Cotton Research Station, Nanded

I) Cotton varieties released during last five years

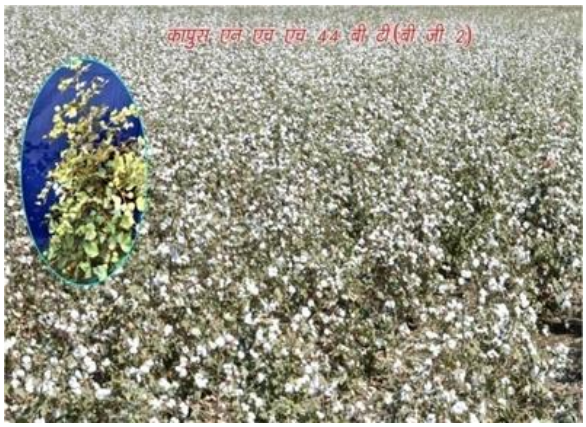
Release of American cotton (*G. hirsutum*)

1) NHH 44 BG II:

1. *Intra hirsutum* Bt cotton hybrid NHH 44 BG II was released for cultivation under rainfed regions of Central Zone (Maharashtra, Gujarat and Madhya Pradesh) by Central Variety Release Committee, New Delhi in year 2018.
2. The silent features of *intra hirsutum* Bt cotton hybrid NHH 44 BG II :

a) Productivity : 22-25 q/ha (Rainfed)
b) Ginning Outturn : 37-38 %
c) Fibre Length : 25-26 mm
d) Special features :

- Tolerant to sucking pests
- Tolerant to Bacterial blight and Alternaria leaf spot
- Sustainable yield under varying climate
- Rejuvenation capacity



NHH 44 BG II

2) NH 1901 Bt :

1. Bt cotton variety NH 1901 Bt was released for cultivation under rainfed regions of Central Zone (Maharashtra, Gujarat and Madhya Pradesh) by Central Variety Release Committee, New Delhi in year 2023.
2. The silent features of Bt cotton variety NH 1901 Bt:

a) Productivity : 14-16 q/ha (Rainfed)
b) Ginning Outturn : 33-36 %
c) Fibre Length : 25-26 mm
d) Fibre strength : 25-26 g/tex
e) Micronaire : 4.17 µ/inch
f) Special features :

- Tolerant to sucking pests
- Tolerant to Bacterial blight and Alternaria leaf spot

3) NH 1902 Bt:

1. Bt cotton variety NH 1902 Bt was released for cultivation under rainfed regions of Central Zone (Maharashtra, Gujarat and Madhya Pradesh) by Central Variety Release Committee, New Delhi in year 2023.
2. The silent features of Bt cotton variety NH 1902 Bt:

a) Productivity : 15-17 q/ha (Rainfed)
b) Ginning Outturn : 35-37 %
c) Fibre Length : 25-26 mm
d) Fibre strength : 25-26 g/tex
e) Micronaire : 4.60 µ/inch
f) Special features :

- Tolerant to sucking pests
- Tolerant to Bacterial blight and Alternaria leaf spot

4) NH 1904 Bt:

1. Bt cotton variety NH 1904 Bt was released for cultivation under rainfed regions of Central Zone (Maharashtra, Gujarat and Madhya Pradesh) by Central Variety Release Committee, New Delhi in year 2023.
2. The silent features of Bt cotton variety NH 1904 Bt:

a) Productivity : 13-15 q/ha (Rainfed)
b) Ginning Outturn : 36-37 %
c) Fibre Length : 25-26 mm

d) Fibre strength : 25-26 g/tex

e) Micronaire : 4.60 µ/inch

f) Special features :

- Tolerant to sucking pests
- Tolerant to Bacterial blight and Alternaria leaf spot.

NH 1901 Bt

NH 1902 Bt

NH 1904 Bt

Release of American cotton (*G. hirsutum*)

1) NH 677

1. *G. hirsutum* cotton variety NH 677 was released for cultivation under rainfed regions of Maharashtra by Joint AGRESCO and State Seed Sub-Committee, Maharashtra state in year 2023.
2. The silent features of *G. hirsutum* cotton variety NH 677:

a) Productivity : 14-16 q/ha (Rainfed)
b) Ginning Outturn : 36-37 %
c) Fibre Length : 25-26 mm
d) Special features :

- Tolerant to sucking pests
- Tolerant to Bacterial blight and Alternaria leaf spot.

Release of *Desi* cotton (*G. arboreum*) variety

1) PA 740 :

Desi cotton variety PA 740 was released for cultivation under rainfed regions of South Zone (Telangana, Andhra Pradesh, Karnataka and Tamil Nadu) by Central Variety Release Committee, New Delhi in year 2019. The variety was also released for cultivation in Marathwada region of Maharashtra by Joint AGRESCO and notified in the year 2019.

1. This variety is having high yield and excellent fibre properties.
2. The silent features of the variety PA 740 :

   a) Productivity : 15-16 q/ha
   b) Ginning Outturn : 36-37 %
   c) Fibre Length : 28-29 mm
   d) Fibre strength : 27-28 g/tex
   e) Micronaire : 4.5 µ/inch
   f) Spinning counts : 30s
   g) Duration : 150-160 days
   h) Special features :
      - Superior fibre length, strength and micronaire
      - Tolerant to sucking pests, bacterial blight and grey mildew

2) PA 812 :

Desi cotton variety PA 812 was released for cultivation under rainfed regions of Central Zone (Maharashtra, Gujarat and Madhya Pradesh) by Central Variety Release Committee, New Delhi in year 2020.

3. This variety is having high yield and excellent fibre properties.
4. The silent features of the variety PA 812 :

   a) Productivity : 15-16 q/ha
   b) Ginning Outturn : 34-35 %
   c) Fibre Length : 29-30 mm
   d) Fibre strength : 29-30 g/tex
   e) Micronaire : 4.5 µ/inch
   f) Spinning counts : 30
   g) Duration : 150-160 days
   h) Special features :
      - Superior fibre length, strength and micronaire
      - Tolerant to sucking pests, bacterial blight and grey mildew

PA 740

PA 812

3**) PA 810 :**

Desi cotton variety PA 810 was released for cultivation under rainfed regions of Central Zone (Maharashtra, Gujarat and Madhya Pradesh) by Central Variety Release Committee, New Delhi in year 2021. The silent features of the variety PA 810 :

a) Productivity : 15-16 q/ha
b) Ginning Outturn : 33-34 %
c) Fibre Length : 29-30 mm
d) Fibre strength : 28-29 g/tex
e) Micronaire : 4.5 µ/inch
f) Spinning counts : 30s
g) Duration : 150-160 days
h) Special features :
   - Superior fibre length, strength and micronaire
   - Tolerant to sucking pests, bacterial blight and grey mildew

4) PA 837 :

Desi cotton variety PA 837 was released for cultivation under rainfed regions of South Zone (Telangana, Andhra Pradesh, Karnataka and Tamil Nadu) by Central Variety Release Committee New Delhi, in year 2022. The silent features of the variety PA 837 :

a) Productivity : 15-16 q/ha
b) Ginning Outturn : 35-36 %
c) Fibre Length : 28-29 mm
d) Fibre strength : 27-28 g/tex
e) Micronaire : 4.8 µ/inch

f) Spinning counts : 30s
g) Duration : 150-160 days
h) Special features :
   - Superior fibre length, strength and micronaire
   - Tolerant to sucking pests, bacterial blight and grey mildew

PA 810

PA 837

5) PA 833 :

Desi cotton variety PA 833 was released for cultivation under rainfed regions of South Zone (Telangana, Andhra Pradesh, Karnataka and Tamil Nadu) by Central Variety Identification Committee in year 2023. The silent features of the variety PA 833 :

i) Productivity : 15-16 q/ha
j) Ginning Outturn : 35-36 %
k) Fibre Length : 28-29 mm
l) Fibre strength : 27-28 g/tex
m) Micronaire : 4.8 µ/inch
n) Spinning counts : 30s
o) Duration : 150-160 days
p) Special features :
   - Superior fibre length, strength and micronaire
   - Tolerant to sucking pests, bacterial blight and grey mildew

II) Technologies recommended

1. Spacing of 120 x 45 cm and fertilizer level 120:60:60 NPK kg/ha^{-1} with two equal splits of nitrogen (basal and 30 DAS), 100% phosphorus and potassium as basal is recommended for profitable Bt cotton production in medium to deep black soil under rainfed condition.

2. Intercropping of green gram in 1:2 row proportion in Bt cotton with spacing of 120 x 45 cm is recommendation for profitable production under rainfed condition.

3. Application of Nitrogen in three splits (40% as basal + 30% 4 WAS + 30% 8 WAS) is recommended for higher and profitable yield of Bt cotton under rainfed condition.

4. Spraying of weedicide Pyrithioback Sodium @ 62.5 g a.i. /ha + Quizolfopethyl 50 g a.i. / ha PoE (tank mix) at 20-30 DAS (2-4 weed leaf stage) + one hoeing at 45 DAS is recommended for lowering weed intensity, higher and profitable seed cotton yield of *Bt* Cotton.

5. Seed treatment of *Azotobactor* + PSB @ 25 g each / kg seed + *in situ* green manuring of sunhemp and its incorporation in soil after 45 DAS is recommended for soil enrichment and profitable organic cultivation of American cotton varieties. (2017)

6. It is recommended to undertake sprays of Mepiquat chloride (5%) @ 25 g *a.i.* / ha at square formation and flowering stage for retarding vegetative growth, increasing seed cotton yield and profitable monetary returns of Bt cotton under rainfed conventional cultivation.

7. Sowing of *Bt* cotton on BBF (top width 90 cm) prepared by tractor along with pre and post emergence application of recommended weedicides and spraying of crop protection pesticides by tractor drawn sprayer is recommended for lower labour requirement, higher yield and net returns.

8. Spacing of 120 x 45 cm (18,518 plants ha^{-1}) for *Bt* cotton hybrids is recommended for sowing at onset of monsoon and spacing of 90 x 45 cm (24,691 plants ha^{-1}) is recommended if sowing is delayed by 2 weeks after onset of monsoon for higher and profitable yield under rainfed condition in Marathwada region.

9. Intercropping of Green gram in *arboreum* cotton (1:1) is recommended for higher seed cotton equivalent yield and profitable returns of organic cotton whereas seed treatment of biofertilizers + application of neem cake @ 250 kg ha^{-1} in soil at sowing + *in-situ* green manuring of sunhemp @ 50 kg seed ha^{-1} in *desi* cotton is recommended for soil enrichment under organic farming conditions.

10. Sowing of *Bt* cotton hybrid on spacing 90 x 30 cm + polymulch + prunning of monopodial branches at 45 DAS + detopping at 75 DAS is recommended for higher seed cotton yield and monetary returns of *Bt* cotton under high density planting system.

Spacing 120 x 45 cm inder rainfed

BBF + PE and PoE weedicides

High density planting of cotton

Prunning of monopodia

Detopping

III) Memorandum of Understanding

1) Vasantrao Naik Marathwada Krishi Vidyaeeth, Parbhani– 431 402 and Remei India Ltd, Kasrawad, Madhya Pradesh and bioRe Association, Kasrawad, Madhya Pradesh on 04.05.2022 for 'Development, evaluation and promotion of medium and long staple *desi* cotton genotypes under organic situation for the state of Madhya Pradesh and Maharashtra.'

2) Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani– 431 402 and ICAR-Central Institute for Research on Cotton Technology, Mumbai-400 019 on 16.02.2023 for 'Sharing of scientific expertise and exchange of research ideas in the form of long-term collaborative research, education, extension and training for overall improvement in cotton productivity, testing, post harvest processing and value addition.'

3) Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani– 431 402 and MAHYCO Pvt. Ltd., Jalna 431 203 on 26.06.2023 for 'Sharing of scientific expertise and exchange of research ideas in the form of long-term collaborative research, education, extension and training for overall improvement in cotton productivity, laboratory fiber testing, post harvest processing and value addition.'

4) Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani– 431 402 and Paani Foundation, New Delhi 110 001 on 28.03.2023 for 'Knowledge partner, making training material and providing advice to Farmers Groups on sustainable, water efficient and remunerative agriculture.'

IV. Varieties/hybrids registered under PPVFRA, New Delhi

Sr. No.	Name of crop	Crop Group	Name of variety/ hybrid	Category of variety/ hybrid	Registration Number	Date of Certificate issue
1	Cotton (*G,arboreum*)	Cash crop	PA 402 (Vinayak)	Extant variety	12/2013	31/01/2013
2	Cotton (*G,arboreum*)	Cash crop	PA 255 (Parbhani Turab)	Extant variety	13/2013	31/01/2013
3	Cotton (*G,hirsutum*)	Cash crop	PH 348	Extant variety	824 of 2014	29/12/2014
4	Cotton (*G,hirsutum*)	Cash crop	NH 545	Extant variety	826 of 2014	29/12/2014
5	Cotton (*G,hirsutum*)	Cash crop	NH 615	Extant variety	44 of 2014	05/02/2014

V) Extension Activities (2021-22 to 2023-24)

Sr. No.	Particulars	2021-22	2022-23	2023-24
A)	**Extension programs organized**			
i.	Trainings	1	1	1
ii.	Kisan Mela	1	1	2
B)	**Extension programs participated**			
i.	Kisan mela and training programs	18	11	10
ii.	Exhibition	3	5	3
iii.	Field visits	14	23	29
C)	**Extension publications**			
i.	Folders	2	4	2
ii.	Radio talks	3	4	4
iii.	Popular articles	3	5	5

VI) TSP and SCSP activities

a) Tribal Sub Plan

Particular/Year	Budget sanctioned (Rs)	Expenditure (Rs)	Balance (Rs)
2022-23	2,68,000	2,67,916	84

- Tribal Sub Plan programme was implemented in Talegaon village (Tq. Umri) of Nanded district during 2022-23.
- Plant protection inputs were distributed 170 Scheduled Tribal farmers.
- Technology interventions implemented

- ✓ Capacity building of the farmers/farm women
- ✓ Introduction of improved varieties/hybrids
- ✓ Adoption of ICM, INM and IPDM practices

Sanctioned Budget : Rs. 2.68 lakh

Number of beneficiaries : 170

Targets and Achievements

Sr. No.	Particulars	Unit	Annual Total	
			Target	Achievements
1	Trainings (Capacity building) (1 day)	No.	1	1
2	Awareness camps, exposure visits etc.	No.	4	4
3	Input Distribution			
	Plant protection chemicals	Kg	0.85	0.85
4	Development of Literature	No.	1	1

Inputs distributed

- *Azadirachtin* 3000 ppm : 500 ml per farmer
- Emamectin benzoate 5 % SG : 100 g per farmer
- Thiamethoxam 12.6 % + Lambda-cyhalothrin 9.5 % ZC : 250 ml per farmer

b) Scheduled Cast Sub Plan

Particular/Year	Budget sanctioned (Rs)	Expenditure (Rs)	Balance (Rs)
2022-23	3,00,000	2,98,504	1,496

- Scheduled Cast Sub Plan programme was implemented in Talegaon village (Tq. Umri) of Nanded district during 2022-23.
- Plant protection inputs were distributed 87 Scheduled Cast farmers.
- Technology interventions implemented

  - ✓ Capacity building of the farmers/farm women
  - ✓ Introduction of improved varieties/hybrids
  - ✓ Adoption of ICM, INM and IPDM practices

Sanctioned Budget : Rs. 3.00 lakh

Number of beneficiaries : 87

Targets and Achievements

Sr. No.	Particulars	Unit	Annual Total	
			Target	Achievements
1	Trainings (Capacity building) (1 day)	No.	1	1
2	Awareness camps, exposure visits etc.	No.	8	11
3	Input Distribution			
	Plant protection chemicals	Kg	0.85	0.85
	Fertilizers (NPK)	Qt	43.5	43.5
4	Development of Literature	No.	1	1

Inputs distributed

- *Azadirachtin* 3000 ppm : 500 ml per farmer
- Emamectin benzoate 5 % SG : 100 g per farmer
- Thiamethoxam 12.6 % + Lambda-cyhalothrin 9.5 % ZC : 250 ml per farmer
- Chemical fertilizer : NPK - 10:26:26 - 1 bag (50 kg) per farmer

VII) Scientist details

Sr. No.	Name of post	Sanctioned post	Filled post	Vacant post	Name of scientist / staff	Year since ICAR-AICRP on Cotton
	AICRP on Cotton, Nanded (Main centre)					
1	Associate Professor (Breeding)	1	1	Nil	Dr. V. N. Chinchane	2021
2	Assistant Professor (Agronomy)	1	1	Nil	Dr. V. K. Khargkharate	2005
3	Assistant Professor (Entomology)	1	1	Nil	Dr. B. V. Bhede	2021
4	Assistant Professor (Plant Pathology)	1	1	Nil	Dr. P. K. Dhoke	2008
	CRS, Nanded – Non plan / NARP schemes					
1	Professor (Breeding)	1	1	Nil	Dr. K. S. Baig	2013
2	Assistant Professor (Agronomy)	1	1	Nils	Dr. A. D. Pandagale	2007
3	Assistant Professor (Seed Technology)	0	1	-	Dr. S. N. Devkule	2023
4	Assistant Professor (Statistics)	1	Nil	1	-	-
	Total	**6**	**7**	**Nil**		