

## **Management of alternaria leaf blight of sunflower (*Helianthus annuus* L.) caused by *Alternaria helianthi* (Hansf.)**

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**ABSTRACT:** Fungicide, botanical and bio-agent, evaluated against Alternaria leaf blight of sunflower and disease intensity was recorded. The experiment was conducted in pots during zaid 2012. Three Sprays of Garlic clove extract @5%+ Thiram @2g/l of water along with soil application of *Trichoderma viride* @8 g/kg soil recorded disease intensity to the extent of 5.72% where as similar no. of sprays with Garlic clove extract @ 5% + Thiram @ 2g/l had 8.91% and three spray with Garlic clove extract @ 5% & soil application of *Trichoderma viride* @ 8g/kg soil recorded 10.04% compared to control (62.25%). Hence, three sprays of Garlic clove extract @5% + thiram @ 2g/l of water along with soil application of *T. viride* @ 8g/kg of soil may be recommended to the farmers for effective management of this disease.

**Key Words:** *Alternaria helianthi*, sunflower, alternaria leaf blight, disease intensity (%).



**Table-1 :** Effect of fungicide, botanical and bio-agent on disease intensity (%) of Alternaria leaf blight.

| Treatments   | Disease intensity (%) of Alternaria leaf blight |        |       | Per cent suppression of disease intensity |
|--|---|--------|-------|---|
|  | 45 DAS  | 60 DAS | 75DAS |   |
| T <sub>0</sub> = Control(Untreated)  | 34.68   | 47.94  | 62.25 | –   |
| T <sub>1</sub> = Garlic clove extract @ 5%( foliar spray)  | 12.38   | 13.28  | 14.17 | 77.23                                     |
| T <sub>2</sub> = Thiram @ 2g/l of water( foliar spray)   | 11.56   | 12.72  | 13.57 | 78.20                                     |
| T <sub>3</sub> = <i>T.viride</i> soil application 8g/kg soil (soil application)  | 13.26   | 16.22  | 20.02 | 67.83                                     |
| T <sub>4</sub> = Garlic clove extract @ 5% ( foliar spray) + Thiram @ 2 g /l of water( foliar spray)   | 6.15  | 8.04   | 8.91  | 85.68                                     |
| T <sub>5</sub> = Garlic clove extract @ 5%( foliar spray) + <i>T.viride</i> 8 g/kg soil ( soil application)  | 6.32  | 8.85   | 10.04 | 83.87                                     |
| T <sub>6</sub> = Garlic clove extract @ 5% ( foliar spray) + Thiram @ 2g/l of water( foliar spray) + <i>T.viride</i> 8g/kg soil(soil application ) | 4.45  | 5.12   | 5.72  | 90.80                                     |
| Mean   | 12.68   | 16.02  | 19.24 |   |
| S. Em ±  | 0.51  | 0.80   | 1.03  |   |
| CD at 5%   | 1.268   | 1.570  | 1.787 |   |

