9. THE ERADICATION OF BRUSH AND WEEDS FROM PASTURE LANDS

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Kansas contains approximately 22 million acres of land used for pasture. Most of this land is potentially valuable only for grazing livestock, owing to the broken character of the surface or the shallow nature of the soil which make cultivation impractical. A study of statistics has shown that the grazing value of this land has greatly decreased in the last 25 years. In the Flint Hill region, which occupies about 5 million acres of some of the best pasture land in the United States, this decrease has been approximately 25%. Such reduction has been accompanied in most instances by an incoming of worthless plants that have taken the space formerly occupied by the valuable grasses. This change has been most pronounced on small farm pastures where improper grazing methods have been more generally practiced.

The eradication of the non-palatable vegetation is an important factor in the restoration of the pastures to their normal productivity. The eradication work should also be accompanied by such grazing methods as will permit the forage plants to come back. In view of the great need for information on the improvement of run-down pastures, experiments were started in 1926 by the Kansas Agricultural Experiment Station to determine the best methods of eradicating weeds and brush. The report on the results presented in this paper are only preliminary, owing to the short time that the experiments have been conducted. It is also impossible to report on most of the work done during the past summer because the results cannot be checked until growth starts next season.

ERADICATION METHODS

In conducting the experiments, three general eradication methods were used, viz., (1) spraying with chemicals and herbicides, (2) burning, and (3) cutting. In the first method, two concentrations of sodium chlorate, which has been so successfully used in the eradication of bindweed, sodium arsenate, and zinc chloride were applied by spraying on sumac (Rhus glabra).

RESULTS FROM USE OF HERBICIDES

The results of one season's work show that two applications of sodium chlorate, applied at the rate of 100 pounds per acre, killed 78% of the sumac stems. This treatment was also found to be very detrimental to the forage species, reducing the stand about one-half. Where the sodium chlorate was applied at the rate of 50 pounds per acre, two applications killed about 25% of the stems. This solution had little effect on the forage plants.

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