

FIELD BIO-EFFICACY OF FLONICAMID AGAINST SUCKING INSECT PESTS OF SOYBEAN (*GLYCINE MAX* (L.) MERRIL)

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Abstract: The experiment was carried out during 2018-19 and 2019-20 at Instructional and Research Farm, KrishiVigyan Kendra, Mandasaur, in randomized block design with three replications. The soybean variety JS 20-29 was sown on 20/06/2019 in first season and 22/06/2020 in second season with spacing of 45X 10 cm. All the standard agronomical practices were adopted for growing the crop. Three doses of flonicamid 50% WG @ 75, 100 and 125 g.a.i^{ha}⁻¹, ethion 50% EC @ 750 g.a.i^{ha}⁻¹ and profenophos 50 % EC @ 500 g.a.i^{ha}⁻¹ were applied twice against aphid (*Aphis gossypii*), jassid (*Amrascabi gottulabiguttula*) and whitefly (*Bemisia tabaci*) in morning hours at 15 days interval at the ETL level of pests. The sucking pest population was recorded before first spray and at 3, 7 and 14 days after each spray on randomly selected five plants per plot and three leaves per plant and averaged during both the seasons. The overall per cent population reduction over control was calculated from last observation of second spray. Finally plot wise grain yield was recorded and converted into kg/ha. All the collected data was averaged and analyzed statistically using suitable transformation. The highest dose of flonicamid 50% WG @ 125 g.a.i^{ha}⁻¹ exhibited highest efficacy in all the intervals of both sprays during both the years with maximum population reduction (96.68 % and 97.14%) followed by second highest dose of flonicamid 50% WG @ 100 g.a.i^{ha}⁻¹ (94.56% and 95.51%) and third dose of flonicamid 50% WG @ 75 g.a.i^{ha}⁻¹ (90.63% and 88.98 %), respectively against aphid. Rest of the insecticides comparatively showed lesser population reduction. Similar trend of efficacy was recorded against jassid during both the years as flonicamid 50% WG @ 125 g.a.i^{ha}⁻¹ (100% and 100 %) showing non-significant difference with flonicamid 50% WG @ 100 g.a.i^{ha}⁻¹ (96.15% and 100%) and followed with flonicamid 50% WG @ 75 g.a.i^{ha}⁻¹ (88.46% and 85.71 %), respectively. Maximum whitefly population reduction was observed in flonicamid 50% WG @ 125.00 g.a.i^{ha}⁻¹ (95.74 % and 93.98 %) and little difference with flonicamid 50% WG @ 100 g.a.i^{ha}⁻¹ (92.55% and 92.13%) followed by flonicamid 50% WG @ 75 g.a.i^{ha}⁻¹ (85.11 % and 84.26%), respectively. During first and second season per cent increase in yield was noted with flonicamid 50% WG @ 125.00 g.a.i^{ha}⁻¹ (62.53 % and 58.20 %) followed by flonicamid 50% WG @ 100 g.a.i^{ha}⁻¹ (55.65% and 51.16 %), respectively.

Keywords: Flonicamid, Bio-efficacy, Aphid, Jassid, Whitefly, Assessment

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