

Future Germplasm Reserves in Fruit and Nut Crops

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The Fruit Breeding Committee of the American Society for Horticultural Science and the American Pomological Society sponsored this workshop during the meetings at the University of Guelph, Ontario, Canada, August 12, 1974.

Fruit breeders have been concerned about the preservation of germplasm for several decades. This concern has increased during recent months as facilities have been closed or reduced for budgetary or other reasons. In view of current efforts to focus attention on the need for a strong preservation program, Future Germplasm Reserves in Fruit and Nut Crops was chosen as the topic of the workshop. This workshop should furnish fruit breeders an opportunity to exchange ideas on the need for a stronger preservation program and how such a program might be implemented. Hopefully, the information compiled can be used to help assure strong Federal and State support for fruit germplasm preservation.

Six scientists were invited to participate in the program on the following subjects: A. Stone fruits, including almonds, B. pome fruits, C. small fruits, D. grapes, E. citrus, and F. nut crops. Items considered in the presentations are as follows:

1. *Present situation.* Number of germplasm collections, range and/or number of entries, relative availability to breeders, size limitations, extent of use, maintained by whom, outlook for continued support.
2. *Future needs.* Is use likely to increase, decrease, or remain the same? Nature of future needs (sources of resistance to diseases, insects, soil and climate factors, diversity of market types and maturity dates, etc.). A brief statement on the genetic vulnerability of species and major varieties would be helpful.
3. *Maintaining germplasm.* Should there be clonal repositories for asexually reproduced plants (especially fruits and nuts) in addition to smaller collections maintained by breeders? If so, how many and how should locations for repositories be established? How should records be handled to permit efficient use of germplasm by breeders? In how many locations should an entry be maintained? What information should be determined for each entry (trueness-to-species and variety, disease status and disease susceptibility, etc.)? How should germplasm collections be financed? Should seed be maintained at the National Seed Storage Laboratory in addition to clonal collections?
4. *Special considerations.* Climate and disease hazards, quarantine restrictions, etc.

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