

Seed Transmission Viruses in Squash Seeds (*Cucurbita pepo*) in Southern Syria and Jordan Valley

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Abstract

This study was conducted to identify virus transmission in imported and local squash seeds. Seeds were collected from symptomatic and symptomless fruits in Southern Syria and the Jordan Valley, during the 2006/2007 growing season. Serological tests indicated the presence of 8 seed transmitted viruses at different rates: Cucumber mosaic virus (CMV) was the most commonly encountered virus in all seedlings (0.5%) and in symptomatic fruits (2.4%), followed by Arabis mosaic virus (ArMV) (0.27%) and 1.8% in seeds of symptomless fruits, Tomato ring spot virus (ToRSV) (0.23%) and 1.2% in symptomatic fruits, Zucchini yellow mosaic virus (ZYMV) (0.25%) and 0.4% in symptomatic fruits (detected in one seedling), Tomato spotted wilt virus (TSWV) (0.12%), Tomato black ring virus (ToBRV) (0.15%), Squash mosaic virus (SqMV) (0.08%), Cucumber green mottle mosaic virus (CGMMV) (0.08%). The seed transmission rates were 5.2% and 4.8% in seeds from symptomatic and symptomless fruits, respectively, and these rates were lower in imported seeds (0.25%) than in Syrian local seeds (0.64%). Serological tests indicated that viral incidence in all seeds was 1.47% (38 virus-infected seedlings from a total of 2575 seedlings). This is the first record of virus seed transmission of ArMV, ToRSV, TSWV and ToBRV in squash seeds. Serological tests indicated the absence of Papaya ring spot virus (PRSV), Watermelon mosaic virus (WMV) and Squash leaf curl virus (SLCV) from the seeds. Seed germination was higher in imported seeds (81.5%) as compared to Syrian local seeds (78%), Jordanian local seeds (40%), seeds from symptomless fruits (33%) and in symptomatic fruits (25%).

Keywords

Viruses, Squash, Seed transmission, Syria, Jordan