

International Conference on  
**Plant Science**  
&  
**Natural Products, Medicinal Plants and Traditional Medicines**  
November 15-16, 2018 | Paris, France

**Strategies and Priorities in Trees' Reproductive Allocation**

**Eliezer E Goldschmidt**

The Hebrew University of Jerusalem, Israel


The survival of an individual tree does not depend upon sexual reproduction. Yet, the long term persistence of tree species requires an effective, asexual or sexual, means of reproduction. In the wild, most tree species reach reproductive maturity after a several decades of juvenility and even then, sexual reproduction appears sporadically, often in a mode of masting. Estimates of the reproductive allocation (= the percentage of annual photosynthate diverted towards sexual reproduction) in forest trees indicates a slow, gradual increase which may reach 50% in 'mast' years, but, on the average does not exceed 20%. The situation is different, however, in certain subtropical and tropical fruit trees (Citrus, Olive, Mango, Avocado), which invest a tremendous amount of resources in profuse flowering and fruiting. The reproductive allocation of a grapefruit tree has been evaluated as 79%. Some Citrus cultivars may collapse as a result of fruit overload and exhaustion of carbohydrate reserves. The rationale underlying this behavior might be that

in their natural, original habitats these trees are exposed to environmental stresses, in particular drought, that threaten their survival. Thus, they divert all their resources towards sexual reproduction which is their highest priority. On the other hand, the survival of the aforementioned temperate and boreal forest trees is not endangered by environmental stresses; vegetative growth is their first priority and they maintain, on the average, a more moderate reproductive allocation.

**Speaker Biography**

Eliezer E Goldschmidt was born in Jerusalem, Israel, in 1938. He received a Ph.D. degree in 1968 from the Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem. Since 1983, he has been a Professor of Horticulture in the Institute of Plant Sciences and Genetics in Agriculture, The Hebrew University of Jerusalem. His primary areas of research include growth regulators, tree productivity, alternate bearing, carbohydrate management, fruit ripening and senescence in citrus, and citron physiology. Over 200 publications in Scientific Journals. With Prof. Pinhas Spiegel-Roy, he has co-authored 'The Biology of Citrus', Cambridge University Press, 1996.

e: eli.goldsmit@mail.huji.ac.il

 *Notes:*