8. ANALYSIS OF SEEDING MIXTURES AND RESULTING STANDS IN IRRIGATED PASTURES OF NORTHERN COLORADO

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INTRODUCTION

The analysis of seeding mixtures and resulting stands in irrigated pastures has received little study in the western states. Seeding mixtures have been based largely on empirical methods, with little or no consideration of the number of seeds per pound or of the factors influencing the survival and competition of plants growing in the pasture. The purpose of this study, started in 1926, is to investigate these problems by more exact methods than have been used before. The results would be increased knowledge regarding the habits of pasture plants and the relations of different species to each other, to grazing, and to various kinds of cultural treatment. The data, secured by the application of more exact methods, should afford more reliable bases for making seed mixtures and for the management of pastures than the empirical methods now in use. More than 20 pastures have been studied and the results from 8 of these are presented in this paper.

The acreage of irrigated pasture land in northern Colorado has been increasing rather rapidly in the last few years. Most of the pastures are grazed by dairy cattle, others by sheep or beef cattle. The average assessed value of irrigated land in 1925 was $76.87 per acre. The grazing capacity is about one and one-half to two head of cattle per acre. No fertilizer, except manure on a few pastures, is used. The pastures are irrigated from two to six times during the season. On some farms the water supply may be scant or lacking during late summer.

METHODS

The number of pounds of each kind of seed in the mixture does not appear to give a correct measure of the value of each constituent because of the great differences in size of seed between different species. For example, in a pound of brome grass seed there are about one-fourth as many seeds as in a pound of orchard grass and one-sixteenth as many as in a pound of Kentucky bluegrass. Furthermore, the percentages of germination and of purity differ considerably between species. In Kentucky bluegrass the percentages of germination and purity are about 80, but in meadow fescue the percentages are 95 and 99, respectively.

1Paper read as part of the symposium on "Pasture Management Research" presented at the joint session of the New England Section of the Society and Section O of the A. A. A. S. held in New York City, December 28, 1928.

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Published June, 1929