

Reviews and Abstracts

The Fundamentals of Fruit Production

By V. R. Gardner, F. C. Bradford and H. D. Hooker. 1952. 3rd Ed. McGraw-Hill. 738 p.—\$9.00

V. R. Gardner is to be congratulated for the excellent job he has done in revising and bringing up to date a book which has long been recognized as the outstanding advanced text in the field of fruit science.

Folks who have been using this book in teaching or as a reference will find some welcome additions in this latest edition. There are two entirely new sections dealing with light relations and growth regulators. In the section on nutrition, the new material includes a discussion of fertilizer applications by means of sprays and injections. The use of wind machines and radiant heat have been added to the chapter dealing with frost protection. These and other additions, including almost 700 new references, have all helped to make this already important book a more valuable one.—G. M. K.

Inheritance of Fruit Characters in the Strawberry

By R. E. Baker, 1952.

Jour. of Heredity Vol. 43(1): 9-14.

This strawberry study was made at the California Agricultural Experiment Station, Davis, California. Data were collected dealing with the expression of external characteristics of the fresh strawberry, with the hope that this would help make it possible "to predict the frequency of occurrence of many fruit characters in certain strawberry breeding programs." The fruit characteristics studied by Dr. Baker included external

color, finish, size, uniformity and shape of the aggregate fruit, and position and color of the akenes. An analysis of dominance, heterosis and frequency of occurrence of characters was undertaken.

The results found and the conclusions made by Dr. Baker can best be presented by quoting the author as follows:

"Large *size* and *finish* showed heterosis in all instances. Dominance or heterosis was indicated for *uniformity* and light *seed color*. The results for *color* and *flavor* were inconclusive. It is likely that an analysis of the individual components of these characters will be necessary to obtain consistent result. Sunken *seed position* and elongated *shape* showed dominance or heterosis.

"A study of the frequency of occurrence of character indicated that, except for external fruit color, a consideration of the combining ability of the varieties used was important in order to obtain the results desired. For fruit color the frequency of occurrence of characters showed significant differences among the selfed populations, but not among the hybrids.

"In a strawberry breeding program the parents should have high values or good combining ability for large size, bright finish, good uniformity, and light seed color. This study indicated that the manner of inheritance of these characters is favorable to the plant breeder because in all cases dominance, or heterosis, of the desirable phenotypic expression of the character was indicated.

"For the best seed position and fruit shape parents should be carefully selected to produce hybrid populations which all approach the optimum, taking into consideration the fact that dominance or heterosis is indicated for sunken seed position and elongated shape.

"The proper parental characters necessary to produce good color and flavor are indefinite."

—G. M. K.