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The plum can be considered as one of the most important deciduous fruits in Egypt. Botanically it belongs to the order Rosales, the family Rosaceae and *Prunus* sp. which includes more than two thousands varieties/cultivars which belonging to the following four groups : American plum (*P.americana*), European plum (*P.domistica*), Myroplane plum (*P.ceresi*), Japanease plum (*P.salicana* L.).

In Egypt, plum tress cultivation began a long time ago since many of the European plum cultivars (*Prunus domestica* L.) were introduced. In 1911 some other varieties of Japanese plum cultivars (*Prunus salicina* L.) were also introduced.

The plum area is still limited in Egypt as a result of the insufficient chilling requirements in winter since the accummulated chilling hours reach about 132 to 305 hours at or below 7°C El-Wakeal et al. (1978). In spite of these facts, the total plum area in Egypt is still occupy about (4397) Feddans giving a total annual fruit production of about (20542) metric tons according to the latest statistics of the Ministry of Agriculture, Egypt, (1999).

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Furthermore, all plum cultivars under the present investigation belong to the Japanese group (*Prunns salicina* L.) which are in most cases self-unfruitful and need pollinizers from one hand and they bear fruits heavily on spurs from the other **Westwood (1978), Teskey and Schemaker (1982).**

The aim of this study was to evaluate eight of the most common plum cultivars namely, Hollywood, Beauty, Mehtly, Chymax, Santa Rosa, Golden Japanese, Dorado and El-Dorado under the Egyptian conditions cultivated on the experimental orchard at El-Kanater Horitcultural Research station, kalyubeia Governorate to determine the range of variations between those cultivars. Such studies are believed to be essential before other investigations on fruit production can proceed. Careful studies were intended concerning the vegetative growth characteristics, flowering, fruiting aspects and fruit physical and chemical properties under local conditions.

So such evaluations are devoted for detemining the suitability of these important Japenense cultivars through studying the behaviour of their growing and fruiting characteristics under climatic and environmental conditions of Kalyubeia Governrate (the nearest one to the greatest local market in Egypt "Cairo"). Consequently, it was also hoped to determine what of these investigated cultivars (2 or 3 ones at

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least) could be recommended for establishing new plum orchards in order to meet the continuously increased demand for such popular and desirable fruits by the Egyptian consumer.

Therefore, this investigation was carried out to throw some lights, not only on the performance productivity and fruit characteristics of all plum cultivars under study, but also to evaluate these cultivars through studying some of their phynological stages, vegetative growth measurements and fruiting aspects related to either flowering or fruiting measurements, as well as fruit quality of these cultivars.