Factors Influencing the Production and Use of Beach-Grass and Dunegrass Clones for Erosion Control: I. Effect of Date of Planting

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PLANTINGS of beachgrasses and dunegrasses have been the most successful means of wind erosion control on coastal sand dune areas. These grasses provide the initial control by stilling the sand. The plantings are made with clones in spaced hills. Several clones are planted per hill and the spacing between hills is varied according to the severity of the site conditions (6). Large amounts of planting stock (clones) are needed. A typical planting for average conditions requires 58,000 clones per acre weighing approximately 600 pounds. Planting an acre of eroding dunes requires an average of 10 man days when planted by hand or 3 man days when mechanical planters are used. Because the amount of materials and labor is high, good, vigorous planting stock must be produced at low cost and the field plantings must be successful. Survival and growth of the plantings determine both the rate of production in nurseries and the degree to which the plantings successfully control sand movement in the field. Survival and growth are, in turn, determined by date of planting, density of planting, and the use of fertilizers. Although these relationships are generally known for some of the grasses used for dune control, little definite information is available for any of them. Studies were made to determine how each of these three factors affected both the production and the use of three beach- and dunegrasses.

Date of planting for erosion control should be extended over as long a period as possible to make maximum use of labor, especially when large areas are being controlled. On the North Pacific coast, the planting season has been from late fall to early spring. This period corresponds to the cool, rainy season. Plantings made during the warmer, rainless season have given erratic results. The factors of moisture and temperature were thought to be responsible for these results, but they were observed to have a different influence on three sand-stilling grasses.

Date of planting for production in nurseries should be optimum to get maximum production of high grade stock at minimum cost. Maximum survival must be obtained and the plants must have

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Reference by number is to "Literature Cited", p. 520.