

## **MM 5.2: Information, cotton website and documentation**

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*The core activity of this project is collection and compilation of cotton information, development of information retrieval system, and maintenance of CICR website. The information on cotton, it may be quantitative or qualitative; our main thrust is to collect reliable datasets and bringing all the cotton related information under one roof. Many data sets we have collected suffer from consistency from agency to agency. And many a times the datasets suffer from stability in term of time and scale. Different agencies collect or generate or maintain information on certain aspect of cotton either for some times or until their goals fulfilled after that no follow-up or updating of the datasets not being carried out. We have taken all the necessary steps to collect the desired information as well as gap filling datasets from different sources and scrutinized for consistency so that reliability and continuity of the datasets were maintained.*

*We are collecting both quantitative as well as qualitative information, all the quantitative information are stored in appropriate structured database and all the qualitative information are stored in document base. As far as documentation part of this project, we have collected large volume of qualitative information on all aspect of cotton. All the collected information was digitized and necessary retrieval tools were also developed for key word search of documents from the cotton document base. We have also developed a separate module for Digital Cotton Atlas in our retrieval system. Here the district level cotton profile was geographically represented with suitable query. We have developed two CDs and some more CDs are under preparation on Package of practice and cotton research projects. Another major activity under this project is web site ([www.cicr.gov.in](http://www.cicr.gov.in)) development and maintenance.*

**Information Retrieval System:** *We have developed user friendly information retrieval system using the tool VB.NET. We also converted the developed system into ASP.NET so that system can be uploaded in website. For the development of the system we have taken VB.NET as front end tool and MS-Access as back end tool*

*The Main Module of the Cotton Information System consist of*

- *Basic Module*
- *Industry Module*
- *International Module*
- *Pests/Diseases Module*
- *Research / Document Module*

**Basic Module:** The sub menu of Basic Module has focus mainly on primary data on cotton. This module mainly covers the data set consists of Cotton area, production, productivity; Irrigated, rainfed, hybrid area under cotton; Details of the varieties and hybrid released over the year by different agency with fiber technological characters; Cotton seed production over the years; Variety wise and staple wise area under cotton and production; fertilizer and pesticide usage; and agro meteorological data of the cotton growing area of India. We have included predefined query also in this module for the user to get the refined dataset.

**Industry Module:** Next item in the main module is Industry Module. This module mainly covers the secondary information that is, information on semi finished product of cotton like yarn/cloth production with special reference to sector and quality classification as well as information of economic importance. The entities in this module are sector-wise cloth production; state-wise yarn/cloth production; raw cotton consumption by staple class as well as statewise; count-wise fiber production including non-cotton and blend; state-wise quantity cottonseed pressed.

**International Module:** International module is to highlight the International scenario of cotton. Here the user could able to fetch area, production, yield, cotton consumption, cotton import, cotton export, yarn production, yarn import, yarn export, fabric production, fabric import, and fabric exports for almost 110 countries and some of the datasets are available from 1924 to 2006

**Pest and Diseases module:** We have collected information on cotton pest and diseases and digitised. We also collected large number of images of cotton pest and diseases their life stages and symptoms of diseases. User friendly query tools were developed to fetch information on cotton pest and their symptoms of damage and control measures.

**Research / Document Module:** Research and document module were also developed which contains large volume of documents related to cotton research findings and article published in journals. We have developed our own code to fetch the documents from the document base by invoking keyword. Stipulations also made in the system to update information and to add more information in the data as well as document base in future.

#### **CICR Website:**

CICR web site ([www.cicr.gov.in](http://www.cicr.gov.in)) was developed and uploaded in the year 2002. National Informatics Centres (NIC) server was used to host the CICR web site. Initially the web site hosted with 25 pages later in the year 2006 end the web site uploaded with around 500 pages of user information with latest graphical tools. We have made linkage with other cotton related national as well as international sites.

To mention a few, the following information were appended Package of practices for cotton cultivation in different states; AICCIP activities, TMC activities; research findings in Crop production, protection and improvement; Deliverable cotton technologies; Bt cotton evaluation reports; Cotton Image Gallery; linkage with other cotton related web site; Cotton databases; Cotton related News releases from dailies and other

web sites; Indigenous Technical Knowledge on cotton production practices; On-going institute projects; Integrated Pest Management recommendations; Integrated Resistance Management recommendations.

**Digital Cotton Atlas:** We attempted to develop digital cotton atlas using the district level data. We have generated some maps on Indian cotton profile geographically. We used GIS software Arc VIEW for generating GIS query maps. The presentation and preparation of cotton atlas requires micro level data. Lesser the magnitude of the dataset like taluk or block level may be more appropriate to project the information geographically. Unfortunately, we have most of the datasets in macro level. District level area production and productivity datasets were utilized for the Geographic Information System (GIS). We have digitized both state as well as district level maps and appropriate database were created and query based retrieval system were developed. We tried to embed the developed GIS query module in the Information system.

#### **CD Development:**

Two Interactive CDs were developed, Information system on cotton cultivars and Digital Photo library on cotton.

Three CDs are under preparation, package of practice on cotton cultivation in different states; Cotton Document Source; and pests and diseases. The CD on Package of practice for cotton cultivation includes information on cotton cultivation practices adopted in different states. The CD on cotton document Source contains large document base including research findings and articles on cotton where in the user need to type the keyword. Based on the keyword typed the related documents will be fetched from the document base for the user to access. The document type includes word document, HTML format and Portable Document Format (PDF).

The CD on pests and diseases depicts pictorial representation on each pest with small Introduction, distribution, description of stages, host plant and range, ecology and natural control, chemical control, abiotic factor, natural enemies.

**Information System on Cotton Cultivars: InsCot,** which provides information on all the cultivars released so far by different agencies. This user friendly CD ask the user to select the cultivar which are placed in the pull down menu. Once the cultivar is chosen the relevant details with Photograph of the cultivar (wherever available) will be displayed. Print option also given, the user can take the print out of the details of particular cultivars. This software has been developed using Visual Basic.NET as front end and Microsoft Access as back end for data storage. The information includes, Name, Agency Developed, Year, Notification Number, Area Adopted, Species, Pedigree/parentage, Agro-ecology, Yield, Duration, Ginning out turn, Staple Length, Micronaire Value, Bundle strength, Count, Resistance, Susceptibility and special features.

#### **Deliverable Technology**

- Information retrieval system we were developed may be floated at CICR web site or distributed in a CD form to the user groups. The Cotton Information Bank contains around 50

- different datasets on cotton as well as large document base includes research findings, cotton articles, short notes, etc.*
- *Interactive modules may be developed through our website with the help of our own web server so that cotton farmers query addressed to subject matter specialists for their guidance and recommendations for farmers' day to day cotton cultivation problem.*

***Source of Information:*** Directorate of Economics and Statistics, East India Cotton Association, Office of the textile Commissioner, International Cotton Advisory Committee, State Agriculture Departments, CIRCOT, and DOCD.