

BETTER COTTON INITIATIVE 2015 TURKEY HARVEST REPORT



BCI Farmer, Turkey
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BCI Better
Cotton
Initiative
www.bettercotton.org

TURKEY 2015



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BETTER COTTON PROJECTS



In 2015, **BCI's Strategic Partner** worked with **569 farmers** organised into **25 Producer Units**.

441 farmers in Turkey earned a Better Cotton licence.

STRATEGIC PARTNER:

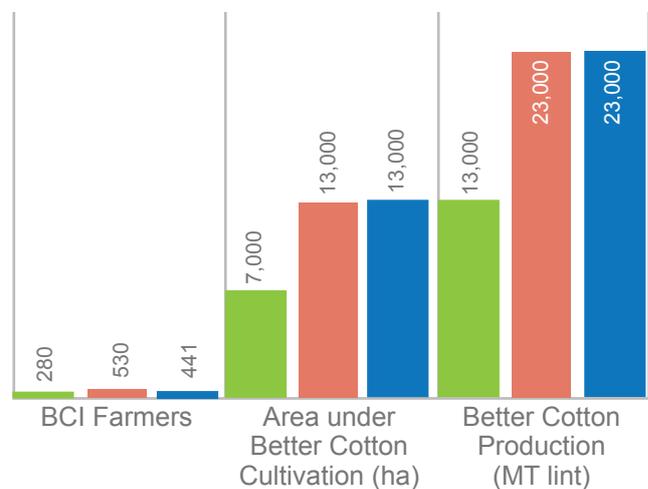


ORGANISATION



DATA OVERVIEW

2013 2014 2015



TURKEY: results

3rd HARVEST

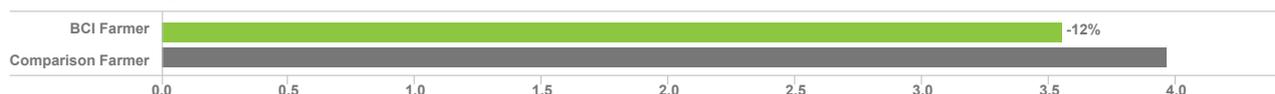
The results presented here were calculated based on data from 419 BCI Farmers and 46 Comparison Farmers. Some data was excluded from the analysis because data was incomplete for two Producer Units. Therefore, the results shown here are representative of 96.83% of BCI Farmers in Turkey.

Yield (Lint Cotton MT/ha)



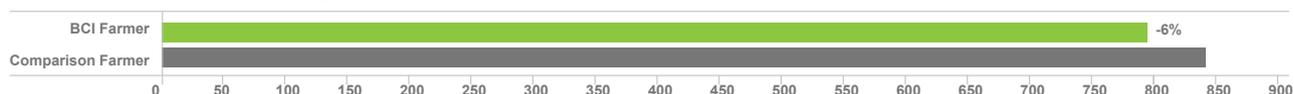
BCI Farmers achieved a 7% higher yield, on average, than Comparison Farmers. During the 2015 season, unpredictable weather patterns made achieving good yields and quality challenging, however. Many farmers had their harvest disrupted by spring and autumn rains and unseasonably high temperatures, but many BCI Farmers who had planted at the optimal time were less affected. This contributed to increasing the average yield of BCI Farmers over Comparison Farmers.

Pesticide (kg/ha)



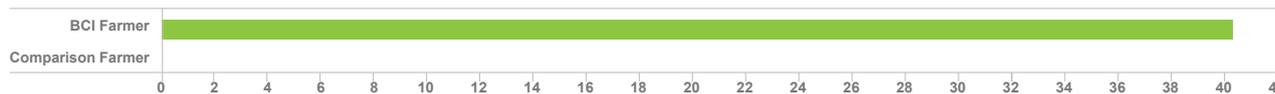
BCI Farmers applied, on average, 12% less pesticide active ingredient than Comparison Farmers. Similar to the previous season, early-season sucking pests were a challenge throughout the country, but employing the “Economic Threshold” pesticide application method based on pest scouting enabled BCI Farmers to limit pesticide use in relation to Comparison Farmers.

Synthetic Fertiliser (kg/ha)



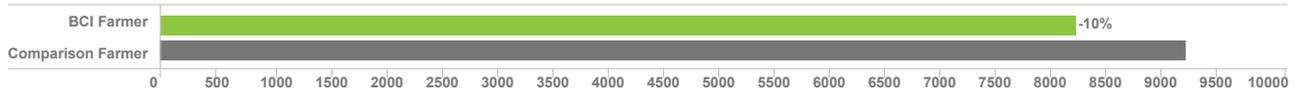
BCI Farmers used, on average, 6% less synthetic fertiliser than Comparison Farmers, but overall, achieved higher yields. BCI Farmers are beginning to increase their awareness of fertiliser best management practices in order to improve soil health through better access to technical advice from agronomic experts managed by BCI Producer Units.

Organic Fertiliser (kg/ha)



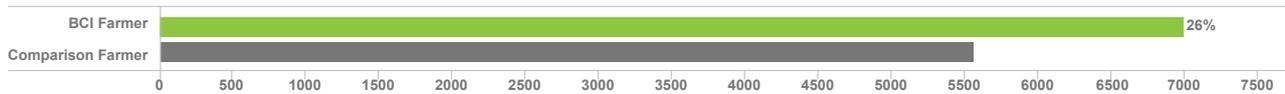
Organic fertiliser use, primarily in the form of farm manure, is starting to increase among BCI Farmers compared to the previous season. Comparison Farmers, on the other hand, did not report using any organic fertiliser. While BCI Farmers are aware of the soil health benefits of using farm manure and other organic fertilisers, availability and cost continue to act as barriers to more widespread adoption.

Water (m3/ha)



BCI Farmers reported using 10% less water for irrigation, on average, than Comparison Farmers. During the last season, key challenges persisted, such as: accurate measurement of water use because of a lack of infrastructure, a lack of awareness regarding optimal water application and the existence of improper water transport equipment. However, by working with BCI's Strategic Partner, IPUD, and academic institutions in targeted regions, BCI Farmers were able to better identify these areas in which improvements can be made, including reducing the amount of watering time, levelling fields, and replacing faulty equipment. For the upcoming season, the findings of these analyses will be used to train BCI Farmers in other regions in order to realise further improvements in these key areas.

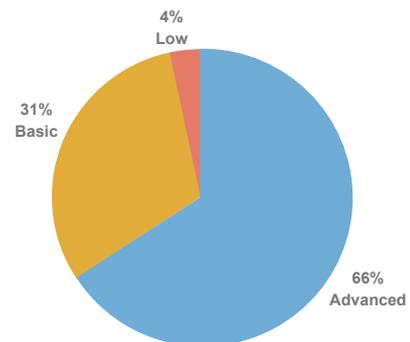
Profit (per ha)



BCI Farmers reported 26% higher profits, on average, than Comparison Farmers. While prices for fertilisers, pesticides, and fuel continued to rise during the 2015 season, using less of these inputs to achieve slightly higher average yields helped to contribute to greater profits for BCI Farmers.

Awareness about Child Labour Issues

66% of BCI Farmers in Turkey demonstrated an advanced awareness about child labour, a 6% improvement from the previous season. 31% had a basic awareness, and 4% (concentrated amongst only 2 provinces) showed low awareness. In 2015, BCI's Field Facilitators worked with BCI farmers on raising awareness about child labour issues during field visits and established contracts between farmers and seasonal workers to ensure that workers met legal working age limit requirements. For the upcoming season, training modules offered through a partnership with the FLA (Fair Labour Association) will be offered to all Producer Units in order to improve the adoption of BCI's Decent Work principle as well as further boost awareness both on child labour issues and labour issues more broadly.



SUMMARY OF RESULTS FOR SMALLHOLDER AND MEDIUM FARMS IN TURKEY. BCI FARMERS AGAINST COMPARISON FARMERS.

Yield	▲ 7%
Pesticide Use	▼ 12%
Synthetic Fertiliser Use	▼ 6%
Water Use	▼ 10%
Profit	▲ 26%

REPORTING ON RESULTS ACHIEVED ON BETTER COTTON FARMS

From the first Better Cotton harvest, we have emphasised the importance of monitoring results achieved by farmers participating in the Better Cotton System. As such, we have built annual reporting into the requirements of the Standard. The reason is twofold:

» Inviting every farmer participating in BCI projects to record data related to agricultural inputs, costs and income earned from cotton is part of building monitoring and learning capacity at farm and community levels.

» At BCI, we believe that producing cotton more responsibly will lead to improved environmental, economic and social outcomes. One step toward measuring some of these changes is collecting annual farm-level data.

The results presented in this Harvest Report compare country averages of key environmental, economic and social indicators achieved by BCI Farmers to comparable farmers in the same regions who operate outside of BCI projects. We refer to these latter farmers as the Comparison Farmers.

RESULTS INDICATORS	MEASUREMENT
1. Pesticide use	% difference between BCI Farmers and Comparison Farmers in kilograms (kg) of active ingredient applied per hectare (ha) Pesticides include insecticides, herbicides, acaricides, fungicides as well as all substances used as defoliant, desiccant or growth regulators. We collect the type and concentration of active ingredient applied because this enables calculation of the chemicals contained within pesticides that are used on cotton farms.
2. Fertiliser use	% difference between BCI Farmers and Comparison Farmers in kilograms (kg) of synthetic and organic fertiliser applied per hectare (ha) Farmers report on the category and exact composition of each fertiliser used. We store this information for use in future, more detailed studies. The long-term objective is to ensure an optimal application of nutrients that matches the needs of the crop, maintains long-term soil health and structure, makes economic sense, and minimises off-farm pollution (notably eutrophication through nutrient run-off or leaching) and GHG emission (notably through nitrous oxide emissions and industrial nitrogen fixation).
3. Water use for irrigation	% difference between BCI Farmers and Comparison Farmers on cubic metres (m3) of water used for irrigation per hectare (ha) Use of water for irrigation is only measured on farms that irrigate. A cotton crop is considered irrigated if it receives one or more irrigations in a season. Rain-fed farms are excluded from the analysis.
4. Yield	% difference between BCI Farmers and Comparison Farmers on kilograms (kg) of cotton lint produced per hectare (ha) Total production at farm level is expressed in kilograms of seed cotton. We convert the unit of measurement to lint by multiplying the amount of seed cotton in kilograms by the average gin turnout ratio (set separately for each country).
5. Profitability	% difference between BCI Farmers and Comparison Farmers on net income earned from cotton per hectare (ha) This is calculated as the gross income received from the sale of the cotton crop minus the total variable costs of growing the cotton crop.

RESULTS INDICATORS	MEASUREMENT
6. Elimination of child labour A	<p>Existence of partnerships established by or on behalf of the Producer unit with credible local organisations to specifically address child labour</p> <p>Partnerships, in the context of this indicator, are defined as documented working arrangements with a third party with expertise in either child labour remediation, child rights or supporting access to formal schooling. The partnership must include regular contact and joint activities that relate directly to the achievement of BCI Decent Work Criteria on child labour. The existence of a partnership with local specialist organisations is measured at the level of the Producer Unit working with smallholders and medium farms.</p>
7. Elimination of child labour B	<p>% of BCI Farmers who can accurately differentiate between acceptable forms of children's work and hazardous child labour</p> <p>This indicator is measured using country-specific pictorial materials representing typical farm activities and making the distinction between those defined as hazardous labour under national law, compared to activities considered acceptable within the context of occasional light work performed within the family farming context.</p> <p>During collection of results, Field Facilitators conduct a test with each selected farmer. Each farmer is given a score based on his/her ability to make the distinction. The indicator is then calculated as the percentage of farmers who can accurately differentiate between child work and child labour.</p>

Indicators 1 to 4 are reported across all contexts, regardless of country, farm size or technology used on the farm. With regard to the improvement of livelihoods, however, we are primarily concerned with supporting and monitoring for smallholders and medium farms. The profitability indicator (a first step in understanding the economic situation) is therefore only collected from and communicated about smallholder and medium farms. Similarly, in regards to the indicators on the elimination of child labour, our greatest concern is monitoring and supporting progress in geographical areas typically dominated by family smallholding and medium farms. Therefore, these social indicators are not reported by large farms.

Due to differences in local conditions, we do not compare indicators between countries. Results are also only presented for one harvest year because within a country or a sub-area of a country annual results are affected by external factors that change year-on-year. Factors like rainfall, pest pressure and market price mean that comparing results across two to three years may not allow meaningful conclusions to be drawn. We are developing processes for longitudinal analysis of results in

countries that have been participating in Better Cotton for more than three years. With time, we will be able to move in this direction.

FARMER-REPORTED RESULTS

The starting point for all data collection and reporting associated with the results presented here is the information recorded by all farmers during the season in their Farmer Field Book or equivalent record keeping system. We provide a Farmer Field Book template indicating the type of information that is to be recorded by farmers. In contexts where a majority of participants have limited literacy skills, Field Facilitators assist farmers in tracking and recording the relevant information. The Farmer Field Book can also be in the form of a computerised record keeping system in large, industrialised farms.

SAMPLING APPROACH FOR DATA COLLECTION

During the harvest years between 2010 and 2012, BCI collected Results Indicator data from all farmers participating in the Better Cotton System. As Better Cotton expands—and the number of smallholders

rapidly increases—the costs and effort associated with collection and management of data from hundreds of thousands of farmers become increasingly complex.

Data from all medium and large farms is still collected. For smallholders, we developed a sampling methodology, which was reviewed and endorsed by researchers at Wageningen University in the Netherlands. The methodology includes the collection of data from a representative sample of Learning Groups that are randomly selected by BCI on a yearly basis at the end of the season. The Farmer Field Book is maintained by all farmers for learning purposes.

On occasion, data was excluded from the analysis because it was assessed to be incomplete or because no comparison data was available for a Producer Unit. These instances are noted in the Harvest Report for each country with a percentage that indicates how representative the data is with respect to the BCI Farmer population.

COMPARISON DATA

Each Producer Unit and large farm we work with is responsible for collecting data from Comparison Farmers. These farmers can live in the same community as BCI Farmers, in neighbouring communities or in other nearby locations. Their key characteristics make them as similar to project farmers as possible. Comparison Farmers should present similar socio-economic characteristics as BCI Farmers. The characteristics of their farm should also be taken into account:

- » number and type of labourers
- » size
- » irrigation system
- » general soil fertility
- » crops grown
- » experience in growing cotton

A NOTE ON DATA PREPARATION

The data reported from the farm level is compiled and goes through a multiple-step cleaning process. BCI uses country-specific expected ranges for each

indicator to check for outliers using data analysis software. Any figures that appear to be made in error are reviewed by BCI's implementing partners and either corrected or excluded.

Once the data is cleaned, the farm-level results are reported as weighted national averages, comparing the averages of BCI Farmers to those of Comparison Farmers. The weighting is a standard statistical analysis method, done so that the proportions of each sub-country region represented in Better Cotton projects are similar in both the BCI Farmer group and the Comparison Farmer group at the country level.

OUTCOME EVALUATIONS AND IMPACT ASSESSMENTS

In addition to the data reported by farmers, BCI contracts researchers or consultants to conduct independent Outcome Evaluations. These studies allow for a deeper examination of results using additional qualitative assessments, focus group discussions, and other approaches. The findings of these evaluations allow us to corroborate—or not—the data we receive from farmers via our partners, and leads to a deeper understanding of how BCI's and its partners' interventions, coupled with the particular local context, lead to outcomes and results.

BCI encourages and supports long term, scientific impact assessment studies conducted by expert researchers on an independent basis. We are currently collaborating on two multi-year impact assessment projects. One study led and conducted by researchers from the Copenhagen Business School started in 2014 and will yield its first results in 2016. A second research study, commissioned by ISEAL, is conducted by a consortium of research organisations under the leadership of the Natural Resource Institute of the University of Greenwich. This study, which started in 2015, will extend to 2018. The baseline research has been conducted and the full report is available [here](#). For an explanation about the research design and methodology used, click [here](#).