

**Project Title** : Identification of Pepino Mosaic Virus, Tomato Ringspot Virus and Potato Virus Y as a Problem of Greenhouse Tomato Production in Aegean Region and Investigation of their Epidemiology and Precaution Methods

**Start Date** : 2011

**Supporting Body** : GDAR

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**Summary** : As in all over the world, in our country too, in greenhouse tomatoes (*Lycopersicon esculentum* Mill.) cultivation important losses can be occur in the quality and the quantity of the product because of the diseases and insects. Among these, because of the absence of direct chemical control method against the virus disease, its importance is very high. In the recent years obviously noticed that new virus diseases cause problems in Aegean region. Among these, there are *Pepino mosaic potexvirus* (PepMV), *Tomato ringspot nepovirus* (ToRSV) and *Potato Y potyvirus* (PVY). In order to determine the factors that are effective in spread of PepMV, ToRSV and PVY and to suggest control methods, a study directed to the epidemiology of the pathogens was established.

In the scope of these studies, primarily the serological and the molecular diagnosis of PepMV, ToRSV and PVY will be applied. Besides, strains of PVY in the tomatoes will be determined serologically. Also with this study, locations of PepMV, ToRSV and PVY in the seeds and the transmission rate of these viruses by the seed will be determined. Also 10% of trisodyum fosfat will be applied to the seeds infected with PepMV, ToRSV and PVY to determine the effect of it on the elimination of these viruses. Vectors that are playing active role in spread of PepMV, ToRSV and PVY, will be determined and weeds that are potential inoculum resource for these viruses will be determined too.

At the end of the project, active factors in the epidemiology of PepMV, ToRSV and PVY will be determined and precautions for the management of the diseases caused these factors will be established. Therefore spread of these viruses to the virus-free regions is going to be prevented. Trainings for the farmers about these diseases will be carried out and application of wrong pesticide and fertilizers will be prevented.