Project Title : Effect of Planting Time and Tomato Varieties on Broomrape Emergence (*Phelipanche* Spp.) and Tomato Yield in Western Turkey.

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Supporting Body : TÜBİTAK 106G070

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Summary : Turkey is one of the foremost tomato producing countries. Tomato and tomato products are important exporting goods as well as tomato is the most produced vegetable in Turkey. Tomato production for processing provides good income for farmers in the Marmara and Aegean Regions.

However, pests limit tomato yield. One of the pests in tomato production is broomrapes (*Phelipanche* spp. (syn. *Orobanche* spp.). Varying methods such as chemicals, organic amendments, planting time, pulling etc. have been recommended to control broomrapes; but there has not been a single method that effectively controls broomrapes in tomato fields.

In addition to economic losses, lack of very efficient control methods in tomato to control broomrapes has caused the problem to expand.

There are already varying variety choices for farmers. Also, a longer period is available for tomato transplanting. The aim of current paper is to identify a better variety, which is less affected by broomrape and transplanting time, which helps decreasing broomrape infestation. Experiments were established at different places in the South Marmara Region each year in 2007, 2008, and 2009. Experiments were set in split plot design with RCBD arrangement and four replications. The main plot was transplanting times.

There were three planting times: Early (the second half of April), medium (the first half of May), and late (the second half of May). Three tomato varieties were studied: Sachta, Hibrit 2710, and Alta. Fields were infested with a mixed population of *Phelipanche aegyptiaca* (syn. *Orobanche aegyptiaca*) and *P. ramosa* (syn. *O. ramosa*). The number of broomrape shoots were counted and tomato yield was determined. Data from the three years were pooled and analyzed. Number of emerged broomrapes and tomato yield were not affected by transplanting time (early, medium and late).

The effect of varieties on broomrape stand was independent from effects of years and planting times. However, cv SACHTA caused more broomrape emergence than two other varieties (ALTA and H.2710) (see table), although it was not reflected in tomato yield. Tomato yield was 85 t ha^{-}.