

## ABSTRACT

### PREVALENCE AND INCIDENCE OF FUSARIUM WILT OF WATERMELON, RACES AND VEGETATIVE COMPATIBILITY GROUPS OF THE CAUSAL AGENT, *Fusarium oxysporum* f.sp. *niveum* (*Fon*), IN THE AYDIN PROVINCE AND REACTIONS OF SOME WATERMELON CULTIVARS TO *FON* RACES

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The death of watermelon plants is a major limiting problem in commercial watermelon production in Aydın Province. Among the factors that known as a cause of death in watermelon, Fusarium wilt is one of the most common one worldwide. In this study, the field surveys were conducted in the watermelon producing areas of Aydın and its counties to determine prevalence and incidence of the disease and to collect diseased plant samples. The surveys revealed that the disease prevalence ranged between %45-100 in the counties. A total of 185 *Fusarium* spp. isolates were recovered from 470 samples collected from the watermelon plants exhibiting wilting symptoms. As a result of pathogenicity and diagnosis studies, 73 isolates were identified as *Fusarium oxysporum* f.sp. *niveum* (*Fon*). In the fields where the *Fon* isolates obtained, the incidence of Fusarium wilt was found to be between %0.17-12. Of these isolates %28.8 were identified as race 0, %37.0 were Race 1 and %34.2 were Race 2. Race 3, known as the most virulent race of *Fon*, was not detected. According to the reactions of five current commercial watermelon cultivars (Crimson Sweet, Crimson Tide, Galaxy, Wonder and Anthem F1) to native and tester isolates, Wonder and Crimson Sweet were determined as the least and the most susceptible ones, respectively. On the other hand as a result of pairings, *nit* mutants of the 56 isolates were gathered under three different VCGs. Among them 28 isolates were VCG 0080 and 13 were VCG 0082. The rest (15) were formed an another group.

**Keywords:** *Fusarium oxysporum* f.sp. *niveum*, watermelon, *Fon* races, *Fon* vejetative compatibility groups.