

Technology back-stopping for promotion of Bt cotton in Davangere district

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Cotton occupies an important place among the cash crops in India. Cotton is grown in nine major states namely, Punjab, Haryana, North Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Andhra Pradesh, Karnataka and Tamil Nadu. The area under cotton increased from 7.60 million hectares in 2003-04 to 9.43 million hectares in 2007-08. The yield of cotton went up from 307 kgs per hectare in 2003-04 to 466 kgs per hectare in 2007-08. The compound growth in index of yield has shown an increase from (-) 0.4 per cent during the 1990s to 15.8 per cent during 2001-08. However, the growth in index of area moderated, but remained positive. The combined effect on index of production was an increase in growth from 2.3 per cent during the 1990s to 17.5 per cent during 2001-08. India occupies 27% of total area in the world on under cotton. Ranks first among other countries in cotton area and second in production.

Davanagere district consists of six taluks, Harapanahalli, Jagalur, Harihara, Davanagere, Channagiri and Honnali. During 1990's cotton area in Davanagere district was 25000 ha. But in 2003-04 the same was reduced to 3131 ha due to severe pest incidence, low yield and shutdown of cotton mills. Recent trend in cotton area and production of Davanagere district indicates that an increasing trend in the same during past 3 years.

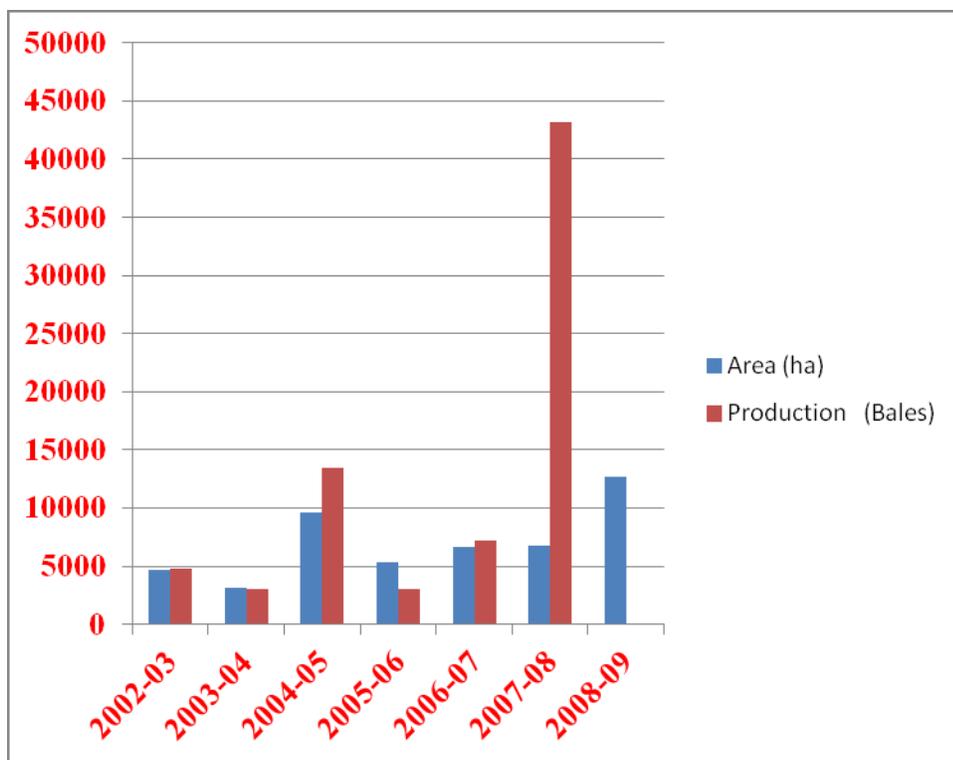
Table – 1: Cotton scenario of the district

Year	Area (ha)	Production (Bales)
2002-03	4667	4,759
2003-04	3131	3,007
2004-05	9620	13,485
2005-06	5294	3,008
2006-07	6657	7,160
2007-08	6773	43,232
2008-09	12640	1,02,110

Table – 2: Rainfall data (mm)

Month	2003	2004	2005	2006
June	21.8	46.1	70.8	74.3
July	27.1	91.1	203.6	96.0
August	99.5	84.4	117.8	33.6
September	10.5	208.4	107.4	76.4
October	150.2	112.0	132.4	28.2
November	--	--	38.4	55.6

Trend in area and production of cotton in Davangere district



Taralabalu Krishi Vigyan Kendra came into existence during May 2005-06. Under Mini Mission of Cotton project KVK Davangere had taken 50 acre demonstration in Budihal, Nandikamba and Anajigere villages of Harapanahalli taluk. Rainfall data in the selected area was found to be optimum for cotton production although erratic during some part of the years.

Farmers and scientists interacted with brain storming session in the villages for Bt-cotton introduction. Farmers were of the opinion that cotton is a waste crop, requires more pesticides and in-turn increased cost of production. They also added that ten years back cotton area was more than 500 acres in their village and now it is hardly 5-10 acres



Based on discussions, the farmers were convinced and finally 50 farmers were selected for demonstration during 2006-07. First step after selection was the collection of soil samples from each demo plot and they were analyzed for the nutrient status. Based on the soil test report, fertilizers were applied. KVK had conducted on campus and off campus training programmes on improved cotton production technology and also introduced growth regulator (Planofix), MgSO₄.

Table – 3: Yield and income

Crop	Yield (q/ha)	Cost of cultivation (Rs/ha)	Gross returns (Rs/ha)	Net returns (Rs/ha)	B:C ratio
Bt Cotton	9	16,125	25,200	9,075	0.56
Maize	15	7,500	9,000	1,500	0.20

Note: Sale price : Rs. 2500-00/q (Cotton), Rs.600-00/q (Maize)

During the year 2007-08, farmers themselves came forward for cotton production. Then, the KVK repeated the FLD with different farmers in the same villages. During 2008-09, the cotton area has increased to >500 ha in and around Anajigere Panchayath because of KVK intervention during the field visits. (Table-4).

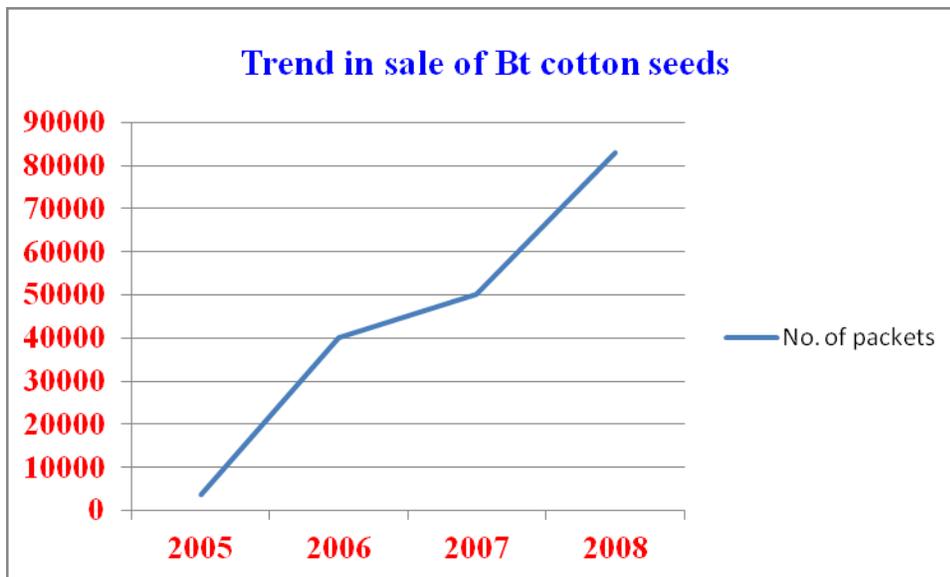
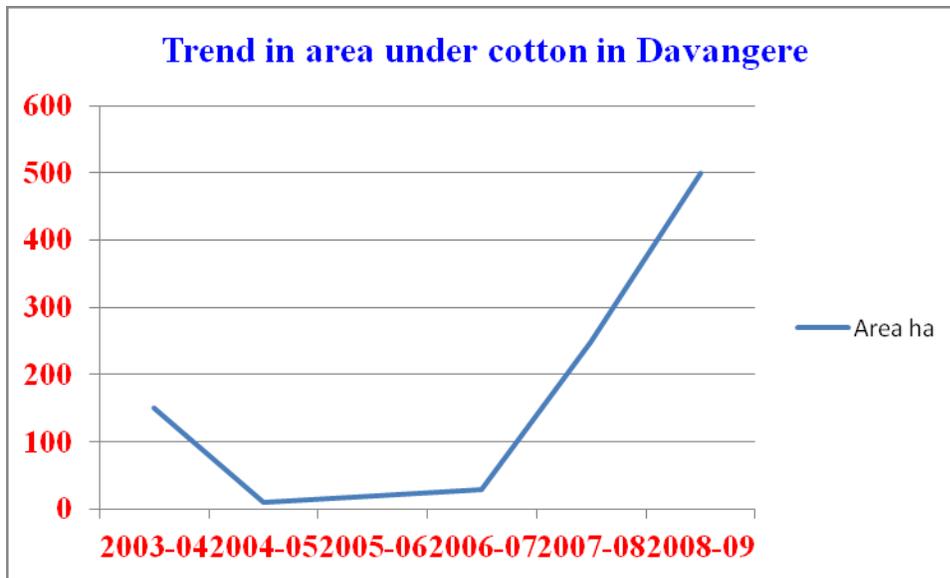
Table-4 : A survey conducted in Budihal/ Anajigere villages regarding Cotton area

Year	Area ha
2003-04	150
2004-05	10
2005-06	20
2006-07	30
2007-08	250
2008-09	>500

During 2008-09, cotton area in Davangere district was 15000 ha and it is replacing the maize and sunflower in some taluks as observed in the data collected by the Department of Agriculture. The market survey regarding the sale of Bt cotton seeds

Table-5: A market survey conducted in Davanagere regarding sales of Bt Cotton seeds

Year	No. of packets
2005	3800
2006	40000



The major turning point in KVK intervention was **Farmer Field School** in the Bt cotton production (Integrated Cotton Management) technology in cotton by involving 30 farmers vs ICM in Non Bt cotton. It was a huge success and collaborator farmer is now the leader in cotton technology for the village

During 2009-10 cotton has replaced sunflower significantly in Harapanahalli and Jagalur taluk. Farmers are convinced with the technology and they became experts in utilizing the same for their benefit.

During field day conducted during 2007-08, Mr.Nagaraj, a farmer from Budihal had expressed that he had harvested 60 q in 3 acres and claims that he had cleared the Bank loans and leading his life happily after adopting KVK Davangere suggestion on cultivation of Bt cotton of cotton in protective irrigation at critical stages. Another farmer, Mr.Kenchappa of Anajigere harvested 48 q of cotton in 2.5 acres land by giving protective irrigation during critical stages.

Summary

Bt cotton technology introduced by KVK Davangere has certainly brought smile on the faces of farmers and success of these farmers has helped for horizontal spread of the technology and their friends and relatives are now undertaking Bt cotton production. Cotton cultivation in Davangere district has glorious prospects as long as Bt cotton seeds are supplied in time and with Government subsidy regaining its earlier name for cotton production and with constant technological back-stopping by the KVK.

