

| Group | Treatment                          | No. of Sows | Alive at Birth | Alive at Weaning (35 da.) | Pct. Alive at Birth | Pct. Alive at Weaning (35 da.) |
|-------|------------------------------------|-------------|----------------|---------------------------|---------------------|--------------------------------|
| I     | No terramycin                      | 15          | 8.7            | 7.3                       | 94.9                | 84.0                           |
| II    | Terramycin after onset of diarrhea | 7           | 9.9            | 9.0                       | 97.2                | 91.3                           |
| III   | Terramycin 12 hr. after farrowing  | 12          | 8.5            | 8.0                       | 97.1                | 94.1                           |

\*Number alive at weaning as a percentage of number alive at farrowing.

<sup>1</sup>/Schipper, I. A., Buchanan, M. L., and Eveleth, D. F.: Swine Enteritis I, Terramycin in the Treatment of Diarrhea of Suckling Pigs, J.A.V.M.A., 128 (1956): 92-93.

<sup>2</sup>/Schipper, I. A., and Eveleth, D. F.: Swine Enteritis II, Terramycin Levels in Sows Milk Following Intramuscular and Oral Administration, J.A.V.M.A., 129 (1956) 59-60.

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# WEATHER REPORTS

• David G. Gosslee

The State Weather Service of North Dakota was organized in 1891. By the end of 1893 there were 37 cooperative weather observing stations successfully operating. (The weekly crop bulletin was also being issued in 1893 and was very popular.)

In 1946 the number of stations increased to 120 and at present there are 207. These stations are operated under the supervision of F. J. Bavendick, Bismarck, the state climatologist employed by the Weather Bureau.

To obtain adequate coverage of the state of North Dakota many observing points are needed due to the variation from place to place. Similarly, many years of records are needed to obtain a reliable average due to the variation in weather from year to year. The stations

are manned by public-spirited citizens who serve without pay. They take daily readings, recording the highest temperature, the lowest temperature, the total precipitation and sky and wind conditions during each 24 hour period.

These records are invaluable. Most of them have been published by the Weather Bureau and have been the source of many studies of North Dakota climate. These studies have been important to agricultural and other interests in North Dakota and could not have been made without these records.

Several of the outstanding observers and their records are F. O. Alin, Fullerton, who began taking daily weather observations Jan. 1, 1898, and did not miss an observation until last year when he broke his hip; S. P. Grane, Marmarth, has had about 50 years of service as a cooperative observer.

David G. Gosslee was Statistician for the Experiment Station.

J. W. Evens was a farmer near Carson and kept weather records for more than 35 years before he died.

Leroy Moomaw, Dickinson, an observer for more than 30 years, was superintendent of the Agricultural Experiment Station.

John G. Carlson, McLeod, served 38 years. He was manager of the Agricultural College Farm at McLeod from 1919 to 1929 and had charge of the beef barn at the Agricultural College from 1916 to 1919.

John Christianson, New Salem, took observations on his farm for 35 years before he died a few years ago.

J. H. Hoof, his son and grandson have taken observations on the Hoof farm near Napoleon since 1889.

In addition to the cooperative stations four stations manned by Weather Bureau personnel are maintained in Devils Lake, Williston, Bismarck and Fargo. At these stations hourly observations of more weather elements are taken. These observations are essential to the forecasting program of the Weather Bureau.

Some of these daily weather records are being transferred to International Business Machines (IBM) punched cards under the supervision of the office of station statistician in cooperation with the Weather Bureau and the 12 states in the North Central Region. The records for 20 stations in North Dakota have been transferred to punched cards beginning with the year of earliest continuous reports. Thus, Williston records were punched beginning with 1894 even though most stations were started by

punching a year in the early 1900's. Tentative summaries of portions of these data are now available. Complete temperature and precipitation studies will be published in the future.

The advantages of transferring the data to punched cards are several. The punched cards form a file from which duplicate cards or printed records can be rapidly obtained. Climatic summaries can be rapidly computed and correlations with activities depending on weather can be calculated more efficiently than by previous methods. This is possible since high speed machines can process the punched cards with virtually no error. The tireless and accurate working of the machines usually results in a lower cost for the overall project. Many climatic studies have been made and published on an annual, seasonal or monthly basis and for large areas. The daily records on punched cards form a basis for future studies to be made on periods of any number of days and for individual stations.

The Weather Bureau began placing their observations on punched cards in 1948 and uses IBM machines to prepare many reports and publications. The interest in and need for long term studies has stimulated the placing of data taken before 1948 on punched cards. This has largely been done by the state colleges throughout the country in cooperation with the Weather Bureau.

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These studies were initiated by A. G. Hazen, formerly superintendent of Williston Experiment Station, now director of Agricultural Experiment Station and Dean, School of Agriculture, Fargo.

