

## Breeding Carnations in Israel

N. Umiel<sup>1</sup>

Carnations form one of the major crops in the cut-flower industry of Israel. In recent years, carnation production in Israel has declined, owing to decreased profitability and processes associated with the product's life cycle in the markets. Israel was, and still is, an important supplier of carnation flowers to the European markets. Considerable effort has been invested in Israel for breeding carnation cultivars. Many Israeli bred cultivars have been introduced into the market and made commercially successful both by private enterprise and the ARO. The present paper describes the breeding of carnations in Israel, with special emphasis on the methods on which the breeding strategy is based. The methods discussed include: hybridization within the species *D. caryophyllus*, spontaneous and induced mutations, somaclonal variation, genetic engineering, hybridizations between species, and Multiple-ReSpeciation. In addition, this presentation includes information on the breeding processes of commercial cultivars, most of which is appearing in print for the first time.

*Key words:* Breeding methods, cultivars, interspecific hybridizations.

---

<sup>1</sup> Dept. of Ornamental Horticulture, Agricultural Research Organization, The Volcani Center, Bet Dagan 50250, Israel.