Research Activities

Achievements

- Since its establishments in 1896, the cotton research station, Surat has been a trail-blazer for its research achievements.
- The first-ever Indo-American variety Deviraj, involving American and Asiatic blood was released in 1951.
- Global pioneer in development of commercial hybrid technology in the world.
- World's first intra-specific hirsutum hybrid cotton Hybrid-4, from this station in 1971. This hybrid proved to be harbinger for researchers elsewhere in the country as well as abroad.
- An early maturing, suitable for rainfed growing, medium staple hirsutum variety, G.Cot-10 was released in 1974 which is also male parent of G.Cot.Hy-6-a superior quality cotton and female parent of G.Cot.Hy-8-a versatile hybrid especially for rainfed.
- The first ever budded cotton G.Cot-101 which was released in 1977.
- Concurrent efforts for development of desi hybrid culminated in the release of G.Cot.DH-7 in 1984.
- In 1989, the first ever extra long staple desi hybrid G.Cot.DH-9 was released.
- The first GMS based desi hybrid G.Cot.MDH-11 and hirsutum-barbadense hybrid G.Cot.Hy-102 are released.
- A hirsutum variety G.Cot.20 and a hybrid G. Cot. Hy 12 suited to all conditions of the state has been released.
- Recently released two BG-II Cotton hybrids G. Cot Hy.6 (BG-II) and G.Cot.Hy-8 (BG-II), the first ever feat by any public sector in India the hybrids were originally released under the regime of AICCIP in 1982 and 1988, respectively.
- G. Cot Hy.10 (BG-II) and G. Cot.Hy-12 (BG-II) recently approved by GEAC.
- First jessid immune variety of *G.Hirsutam* G.N.Cot.22 was developed in 2014.
- First barbadense variety GSV-39 (G.N.Cot.103) was released in Gujarat from Surat in 2014.
- State agriculture plan (SAP) for cotton was accepted as model SAP for the state in 2015.

Future Programmes

The varietal improvement and consequent incidental agronomic and plant protection investigations are continuous, unending process. In agriculture, which is an applied biological science, an innovation solves some problem leading to certain progress but the same is soon followed by new problems. Any slackening of efforts in agricultural research is beyond comprehension. Keeping resource availability, priorities have been considered and following areas of research identified.

- Breed varieties and hybrids using hybridization, biotechnology, selection and use of wild species tolerant/ resistant to biotic and abiotic stresses.
- Enhance productivity, quality and reduce duration of desi cotton for organic cotton and technical textile.
- Evolve high yielding physiologically efficient and low input responsive cotton varieties suitable for cultivation under scanty rainfall conditions.
- Workout suitable agro-techniques for each of the traditional as well as newly coming up varieties/hybrids to obtain maximum produce per unit of land, inputs and time in the changing environment scenario.
- Keep a constant watch on changing pest and disease pressure and to evolve suitable bio-chemo, agro-techniques to keep them under control so that production hazards are minimized
- Produce high quality seeds of parents of Bt/Non Bt cotton hybrids and stable varieties.
- Demonstrate the technology at farmers field through various extension modes.
- Develop new transgenic hybrid with higher yield and stability
- Intensify research on jassid resistance and stress tolerance using marker assisted selection.
- Initiate research on climate change its effect on physiology & devise strategies to mitigate the same.

Trait based improvement programme for boll weight, strength and fineness in hirsutum, boll opening & jassid tolerance in barbadense.