chemotaxonomic studies on some citrus varieties

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This investigation was carried out during the two successive seasons (1990 and 1991) on various mature trees of the above mentioned species and varie-ties cultivated and grown under local conditions of experimental Station at Faculty of Agriculture, Moshtohor, Koliobia Governorate. The essential oils were extracted from the fresh leaves and analyzed by gas chromatography to identify the volatile oils constituents of the extracted oil from each species and variety.The present study was undertaken to investigate the variations in leaf volatile oil contents among some citrus species and varieties.The citrus species and varieties used in the present study were as follows:1- Sour orange (Citrus aurantium L.).2- Sweet orange (Citrus sinensis L.).a-Washington navel orange variety.b-Jaffa orange variety.c-Mazizi orange variety.d-Succary orange variety.3- Clementine tangarine (Citrus reticulata).4- Balady mandarin (Citrus reticulata L.).-745-Cleopatra mandarin (Citrus reshni Tanka).6-Balady lime (Citrus aurantifolia christm).7-Persian or agami lime (Citrus aurantifolia).8-Lemon (Citrus limon L.).The results of the present investigation could be summarized as follows:1-Champhor and Linalool represented as a major components of the volatile oil in sour orange leaves while myrcence and limonene were found in lower percentage during the two seasons of study.2-B-pinene and Linalool represented as the major components of the volatile oil in Washington navel orange leaves but Geraneol and Eugenol were found in lower percentages during 1990 and 1991 seasons, respectively.3-B-pinene represented as the major components followed by linalool at a considerable level in the volatile oil of succkary orange leaves percentage.4-B-pinene and/or myrcene represented as the major components in the volatile oil of Jaffa orange leaves during both first and secodn season. In addition, Eugenol and p-pine contained was found in lower percentages in(75) volatile leaf oil of Jaffa orange during 1990 and 1991 seasons, respectively.5-p-pinene and myrcene during both seasons represented as the major components in the volatile oil of Mazizi orange leaves as well as linalool or camphor in 1st. and 2nd. seasons, respectively. Moreover, d-limonen and Eugenol are found in lower percentages during the study.6-Cleopatra mandarine leaves had the higher percentage of Linalool during both seasons and p-pinene in second season only. Meanwhile, carvon and limonene was found in lower percen-tages during first and second seasons, respectively.7-Eugenol is contained in a higher value in the valatile oil of balady mandarin leaves while lower value was varied from one season to another.8-Clemantin mandarin leaves had a higher values of p-pinene and linalool in the valatile oil during the two seasons of study. Meanwhile, the lower values were varied from one season to another.-769-Leaves of Balady Agami lime contained the highest percentage of myrcene and carvon and the lowest value of p-pinene of volatile oil during the study.10-Leaves of Agami ”Persian” lime showed that limonene was the most stable compounds with a relative higher level during both seasons. Meanwhile, Carvon and Myrcene shared two opposite trends during two seasons, since each was the dominant in one season but the reverse was true in second.11-d-limonene and carvon represented as the majorcomponents in the volatile oil of lemon leavesin 1990 season while champhor, myrcene andlinalool were the principal component in 1991season.