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

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Abstract
Laboratory experiment was conducted to study the "Influence 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 2024-2025. The present research findings was carried out to assess the effect of host preference of *Corcyra cephalonica* (Stainton) larvae on different solo grain and their combination with groundnut under random choice test *Corcyra cephalonica* (Stainton) was reared on eight different diets including three solo grains, four with combination of groundnut and one combination is cereals and results obtained maximum larvae in each diet indicated that treatment Sorghum 2.5kg + Groundnut 150g.

Keywords: Host preference, *Corcyra cephalonica* (Stainton) Rice moth

Introduction
Corcyra cephalonica (Stainton) (Lepidoptera; Pyralidae) commonly known as rice moth or flour moth is one of the most destructive and cosmopolitan pests of stored cereals, pulses, and their products Studies on this type of aspects could be easily carryout by using the insects especially with stored product insect pests. Since most of these insects are studied well with respects to host preference and feeding behavior. One can easily investigate and obtain answer for the above interesting topics. One such a stored product insect pest in *Corcyra cephalonica* (Stainton) belongs to the order Lepidoptera and family Pyralidae. The quality of the natural enemies in the laboratory mostly depends on the quality of the host, which ultimately depends on the host nourishment. Therefore, the diet of the host is potentially of importance to the nutritional quality of host and the survival of *Trichogramma chilonis* Ishii and other egg parasitoids released in the environment as biological control agents (Finney and Fisher, 1964) [3] and (Hunter, 2003) [4].

Material and Methods
The present investigation was conducted in the academic year 2024-2025 to investigate the "Influence of different diet ingredients on growth and development of rice moth, *Corcyra cephalonica* (Stainton) under laboratory condition." An apparatus made of wooden card board was used to study the food preferences of insects in order to investigate the host choice of *Corcyra cephalonica* (Stainton) on both solo and combination grains. The purpose of a wooden card board apparatus is to assess the rice moth's diet preference by positioning all of the grains equally apart from the center and individual grains in their combinations. Twenty-five larvae of *Corcyra cephalonica* (Stainton) 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 center 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* (Stainton) larvae on different solo grain and their combination with groundnut under random choice test *Corcyra cephalonica* (Stainton) was reared on eight

different diets including three solo grains, four with combination of groundnut and one combination is cereals only viz. T_1 (Sorghum 2.5kg), T_2 (Sorghum 2.5kg + Groundnut 150g), T_3 (Bajra 2.5kg), T_4 (Bajra 2.5kg + Groundnut 150g), T_5 (Rice 2.5kg), T_6 (Rice 2.5kg + Groundnut 150g), T_7 (Sorghum 1.25kg + Bajra 1.25kg + Rice 1.25kg), T_8 (Sorghum 1.25kg + Bajra 1.25kg + Rice 1.25kg + Groundnut 150g). Results obtained maximum larvae in each diet indicated that treatment T_2 (Sorghum 2.5kg + Groundnut 150g) which gave with 5 larvae and it was at par with T_4 (Bajra 2.5kg + Groundnut 150g) with 4 larvae in diet and followed by T_1 (Sorghum 2.5kg) with 3.33 larvae in diet, T_3 (Bajra 2.5kg) with 3 larvae in diet, T_7 (Sorghum 1.25kg + Bajra 1.25kg + Rice 1.25kg) with 3 larvae in diet, T_5 (Rice 2.5kg) with 3 larvae in diet. Minimum larvae in each diet found that the T_8 (Sorghum 1.25kg + Bajra 1.25kg + Rice 1.25kg + Groundnut 150g) with 2 larvae in diet and T_6 (Rice 2.5kg + Groundnut 150g) with 2 larvae in diet. Kumar *et al.* (2018) [2] found that the diet consisting of groundnut and sorghum produced the greatest results out of all the diets examined. Kale (2021) [1] reported that maximum larvae were recorded in Sorghum 2.5kg + Groundnut 150g with 5.34 larvae which was superior over all treatments.

Table 1: Host preference of *Corcyra cephalonica* (Stainton) on different solo grains and their combination with groundnut under random choice test.

Tr. No	Treatments	Larva Found in Each Diet
T_1	Sorghum (2.5kg)	3.33
T_2	Sorghum (2.5kg) + Groundnut (150g)	5.00
T_3	Bajra (2.5kg)	3.00
T_4	Bajra (2.5kg) + Groundnut (150g)	4.00
T_5	Rice (2.5kg)	3.00
T_6	Rice (2.5kg) + Groundnut (150g)	2.00
T_7	Sorghum (1.25kg) + Bajra (1.25kg) + Rice (1.25kg)	3.00
T_8	Sorghum (1.25kg) + Bajra (1.25kg) + Rice (1.25kg) + Groundnut (150g)	2.00
	Range	2.00- 5.00
	Mean	3.16
	SE ±	0.12
	CD at 5%	0.35
	CV (%)	6.46

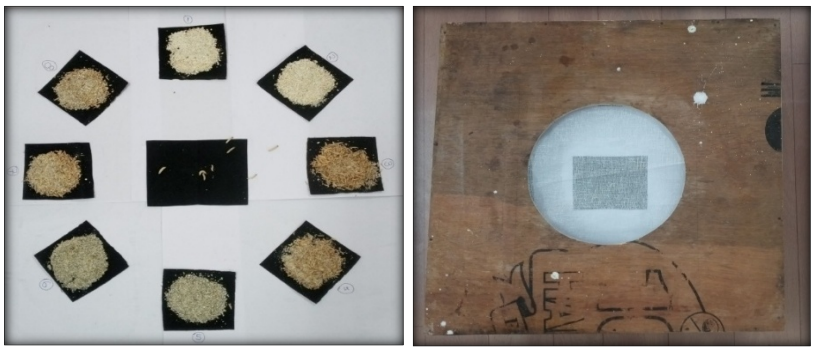

Plate 1: Host preference of *Corcyra cephalonica* (Stainton) on different solo grains and their combination with groundnut under random choice test.

Conclusion

In the study of host preference of *Corcyra cephalonica* (Stainton) based on random choice test in order to larval preference that *Corcyra cephalonica* (Stainton) larvae found more preferred on diet T_2 (Sorghum + Groundnut).

Author's Contribution

Execution of lab experiments and data collection, preparation of the manuscript and analysis of data and interpretation (S.D.P.); Review and editing manuscript, conceptualization of research, contribution of experimental materials and designing of the experiments (S.S.D.); data analysis and editing (D.D.P); data analysis and editing (S.M.M); data analysis and editing (K.G.S).

Declaration

The authors declare that they have no conflict of Interests.

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