

## **Organogenesis study in the apple trees cv. "Golden Delicious"**

**A.A.Ghasemi<sup>1</sup> and V.Grigorian<sup>2</sup>**

**1. Isfahan Agriculture Research Center, Isfahan.**

**2. Dept. of Horticulture, College of Agriculture, Tabriz University, Tabriz.**

Formation of reproductive buds, time of flower induction, morphological differentiation and development of the inflorescence and organogenesis of buds in apple trees cv. Golden Delicious were studied in the climatical conditions of Khalat Poushan Research Station in Tabriz University, East Azarbaygan province.

Fifty to sixty spur buds were collected from late June 1993 to mid April 1994 every 10 days. Bud scales and bract primordia were eliminated, and then buds were fixed in FAA fixative.

Samples were dehydrated and after infiltration and embedding the prepared sections were stained and studied by the bright field light microscope. Investigations and study of microscopic sections showed that flower induction in bud meristems occurred in mid July until early August, and first morphological development in induced meristems started in mid August. Subsequently organogenesis occurred in terminal bud flower of inflorescence; sepal primordia was formed in late August, petal primordia in early September, and stamen primordia in mid September (The organs developed gradually). The carpel primordia of the terminal flower formed in late winter (March). Organogenesis stages in lateral flowers of inflorescence occurred few days later than terminal flower, and developed rapidly in early spring and complete inflorescence in the reproductive buds could be observed in mid April.