Research Note :

Effect of indigenous plant products and oils against the pulse beetle *Callosobruchus chinensis* (Linn.) on stored black gram

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Blackgram is considered to be an ancient crop and cultivated in India since time immemorial. Pulses belong to the sub family Fabaceae. Pulses suffer a great deal of damage during storage due to attack by the pulse beetle *Callosobruchus chinenis* (Linn.) (Bruchidae; Coleoptera).They are known to cause quantitative and qualitative losses to the stored pulses in India. Even though, infestation begins in the field, serious damage is caused during storage. The grain damage is as high as 69.39 per cent under storage conditions (Singh *et al.,* 2001).

Synthetic insecticides have played a major role in pest control and caused serious ecological problems such as bio-magnification, resistance, resurgence etc. To overcome these problems, our plant kingdom is bestowed with huge array of phyto chemicals. Phyto chemicals possess a wide spectrum of biological properties against insects. Botanicals and vegetable oils can be used to keep

Table 1 : Effect of plant products and oils against the pulse beetle *Callosobruchus Chinensis* Linn. on stored blackgram

Treatments	45 days	90 days	120 days	150 days	Over all mean
Cator oil @ 1%	1.67 (0.42)[a]	2.67 (0.47)[ab]	4.00 (0.67)[ab]	4.67 (0.75)[ab]	3.25 (0.61)[b]
Gingelly oil@1%	3.67 (0.67)[bc]	3.00 (0.49)[ab]	5.67 (0.81)[b]	4.67 (0.75)[ab]	4.25 (0.71)[b]
Neem oil @ 1%	0.00 (0.00)[a]	0.67 (0.16)[a]	2.00 (0.39)[a]	3.00 (0.58)[a]	1.42 (0.33)[a]
NSKE powder 3%	3.33 (0.63)[bc]	5.00 (0.74)[abc]	3.33 (0.63)[ab]	5.33 (0.78)[ab]	4.25 (0.71)[b]
Neem leaf powder 3%	5.33 (0.78)[c]	2.67 (0.44)[ab]	7.67 (0.93)[bc]	8.33 (0.96)[b]	6.00 (0.82)[bc]
Pungam leaf powder@1%	12.00 (1.11)[d]	19.00 (1.29)[cd]	16.33 (1.23)[c]	18.00 (1.26)[c]	16.33 (1.23)[d]
Malathion 50 EC@0.05%	2.67 (0.55)[ab]	3.33 (0.51)[ab]	3.67 (0.67)[ab]	8.00 (0.92)[b]	4.42 (0.71)[b]
Ash @ 3%	9.33 (1.01)[d]	6.67 (0.87)[bc]	5.67 (0.77)[b]	19.67 (1.30)[c]	10.33 (1.01)[c]
Control	15.00 (1.18)[d]	72.00 (1.84)[d]	91.33 (1.96)[d]	91.00 (1.96)[d]	67.33 (1.75)[e]
CD Value	0.20**	0.56**	0.31**	0.24**	0.26**

Values in parentheses are log (X+1) transformed values
Mean followed by same letters in a column are not significant different by DMRT
 ** - Significant at 1% level

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