

Bioefficacy of New Molecules Against Whitefly, *Bemisia tabaci* (Gennadius), Thrips, *Scirtothrips dorsalis* Hood and RED Spider Mite, *Tetranychus* sp. on Cotton under Gangantic Basin of West Bengal

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Abstract—Field experiment was conducted at 'D' block farm of Bidhan Chandra Krishi Viswavidyalaya, Kalyani, Nadia, West Bengal (22°58'52" N; 88°26'30" E, 10 m above sea level), India during cotton season of 2014-15 to determine the comparative efficacy of some new molecules against 3 major sucking pests of cotton viz. whitefly, *Bemisia tabaci* Gennadius, thrips, *Scirtothrips dorsalis* Hood and red spider mite, *Tetranychus* sp. Three applications of diafenthiuron 40.5% + acetamiprid 3.9% WP at three different doses viz. 400g, 500g and 600g per ha each along with diafenthiuron 50 WP @ 600 g/ha, acetamiprid 20 SP @ 100 g/ha and imidacloprid 17.8 SL @ 125 ml/ha were made at 15 days interval during this trial. Among the different treatments diafenthiuron 40.5% + acetamiprid 3.9% WP @ 600 g/ha showed the best efficacy for controlling all the three sucking pests of cotton, though it is statistically at par with the same product when applied at 500 g/ha. Second best result was obtained from T₅ i.e. acetamiprid 20 SP @ 100 g/ha when white fly is concern but in case of thrips and mite it is T₁ i.e. diafenthiuron 40.5% + acetamiprid 3.9% WP @ 400 g/ha and T₄ i.e. diafenthiuron 50 WP @ 600 g/ha, respectively gave the second best result. The maximum yield (23.24 q/ha) was recorded in T₃ i.e. diafenthiuron 40.5% + acetamiprid 3.9% WP @ 600 g/ha followed by its next lower dose i.e. diafenthiuron 40.5% + acetamiprid 3.9% WP @ 500 g/ha (22.96 q/ha), though both are statistically at par.