gon. In addition, commercial varieties having Aberdeen-type resistance, which A–3 is able to overcome, have been infected in many other states as well (Connecticut, Indiana, Massachusetts, Michigan, New York, Ohio, Pennsylvania, Tennessee, and Virginia). Siletz, Stelemaster, and Surecrop are resistant to A–3. Race A–4 has been found in collections from Maryland, Missouri, New York, and Tennessee. Stelemaster, Surecrop, and Siletz are resistant to A–4, but the del Norte clone of *Fragaria chiloensis* (the native Pacific beach strawberry) is susceptible. A–5 has been found only in experimental greenhouses where soils containing different races have been mixed together.

Strawberry plants are regularly shipped all over the United States. Because incipient red stele infections are hard to detect, additional races of the fungus are very likely to enter new regions of the country each year. Thus, a race originating in one locality is a potential threat to many strawberry-growing areas.

All commercial strawberry varieties bred for red stele resistance except Siletz have in their pedigree Aberdeen, Frith, or both varieties, as sources of resistance. Races that will overcome the resistance of Aberdeen, Frith or both combined, are known. Continued production of strawberries on many acres of excellent strawberry land infested with the red stele fungus requires the finding of broader sources of resistance. Siletz and certain advanced breeding lines derive resistance from *F. chiloensis* or *F. virginiana* in which a large number of different resistance genes probably exist. Most of the *F. chiloensis* and *F. virginiana* sources used so far, however, have proved to be susceptible to at least one race. The search continues for more resistant *F. chiloensis* and *F. virginiana* clones and for ways of incorporating into the strawberry the immunity found in closely related genera.

Hardiness of Dwarfing Apple Rootstocks

According to Gordon Yates, of La Crescent, Minnesota, the East Malling and Malling-Merton Rootstocks should be hardy enough for use in Minnesota. He bases this conclusion on the fact that there was little or no winter injury of one-year whips on these rootstocks, or in stool beds of them, following the severe winter of 1958–59 at La Crescent, provided the soil was covered with either weeds, mulch or sod. The winter involved was an especially good test for hardiness because it combined low temperatures with dry soil and lack of snow cover.

Promising Apples for Wisconsin

Idared variety appears most promising in Wisconsin. But the younger bearing trees don't have quite the color and uniformity in size as do the older ones. The Beacon variety was the best we have had in years. Good color and good size in most all of the areas of the state.—*G. C. Klingbeil, Univ. of Wisconsin, Madison, Wisc.*

Pears in Massachusetts

O. C. Roberts, of the University of Massachusetts reports that a survey of apple growers in his state indicates that twenty-five percent of them grow pears. The survey also revealed that of the pears grown, Bosc makes up 51% of the total number of trees, Bartlett—31.5%, Seckel—6.8%, and Clapp Favorite—6.2%.