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Host preference of *Corcyra cephalonica* (Stainton) under random choice test on different solo grains and their combinations with oilseeds

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Abstract
Laboratory experiment was carried out to study the "Comparative performance of different diet ingredients on growth and development of rice moth, *Corcyra cephalonica* (Stainton) under laboratory condition" at Department of Agricultural Entomology, College of Agriculture, VNMKV, Parbhani during 2020 – 2021. The research data reported the maximum larvae were recorded in T_5 (Sorghum 2.5 kg + Groundnut 150 g) with 5.34 larvae which was superior over all treatments. The minimum larvae were observed in treatment T_4 (Bajra 2.5 kg + Soybean 150 g) and T_2 (Bajra 2.5 kg) as 1.67 larvae. Sorghum combined with groundnut found to outperform over all treatments.

Keywords: Host preference, *Corcyra cephalonica*

Introduction
Our populous, fast-paced world demands quality food that is affordable and lots of it. When it comes to agriculture and need to meet our world's growing needs, pesticide use is often a topic of controversy. Pesticides often increase crop yields but an abundance of crop yields is an anachronistic when the cost is human life. Farmers has become increasingly concerned about the use of pesticides and the possible adverse effects on human health, wildlife and overall environmental quality. Biological pest suppression among various methods of pest suppression is painstaking to be the most environment friendly, economic and everlasting tool of IPM strategies forming a part of sustainable agriculture. The rearing host diet media of *Corcyra cephalonica* is potentially of status to the nutritious quality of host eggs released into the environment as biological control agents (Hunter, 2003) [2]. Rearing of *Corcyra cephalonica* on effectual food stuffs resulted in production of powerful eggs and moths.

Material and Method
The present investigation was conducted to study the "Comparative performance of different diet ingredients on growth and development of rice moth, *Corcyra cephalonica* (Stainton) under laboratory condition" at the laboratory of Insect parasitology research scheme, Department of Entomology, College of Agriculture, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani during the academic year 2020-2021.
To examine the host preference of *Corcyra cephalonica* on solo and combination grains apparatus was prepared by wooden card board for examining the food preference of insects. A wooden card board apparatus is designed in such a way that all the grains are placed at equidistance from the centre and solo grains with their combinations for testing food preference of rice moth. Twenty five larvae of *Corcyra cephalonica* reared of different diets were taken out to check their random choice of diet. After release of larvae on the wooden apparatus was covered with the lid having open centre covered with muslin cloth for aeration and light. The observations were recorded after 24 hours. The number of reared larvae on different diets were recorded. The experiment was repeated three times.

Result and Discussion
The present research findings was carried out to assess the effect of host preference of *Corcyra cephalonica* larvae on different solo grain and their combination with oilseeds under random choice test *Corcyra cephalonica* was reared on eight different diets including two solo grains and six with combination of oilseeds *viz.* T_1 (Sorghum 2.5 kg), T_2 (Bajra2.5 kg), T_3 (Sorghum 2.5 kg + Soybean 150 g), T_4 (Bajra 2.5 kg + Soybean), T_5 (Sorghum 2.5 kg + Groundnut 150

g), T_6 (Bajra 2.5 kg + Groundnut 150 g), T_7 (Sorghum 1.25 kg + Bajra 1.25 kg + Groundnut 150 g) and T_8 (Sorghum 1.25 kg + Bajra 1.25 kg + Groundnut 150 g). Twenty-five larvae of *Corcyra cephalonica* were reared on different diets and the observations were recorded after 24 hours. This experiment was repeated for three times.

The research findings data reported the maximum larvae were recorded in T_5 (Sorghum 2.5 kg + Groundnut 150 g) with 5.34 larvae which was superior over all treatments. The next effective treatments in order of merit were T_6 (Bajra 2.5 kg + Groundnut 150 g) followed by T_8 (Sorghum 1.25 kg + Bajra 1.25 kg + Groundnut 150 g), T_3 (Sorghum 2.5 kg + Soybean 150 g) and T_7 (Sorghum 1.25 kg + Bajra 1.25 kg + Soybean 150 g) with 4, 3.67, 3.34 and 3 larvae respectively. The minimum larvae were observed in treatment T_4 (Bajra 2.5 kg + Soybean 150 g) and T_2 (Bajra 2.5 kg) with 1.67 larvae followed by 2.67 larvae observed in treatment T_1 (Sorghum 2.5 kg).

The results obtained are in conformity with Tirthkar (2006) [5] worked out the food preference of Corcyra was bajra (2.5 kg) + groundnut (100 g) was extremely choicest among all the diet combinations. Similar observations of Dharne (2018) [1] proved that two diets *viz* T_9 (sorghum 2500 g + groundnut 150 g) and T_8 (bajra 2500g + groundnut 150 g) found to outperform among nine various diets used in solo as well as in combinations with soybean and groundnut for rearing of *C. cephalonica.*

Kumar *et al*. (2018) [3] concluded over all diets used, diet sorghum combined with groundnut was observed with best results. Kumar *et al*. (2019) [4] reported the results on most efficient performance on diet consisting sorghum + groundnut + yeast.

Table 1: Effect of host preference of *Corcyra cephalonica* on different solo grains and their combination under random choice test.

Tr. No.	Treatments	Larva found in each diet
T_1	Sorghum 2.5 kg	2.67
T_2	Bajra 2.5 kg	1.67
T_3	Sorghum 2.5 kg + Soybean 150 g	3.34
T_4	Bajra 2.5 kg + Soybean 150 g	1.67
T_5	Sorghum 2.5 kg + Groundnut 150 g	5.34
T_6	Bajra 2.5 kg + Groundnut 150 g	4
T_7	Sorghum 1.25 kg + Bajra 1.25 kg + Soybean 150 g	3
T_8	Sorghum 1.25 kg + Bajra 1.25 kg + Groundnut 150 g	3.67
	Range	1.67 – 5.34
	Mean	3.13
	'F' test	Sig.
	S.E(M)	0.353
	CD at 5%	1.059
	C.V %	19.59

Conclusion

These research finding concluded that among all the eight treatment used for rearing *Corcyra cephalonica* in aspect to know the host preference was T_5 i.e. sorghum + groundnut. Most preferred diet by *Corcyra cephalonica* was coarsely ground sorghum in combination with groundnut was found to outperform over all treatments.

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