Moisture Content

8. The materials A, B and C herein specified shall contain sufficient moisture to insure maximum compaction.

Admixtures

9. Chemicals or other admixtures shall meet all the requirements of the current A.A.S.H.O. specifications. When the chemical to be used is not covered by an A.A.S.H.O. specification, a good commercial grade meeting the approval of the Engineer shall be used.

Methods of Testing

10. Sampling and testing shall be in accordance with the following standard methods of the American Association of State Highway Officials:

Sampling	T 2-42
Sieve analysis	T 27-42
Liquid limit	T 89-42
Plasticity index	T 91-42

ABSTRACT*

THE ESTABLISHMENT AND COMPARATIVE WEAR RESISTANCE OF VARIOUS GRASSES AND GRASS-LEGUME MIXTURES TO VEHICULAR TRAFFIC

R. H. Moorish and C. M. Harrison[1]

In an attempt to measure the comparative wear resistance of grasses and grass-legume mixtures, traffic was applied to a series of plots which had been established in 1943 and 1944. The grasses and legumes planted were selected on the basis of their potential value in producing wear resistant sods on airfields and highway rights-of-way. Seedings were made in April, June, August and October of each year in order to determine the optimum time of planting.

The grasses used were Kentucky and Canada bluegrass, bromegrass, timothy, redtop, orchard grass, ryegrass and Chewings, sheep and tall fescue. Red clover and alfalfa were planted in mixtures with some of the grasses on a few plots. The plots were located on a fertile well-drained silt loam soil.

*Abstract - from Journal of American Society of Agronomy, Vol. 40, No. 2, February, 1948.

[1]Chief, Grounds Section, Headquarters, U. S. Air Force and Professor in Farm Crops, Michigan State College, respectively.

Seedings made in April, August, and October were superior to the June seedings and produced an average of about 18 percent more ground cover than did the latter. The October seedings performed as dormant seedings and produced cover the following spring. Seeding in excess of forty (40) pounds per acre did not appear to be justified as measured by the quantity and quality of the sod produced.

Before the application of wheeled traffic each plot was evaluated on the basis of percentage of existing cover and its composition. All plots were subjected to traffic with a passenger car weighing 3,300 pounds. A truck weighing 40,000 pounds was used on the April and June seedings of the 1943 series. Tests with the car were discontinued on the 1944 seedings and on the August and October seedings of the 1943 series after 200 trips. Four hundred (400) trips were made with the car and 210 with the truck on the April and June seedings of the 1943 series.

The quality of the remaining cover was evaluated after each 100 trips with the car and after 75, 150 and 210 trips with the heavy truck. The major portion of the traffic was applied in October 1946 when the moisture content of the surface soil was approximately 7 percent. Rutting and deformation resulting from the loads applied was negligible.

Kentucky and Canada bluegrass and Chewings, sheep and tall fescue produced the most wear resistant turfs. Where adapted, these grasses should be given first consideration for use in the construction of airfields and highway rights-of-way. Redtop was intermediate in its resistance to wear, and timothy, bromegrass, and orchard grass were the least resistant. Alfalfa and red clover wore off at the surface of the ground long before the grasses showed any serious effect from traffic. Domestic ryegrass had disappeared from the plots at the time of testing. The inclusion of domestic ryegrass in the mixtures appeared to be detrimental in the establishment of wear resistant turfs.

The bluegrasses recovered from intensive wear more rapidly than did the fescues. Orchard grass, timothy, and bromegrass were the slowest to re-establish a satisfactory cover.