"SLICK SPOTS" IN NEBRASKA

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In the Platte and North Platte valleys of Nebraska there are many small areas that will support little or no crop growth. These areas are commonly known as "slick spots" because of their slick, greasy feel when wet. Similar areas have been described by Peterson (10), Isaak (8), Catlin and Vinson (3), Burgess (2), Gardner, Whitney, and Kezer (5), and others.

The slick spots described by these investigators have a puddled structure and are quite impervious to water. It is generally considered that their poor physical condition is due to the presence of sodium ions in the exchange complex of the soil. Peterson (10) found that slick spots in Idaho were considerably higher in carbonate than the normal soils and suggested that the impervious nature of the slick spots was due to the cementing action of calcium carbonate. Isaak (8) noted a higher content of clay in the slick spots.

The slick spots mentioned in this paper are found on the first-bottom lands, particularly in association with Minatare, Laurel, and Lamoure soils, but occasionally they occur on low bench land mapped as Tripp. They vary from a few square feet to several acres in extent and are heterogeneously scattered throughout the fields. Such areas are expensive to the irrigation farmer, especially when the land is in sugar beets. They are so irregular in shape and, in many cases, so small, that they usually cannot be left out of the field. Accordingly, they add to labor costs, often as much as $25.00 an acre of "spots", without contributing any return. Practical experience has amply proved that they cannot be improved by the ordinary practices of culture or fertilization.

Slick spots vary in their adaptability for plant growth. If the climatic conditions are favorable when alfalfa is planted, a good stand may be obtained except on the most severe slick spots. However, after

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3Figures in parenthesis refer to "Literature Cited", p. 831.