None of the T lines was as desirable agronomically as the recurrent parent, Centurk (Table 1). Variation among the T lines in the qualities studied suggests differences in the sizes of the translocations.

The disomic substitution line was less desirable agronomically than the T lines in most qualities, due apparently to its having more chromatin from wheatgrass than the T lines and less chromatin from common wheat.

The gene for immunity to wheat streak mosaic was found to lie closer to the wheatgrass centromere than to the distal end (1). T<sub>D</sub> has the centromere of wheatgrass but other T lines have the centromere of common wheat. The lengths of the translocated segments were not the same. Line D<sub>S</sub> has a disomic substitution. Measured by the meiotic index, line T<sub>6</sub> was about as stable as Centurk. The other lines were less stable. Disomic substitution line D<sub>S</sub> was lower in all characters studied than the translocation lines, except in seed weight in which it resembled T<sub>8</sub> and T<sub>C</sub>.

The amounts of protein in seed and flour of T<sub>T</sub>, T<sub>C</sub>, T<sub>D</sub>, and disomic F exceeded those of Centurk in 1977. The amounts of protein in flour of T<sub>T</sub>, T<sub>C</sub>, T<sub>D</sub>, and disomic F were 18.6%, 18.4%, 16.2%, and 16.9%, respectively, of Centurk in 1977. The mixing time for breadmaking) was 2% min (medium) for T<sub>T</sub>, 3% min (medium-long) for T<sub>C</sub>, and 3' min for disomic F, and 3% min (medium-long) for T<sub>D</sub>. Good overall breadmaking properties for all would be predicted from their mixing times and other physical dough properties.

Winter survival was measured in an unreplicated field test at Brookings in 1980. Winter survival, measured by stands in May, was 85% for Centurk, 2% for T<sub>T</sub>, 80% for T<sub>C</sub>, 60% for T<sub>D</sub>, 80% for T<sub>B</sub>, 40% for T<sub>R</sub>, and 100% for Winoka. Germplasm will be maintained by South Dakota State Univ., Brookings, SD 57007, and is in the National Seed Storage Laboratory.

REFERENCES


REGISTRATION OF KY M-1 ZIGZAG CLOVER GERMPLASM
(Reg. No. GP43)

Norman L. Taylor, P. L. Cornelius, and R. M. De Pauw

KY M-1 germplasm of zigzag clover (Tifugræa rostrata) was released by the Kentucky Agriculture Experiment Station in March of 1982. This germplasm is the fourth cycle of pheno-typic recurrent selection for increased vigor and seed yield. The base population was C-l zigzag clover.

Selection was conducted by sowing seeds in a greenhouse, exposing the seedlings to low winter temperatures, and subsequently transplanting them to the field frame. Plants were scored for vigor and only the highest yielding (regenerated) were allowed to intercross. Seed multiplication was performed by growing experimental lines in a winter nursery which was used for seed yield testing.