Quick Viability Tests for Rootstock Seeds*

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At the Ontario Agricultural College, Guelph, Canada, a long term research project in Pomology is designed to determine compatibilities and dwarfing potential of many stock-scion combinations in the Rose family. To obtain uniform seedling rootstock material of several genera, germination requirements must be known and in certain species of Amelanchier, Aronia, Cotoneaster, Crataegus, Prunus, Pyracantha and Sorbus, no previous work had been reported on stratification and chilling needs.

Seeds were collected of *Amelanchier alnifolia* (Saskatoonberry), *A. laevis* (Shadbush), *Prunus pensylvanica* (Pincherry) and a suspected hybrid of *Sorbus aucuparia* and S. *decora* (European and Dogberry Mountain Ashes respectively). To obtain a quick estimate of seed germination potential, the tetrazolium chloride vital stain bioassay method was used. This has been widely and generally successfully tested with many temperate-zone woody species by workers at the Boyce Thompson Institute for Plant Research.

Several hundred seeds were prepared by careful removal of the seed coats so that embryos and cotyledons were exposed. Replicated lots of 25 seeds of each species were placed in phials of 1.5 per cent solution of 2, 3, 5-triphenyltetrazolium chloride. Seeds were soaked thus for up to 48 hours then examined for the amount and intensity of red staining which indicates the presence of living tissue. Using a 48-hour treatment, a strongly significant relationship was found to exist between the amount of red colour and the actual germination as determined from similar seed lots by conventional means. This was true for all species.

It is obvious that the vital staining method for quick viability tests for seeds gives useful results. The technique does not require complicated laboratory equipment and is one that any nurseryman might use if he had cause to suspect any seed lot of having low viability.

Yield of Concord Grapes Influenced by Parent Vine

Low yielding vines have been observed in Concord vineyards in Erie County, Penna., which averaged 2 lbs. of fruit over a six year period, when adjacent vines averaged 16 lbs. Plants grown from cuttings taken from such poor vines have retained the poor production characteristics of the parent vines.

A program of registering and propagating a high producing Concord selection has therefore been initiated by H. K. Fleming, of the Erie County Field Research Laboratory, Northeast, Penna., in an effort to prevent the occurence of low-yielding vines of this sort.

*Editor's Note: Although the plants tested include only ornamental species of the Rose family, the work may prove useful with many of the edible fruit species as well.

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