NOTE

SOME ASPECTS OF FREEZING INJURY TO WHEAT IN INDIANA
IN 1925

On May 25, 1925, a sudden drop in temperature caused serious injury to the heads and stems of wheat in the northern two-thirds of Indiana. Wheat had been making a rapid growth because of the unusually favorable spring, in the southern half of the state it was headed and was jointed in the northern part. As a result the nature of the injury was quite different in various parts of the state.

The state weather reports give a clear conception of the temperature condition occurring in May. During the eleven-day period between May 9 and May 20 the average temperature for the entire state was about 65°F., while from May 21 to May 24 it was unseasonably warm. Many stations reported a maximum of over 90°. These high temperatures, moreover, were not confined to the southern part alone. Without doubt it was this exceptionally favorable weather which caused the rapid growth of the wheat. Following the summer temperatures of May 24 came the cold wave. The minimum temperatures of the state ranged from 27° to 36°F., and again the records show that in the southern quarter of the state the average was above 32°, while north of this region the minimum was below freezing.

Observations made in 15 counties during the month of June gave an indication of the nature of this freezing injury, its relation to the development of the wheat plants, and the areas affected. For a period of about ten days or possibly two weeks it seemed that no harm had been done to the wheat, but early in June the injurious effects were apparent. The experience of one Rush County farmer typifies this condition. Following the freeze he made frequent examinations of his wheat by going through the field at least two or three times a week. Previous to Monday, June 15, he stated that his prospects for wheat were never better, but at this time he noticed that the wheat was drying up and that the stems were becoming sticky. In DuBois, Vanderburg, Knox, and Sullivan Counties no evidences of injury were found but north and northeast of this area the injury was common, though not occurring in all fields. These observations coincide with the weather records, showing that the freezing temperatures occurred in the northern three-quarters of the state.

The type of injury seems to depend on the stage of development of the wheat. Where the wheat was in head at the time of the freeze the individual spikelets seem to act independently in their resistance to the injury. In Rush, Shelby, Bartholomew, and adja-