

Economics of indigenous materials and new insecticide molecules against pod borers of blackgram



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SUMMARY

Indigenous materials like GCK, NSKE, GE and Panchagavya registered a very high B : C ratio of 11.80, 11.08, 7.99 and 3.93, respectively. The newer insecticide molecules, flubendiamide 24% + thiacloprid 24-48% SC and emamectin benzoate recorded lower B : C ratio of 4.27 and 7.55. However, the highest BC ratio of 11.13 and 15.13 was recorded in indoxacarb and fenvalerate.

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Pulses are generally grown on marginal soils both as sole and intercrop during *Kharif*, *Rabi* and *summer* seasons. The pulse crops have well deep root system and have a capacity to tolerate drought. Unique characteristic of maintaining and restoring soil fertility through biological nitrogen fixation and thus play a vital role in sustainable agriculture (Asthana, 1998).

India is the largest producer and consumer of pulses in the world accounting for 33 per cent of world area and 24 per cent of world production. In India, the total area under pulses was 23.86 million hectares with a total production of 15.12 million tonnes and the average productivity of 638 kg per hectare (Anonymous, 2008).

The information is scanty on cost economics of insecticides to manage the pod borers on blackgram. Hence, present investigation was initiated to fill up this lacuna.

A field experiment was conducted during *Kharif* 2008 to evaluate the efficacy of

indigenous materials and new insecticide molecules against pod borers at Agricultural Research Station, Kathalagere, Davangere, Karnataka (India) by using a blackgram variety Rashmi (LBG-625). The experiment was laid out in randomized block design with twelve treatments and three replications. The crop was sown with a spacing of 30 cm between rows and 10 cm between plants in a plot size of 3 m x 2.5 m with all agronomic practices as given in package of practices except plant protection measures.

When the crop matured, the pods were harvested individually from each net plot and threshed; weight of grain was recorded separately from each plot and worked out the cost benefit ratio.

Indigenous materials like GCK, NSKE, GE and Panchagavya registered a very high B : C ratio of 11.80, 11.08, 7.99 and 3.93, respectively (Table 1). However, Sharanabasappa (2002) reported higher BC with ratio in nimbecidine (2.91) and NSKE (2.75) against pod borers. While, Rekha (2005)

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Table 1 : Cost economics of pod borers management on blackgram

Treatments	Total cost of treatment application (Rs./ha)	Yield (q/ha)	Additional yield over control (q/ha)	Additional returns (Rs./ha)	Net returns (Rs./ha)	B:C ratio
T ₁ – NSKE 5%	680	4.00	2.19	8213	7533	11.08
T ₂ -GCK (0.5%)	630	3.96	2.15	8063	7433	11.80
T ₃ -GE (1%)	580	3.20	1.39	5213	4633	7.99
T ₄ -Panchagavya	1400	3.65	1.84	6900	5500	3.93
T ₅ -Spinosad 45SC (0.2ml/l)	1940	4.81	3.00	11250	9310	4.80
T ₆ -Emamectin benzoate 5SG (0.2g/l)	1780	5.87	4.06	15225	13445	7.55
T ₇ -Flubendiamide 480SC (1ml/l)	1600	5.08	3.27	12263	10663	6.66
T ₈ -Indoxacarb 14.5SC (0.3ml/l)	1150	5.53	3.72	13950	12800	11.13
T ₉ -Fenvalerate 20EC (0.5ml/l)	600	4.39	2.58	9675	9075	15.13
T ₁₀ -Endosulfan 35EC (2ml/l)	600	3.12	1.31	4913	4313	7.19
T ₁₁ -Flubendiamide24%+Thiacloprid24-48%SC (2ml/l)	3200	6.31	4.5	16875	13675	4.27
T ₁₂ -Untreated control	-	1.81	-	-	-	-

Grains/Seeds price: Rs.37.5 per kg

reported higher B : C ratio in GCK + cow urine (2.8) followed by GCK, GE + cow urine and NSKE + cow urine; Ravi Kumar (2004) also recorded similar results in chilli.

Although the flubendiamide 24% + thiacloprid 24-48%SC and emamectin benzoate proved to be the most effective treatments but due to high cost of the chemicals, they could record lower B : C ratio of 4.27 and 7.55. However, the highest BC ratio of 11.13 and 15.13 was recorded in indoxacarb and fenvalerate, respectively (Table 1). Similar results were obtained by Sharanabasappa (2002) and Rekha (2005) in greengram and dolichos bean ecosystem.

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