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Chief Editor

Dr. S.P. Singh

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most important pest of cassava, cassava whitefly (*Bemisia tabaci*). Entomopathogenic microbes were isolated from rhizosphere soil and cowdung, and their pathogenicity was tested against *Bemisia tabaci*. Microbes showing promising results were subjected to DNA extraction and PCR study; subsequently sequenced for isolate identification. The Basic Local Alignment Search Tool (BLAST) analysis of sequences identified the bacterial isolates as *Bacillus cereus* and *B. pumilus*, and fungus as *Beauveria bassiana, Metarhizium anisopliae* and *Penicillium citrinum.* The fungal isolates *Penicillium citrinum*, *B. bassiana, M. anisopliae* and the bacterial isolates *B. cereus* and *B. pumilus* isolated from rhizosphere soil of different tuber crop plants and cow dung, were found to give encouraging results for the control of nymphs and adults of cassava whitefly, *B. tabaci* in bioassay study. As an ecofriendly option and as a viable, sustainable pest management strategy use of these microbial insecticides should be encouraged against the notorious pest; whitefly and their effectiveness can be tested against other major sucking pests also.

MULTIYEAR EVALUATION OF FRESH SEED DORMANCY AND POD YIELD IN GROUNDNUT (*ARACHIS HYPOGEA* L.)

Gangadhara K[1,2], Sushmita Singh[2], Kirti Rani[2], Praveen K.[2], Ajay, B.C.[2], Narendra Kumar[2], Bera, S.K. and Gor, H.K.[2]

[1]ICAR-Central Tobacco Research Institute, Research Station, Kandukur, Andhra Pradesh-
[2]ICAR-Directorate of Groundnut Research, Junagadh, Gujarat-362 001
Email: Gangadhara.k1@icar.gov.in

Abstract

Breeding for fresh seed dormancy in Spanish groundnut is important in regions where sudden rainfall occurs to minimize yield losses due to pre harvest sprouting. GGE biplot analysis was used to assess the G×E interaction effects and stability of 14 Spanish groundnut breeding lines and five check varieties evaluated for pod yield and fresh seed dormancy during kharif and Rabi/summer seasons of 2019, 2020 and 2021. The cumulative contribution of environment and GEI component to the total variance was highest in the expression of pod yield (68%) followed by hundred kernel weight (58%) and hundred pod weight (48%). Pod yield and hundred pod yield showed moderate heritability, whereas hundred kernel weight and % sound mature kernel showed high heritability estimates. Trait specific breeding lines identified based on stability analysis are PBS 16023, PBS 16033 and PBS 14060 for hundred kernel weight: PBS 11077, PBS 14064, PBS 16033 and PBS 14060 for hundred pod weight and PBS 16023, PBS 11077 and PBS 15022 for sound mature kernel (%). Based on pooled mean values and stability analysis of intensity of dormancy and % germination at 7, 14 and 21 days interval for three years, identified five Spanish breeding line PBS 14068, PBS 16023, PBS 11077, PBS 14060, PBS 14014 and PBS 14064 showing fresh seed dormancy (21 days) and higher pod yield.

EFFICACY OF TECHNOLOGICAL INTERVENTION ON MANAGEMENT OF HAIRY CATERPILLAR IN BLACK GRAM AT FARMER'S FIELD

Harmeet Kaur*, Balbir Singh Khadda and Parul Gupta

Krishi Vigyan Kendra, SAS Nagar (Mohali)
Guru Angad Dev Veterinary &Animal Sciences University, Ludhiana
Email: harmeetkaur@pau.edu

Abstract

Black gram is native to Indian subcontinent which thrives well in a hot and humid season under Punjab conditions. Hairy caterpillar is considered as major pest of black gram due to its higher relative abundance from vegetative to pod maturity stage of crop. An on-farm trail was conducted under banner of KVK, SAS Nagar (Mohali) to find out the efficacy of technological intervention on management of hairy caterpillar in black gram variety Mash 114 at farmers field during 2019-20 and 2020-21. The effectiveness of three treatments viz., T1 Farmer practices (Control), T2 Pulling out plants infested with young larvae and burying them underground, crushing grown-up caterpillars under feet and spray of Ekalux 25 EC (Quinalphos) @ 500ml/acre recommended by PAU, Ludhiana and T3 Herbal based insecticide (Spray with neem, milkweed and dhatura leaves extract @ 6 L/acre) were tested at farmer's field. The results of study revealed that the highest yield of black gram (9.31 q/ha) was recorded in T2 followed by T3 (9.28 q/ha) as compared to T1 (7.20 q/ha); whereas the B:C ratio was found to be maximum in T3 (1.62) followed by T2 (1.61) which is very lucrative as compared to control (1.28). Moreover, in T3 plots, four species of natural enemies namely lacewing, ladybird beetles, spiders, praying mantid were observed on the crop from germination