Reviews and Abstracts

Colchiploidy in Grapes. 1954. By Haig Dermen. Jour. Hered. Vol. 45(4): 159–172.

The buds of vinifera and muscadine grapes were treated with colchicine to induce polyploidy.

The first growth from treated buds was retarded. The first leaves, those already formed within the bud, tended to be distorted and to show a variable green coloring in a mosaic pattern. The leaves developing from the treated growing point were frequently sectorial polyploid. A U-shaped basal sinus of the leaf was found to be a reliable index of polyploidy in the muscadine. Definitely larger stomates were noted in some of the treated material. A combination of normal epidermis and tetraploid internal tissue was noted in others. Fruit size was obviously larger on tetraploid branches.

Tetraploids resulting from colchicine treatment of sterile grape varieties may prove to be fertile and very useful for breeding purposes.

The Care and Feeding of Garden Plants. 1954. Published by Amer. Soc. Hort. Sci. and Nat. Fert. Assoc., 616 Investment Bldg., Wash., D. C. 184 pages. $3.00.

This is one of the finest garden books published in recent years. The various chapters, dealing separately with lawns, garden flowers, houseplants, trees, shrubs, small fruits, and vegetables, are written by 14 different authors, authorities in their respective fields.

The introductory chapter gives the technically minded amateur gardener a good picture of the nutritional requirements of plants and the various ways in which garden soils may be improved physically and chemically.

Although the authors put greatest emphasis upon the nutritional aspects of gardening, most of them also present some material dealing with the general care of garden plants. This book will be helpful to the gardener in choosing the proper varieties for a particular region. The many excellent colored plates illustrating nutrient deficiencies should prove very helpful not only to the gardener, but to the professional horticulturist as well.

Tetraploidy in Vegetative Shoots of the Apple Induced by the Use of Colchicine. 1954. By A. W. S. Hunter. Jour. Heredity, Vol. 45, No. 1, p. 15–16.

With the hope of obtaining tetraploid varieties for use as parents in an apple breeding program, colchicine was applied by the author to the terminal buds of 11 apple varieties that had been chilled sufficiently and then forced in the greenhouse. The treatment consisted of gently forcing the larger halves of No. 000 water-proofed gelatin capsules, filled with a water solution of agar and colchicine, over the exposed buds of new shoots.

The subsequent growth from the treated buds was examined for tetraploid tissue, over a five year period. It was concluded that a number of the treated varieties, including Melba, Northern Spy and Spartan, had developed tetraploid tissues. Those varieties that seemed to respond to the treatment were propagated by budding. Stem tips from this material will be examined cytologically, and if their tetraploid characteristics are verified, these trees will then be used in the apple breeding program being carried on at the Central Experimental Farm at Ottawa, Canada.