AIE-3454: EVALUATION OF ELITE BIVOLTINE SILKWORM GERMPLASM UNDER DIFFERENT AGRO CLIMATIC CONDITIONS: ALL INDIA SILKWORM GERMPLASM EVALUATION PROGRAMME (AISGEP)"

(Networking collaborative Research programme with CSB Research Institutions)

Period : August, 2012 – February, 2015

Investigators: N. Balachandran, M. Muthulakshmi and S. Nivedita

Introduction:

The 350 bivoltine silkworm germplasm accessions conserved and maintained are preliminarily evaluated for economic parameters of 12 rearing and 16 post cocoon traits. The evaluation data collected over the years were updated in the Silkworm Germplasm Information System (SGIS) for the benefit of silkworm breeders to use information and genetic resources for silk improvement programmes.

Objectives:

- To identify the suitability of bivoltine silkworm germplasm for specific agro climatic area.
- To identify the bivoltine silkworm germplasm which have a wider adaptability to varied climatic conditions.
- To identify the potential germplasm as parent for silkworm hybridization programme suitable for different agro-climatic condition.

List of bivoltine germplasm accessions selected for the study

Sl. No	Accession No.	Name of the Accession	Sl. No	Accession No.	Name of the Accession
1	BBE-164	ShongetsuHoshu	7	BBI-338	DD-1
2	BBE-329	MIR-4	8	BBE-263	101-D
3	BBE-268	J 1 M	9	BBE-216	HO (SL)
4	BBE-202	C124 (SL)	10	BBI-348	NP-2
5	BBE-266	J 2 P	11	Local Control	Popular local Breed
6	BBE-225	JZH (PO)	12	National Control	CSR-2

Outcome:

- Out of selected ten elite BV accessions evaluated in 8 network centres under different agro-climatic regions, the accession BBI-0348 performed better in 7 centres followed by BBE-0329, BBI-0290 in 5 centres and BBE-0266, BBE-0216 in 4 centres in spring season.
- The accession BBE-0266 performed better in 6 centres followed by BBI-0348 BBE-0266, BBI-0338 and BBE-0268 in 5 centres in autumn season.
- The accessions BBI-0348, BBE-0329 BBE-0266, BBE-216 and BBI-0348 are identified as better performers having wider adaptability under different agro-climatic conditions and seasons.

Overall ranking of accessions based on the Spring crop								
Rank	CSRTI Berhampore	CSRTI Pampore	CSRTI Mysore	RSRS, Jammu	RSRS, Jorhat	RSRS, Sahaspur	RSRS, Kalimpong	CSGRC, Hosur
I	BBI-0348	BBI-0338	BBI-0290	BBE-202	BBE-0216	BBI-0225	SK6	BBE-0329
II	BBE-0216	BBI-0290	BBI-0348	BBE-263	BBI-0348	BBE-0263	BBI-0290	BBI-0348
III	BBI-0290	BBI-0045	BBE-0216	BBE-348	BBE-0268	BBE-0329	BBI-0348	BBE-0266
IV	BBE-0329	BBE-0329	BBE-0164	BBE-338	BBE-0263	BBE-0268	BBE-0268	BBE-0263
V	BBE-0266	BBE-0263 BBE-0216	BBE-0268	BBE-268 BBE-225	BBE-0202 BBE-0164	BBE-0164	BBE-0329 BBE-0202 BBE-0164	BBI-0338

Recommendations/ Utilization:

- ✓ The identified better performers having wider adaptability in different ago climatic conditions and seasons can be included in future breeding programmes as parental resource materials for crop improvement.
- ✓ The accessions BBE-0329, BBE-0266, BBE-0268 were utilized in an in-house project for evaluation of exotic bivoltine breeds to identify promising parental genetic resources.

Overall ranking of accessions based on the Autumn crop								
Rank	CSRTI Berhampore	CSRTI Pampore	CSRTI Mysore	RSRS, Jammu	RSRS, Jorhat	RSRS, Sahaspur	RSRS, Kalimpong	CSGRC, Hosur
I	BBE-0268	BBI-0290	BBE-0266	BBE-268	BBE-0266	BBI-0290	BBE-0268	BBE-0329
II	BBE-0216	BBI-0348	BBE-0263	BBI-0338	BBI-0290	BBE-0263	BBE-0202	BBI-0338
III	BBI-0338	BBE-0329	BBI-0348	BBI-0348	BBE-0225	BBE-0329	BBE-0266	BBE-0268
IV	BBE-0263	BBE-0268	BBE-0202	BBE-0329	BBE-0216	BBE-0268	BBI-0348	BBE-0266
V	BBE-0266	BBE-0263	BBE-0216	BBE-0263	BBE-0268	BBE-0164	BBI-371	BBI-0263