

XII-Workshop

Venue : Andhra Pradesh Agricultural University, Hyderabad

Date : 6th - 9th January, 1992

Varietal trials

Open Pollinated Varieties

The Committee identified the following open pollinated varieties for release for the zones as indicated therein.

	Crops	Varieties	Breeding centres	Recommended Zones
1.	Bitter gourd	Priya	Vellanikkara	II, VII, VIII
2.	Bottle gourd	Pusa Naveen	IARI	VII
3.	Carrot	Pusa Meghali	IARI	IV
4.	Cowpea	Sel 61-B	Hessarghatta	VII and VIII
		Sel 263	Ludhiana	IV
5.	Peas (early)	VL-7	VPKAS, Almora	IV



Priya



Pusa Naveen



Pusa Meghali



IIHR Sel 61-B (Arka Garima)



Sel.-263



VL-7

Hybrid Trials

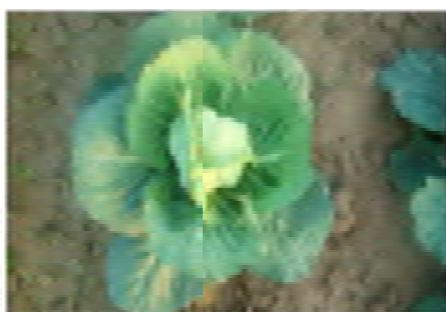
The Committee identified the following F₁ hybrids for release.

	Crops	Hybrids	Breeding centres	Recommended Zones
1.	Brinjal (Long)	Pusa Hybrid-5	IARI, New Delhi	IV, VII, VIII
2.	Cabbage	Pusa Synthetic	Katrain	IV, I, II
		Shri Ganesh Gol	MAHYCO	V
3.	Cauliflower(Group-II)	Pusa Hybrid-2	IARI, New Delhi	II, IV

	Crops	Hybrids	Breeding centres	Recommended Zones
4.	Tomato			
	i) Indeterminate	ARTH-4	Ankur Seeds	IV, VIII
		MTH-6	MAHYCO	VII, VIII
	ii) Determinate	ARTH-3	Ankur Seeds	II, VII, VIII
5.	Carrot	Hybrid-1	MAHYCO	I, VIII



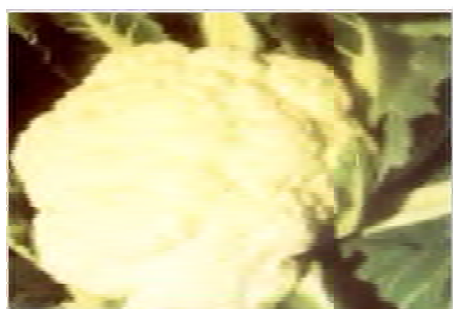
Pusa Hybrid-5



Cabbage Pusa Synthetic



Shri Ganesh Gol



Pusa Hybrid-2



Tomato ARTH-4



Tomato MTH-6



Tomato ARTH-3



Carrot Hybrid-1

Resistance Breeding Trials

The Committee identified the following disease resistant varieties.

	Crops	Resistant to disease	Varieties	Source	Recommended Zones
1.	Brinjal	Bacterial Wilt	SM-6-7	K.A.U. Vellanikkara	VIII
2.	Tomato	-do-	BWR-5	IIHR Hessaraghatta	II
3.	Peas (mid)	Powdery mildew	JP-83	JNKVV, Jabalpur	VII
4.	Okra	YVMV	Sel-4	IIHR, Hessaraghatta	II



SM-6-7 (Surya)

BWR-5 (Arka Alok)

JP-83 (Jawahar Matar-83)

Sel-4 (Arka Abhay)

Vegetable Agronomy

The experiments were conducted at various centres and the following recommendations have been finalized.

- Planting of the tomato var. Pusa Early Dwarf (determinate) at 50 x 50 cm and Sioux (semi-determinate) and Pusa Ruby (indeterminate) at 50 x 45 cm spacing is recommended for Durgapura conditions of Rajasthan. Pusa Early Dwarf gave an yield of 300 q/ha and a cost benefit ratio of 1:3.49 at a spacing of 50 x 30 cm. While the other varieties (Sioux and Pusa Ruby) gave an yield of 279 and 282 q/ha with a cost benefit ratio of 1:3.45 respectively when planted at 50 x 45 cm.
- Application of N₂, P₂O₅ and K₂O @ 75:60:60 kg/ha is recommended for the tomato varieties Pusa Ruby (indeterminate), Punjab Chuhara (semi-determinate) and Pusa Early Dwarf (determinate) under Jorhat conditions of Assam. These varieties gave the benefit ratio of 1:5.8, 1:3.97 and 1:3.72 respectively under the above fertilizer levels.
- Planting of cabbage variety Pride of India at 60 x 30 cm spacing with an application of nitrogen @ 150 kg/ha is recommended for Sabour region of Bihar. The above treatment combination gave an yield of 275 q/ha with a cost benefit ratio of 1:4.81.
- Application of nitrogen 150 kg + K₂O 60 kg/ha and nitrogen 100kg + K₂O 50 kg/ha without phosphorus is recommended for garlic variety G-1 under Karnal and Pantnagar conditions respectively. Application of N₂, P₂O₅ and K₂O @ 100:80:50 kg/ha is recommended for the same variety under Hisar conditions. The cost benefit ratio at Hisar and Pantnagar were 1:2.3 and 1:3.44 respectively.
- Planting of onion bulbs (var. Pusa Red) at 45 x 30 cm spacing with 80 kg N₂/ha is recommended for seed production in Faizabad region. This treatment combination gave 7.27 q/ha of seed yield and cost benefit ratio of 1:4.13.
- Planting of cauliflower var. Pusa Subhra (mid season) at 60 x 45 cm with 80 kg N₂ /ha is recommended for seed production under Pantnagar conditions. This treatment gave a cost benefit ratio of 1:2.45.
- Application of nitrogen 40 kg basal + 20 kg top dressing + 20 kg/ha as foliar spray in tomato var. Sel-7 and 40 kg basal + 20 kg N₂/ha as foliar spray in the variety LE-79 is recommended for Hisar and Jorhat conditions respectively. The cost benefit ratio was 1:2.33 and 1:5.0 at these stations.
- Application of 50 kg N₂/ha basal + 30 kg/ha as top dressing + 10 kg/ha as foliar spray is recommended for onion var. Pusa Red under Sabour conditions of Bihar. A cost benefit ratio of 1:4.61 was obtained for this treatment.
- Pre-emergence application of pendimethalin @ 0.5kg a.i./ha along with one hand weeding at 25

days after sowing is recommended for the effective weed control in pea crop under Sabour conditions. This gave an yield of 55.30 q/ha and cost benefit ratio of 1:2.20.

- Pre-emergence application of pendimethalin @ 1.0 kg a.i./ha + one hand weeding at 30 days after planting is recommended for the effective weed control in brinjal crop under Sabour conditions. This treatment gave a net return of Rs. 19286.00/ha.
- The application of fluchloralin @1.5 kg a.i./ha or pre-emergence spray of alachlor @ 2.0 kg a.i./ha +one hand weeding (30 DAP) is recommended for brinjal crop under Pantnagar conditions for weed control. This treatment combination gave a cost benefit ratio of 1:1.17.
- Three irrigations at pre-bloom stage (30 DAS) are recommended for pea variety Bonneville under Sabour conditions of Bihar. This treatment gave a net return of Rs. 20892.00/ha.
- The cropping sequences cowpea (kharif), tomato (rabi), cucumber (zaid) and kharif onion – potato-cowpea are recommended for Jabalpur conditions of Madhya Pradesh. These sequences gave a net profit of Rs. 60225.00/ha.

Disease Control

Brinjal

Little Leaf Disease:

To control leaf disease of brinjal cv. Manjari Gota effectively at Rahuri conditions it is recommended to raise the seedling in the Phorate treated seed beds @ 1.25 kg a.i./ha, followed by seedling dip in the solution of Monocrotophos @ 0.05% for 8 hours., followed by application of Phorate @ 1.25 kg a.i./ha 21 days after transplanting or raise the seedlings in the Phorate treated seed bed @ 1.25 kg a.i./ha, followed by seedling dip in the solution of Tetracycline hydrochloride @ 500 ppm for 15 minutes at the time of transplanting followed by spot application of Phorate @ 1.25 kg a.i./ha 21 days after transplanting.

The treatment helped to control little leaf disease by 37% and 38% have given an yield of 265.83 q/ha and 248.05 q/ha which is an increase of 35% and 27% over control and thereby giving net additional profit of Rs. 16898.00 and Rs. 12487.00/ha respectively.

Chilli

Fruit Rot and Die Back Disease: (Sabour – 1986-87, 1988-89 & 1990-91)

Seed treatment with Bavistin @ 0.05% followed by 4 sprays of Bavistin @ 0.05% i. e. first spray at 15 days after transplanting and later spray at 3 weeks interval, found to be the most effective for maintaining the die-back disease intensities of chilli cv Pusa Jwala at lower level at Sabour conditions. This treatment has given maximum yield of 19.98 q/ha resulting in an increase of 72 % more over control and net profit of Rs. 15335.00/ha.

Onion

Control of Purple Blotch Stemphyllium Blight and Thrips

Ludhiana – (bulb crop) (1988-89, 1989-90, and 1990-91)

Four sprays of Dithane M-45 @ 0.25% with Monocrotophos @ 0.05% or Dithane M-45@ 0.05%

mixed with Metasystox @ 0.05%, starting from 15 days after transplanting at 15 days interval have been found to be most effective for control of purple blotch disease of onion cv Punjab Red Round (bulb crop) at Ludhiana conditions. These treatments have given onion bulb yield of 284.60 and 265.57 q/ha, resulting in an increase of 74.17 and 55.14 q/ha over control and net profit of Rs. 6934.00 and Rs. 5070.00/ha respectively.

Ludhiana - (bulb crop) (1988-89, 1989-90, and 1990-91)

Six sprays of Dithane M-45 @ 0.25% mixed with Monocrotophos @ 0.05%, starting soon after the disease incidence at 15 days interval were found to be most effective for control of purple blotch disease of onion cv Pb. Red Round (seed crop) at Ludhiana conditions. This treatment has given maximum seed yield of 5.56 q/ha resulting in an increase of 2.48 q/ha over control and net profit of Rs. 16633.00 /ha.

Sabour - bulb crop (1988-89, 1989-90, and 1990-91)

Four sprays of Dithane M-45 @ 0.25% mixed with Methyl dimeton @ 0.05%, starting from 15 days after transplanting at 15 days interval were found to be the most effective for control of thrips, purple blotch and *Stemphyllium* blight disease intensity (0.80 No./plant; 9.35% and 6.44% as against control 20.08No./plant, 39.06% and 15.55% respectively) of onion cv. Pusa Red at Sabour condition. This treatment has given maximum bulb yield of 217.56 q/ha resulting an increase of 83.29 q/ha over control and net profit of Rs. 6409 /ha with maximum cost benefit ratio of 1:4.34.

A.A.D.F., Nasik - seed crop (1988-89, 1989-90, and 1990-91)

Six sprays of Dithane M-45 @ 0.25% mixed with Monocrotophos @ 0.05% starting soon after the disease incidence at 15 days interval were found to be most effective for control of purple blotch disease of onion cv. Agrifound Light Red maintained the purple blotch disease intensity at lower level (i.e. 39.25% as against control 60.85%) and has given maximum seed yield of 3.50 q/ha resulting in an increase of 0.93 q/ha over control with maximum cost benefit ratio of 1:3.72.

Pea

Control of *Ascochyta* Blight (Katrain - 1987-88, 1988-89 and 1989-90)

Four sprays of Topsin M @ 0.1% or Dithane M-45 @ 0.25% starting from the on set of disease at 10 days interval were found most effective for control of *Aschochyta* blight disease of pea cv. Lincoln at Katrain condition. Topsin-M and Dithane M-45 have given an yield of 27.24 and 27.13 q/ha resulting in an increase of 16.01 and 15.90 q/ha over control and net benefit of Rs. 24366 and Rs. 24400/ha respectively.

Garlic

Control of Purple Blotch and *Stemphyllium* Disease (AADF, Karnal - 1988-89, 1989-90 and 1990-91)

Four sprays of Dithane M-45 @ 0.25% or Cuman L @ 0.3% starting from onset of the disease at 15 days interval have been found to be most effective for control of purple blotch and *Stemphyllium* blight disease of garlic cv. G-1 under Karnal conditions. Dithane M-45 and Cuman L have maintained purple blotch and *stemphyllium* disease intensity at lower level (27.73%, 2.96% and 55.98%, 3.67% as against control 76.09%, 5.93% respectively) with an yield increase ratio of 1:1.35 and 1:1.53 respectively.

4. Insect and Nematode Control

- For the control of jassids and shoot and fruit borer in okra 4 sprays with endosulfan at 500 g a.i./ha at 14 days interval starting from 15 days after germination has been recommended under Rahuri conditions of Maharashtra.
- One application of phorate at 1 kg a.i./ha 10 days after planting, followed by one spray with Malathion (500 g a.i./ha) and fenvalerate (50 g a.i./ha) 60 days after planting was found effective against onion thrips under Sabour conditions of Bihar.

XIII-Workshop

Venue : Jawahar Lal Nehru Krishi Vishwavidyalaya, Jabalpur

Date : 15th - 18th December, 1993

Breeding : Varietal Trials

Open Pollinated Varieties

The Committee identified the following varieties for release based upon the results of 3 years.

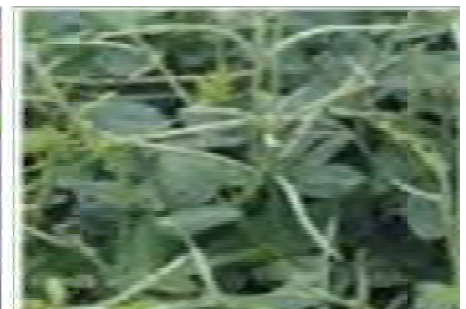
	Crops	Varieties	Breeding centres	Recommended Zones
1.	Brinjal (long)	BB-26	Bhubaneswar	V
2.	Brinjal (long)	Punjab Barsati	Ludhiana	IV
3.	Cowpea	Sel. 2-1	Faizabad	IV
4.	Onion	Agri. Found Light Red	AADF	VI
5.	Onion	Punjab Red Round	Ludhiana	IV
6.	Garlic	G-50	AADF	IV
7.	Pea (Mid season)	VL-6	AADF	IV
8.	Pea (Mid season)	PH-1	Hisar	VII
9.	Pea (Early)	Ageta -6	Ludhiana	I, IV, VI



BB-26 (Utkal Keshari)



Punjab Barsati



Sel-2-1 (Narendra lobiya-1)



Agrifound Light Red



Punjab Red round



G-50 (Yamuna Safed-2)