

## About BCI, Better Cotton, Minimum Production Criteria's (MPCs) and the process we followed to grow Better Cotton:

BCI exists to make global cotton production better for the people who produce it, better for the environment it grows in and better for the sector's future.

BCI works with a diverse range of stakeholders to promote measurable and continuing improvements for the environment, farming communities and the economies of cotton-producing areas.

BCI aims to transform cotton production worldwide by developing Better Cotton as a sustainable mainstream commodity.

### **Specific aim of BCI includes the following:**

- 1- Reduce the environmental impact of cotton production
- 2- Improve livelihoods and economic development in cotton producing areas
- 3- Improve commitment to and flow of Better Cotton throughout supply chain
- 4- Ensure the credibility and sustainability of the Better Cotton Initiative

Again Better Cotton is primarily a definition or description of how to produce cotton in a more sustainable manner. It is based on 6 basic principles:

1. Better Cotton is produced by farmers who minimise the harmful impact of crop protection practices
2. Better Cotton is produced by farmers who use water efficiently and care for the availability of water
3. Better Cotton is produced by farmers who care for the health of the soil
4. Better Cotton is produced by farmers who conserve natural habitats
5. Better Cotton is produced by farmers who care for and preserve the quality of the fibre
6. Better Cotton is produced by farmers who promote decent work

While every Better Cotton farmer meets the above criteria, every producer that commits to growing Better Cotton also commits to the principle of continuous improvement, which moves the industry ever closer to true sustainability.

1. **Better Cotton is produced by farmers who minimise the harmful impact of crop protection practices**

Cotton is attractive to a range of pests, and subject to diseases and weed infestations. Reduction in the harmful impact of crop protection practices is the first Production Principle. A range of techniques is available for their control and management : this includes the use of biocontrol agents, pheromones and hormones; plant breeding and appropriate cultivar

selection; various cultural and mechanical techniques; the application of conventional pesticides (both natural and synthetic) etc. In view of this AFPRO has initiated the use of IPM practices among the farmers along with the awareness building activities during pesticide application on appropriate pesticide application processes to reduce its harmful impact. Mostly the awareness building initiatives focus on issues like use of nationally registered pesticides with proper label, application of pesticide by skilled person, no involvement of pregnant women, use of mask & globes during application, safe disposal of container, and also the correct time and quantity of application. Based on comprehensive information on the life cycle of pests affecting cotton and their interaction with the environment, a combination of pest control techniques and management practices have been recommended to farmers.

### IPM practices

| Technologies/ Interventions  | Importance  |
|--|---|
| Use of Marigold flowers.   | Marigold plants were planted as trap crops against American Bollworm, a common pest in cotton. The pest lays its egg on the flowers of marigold and the larvae develop on the flower, which is later collected and destroyed. Few farmers received additional income from sale of marigold flowers. |
| Use of Cowpea  | Grown between the rows of cotton prevents aphid attack.   |
| Use of Bio fertilizers<br>(Azotobactor, Phosphorus Solubilizing bacteria, Trichoderma) | Biofertilizers were used as seed treatment. Azotobactor for increasing the availability of Nitrogen, Phosphorus solubilizing Bacteria for phosphorus availability and <i>Trichoderma</i> for control of <i>fusarium wilt</i> disease.   |
| Preparation of Amrutpani<br>(Organic Fertilizer):                                      | Preparation of Cow-Dung –Urine Extract (Amrutpani) for spraying on plant as a substitute for N - fertilizers.   |
| Egg – Lemon juice extract  | The extract was used for spraying on cotton as growth promoter.   |
| Neem Seed Kernel Extract   | 5% Neem Seed Kernal Extract applied by farmers assisted against sucking and lepidopterous pests.  |
| Use of Pheromone Traps, Bio-pesticides.  | For pest control.   |
| Installation of Bird Perches   | The Bird perches were installed @ 4 per acre to attract the predatory birds for control of pests.   |

|                     |                         |
|---------------------|-------------------------|
| Yellow Sticky Traps | For control of whitefly |
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## **2. Better Cotton is produced by farmers who use water efficiently and care for the availability of water**

The agricultural sector in India consumes about 85 percentage of the available fresh water and has one of the lowest water use efficiency ratio. Among agricultural commodities, cotton is highly water intense, using around 30 % of the water for irrigation. Traditional water irrigation system such as flood irrigation results in significant loss in water, with pesticides and fertiliser draining into water resources.

BCI on water management have therefore been developed to improve water use efficiency in cotton irrigation. Application of appropriate quantities of water at critical stages of plant growth directly affect yield of cotton crop. Introduction of cost effective water efficient practices can help reduce the water usage of cotton. AFPRO has initiated a process of 'water scouting' for awareness building on improved practices of available water utilization to increase efficiency and reduce wastage. Earlier in the traditional system of crop cultivation, people used to irrigate their field for 3 hours with 12 number of irrigation in a season. But with the promotion of deep ploughing system, introduced by our BCI project, help to reduce the irrigation hour to 2.5 hours with 12 number of irrigation in a season. Hence there is saving of energy, fuel and money with efficient utilisation of water. Moreover crop cover comprising moong, urad and soyabean have been widely accepted by communities as means of increasing the efficiency of water utilization.

## **3. Better Cotton is produced by farmers who care for the health of the soil**

The use of chemical pesticides is a common agricultural practice, but over the years, evidence has shown that extensive use of chemicals is not only harmful for the soil, but it also compromises farmer's health, besides, incurring significant expenditure. It is therefore important to replenish soil nutrients, through balanced fertilization, for long term sustainability. In order to enhance the nutrient use efficiency, it is important that the nutrients are applied at the right times, in right quantities using appropriate methods.

Soil health management has been adopted as a multi-faceted approach to ensure sustainable utilization of the land resource. Supplementing soil nutrients need to be based on an understanding of soil nutrient requirements and alternate enhancement options. Considering this, a dual approach has been adopted by AFPRO with promotion of efficient fertilizer application processes and emphasis on alternate soil nutrient improvement strategies. Based on soil testing, application of fertilizers is determined. Soil testing report cards with recommended dose of fertilisers were distributed among all registered farmers. Moreover practices to improve soil health like crop rotation with legume crop, utilization of cover crops and crop residues are being widely accepted by communities

#### **4. Better Cotton is produced by farmers who conserve natural habitats**

Habitat extent and quality has a direct and significant impact on biodiversity by providing refuge for beneficial insects. It may act as a trap crop for crop pests as land used for the production of crops has typically been cleared of vegetation and natural habitats, and this clearing of habitat has a direct and significant negative impact on biodiversity. As cotton is grown first and foremost for its fibre, the quality of the fibre grown by the farmer is fundamental to its marketability and value. Different management practices like irrigation scheduling, weed management, nutrient management, clean and safe harvesting, safe storage of harvested seed cotton etc to improve the fibre quality are being promoted.

#### **5. Better Cotton is produced by farmers who care for and preserve the quality of the fibre**

As cotton is grown first and foremost for its fibre, the quality of the fibre grown by the farmer is fundamental to its marketability and value. Three broad characteristics of the cotton are important: the inherent fibre characteristics, the level of trash (i.e. waste), and the level of contamination. The seed cotton delivered to gins should be as low in trash as possible, free of contaminants, and not too wet or dry. Considering this emphasis is given to clean cotton picking practices that reduce the likelihood of contamination. BCI practices demonstrate the use of cloth bags, which are used to collect cotton during picking and for cotton storage. Separate, ergonomically designed, aprons are provided to the women labourers for reducing the contamination of hair and threads from polypropylene bag.

#### **6. Better Cotton is produced by farmers who promote decent work**

Decent work involves opportunities for work that are productive and delivers fair income and security in the workplace and social protection for families. Through the BCI initiative, AFPRO has been working with communities to mobilize them to adopt practices associated with decent work such as prevention of child labour, forced/bonded or trafficked labour among communities, Equal Wage payment to both male and female labour, Basic Treatment and Disciplinary Practices, Adoption of health and safety measures during working hours etc. Different innovative practices like children day celebration, children rely, and Documentation on Child labor Protection Policy, labor group formation are being promoted by AFPRO.

#### **Process Followed:**

- Village selection and conducting awareness programme
- Registration of interested farmers into the programme
- Categorization of farmers into group based on their ability to hire labour for agricultural operations related to cotton cultivation.
- Formation of learning groups (each learning group consists of 35-40 number of farmers).

- Producer Unit(PU) formation: It's a cluster of village.
- Staff structure – Field extension strategy Development – Farmers participation
- Finalizing indicators/ align indicators relevant to local situation with BCI –MPC
- Developing IEC material in local language with pictorial indication on BCI production principles and criterias.
- Conducting thematic training among the LG on MPCs.
- Promoting decent work
- Data Management system development based on BCI formats
- Identification of BCI registered ginner and development of linkage between ginner and farmers.
- Field communication systems –Verification Systems ( Self Assessment, Second Party Credibility Check and Third Party Verification)
- Distribution of BCI license card (card given to BCI farmers after verification) among the farmers.