

THE GEOGRAPHICAL ANALYSIS OF
SPRINKLER IRRIGATION IN THE TEXAS PANHANDLE

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ABSTRACT

This study examines the occurrence of sprinkler irrigation in the Texas Panhandle and analyzes factors which contribute to the establishment and development of this type of irrigation in the region. Although the large area of the Panhandle was needed to establish the pattern of occurrence, three smaller study areas within that region were selected to provide a more detailed look at a variety of influences on irrigation practices. Those three areas are Dallam County, Lipscomb County, and the Deaf Smith Region, which includes Deaf Smith, Randall and Armstrong counties.

Questionnaires completed by Panhandle irrigators were the principal source of information for this study. The survey forms requested information about farm operations (acres irrigated, crops irrigated, method of irrigation), reasons for the use of sprinkler units, problems encountered, and opinions on the future of irrigation in the area. Names of irrigators were obtained from the county agents of Dallam and Lipscomb counties, and a representative of an irrigation company servicing the Deaf Smith Region. These men were valuable sources of information pertaining to agricultural practices, history of the region, use of sprinkler units in their areas, and other

technical details. In addition, two utility companies were visited to determine fuel cost and availability. Finally, a variety of agricultural statistics were used as background information.

Three reasons for the establishment and growth of sprinkler irrigation in these study areas were discovered: (1) elements of topography (sandy soil and uneven terrain), (2) economics (fuel and labor are saved by using sprinklers rather than other irrigation systems), and (3) water efficiency (less water is used and is distributed more uniformly by the use of sprinklers). Depending on the natural setting and agricultural history, one or more of these factors ranked first in importance in each study area.

There were two primary problems facing irrigators: depletion of the underground water source, and rising fuel costs due to fuel depletion. At present, irrigators are still capable of dealing with these inconveniences because they are still making a profit in irrigation agriculture. By the year 2000, however, both water and fuel will be too scarce to maintain the present high production levels in irrigated farming. Area irrigators hope that the area will receive extensive aid from state and national governments at that time since the Panhandle is an important agricultural region within Texas and the United States.