

**Project Title** : Investigations on The Black Vine Weevils (*Otiorhynchus* spp., Col.:Curculionidae), Which Are Harmful in Strawberry Plantations of Izmir Province

**Start /End Date** : 1995-1999

**Supporting Body** : GDAR

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**Summary** : In 1995 and 1996, population fluctuations, biology, damage and hosts of *Otiorhynchus* spp. were investigated in a 3-da strawberry field consisting of Osmanlı and Sultanhisar varieties in İzmir-Menemen (Emiralem). It produces one generation per year. Larval durations were 6 months and 6 months plus 9 days in 1995 and 1996, respectively. Pupal durations were 18 and 38 days. First occurrences of adults were in 08.05.1995 and 17.05.1996. Larval duration was found as 6 months plus 10 days, pupal duration as 34 days in field cage in Bornova in 1999, whereas the first occurrence of adults was in 11.05.1999. Olive and walnut besides strawberry were their hosts. The most important damage was caused by larvae of *Otiorhynchus* spp. by feeding on fine roots of plants and girdling a hole in the main root. In damaged plants, development stops. Leaves and fruits of such plants are smaller than those of healthy ones. They ripen earlier but seem wilted or become flaccid. Wiltiness, dryness and dying occurs in infested plants. Oviposition periods ( $31\pm 7.43$  and  $22.25\pm 3.56$  days), daily ( $22.76\pm 3.68$  and  $36,57\pm 8.49$ ) and total fecundities ( $128.5\pm 34.28$  and  $128\pm 19.37$ ), incubation periods ( $8.47\pm 3.56$  and  $10.07\pm 0.66$  days), and hatching rates ( $85.32\pm 7.68$  and  $38.33\pm 10.33\%$ ); of eggs for *O. lubriculus* and *O. balcanicus* were determined in the conditions of  $25\pm 1$  °C temperature and 50-60 % relative humidity. The first egg laying (30.09.1996) and hatching (06.10.1996) dates, incubation period ( $13.57\pm 0.9$  days), larval and pupal durations ( $139.7\pm 1$  and  $18.7\pm 1$  days), first occurrence of adults (04.04.1997), and life span of adults ( $231\pm 9.9$  days) of *O. lubriculus* were determined in the conditions of  $20\pm 1$  °C temperature and 50-60 % relative humidity.