



Integrated management of fusarium wilt of brinjal

M.R. DABBAS*, RAJIV¹, H.G. PRAKASH AND PALLAVI

Department of Vegetable Science, C.S. Azad University of Agriculture and Technology,
KANPUR (U.P) INDIA

Abstract : Wilt of brinjal (*Solanum melongena* L.) due to (*Fusarium solani*) caused much damage to the crop. To manage wilt through integrated approach an experiment was conducted with thirteen treatments of green manuring, seedling treatments, soil drenching with chemicals and bio-agents. The seedling treatment with carbendazim solution (0.25%) for thirty minutes with soil drenching by carbendazim solution @ (0.25%) three times at 15 days interval, starting at the age 25 days of crop after transplanting was best, which gave average (6.70%) disease intensity and average fruit yield (91.11 kg) in 5m x 3m plot of crop and highest C:B ratio 1:2.84.

Key Words : *Fusarium solani*, Bio-agents, Carbendazim, Drenching, *Trichoderma harzianum*

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INTRODUCTION

Brinjal (*Solanum melongena* L.) is a widely grown vegetable crop in Asian countries. It occupies the third position amongst vegetable crops in our country. Among other factors for low productivity of the brinjal crop, disease is one of them. Wilt is the most important disease for poor yield (Abdel-el-Rehim *et al.*, 1987, Celar, 2000). Species of *Fusarium* are responsible for vascular wilt e.g., *F. solani* f. sp. cucurbitae, cause crown rot, foot rot and fruit rot of squash and pumpkin (Zitter, 1996) which can be seed borne both internal and external and survive more than 1-2 years in seed (Watt, 2006). After germination secondary infection of the fungus may be managed by use of carbendazim, aliette and benlate. Carbendazim completely eradicated seed borne infection of *F. solani* in bitter melon and gave maximum reduction in cucumber and bottle gourd. Root infection was completely checked by benlate and carbendazim (Nasreen and Ghaffar, 2010). Hence, an attempt was made to study the integrated approach of management of wilt brinjal.

MATERIALS AND METHODS

The experiment was conducted at the vegetable Research

farm Kalyanpur, Chandra Shekhar Azad University of Agric. and Tech., Kanpur in randomized block design with thirteen treatments along with three replications. The brinjal variety K S 235 was taken for experiment. Treatments were (T₁) green manuring, (T₂) seedling treatment with carbendazim, (T₃) soil drenching with carbendazim three times, (T₄) soil drenching with carbendazim two times, (T₅) seed treatment with *Trichoderma harzianum*, (T₆) soil drenching with *Trichoderma harzianum*, (T₇) green manuring + soil drenching with carbendazim two times, (T₈) green manuring + seed treatment with *Trichoderma harzianum*, (T₉) seedling treatment with carbendazim + soil drenching with *Trichoderma harzianum* three times, (T₁₀) seedling treatment with carbendazim + soil drenching with *Trichoderma harzianum* two times, (T₁₁) green manuring + soil drenching with *Trichoderma harzianum* + soil drenching with carbendazim two times, (T₁₂) seedling treatment with carbendazim + soil drenching with *Trichoderma harzianum* + soil drenching with carbendazim two times and (T₁₃) green manuring + seedling treatment with carbendazim + soil drenching with *Trichoderma harzianum* + soil drenching with carbendazim two times were used. To get the maximum disease intensity, disease sick plot was used for transplanting in all the three years. The total population of causal agent was

* Author for correspondence.

¹Directorate of Extension, C.S. Azad University of Agriculture and Technology, KANPUR (U.P) INDIA