

INTEGRATED PEST AND DISEASE MANAGEMENT THROUGH ORGANIC FARMING APPROACHES IN MUSTARD

L.K. Chhata^{1*}, Jeeva Ram Verma², S.K. Sharma³ and N.L. Dangi⁴

¹*Dryland Farming Research Station (MPUAT), Bhilwara-313001 (Rajasthan)*

²*Chief Scientist and Head KVK Guda Malani, Barmer (Rajasthan)*

³*Zonal Director Research ARS (MPUAT) Udaipur*

⁴*Department of Entomology, RCA, (MPUAT) Udaipur*

Received-14.05.2017, Revised-24.05.2017

Abstract: Field experiment was conducted to study the effect of the different organic modules for management of *Alternaria blight* and *Powdery mildew* diseases of Indian Mustard (*Brassica juncea*)(L.) Czern & Coss) Efficacy of different organic modules were also tested against aphid management in successful growing of organic mustard. Treatment module comprising of seed treatment with *Trichoderma viride*@8g/kg seed + foliar spray of Azadirachtin @3ml/lit. at 5-10DAS+Neem oil spray@2% at 10-20DAS+NSKE spray@5% at 30-40 DAS+cow urine spray@10% at 50-60DAS+milk whey spray @10% at 60-75 DAS was found significantly superior over control and gave maximum seed yield of mustard 13.65q/ha. in comparison to control which gave only 10.16q/ha. mustard seed yield. This organic module was found superior in respect to disease control also, and effectively controlled both the diseases and record minimum disease intensity of *Alternaria blight*(15.94%) and *Powdery mildew* 17.67%. Where as in control 38.32% and 48.15% disease intensity was observed respectively. This module gave the highest net return of Rs.23294/over control with maximum B:C ratio of 1.88, 1.83 and 1.84 in year 2012-13 & 2013-14 & 2014-15 respectively.

Keywords: Mustard, *Alternaria blight*, *Powdery mildew*, Aphids *Trichoderma viride*, Milk whey, *Azadirachtin*

REFERENCES

Anonymous (1994). Crop/plant Disease scoring scale. Plant Pathology division, BARI, Joydebpur, Gazipur, pp.17

Gomez, K.A. and Gomez, A.A. (1983). Statistical procedures for Agricultural Research^{2nd} International Research Institute Manila, Philippines 139-207.

Laxman, P. and Nair, M.C. (1984). *Madras Agril. J.* 71:526-529.

Mani, Bhushan, Rao, K., U.I. Baby and Y. Joe (1988). Influence of various amendments on soil microflora in relation to sheath blight of rice. *5th Int. Cong. Pl. Pathol.* Kyoto, Japan.

Rahman, M.A., Ahmed, H. and Alam, K.B. (1986). Studies on the efficacy of fungicides and the date of commencing of spray in controlling tikka and rust of ground nut. *Bangladesh J Pl Pathol* 2:57-61.

Ravi Chander, R. (1987). Studies on antifungal activity of some plant extracts II M.Sc. (Ag.) Thesis, Tamil Nadu Agril. Univ. Coimbatore, 90pp

Sharma, S., Singh, J., Munshi, G.D. and Munshi, S.K. (2010). Biochemical changes associated with application of biocontrol agents on Indian mustard leaves from plant infected with *Alternaria Blight*. *Arch Phytopath Pl Prot* 43:315-323

Sharma, S.R. (1984). Effect of fungicides on the development of *Alternaria brassicae* and *Drechslera gramineae*. Proceedings of Indian Natural Science 346:393-396

Willer, Helga (2011). Organic Agriculture worldwide. In: The World of organic Agriculture. Statistics and Emerging Trends. IFOAM, Bonn and FiBL, Frick, pp 34-60.

*Corresponding Author