

## **Prevalence of Fusarium wilt disease of cucumber (*Cucumis sativus* Linn) in Peninsular Malaysia Caused By *Fusarium oxysporum* and *F. solani***

### **ABSTRACT**

Fusarium wilt disease is one of the most problematic and destructive disease in cucumber production. The causative agents are *Fusarium oxysporum* and *F. solani*. These pathogens are soil borne and transmitted through infested soil and water. A field survey was conducted to study the disease prevalence in the major growing areas of cucumber in Peninsular Malaysia. Field study revealed that the disease was highly prevalence in the field with the disease incidence was in the range of 10%–60%. The morphological properties of *F. oxysporum* are microconidia (3.8–15.7  $\mu\text{m} \times 2.9\text{--}4.9 \mu\text{m}$ ), macroconidia (14.8–38.5  $\mu\text{m} \times 2.4\text{--}5.7 \mu\text{m}$ ) and number of septate was 1–4. While for *F. solani* are microconidia (3.39–14.63  $\mu\text{m} \times 2.36\text{--}4.44 \mu\text{m}$ ), macroconidia (7.22–50.46  $\mu\text{m} \times 2.43\text{--}6.14 \mu\text{m}$ ) and number of septate was 1–5. Based on molecular identification had confirmed that the disease is caused by *F. oxysporum* and *F. solani* with similarity index of 99%–100% based on internal transcribed spacer (ITS) gene sequences. The pathogenicity test showed that the symptoms of Fusarium wilt disease was firstly appeared as yellowing of old leaves. Progressively, the infected plant will be wilted and finally died. The outputs of this study are highly important to establish an effective disease management programme to reduce disease prevalence and yield loss in the field.

**Keyword:** Disease prevalence; Cucumber; *Fusarium oxysporum*; *Fusarium solani*