
ORGANIC COTTON PRODUCTS: AN ANSWER TO A MORE SENSITIVE DEMAND TO ENVIRONMENTAL, HEALTHY AND ETHICAL ISSUE

Grazia Calabrò¹ and Simone Vieri²

¹*University of Messina, Department of Economics, Messina, Italy*

²*University La Sapienza, Department of Management, Rome, Italy*

E-mail: simone.vieri@uniroma1.it; grazia.calabro@unime.it

Abstract

Cotton crops are largely made of genetically modified plants. As a consequence, it is difficult to find areas for organic farming. Despite this, thanks to economic values and important development potential, organic cotton has managed to occupy wide market areas. The aim of this paper is to highlight the relationship between market potentialities of organic cotton both with the income expectations of producers and the growing interest of consumers on topics such as social and environmental sustainability.

In particular, the strong image of environmental and social sustainability, related to organic cotton, make it particularly suitable to occupy market niches characterized by the demand of consumers with a high willingness to pay for products with these characteristics.

Much sectors whose products have been involved with market niches of organic cotton provide an important base for significant future evolution.

The solidity of this perspective is therefore linked to the ability of the sectors concerned to provide for adequate organisational and combined measures.

In the absence thereof, the agricultural phase can scarcely realize profitable prices. As consequence, the quantity of product needed to sustain the potential of development cannot be available.

Keywords: consumer behaviour, agriculture, organic cotton, cotton crops, environment, sustainability.

JEL classification: O44, Q13, F64, Q1

Introduction

The cultivation of genetically modified plants has experienced a rapid dissemination; in the last twenty years, the extension of cultivated surfaces has grown by more than 100 times, from 1.7 million hectares in 1996 to almost 180 million hectares in 2015.

Nevertheless, Countries involved in transgenic cultivation are a limited number. In particular, 39.5% of cultivations are concentrated in one Country (USA), 77.7% in three Countries (USA, Brazil and Argentina), 98.6% in the eleven Countries (out of 28 in total)

where the surface of GMO cultivation is greater than one million hectares. 87.4% hectares of land cultivated using GMO is situated in the American Continent.

These data show that, where GMO cultivation has been introduced, conventional cultivations have been, *de facto*, replaced.

In the main producing Countries, the rate of adoption of GMO cultivation exceeds the 90% of all the involved plants, that therefore are in limited number, as already stated for involved Countries.

At present, in the face of 404 events recorded for 29 different plant species, 99.7% of cultivation focuses on only four plants: soy (51.2%); corn (30.1%); cotton (13.4%); rapeseed (5.0%).

Given the characteristics of the species concerned, that are all industrial cultivations whose products are intended for processing, there is no specific market interest to distinguish the type (GMO or GMO free) of the raw materials intended for processing.

In this regard, it should be noted that, also in European Union where GMO needs to be authorized before being placed on the market, it is not foreseen a labelling system for products obtained using GMO as productive factor (for example, for animal products obtained feeding animals with GMO, any indication is provided for consumer).

On the basis of the above, a particular exception is constituted by the type of cotton for which there are specific market segments, despite the spread of GMO cultivation. In fact, important brands on a global level are very interested in products made with organic raw materials and with a GMO free certification.

In this sense, one of the main reasons of interest is attributable to organic cotton ability to be used to qualify a number of products designed for specific market segments.

The use of organic cotton is, in fact, an effective tool for enhancing of products able to satisfy particular requirements of the consumer, linked to the adoption of lifestyles careful to environmental issues, ethical, and, in any case, to aspects aimed at distinguish by the prevailing model of consumption.

1. Organic cotton: productive and market data

Taking into consideration that 76.9% of world cotton production is concentrated in five Countries (India, China, USA, Pakistan and Brazil) in which the rate of adopting GMO is almost always more than 90% (only in Brazil is 73.3%), it is evident both the high risk of admixture of GMO and non-GMO crops and the difficulties of finding non-GMO products and seeds on the market.

In this context, the production of organic cotton had difficulties in spreading and it is now concentrated in an exiguous number of Countries: only nineteen. An additional limitation for this small business arises from the fact that 92.2% of production is concentrated in only five Countries (India, China, Turkey, Kyrgyzstan and USA); 85.1% in three Countries and 66.9% in only one Country (India) (Textile Exchange, 2016).

It is important to note that India and China are at the same time the major world producer both of organic cotton and transgenic cotton.

Notwithstanding these difficulties, organic cotton crops show a growth trend, from 324,000 to 350,000 hectares (+8.0%) in the period 2010-2015. This growth trend is set to continue in the future considering the in-conversion areas (85,671 hectares in 2015) that will end this step in the three-year period 2016-2018.

The diffusion of organic cotton is part of the more general market expansion of organic sector on a global scale.

In the last twenty-five years, the areas of organic methods of production increased from 11 to 43.7 million hectares, involving 172 Countries in the World.

However, organic productions, although growing, represent so far only a small portion of agricultural worldwide, affecting about 2.9% of cultivated lands.

The presence of organic farming is higher in Australia (39.4% of lands), Argentina (7.1%) and USA (5.0%). The farmers who are interested in organic farming are about 2.3 million on a global scale; 28.3% of these (about 650,000 farmers) operate in India and are engaged in large part in the cultivation of organic cotton. However, these data refer to an estimated farming population of about 1,5 billion people globally and of about 228 million in India (FICCI, 2015). It follows that, the incidence of farmers involved in organic productions is very low (1.5% globally, 0.07% in India) and is far less than that considered for lands, both on the overall total (2.9%) and in the same India (0.5%) that, as above mentioned, counts the highest number of farmers involved (FIBL, 2016).

We should also emphasize that, in the wider context of organic productions, cotton crops have a particular meaning not so much in terms of cultivated areas (0.8% of the total) but just like farmers involved (about 194,000, equal to 8.4%) and incidence on the total market value (15.8 billion dollars on about 80, equal to 19.8%).

Consequently, within the sector of organic farming, organic cotton production is of particular interest both in terms of economic value and chance of remuneration for involved farmers (Textile Exchange, 2015).

However, emphasis must be placed in this regards that the chance to achieve profitable prices is strictly connected with the ability of economic business organization and integration within the production chains. Where these conditions exist, in the case organic cotton is treated within product chains, farmers are able to obtain prices 20-30% higher than that of transgenic or conventional cotton.

It is evident that the level of development of socio-economic context where production processes take place, may affect the possibility to carry out dedicated supply chains.

For this reason, farmers operating in less developed Countries find it more difficult to obtain for organic cotton higher prices compared to conventional or genetically modified cotton.

For example, notwithstanding India is the world's leading producer of organic cotton, producers find it difficult to sell their products within dedicated supply chains, and they're unable to charge fair and profitable prices.

This contributes to determining both the abandon of organic cotton in favour of other organic crops and the loss of the organic method.

These situations can lead to the weakening of the agricultural production phase. As consequence, there is a risk of not having the quantity of product required to support the development of the sector.

It follows that, the ability to realize appropriate organizational levels and economic integration is crucial for the development of the sector, since it enables:

- to maintain and develop an agricultural base able to meet the demand for organic raw materials, thus supporting the development potential of all sector;
- to ensure a supply management coherent with the market needs and to settle on a contractual basis the different phases from the acquisition of raw materials (in particular the seeds acquisition that is always difficult in a market where GM cultivations are prevalent) to product certification.

With this in mind, we have to consider that where needed organizational levels are well realized, the cultivation of organic cotton is useful in creating a virtuous circle for the benefit of all actors of the chain: farmers, traders, retailers, consumers.

Organic growing practices imply a more responsible use of natural resources and, among other things, allow a better preservation of soil fertility.

The possibilities of obtaining higher prices for the raw material have a positive impact on farmer's income and, at the same time, it is a means of enhancing access to food and socio-economic conditions in less developed Countries.

Organic growing practices and the supply chain integration, useful for making it an economically viable, need an adequate level of preparation. They are thus a useful way for improving farmer's level of education and training.

It is important to note that organic cotton crop helps developing Countries farmers to access specific market segments like, for example, fair trade, that, as it is known, can allow the activation of socio-economic development processes of local realities.

The supply of organic raw material can enable the same benefit for farmers, traders and retailers. The major benefit is the possibility of occupying market niche on which certified and of high quality products may be placed, intercepting a dynamic and high willingness to pay demand.

Added to this is the possibility to link the firm's image to products that incorporate ethical and environmental values in order to strengthen the credibility on the market.

In the end, consumer through the purchase of products with ethical and environmental certified values, is recognised as an individual possessing rights and it also contribute to the environmental safeguard and to the improvement of living condition of farmers in developing Countries.

2. Organic cotton and consumers

At present, the consumption is one of the phenomena which best expresses the characteristics of contemporary culture. For this reason, the analysis of consumer's behaviour cannot be limited, as once done, only to economic implications, but in a wider view, also to a sociological and anthropological implications (Douglas, 2002) (Campbell, 2005) (Mc Cracker, 2005) (Ritzer, 2005).

Notwithstanding in advanced societies the consumption is no more considered as a secondary factor respect to production and, as a consequence, consumer is no more seen as a taxable person, in the present globalization phase the homologation in consumption is still an important issue. However, this has happened in an evolving social context in which, the borders among the different social categories are no more based on class differences but on different lifestyles.

There has been a development from the traditional consumption patterns, based on social stratification system (Veblen, 2005) and, thus, able to express social differences (Baudrillard, 1998) (Bourdieu, 2016), to the present complex systems where every consumer, regardless his social state, varies the consumption dimension in accordance with the adopted different lifestyles.

In this context, the consumption of goods is no more an act aimed at showing a social status, but it expresses the cultural framework underpinning consumer is intended to refer (Douglas, 2002).

According to this, through specific consumption choices, every single person try to be assimilated to social groups expression of lifestyles connected with these forms of consumption (Douglas and Isherwood, 1979).

It follows that the consumption of goods identifying a specific lifestyle gains social significance because it summarises all the different components of appreciation of corresponding consumption pattern (Mc Cracken, 1986).

The purchased goods take on a symbolic meaning and it becomes the main tool trough which consumer qualify his lifestyle and his membership to a specific social category (Miller, 1995).

These characteristics are particularly intense when involving goods and lifestyles with implications in health and environment.

These implications can have a greater impact on the attitudes of potential buyers that often put in the backseat the price, usually of primary importance.

An interesting reference to that, may consist in studies investigating the interest of Italian consumers about information on the use of genetically modified feed in livestock, not covered by European legislation right now (Vieri and Calabrò, 2014). In particular, we refer to a study, that through the conjoint analysis with reference to two animal products applicable to two different market segments (beef fillet and chicken meat), has calculated utilities based on true intention of acquisition of proposed offers. With regards to both the products in question, the utility linked to the use of non-transgenic feed was positive and even the most important for consumer's choice (Vieri, 2006).

In particular, the importance of this factor in consumer's choice was higher than the price both for beef fillet (39% versus 37%) and chicken meat (48% versus 42%). Consequently, according to the results of the study, consumers are willing to pay an extra charge of 9.60 and 4.20 euro per kilos respectively for beef fillet and chicken meat resulting from animal fed with non-transgenic feed.

In the above-mentioned study, the motivations that influence consumer's choices are not based essentially on objective facts or scientific evidences, but rather on sensibility and, indeed, worries about healthiness and naturalness of food products.

In this sense, analogies between the given example and organic cotton consumer's choice are very close. In the same cases, in fact, we refer to products that are in close contact with the individual for which the same above-mentioned sensibilities and worries may exist (Euromonitor International, 2016).

It follows that, it is consistently attributable to organic cotton market the same characteristics of current consumption patterns, especially of the so-called "satiety based society" already identified for foodstuffs (Malassis, 1997). According to this pattern, for the purpose of consumption, the importance of income is reduced while the importance of socio-economic variables is increased. This means that consumers are more sensitive to environmental, ethical and healthy characteristics and consequently, they are looking for products able to meet needs increasingly conditioned by intangible requirements (Euromonitor International, 2017).

In the current historical phase characterized by globalization, every single person is in a double antithetical position: from one side he feels himself as an integral part of global problems and economic dynamics and, from the other side, due to the standardizing pressures his individuality is cancelled.

In this context, consumer has two equally strong competing needs that force him, on one hand, to look for the social integration in consumption standardization and, on the other hand, to express his individuality.

In the last years, among the many issues with global relevance, the environmental subject plays an important role. As consequence, the possibility to buy products with high sustainable value, enables consumers to be socially integrated and, at the same time, to express his individuality as an active player respect to a global problem, thus satisfying the above needs.

In the light of the above, it seems evident that organic cotton has the right credential to intercept the above described demand.

In particular, the characteristic qualifying more organic cotton respect to conventional or transgenic one is the environmental impact.

Like all industrial farming, cotton is principally a high intensity monoculture; its production necessitates large water use and chemical inputs.

In this respect, it is considered that, on a global scale, cotton crops occupy around 2.5% of cultivated lands, but they use 16.0% and 6.8% of total herbicides and insecticides.

It follows that, the organic cotton ecological footprint is significantly smaller than conventional or transgenic one, as a result of different inputs needed.

Some studies supporting this, have been conducted in California (www.sustainablecotton.org). These studies have shown that organic cotton ecological footprint is lower than conventional and transgenic one both for land use (cropland footprint 0.83 versus 2.10) and water use (water footprint 1.56 versus 2.88) and CO₂ emission (carbon footprint 2.29 versus 4.77).

In addition, the cultivation of organic cotton excludes the use of genetically modified products and fits perfectly the consumer's needs of environmental protection and, at the same time, can qualify the principal production (textile fibre GMO-free) and can contribute, although in small part, to reducing the use of Genetically Modified Organism (GMO) in food supply chain.

At present, in fact, about 65% of world cotton production, trough by-products of oil seeds extraction, is used in the manufactures of feeds re-entering in the food chain.

This means that the image of organic cotton crops is good both for its low environmental impact and its contribution to food safety.

This last consideration, not strongly supported by scientific evidences, give us the opportunity to connect positively organic cotton and the above-mentioned categories of consumption.

3. The market of organic cotton: current sectors and possible future developments

Taking into consideration the present evolution of the demand, organic cotton is now entered in various market sectors, and it represents a great potentiality to catch new tendencies and opportunities, especially in that areas where the consumers show great interest in quality and safety.

For this reason, an important market segment is that of family and baby wear. In this segment, consumers place special emphasis on product quality especially regarding productive processes not involving the use of refining chemicals and, consequently, with a lower risk to health.

Similar concerns shall be expressed by consumers (especially the most informed ones) as regards the naturalness of personal care products.

On this matter, it is interesting to show the results of a recent research conducted in Argentina (Graham, 2015). This research shows the presence of glyphosate residue in 85% of the cotton made cotton swabs, wipes and sanitary products submitted for examination. As it is well known, glyphosate is the most commonly used herbicide in genetically modified crops and, in 2015 it has been included among potentially carcinogenic substances by World Health Organization.

Consumer has the same sensitivity about certain features which distinguish specific types of products that, using organic cotton as raw materials, are better able to identify with themes such as environmental safeguard and ethical and social values. It is the case of outdoor industry and sportswear market segments; several brands, in fact, have for a long time cotton ranges or product lines made from organic raw materials.

The identification with positive values is the key element for the future development of organic cotton. In particular, the strategy of many luxury brands is to have sustainable product lines. This happens, for example, in various sectors such as luxury, home textiles, home equipment and business to business. In this last case, for several products and services, there is a great interest in developing a better image linked to sustainability (Boumphrey, 2016). For this reason, gadgets are sold or submitted together with organic cotton made products.

According to Textile Exchange data, in 2015, brands using exclusively organic cotton as raw materials were 24 (+33% compared to 2014); organic cotton involved however 42% of brands on the market. In particular, in the top ten of cotton users, 29.6% of raw material is organic cotton; in 2014 this datum was 20.2%.

These data show the possibility of good development prospects; they are also well corroborated by the projection in same sectors; for example, for personal care it is forecast a growth of 9.6% per year until 2019.

Conclusions

World cotton production largely comes from GM cotton plants. In this context, notwithstanding organic cotton production is still a small reality, it presents economic values and great development potentiality.

These values and potentialities are largely attributable to the image of social and environmental sustainability that is easily associated with organic cotton.

Thanks to these characteristics, organic cotton is particularly suitable for enter market niches characterised by a demand sensitive to environmental, social and ethical issues and with a higher willingness to pay for products having these characteristics.

Organic cotton market niches involve several sectors which range from personal and baby wear to personal care, luxury, home textiles, outdoor and sports industry and business to business.

Generally speaking, organic cotton production can provide business opportunities and benefits all along the chain. However, there are some weak points mainly related to agricultural, where the possibility to have remunerative prices is strictly linked to the organization's ability to be integrated with all the actors involved.

These situations can lead to the weakening of agricultural production resulting in not to dispose of the right quantities of product needed at supporting the development potentialities of this sector.

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