed which injure foliage of growing plants."

NOTE.

The news letter for the month of March should be followed by one for the period April 1 - 10, after which weekly news letters will be resumed.