Agrotechnol 2014, 2:4
http://dx.doi.org/10.4172/2168-9881.S1.008

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Agricultural & Horticultural Sciences
Radisson Blu Plaza Hotel, Hyderabad, India February 03-05, 2014

Population dynamics and varietal preference of mango fruit borer (*Autocharis albizonalis*, Hampson) in new alluvial zone of West Bengal

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The present investigation on mango fruit borer (Autocharis albizonalis, Hampson) was carried out in Regional Research Station of Bidhan Chandra Krishi Viswavidyalaya at Gayeshpur to study the varietal preference and population dynamics of this borer. It was observed that the infestation of this borer was not highly significant to the mango growers during the course of the investigation. It was also noticed that the fruits in pea to marble size stage were mostly susceptible to the pest attack during the month of March to April. Peak Fruit damage (3.81%) was observed during 3rd week of March in the year 2006, whereas highest infestation was noticed (0.79%) during the last week of April in the year 2007. Similarly peak infestation of the fruit borer during 2009 was on the last week of April (2.29%) and it was on the 3rd week of March in 2010 (3.81%) respectively. For varietal preference, fifteen commercially grown cultivars were selected in RBD model with Duncan Multiple Range Test to identify least infested mango cultivars by this borer. From the findings it can be inferred that among the commercial mango varieties Himsagar was the most susceptible. It was also observed during the course of investigation that highest intensity of fruit damage could be recorded on the western part of the crop canopy. Laboratory studies on biochemical analysis against mango fruit borer revealed that the preference had strong and positive association with pulp phenol level but no association with seed phenol level. Analysis on free amino acid level of pulp and seed at different stages of fruit development was not associated with the infestation of the fruit borer.

Biography

Mainak Bhattacharyya has completed his BSc in Agriculture and M.Sc. in Agricultural Entomology at the age of 26 years from Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal. He is now working as an Assistant Teacher in a high school in West Bengal.

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Identification of markers associated with grain size in rice

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The main objective of this study was to identify SSR markers associated with grain size traits in rice. In all, 96 genotypes of rice were used for association analysis of grain size traits *viz*., length, breadth, length-breadth ratio and grain weight. Grain traits were measured using Seed/Grain Analyzer 6980 for both kernel and polished rice. Marker-trait associations were investigated using the mixed-model approach, considering both population structure (PC) and kinship (K) of TASSEL 2.1 version. A total of 23 SSR markers covering entire genome were used for the association study. Among these, 10 markers ($P<0.05$) were found to be associated with grain size traits with phenotypic variance ranging from 5 to 26%. RM13131 on chromosome 2 was associated with grain traits *viz*., length, breadth, weight and exhibited maximum phenotypic variance of 22%. These results suggest that association analysis in rice is a viable alternative to quantitative trait loci mapping and help rice breeders develop strategies for improving rice quality to be used in marker assisted breeding of grain size traits.

Biography

DAK Deborah has completed her M.Sc. (Ag) in the major field of Plant Molecular Biology & Biotechnology from the Institute of Biotechnology, Acharya N G Ranga University in 2011. She is pursuing her doctoral studies in the same university as an INSPIRE Fellow. She has participated and presented in the "International Dialogue on perception and prospects of Designer Rice", ICRISAT, 2011 on 'confirmation and fine mapping of major QTL for grain size in basmati rice'.

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