to the rather long, prominent awns of both parents. The dwarf strain is moderately resistant to crown rust, although not so resistant as the Victoria parent. It has not been tested for resistance to smut.

Although several attempts to cross this strain with other oats have been made by Mr. Coffman, no seed has been obtained. Additional attempts will be made to cross it on normal oats. It may possibly be of value in breeding to reduce plant height and awn size and to improve the strength of stem.

In panicle and spikelet characters this dwarf oat somewhat resembles the so-called “Trelle dwarf” reported by Derick.2—J. M. Atkins, Division of Cereal Crops and Diseases, Bureau of Plant Industry, U. S. Dept. of Agriculture, and P. B. Dunkle, Texas Substation No. 6, Texas Agricultural Experiment Station.


GUMMED-PAPER TAPE FOR SPACE-PLANTING WHEAT

A METHOD is described for space-planting wheat or other small grains by the use of a contrivance for placing the seeds at desired intervals on gummed-paper tape before seeding time. The rolls of tape are planted with a New Columbia Planter using a simple spool and shoe attachment. The necessary materials usually may be found around any agronomy department or purchased for less than $10. Plans for this planting method were developed after consultation with W. J. Sando of the Division of Cereal Crops and Diseases and Olaf Gronaas of the North Dakota Agricultural Experiment Station.

Garden seeds glued to a “seed tape” have been on the market for more than 20 years. The machine used in applying the seeds to the glue-coated tape, however, was not adapted to the small numbers of seeds planted in individual nursery rows, and a machine for planting the tape was not available.

Space-planting of seed often is necessary where the mature plants are to be separated and studied individually. It is also useful when the number of seeds is limited and maximum yield per plant is required. The quantity of seed that can be space-planted ordinarily is limited by the time and help available for dropping individual seeds by hand. A stand supporting a planting board with holes bored at suitable intervals for dropping individual seeds into the furrow has eliminated stooping but has not been usable in windy weather, and even under optimum conditions two men could plant only about 30 17-foot rows per hour. A cylinder for the Columbia planter with small shallow holes can be used to plant rapidly 70 to 80 kernels per row if the seeds are of uniform size, but often two seeds fall together in the row, and satisfactory separation of the plants at harvest is not possible.

Probably the most satisfactory solution of the problem has been presented by Vogel3 who used a drill with a seed cup having a conical center turning in a horizontal plane. The kernels fall into individual