THE cooperative uniform winter hardiness nurseries have now been grown for 25 years. Results for the periods 1927 to 1936, 1937 to 1941, and 1942 to 1946 have been published (2, 3, 4, 5, 6, 10). This paper reports data obtained on experiments grown during the period 1947 to 1951, inclusive, bringing results up to date. During the 5-year period 1947 to 1951, winter killing of a differential nature was reported in 148 of the 228 nurseries sown.

EXPERIMENTAL PROCEDURE

The experiments were conducted during this 5-year period by the same general plan as was followed during the previous 10 years. On the stations in the South where little killing occurs, all oats were seeded in duplicate rows, 50 kernels per row; whereas on stations located farther north where winterkilling is frequently reported, each entry was seeded in duplicate 5-foot rows, with 5 gm. of seed per row. In the former, the survival percentages are based on actual counts in the fall and in the spring, whereas in the latter nurseries survival percentages were based on estimated stands in the fall and spring.

It would seem reasonable that actual counts would tend to disclose small differences that could otherwise be overlooked. Also, in the South where growth in oats is continuous throughout the winter, differences in growth rate could easily be mistaken for differences in hardiness; however, a comparison of the data obtained from all stations indicates little or no difference in the relative survival of the same varieties as a result of the differences in the type of nursery planting and method of determining survival.

States and stations cooperating during the 5 years are in general the same as cooperated in the previous years. Whereas a few stations have discontinued cooperation, others have joined in the cooperative efforts. In recent years some 45 stations have grown the nursery each year.2

During the 5 years a sufficiently large number of cooperators grew the nursery each season to supply ample data for determining rather accurately the relative hardiness of a large number of new oats even when included for only one or two seasons. One of the valued results of this experiment is that the relative hardiness of a large number of varieties can be determined even when included for only one or two seasons.

Cooperators contributing data for the summary included in table 1 herein were: C. Roy Adair; I. M. Atkins; D. H. Bowman; Acton Brown; R. M. Caldwell; W. H. Chapman; H. R. Clapp; F. A. Coffman; R. G. Dahms; Geo. H. Dungan; Verne Finkner; E. E. Hall; John Gray; John M. Green; P. W. Gull; N. I. Hancock; T. T. Hebert; J. W. Hendrix; D. R. Hooten; S. S. Ivanoff; D. M. Johnson; L. M. Josephson; B. M. King; C. A. Lamb; E. S. McFadden; G. K. Middleton; Darrell Moll; J. Fred O'Kelly; W. M. Osborn; W. R. Paden; J. M. Poehlman; Kenneth Porter; D. A. Reid; Blair C. Ritter; G. W. Rivers; A. M. Schlehuber; W. H. Webb; Geo. J. Wilds; W. J. Wiser; and Harold F. Yates.

The states, number of locations, and reports per state were as follows: Ala., 1, 3; Ark., 2, 10; Fla., 1, 4; 4, 13; Ill., 2, 9; Ky., 3, 10; La., 5, 11; Md., 2, 4; Mo., 4, 12; N. J., 1, 5; N. C., 2, 10; Ohio, 3, 6; S. C., 6, 20; Tenn., 5, 17; Tex., 5, 19; Va., 2, 10.