

PHEASANTS AND LAND USE
IN SOUTH DAKOTA

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ABSTRACT

Researchers in various parts of the pheasant (Phasianus Colchicus) range have described land use patterns characteristic of areas of high pheasant densities. Many of these researchers have indicated a belief in the causative nature of this relationship. However, considerable differences exist between the land use patterns reportedly associated with pheasant abundance in the north central states of Illinois, Indiana, and Ohio, and the patterns reported for the leading pheasant range of Wisconsin and the plains states.

In an attempt to determine the nature of the relationship between pheasants and land use in South Dakota, simple correlation analysis of pheasant density and land use data revealed that a number of land use variables were significantly correlated with pheasant abundance. Furthermore, multiple regression analysis, using independent variables derived by factor analysis, disclosed that over 50% of the variance associated with pheasant densities in South Dakota could be explained by the land use variables used in this study. However, many of the land use elements significantly correlated with pheasant densities in South Dakota were different from the elements found by other researchers to be significantly correlated with pheasant densities in Illinois. In addition, the proportions of farmland in various categories in South Dakota's major pheasant range were quite different from the proportions reported for the leading pheasant areas of Illinois, Indiana, and Ohio.

It may be that different land use elements have a controlling influence on pheasant densities in different parts of the pheasant range. However, it is the contention of this study that elements related to the soil are primarily responsible for the variations in pheasant densities not explained by land use, and that these same elements explain much of the discrepancy between the land use patterns characteristic of South Dakota's best pheasant range and the land use patterns found in the leading pheasant range of Illinois, Indiana, and Ohio.