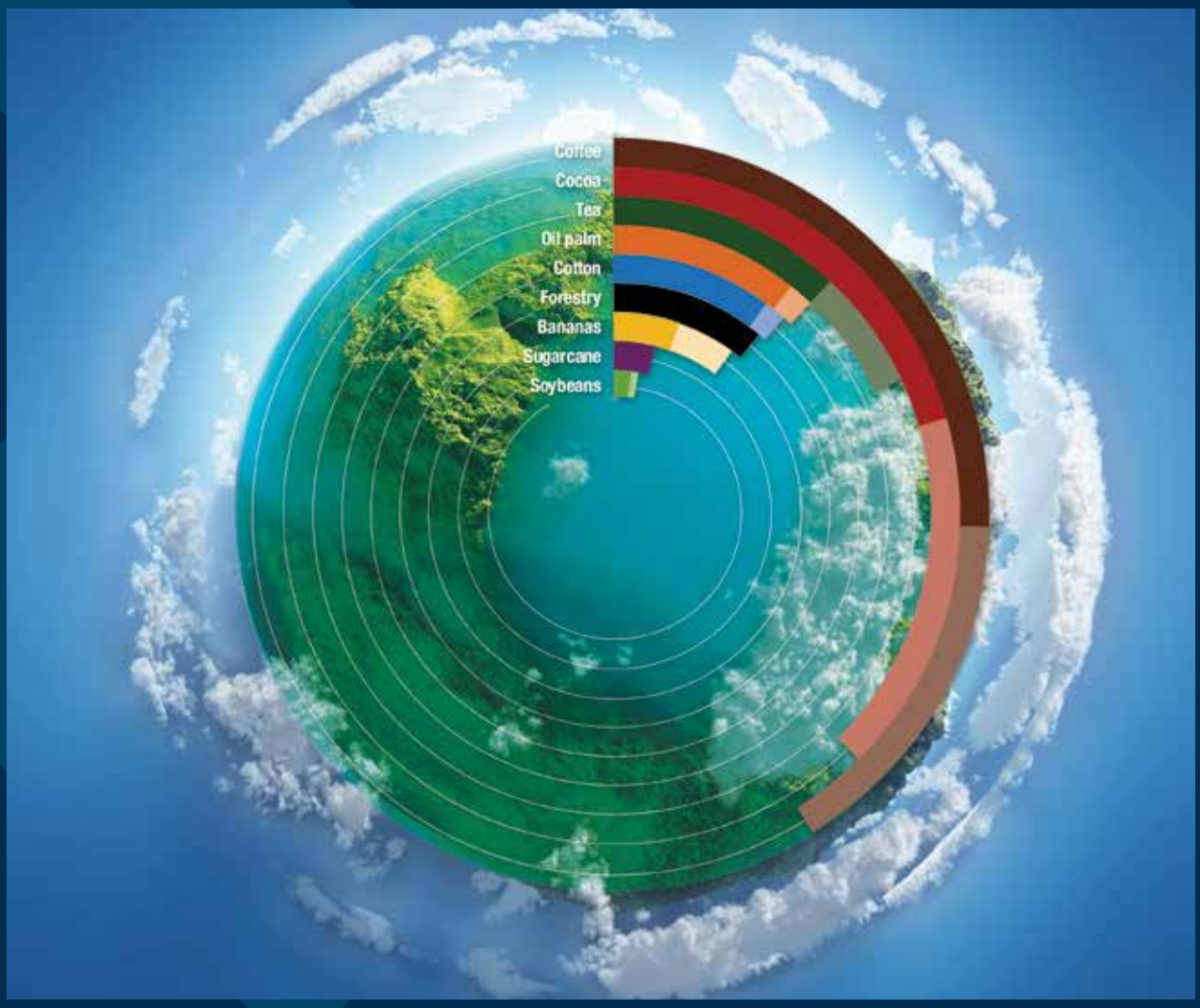
The State of Sustainable Markets 2018

STATISTICS AND EMERGING TRENDS



International Trade Centre

In collaboration with:

FiBL

IISD
International Institute for Sustainable Development

How much of the world’s agricultural and forestry production is certified as sustainable?

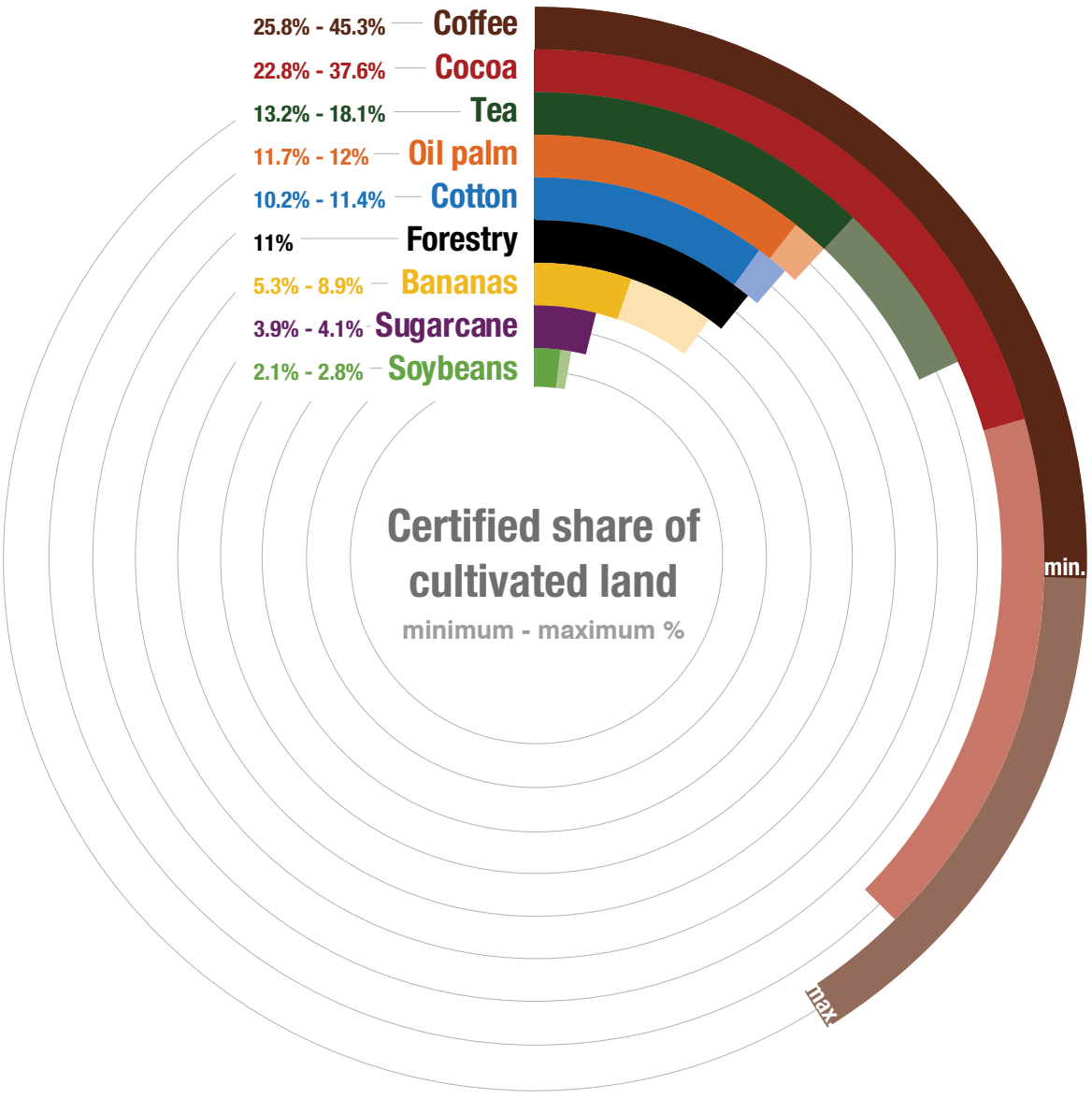
This is the world's most comprehensive report on sustainable markets, with data from 14 major sustainability standards for eight agricultural products, plus forestry.

The chart gives a snapshot of sustainable production today. It shows how much cultivated land is certified by at least one sustainability standard. At least a quarter of the world's land dedicated to coffee, for example, is now certified. But the real share may be closer to half of the world's coffee areas. This minimum and maximum range for each product is given because many producers have multiple certifications.

(For more about how the data is captured and assessed, see Chapter 4.)

THE STATE OF SUSTAINABLE MARKETS 2018

STATISTICS AND EMERGING TRENDS



Voluntary sustainability standards continue their growth across the world.

This third global report provides new insights into the evolution of certified agriculture and forestry. ITC has teamed up once more with the Research Institute of Organic Agriculture (FiBL) and the International Institute for Sustainable (IISD) to provide data about 14 major sustainability standards for bananas, cocoa, coffee, cotton, palm oil, soybeans, cane sugar, tea and forestry products. This report helps shape decisions of policymakers, producers and businesses, working to address systemic labour and environmental challenges through certified sustainable production.

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For more information, see Sustainability Map (www.sustainabilitymap.org) and visit the Trends module which presents data taken from this publication using interactive charts and graphs.

FOREWORD

The environment is at a global tipping point. Production and consumption as usual is no longer an option. With a little over a decade left to achieve the United Nations Sustainable Development Goals (SDGs) of the 2030 Agenda, we must speed up our actions and pilot solutions to existing problems. This takes global partnerships. It also takes reassessing the entire production and consumption value chain.

Producers, processors, brands, retailers and consumers have a responsibility to move towards a consensus on sustainability.

Why change our approach to how we produce and consume? A quick glance at commodity-based value chains is enlightening.

Bananas are the world's most popular fruit. The industry is the world's second largest user of agrochemicals, after cotton. What's more, virtually all bananas sold internationally are of one type, making bananas especially susceptible to changes in the market, in quality, and in consumer preferences.

Cocoa is another industry that deserves a deep dive. What are the realities of the smallholder farming and income opportunities along the cocoa value chain? How can we better close the price gap between the final product price and what the farmer actually gets in his or her pocket?

The cotton industry is another value chain susceptible to environmental change. In a time of water scarcity and continued population growth, the cotton industry is notorious for high water use and volatile prices.

Tea is the world's most popular drink (after water). To grow and process tea, deforestation and soil erosion are still common, along with worker safety related to agrochemical use.

In the sugarcane industry, a rapid rise in production addresses fast-growing consumer demand – at the cost of biodiversity in fragile ecosystems.

In many of these value chains, there also remains the spectre of child labour, forced labour and unjust conditions. Cleaning these value chains requires more than just greening them – we must ensure zero tolerance to any aspect of human rights abuses.

What can we do about it? How can we transform 'business as usual' into a more conscious approach to global sustainability?

While there is no silver bullet, we can make a difference by producing and consuming more sustainably. When consumers insist on accountability that protects their own health, the well-being of workers and that of our planet, big buyers listen. As a result, many buyers are increasingly working with producers using voluntary sustainability standards. For example, more than one-quarter of the world's coffee is produced using such standards.

Sustainability standards provide assurances that purchases support sustainability, and better connect consumers and producers. In doing so, these standards have become a mechanism to support SDG 12, which focuses on sustainable consumption and production.

While these standards have improved environmental and social conditions for production, data behind these standards are not always clear or comparable. This matters, because consumers, businesses and governments need accurate intelligence to make decisions that bring positive change.

The State of Sustainable Markets is the most comprehensive global data source available for certified agricultural commodity markets. Fulfilling its mandate to provide transparency and market intelligence on trade, ITC has teamed up with major research institutions and 14 of the world's largest sustainability

standards organizations for the eight agricultural products and forestry covered in this report. The data is updated constantly, using common methodology and reporting procedures.

ITC is pleased to partner with the Research Institute of Organic Agriculture (FiBL) and the International Institute for Sustainable Development to produce the third edition of this report, offering new insights into the evolution of certified markets.

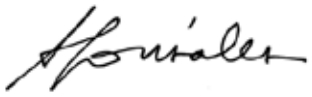
The report shows that agricultural land on which certified commodities are grown continues to increase, in some cases, surpassing the 20% mark. Cotton-certified areas are witnessing the highest growth rate, tripling between 2011 and 2016. Cocoa also almost tripled in area; and oil palm and tea-certified areas more than doubled during the same five-year span.

However, between 2015 and 2016, oil palm registered substantial declines (11.5% less than in 2015) as well as sugarcane (7.9% less).

While this report focuses on production, it is useful for a wide audience of policymakers, retailers, producer associations, investors, trade and investment support institutions – and even for the conscious consumer. The report provides insights for those who attach importance to the social and environmental conditions behind the products produced in their countries or sold in their nation's supermarkets.

Policymakers are getting the message and seeking to improve national production, lest they lose out to more sustainable locations for doing business. But challenges remain: high costs of certification; lack of harmonization among sustainability standards; and certification fatigue among brands and retailers looking to improve the situation on the ground without duplicative audits and elusive results.

In short, this year's report provides evidence that there is continued demand for sustainable production, and great scope for addressing challenges that can scale up sustainable trade – and help the world move away from 'business as usual'.



Arancha González
Executive Director
International Trade Centre

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Further acknowledgements are due to all the standard-setting organizations that collaborated on the report: 4C, Better Cotton Initiative (BCI), Bonsucro, Cotton Made in Africa (CmiA), GLOBALG.A.P., Fairtrade International, Forest Stewardship Council (FSC), IFOAM – Organics International, the Programme for the Endorsement of Forest Certification (PEFC), ProTerra Foundation, Rainforest Alliance (RA), the Roundtable on Sustainable Palm Oil (RSPO), the Round Table on Responsible Soy (RTRS) and UTZ.

The publishers would like to acknowledge Jason Potts, (1967 to 2018) whose work on advancing sustainable development through the design and use of effective voluntary standards and initiatives provided inspiration for developing the State of Sustainable Markets reports. At IISD, Jason led the State of Sustainability Initiatives, which tracks and issues regular reports on the characteristics, performance and market trends of sustainability initiatives internationally. His innovative leadership resulted in the creation of globally respected entities as the Committee on Sustainability Assessment, the Finance Alliance for Sustainable Trade and the Sustainable Commodity Assistance Network, all of which champion sustainable trade.

The publishers also wish to thank the following individuals, without whose contribution this report would not have been possible:

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PROJECT PARTNERS

The International Trade Centre (ITC), founded in 1964, is the joint agency of the World Trade Organization and the United Nations. Its aim is for businesses in developing countries to become more competitive in global markets, to speed up economic development and to contribute to the achievement of the United Nations Sustainable Development Goals.

Trade for Sustainable Development (T4SD) is ITC's partnership-based programme that helps businesses chart their path to more sustainable trade. The programme offers access to wide-ranging information for trade-related sustainability initiatives and standards. Building on well-established online tools, such as Standards Map and SustainabilityXchange, ITC launched a new platform, the Sustainability Map, in September 2017. It provides new features, such as the Sustainability Network. The online platform enables users, regardless of their position in the value chain, to better understand the sustainability initiatives landscape and to connect with business partners.

The Research Institute of Organic Agriculture (FiBL), founded in 1973, links interdisciplinary research to the rapid transfer of knowledge from research to extension to agricultural practice, drawing on advisory work, training and conferences. FiBL has offices in Austria, France, Germany and Switzerland, as well as a representative office in Brussels. It also undertakes numerous projects and initiatives in Africa, Asia, Europe and Latin America.

FiBL has more than 15 years of experience in collecting and publishing data on organic agriculture. Since 2000, it has developed a network of some 200 experts from 180 countries, all of whom contribute to data collection. Every year, FiBL and IFOAM – Organics International jointly publish The World of Organic Agriculture, which documents recent developments in the field worldwide. Since 2008, this global data collection has been financially supported by the Swiss State Secretariat for Economic Affairs (SECO) in collaboration with ITC. NürnbergMesse, organizer of the BIOFACH organic food fair, and IFOAM – Organics International also provide support. See www.organic-world.net.

FiBL works to encourage sustainable production in the food and agriculture sector, in part by contributing to the development of the guidelines for Sustainability Assessment of Food and Agriculture Systems (SAFA), published in 2013 by the Food and Agriculture Organization of the United Nations (FAO). Based on those guidelines, FiBL developed the Sustainability Monitoring and Assessment RouTine (SMART), which is now widely used for transparent and comparable assessments of the sustainability performance of farms and the impacts of voluntary standards.

The **International Institute for Sustainable Development (IISD)** is a public policy research institute renowned for its cutting-edge research on sustainable development. Established in 1990, its mission is to promote human development and environmental sustainability through innovative research, communication and partnerships. The Institute has offices in Canada, China, Switzerland and the United States, and operates in over 70 countries. Its projects are funded by numerous Governments, United Nations agencies, foundations, the private sector and individuals.

IISD has been assessing the characteristics, performance and market trends of voluntary sustainability standards (VSS) via the State of Sustainability Initiatives (SSI) project since 2008. The SSI Reviews of 2010 and 2014 are the most comprehensive reports published to date offering supply-chain decision makers – including procurement agents, investment advisers, CEOs, policymakers, sustainability initiatives and non-governmental organizations – the high-level data and analysis needed to navigate the increasingly complex world of sustainability standards. The Institute was also instrumental in establishing the Committee on Sustainability Assessment and the Sustainable Commodity Assistance Network, which are now independent organizations focused respectively on measuring sustainability impact and building capacity for the adoption of VSS. In addition to conducting strategic policy research and analysis on standards, IISD continues to make important contributions to sustainable consumption and production through its sustainable markets and responsible trade programme.

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TABLES

FIGURES

ACRONYMS

Unless otherwise specified, all references to dollars ($) are to United States dollars, and all references to tons are to metric tons.

BCI	Better Cotton Initiative
CmiA	Cotton made in Africa
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FiBL	Research Institute of Organic Agriculture
FSC	Forest Stewardship Council
GAP	Good Agricultural Practice
GCP	Global Coffee Platform (formerly the 4C Association)
GDP	Gross domestic product
GM	Genetically modified
GMO	Genetically modified organism
HS	International Convention on the Harmonized System
IFOAM	IFOAM – Organics International
IISD	International Institute for Sustainable Development
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
ITC	International Trade Centre
NGO	Non-governmental organization
PEFC	Programme for the Endorsement of Forest Certification
RA	Rainforest Alliance
RSPO	Roundtable on Sustainable Palm Oil
RTRS	Round Table on Responsible Soy
SAN	Sustainable Assistance Network
SDG	Sustainable Development Goal
SECO	Swiss State Secretariat for Economic Affairs
SME	Small and medium-sized enterprise
SSI	State of Sustainability Initiatives
T4SD	Trade for Sustainable Development
VSS	Voluntary sustainability standard programme of ITC

EXECUTIVE SUMMARY

This report, the third in what is now an annual update on the state of sustainable markets, presents the latest data on area, production volume and producers for 14 major standard-setting organizations.

This year's report shows how certified agriculture and forestry continue to grow, in line with a growing global population and increasing consumption.

Access to natural resources will continue to be a major sustainable development challenge far into the future. Fortunately, many opportunities exist along international supply chains to meet resource shortfalls.

Voluntary sustainability standards (VSS) represent one of these opportunities. They are a way to adopt production and trade practices that have the potential to lead to social, environmental and economic sustainability.[1]

Voluntary sustainability standards are no longer a novelty serving niche markets. They have been finding their way into mainstream markets for more than a decade. The trend is clear: sustainable agricultural products, which demonstrate compliance (for example, third-party verified compliance) with internationally recognized standards, are growing at a pace that exceeds markets for conventional products.

Overall, the rising share of total area and production volume covered by VSS suggests there is significant potential for continued growth.

The current market context shows:

- Continued growth, albeit not at the same pace as in previous years;
- An expanding share of agricultural land, which surpasses the 20% mark in some commodities;
- Dominance of single-sector standards in some sectors.

This year's report is based on a global survey on voluntary sustainability standards, funded by the Swiss State Secretariat for Economic Affairs (SECO). The Research Institute of Organic Agriculture (FiBL), the International Institute of Sustainable Development (IISD), and the International Trade Centre (ITC) jointly produced this report, building on their complementary and in-depth expertise on sustainability standards. The data presented here cover the year 2016, where available, as well as earlier years.

The report offers a comprehensive snapshot of significant growth in the adoption of global sustainability standards across nine sectors: bananas, cocoa, coffee, cotton, palm oil, soybeans, cane sugar, tea, and forestry. It provides market and statistical data on the nine sectors as well as at-a-glance tables on products and standards by country.

1. Voluntary Sustainability Standards (VSS) are standards developed at local, national or international level by organizations from the public and private sectors on environmental and social improvements. Private VSS are developed by businesses or not-for-profit non-governmental organizations. In the agricultural sector, VSS promote sustainability along the value chain. They define the criteria to be met by the certified organization or product, often resulting in an identifiable label for consumers. (FAO, available at http://www.fao.org/world-banana-forum/projects/good-practices/voluntary-sustainability-standards/en/.)

Among the highlights of this year's report[2]:

Cotton, cocoa and tea achieved the highest growth rates

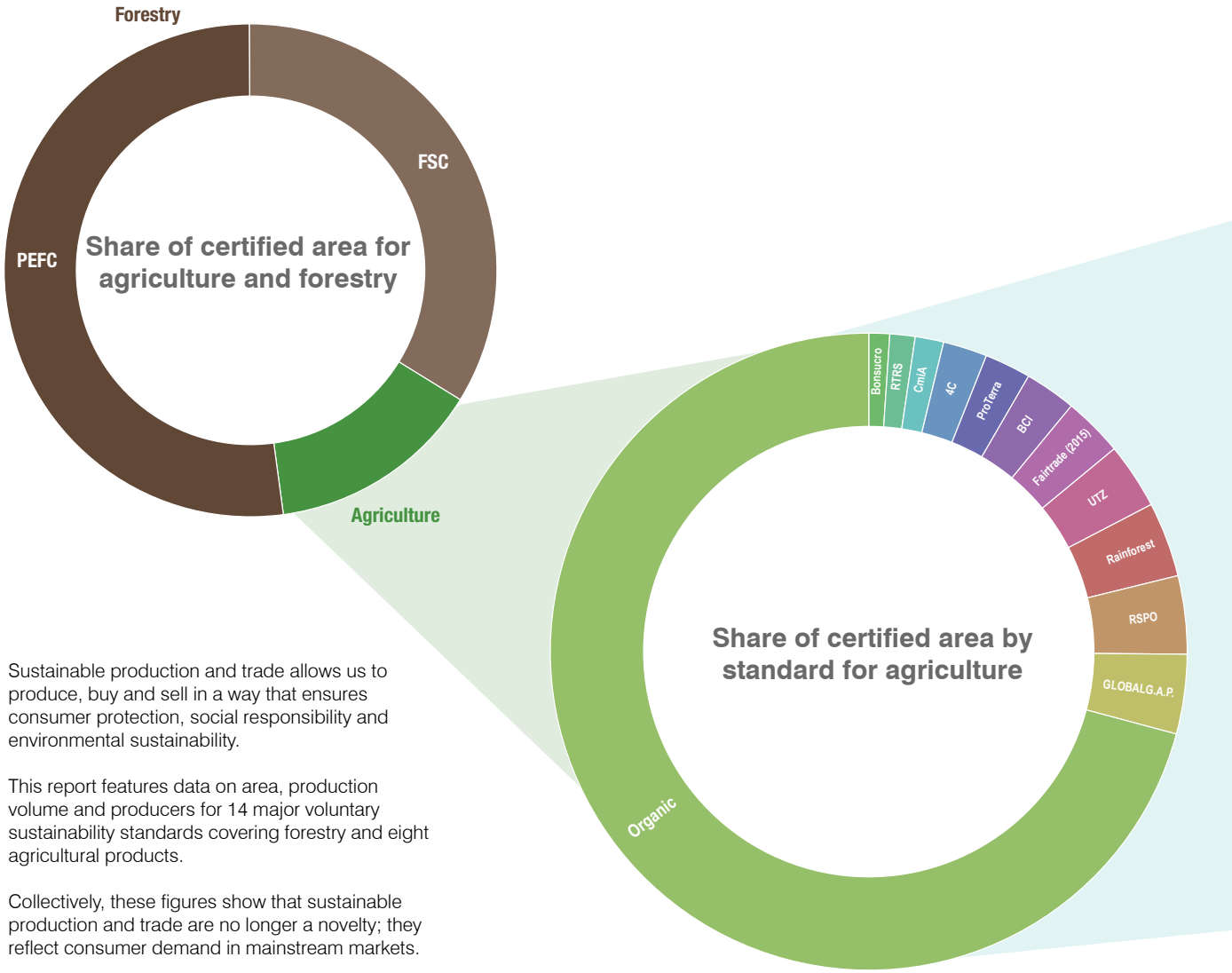
Cotton experienced the highest growth rate of its certified area – at least threefold – between 2011 and 2016, followed by cocoa and tea.

Between 2015 and 2016 alone, cocoa grew the fastest (28%). However, over the same period, most other commodities experienced single-digit growth or even saw the amount of certified area decline. For example, the oil palm area fell by 11.5%, and the sugarcane area by almost 8%.

Organic continues to be the leading standard by certified area

Organic is the biggest sustainability standard in terms of both area and product variety. In 2016, more than 57.8 million hectares of agricultural production were certified as organic (including areas in the process of becoming organic-certified), representing 1.2% of agricultural land worldwide.

2. Data is based on minimum values.



Sustainable production and trade allows us to produce, buy and sell in a way that ensures consumer protection, social responsibility and environmental sustainability.

This report features data on area, production volume and producers for 14 major voluntary sustainability standards covering forestry and eight agricultural products.

Collectively, these figures show that sustainable production and trade are no longer a novelty; they reflect consumer demand in mainstream markets.

GLOBALG.A.P. has the second-largest area of all the standards, accounting for 0.09% of the global agricultural area.

The Roundtable on Sustainable Palm Oil (RSPO) certified more than 3.2 million hectares in 2016, making it the third biggest standard in terms of area certified.

All of the standards covered by this report have experienced growth in their compliant areas since 2011. The Round Table on Responsible Soy (RTRS) saw the greatest jump, with the certified area expanding more than sevenfold between 2011 and 2016. The Better Cotton Initiative (BCI) area increased nearly five times over the same period, while that of Cotton made in Africa (CmiA) nearly quadrupled. Similarly, 4C and RSPO reported significant growth in their certified area.

Standards compliance continues to gain ground

Approximately 23% of the world's cocoa area, which experienced the biggest growth of all sectors from 2015 to 2016, is now certified by four standards. The coffee sector boasts the highest compliance rate, with at least 25.8% of the coffee area being certified. The CmiA-certified area currently represents 26% of the entire cotton area in Africa.

Three standards now certify production of sugarcane, the world's largest source of sugar, and at least 13% of the world's tea area is VSS-certified. The certified forestry sector, which accounts for almost 11% of the global forestry area, is paving the way for voluntary standards worldwide, with a 27% increase in the certified area between 2011 and 2016.

Addressing persistent sustainability concerns

The continuous increase in certification over the past decade reflects a demand among consumers, buyers and producers to address common environmental and social concerns. For example, the banana industry, the world's second largest consumer of agrochemicals after cotton, faces such challenges as low wages, worker health and safety, child labour, and lack of biodiversity.

The cocoa market is confronted by an unorganized production base, systemic poverty and child labour, while the cotton market's reputation is affected by high water use, volatile prices and worker exploitation.

The increasing consumption of sugarcane is having a major impact on biodiversity amidst concerns over abusive labour practices. For the tea market, concerns include forest removal, soil erosion, chemical inputs, and worker protection.

Reporting challenges: Multiple certification, lack of reliable data

In a context where access to sustainable markets tends to be concentrated in more developed economies, policymakers, producers and businesses need better-quality information to facilitate strategic planning.

It remains difficult to report a global total for individual sectors, as many producers are certified by more than one standard. There are not enough reliable data on the share of these multiple certifications. For the purposes of this report FiBL, IISD and ITC accordingly decided that the best approach was to provide the minimum, maximum and average of the area or production volume.

Better quality and more transparent data are needed for prices and markets, trade, consumption, expansion of reporting and transparency requirements for certified producers, expansion of the Harmonized System (HS) coding system, expanded corporate reporting, and sustainable consumption at the national level.

Standards featured in this report

This report covers the following standards: 4C Association, Better Cotton Initiative, Bonsucro, Cotton made in Africa, Fairtrade International, Forest Stewardship Council, GLOBALG.A.P., IFOAM – Organics International, the Programme for the Endorsement of Forest Certification Schemes, ProTerra Foundation, Rainforest Alliance, the Roundtable on Sustainable Palm Oil, the Round Table on Responsible Soy, and UTZ.

Strategies for sustainable trade

Voluntary sustainability standards offer explicit strategies to link trade with better practices. Better data will improve understanding of the state of sustainable markets, and better reporting will help round out the picture of sustainable supply chains.

This report's presentation of market conditions and trends therefore intends to inform readers, encourage additional data collection and promote accountability within sustainability markets. It also serves as a resource for further analysis and informed decision-making by researchers, policymakers, industry actors and other stakeholders.

CHAPTER 1

SUSTAINABILITY STANDARDS: IN THE MAINSTREAM

Partnerships lie at the heart of advancing sustainable development and overcoming major global challenges, such as gender equity, poverty alleviation and climate change. The 17th and last Sustainable Development Goal (SDG) illustrates this point, specifically focusing on strengthening partnerships for sustainable development. SDG 17 – Strengthen the means of implementation and revitalize the global partnership for sustainable development – supports the fulfilment of the 16 other goals adopted by the global community in 2015 (United Nations Department of Economic and Social Affairs, 2017).

Voluntary sustainability standards (VSS) have long embodied the understanding of the need to establish partnerships for implementing sustainable development, as shown by the following:

- Organic and Fairtrade have moved the agricultural sector closer to environmental and social sustainability, with many producers electing to become certified by both standards.
- The Roundtable on Sustainable Palm Oil (RSPO) and the Round Table on Responsible Soy (RTRS) aim to represent the multiple interests of their supply chain stakeholders.
- The evolution of Bonsucro from a certification programme to a global sugarcane platform in 2016 strengthened its efforts to move the sector towards sustainability (Bonsucro, 2016).
- The 2017 merger of UTZ and Rainforest Alliance (RA) leverages their respective organizational strengths for greater sustainability (Kraft, 2017).
- The existence of the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance, a member-based organization for sustainability standards, reflects its members' commitment to greater coherence in pursuing sustainable consumption and production.

As demand for standard-compliant products grows in the marketplace, VSS are enabling sustainable consumption and production as well as partnerships for sustainable development – effectively contributing to the fulfilment of several SDGs. The expansion of sustainable consumption choices enabled by VSS makes consumers more aware of sustainability, whether they are individuals shopping for their day-to-day needs or corporate procurement decision makers purchasing tons of materials for their businesses, creating a virtuous cycle of demand for more sustainable products. By providing assurances for purchases that support sustainability, VSS are connecting consumers and producers via transactions that involve more sustainable products. As VSS continue tackling more complex sustainability challenges, the partnerships they have nurtured between entities and consumers committed to sustainable consumption and production will become increasingly important.

This report supports that assertion, reflecting the many partnerships established by the Research Institute of Organic Agriculture (FiBL), the International Trade Centre (ITC) and the International Institute for Sustainable Development (IISD) with standards organizations that have generously shared information in order to provide marketplace transparency to standard-compliant production in key agricultural and forestry sectors. This commitment to information-sharing and transparency constitutes a solid foundation for VSS to continue advancing and enabling global sustainable consumption and production efforts.

Following on the previous two editions of this report, The State of Sustainable Markets 2018 offers the latest available data, covering the year 2016. The report is divided into two sections:

- An overview of each of the standards surveyed, with a short description and key data;
- A product section showing the data by agricultural and forestry product.

TRENDS IN VOLUNTARY SUSTAINABILITY STANDARDS

VSS are no longer a novelty serving niche markets. Over the past decade and more they have increasingly found their way into mainstream markets. There are many reasons for the growing adoption of these standards. For some producers and suppliers, adherence to a set of recognized principles for sustainable practice represents a stepping stone to implementing best practices within supply chains.[3] For others, compliance with a given standard may offer a strategy for managing reputational risks or even supply risks. However, regardless of the reasons, the trend is clear: sustainable commodities, as defined by products that are demonstrably (e.g. third-party verified) compliant with internationally recognized standards, are growing rapidly, and at a pace that outstrips markets for conventional commodities. Highlights of the current market context are continued growth, expanding coverage of agricultural land, and dominance in some sectors of single-sector standards, as outlined below.

Growth continues, albeit not at the same pace

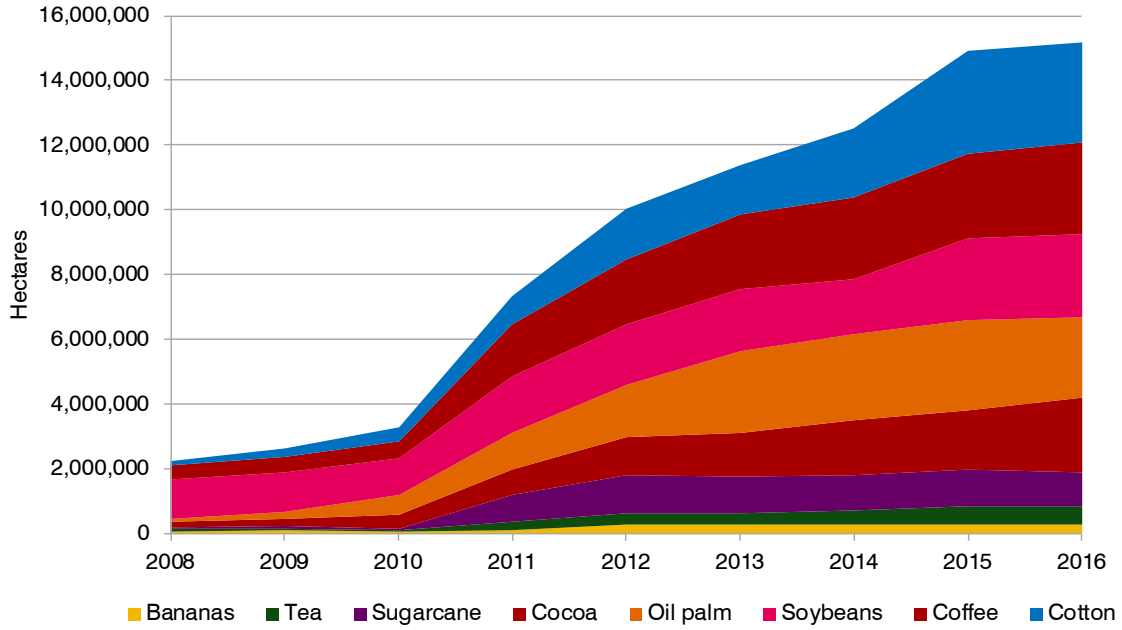
- Between 2011 and 2016, most standards covered by this report experienced growth in their compliant areas.[4] RTRS underwent the greatest jump, with the certified area expanding more than seven fold. The Better Cotton Initiative (BCI) area increased nearly five times, while that of Cotton made in Africa (CmiA) nearly quadrupled. Similarly significant growth in certified area was also reported by 4C and RSPO.
- Looking at individual agricultural sectors, the certified area for cotton experienced the highest growth rate, increasing more than threefold between 2011 and 2016.[5] This was followed by cocoa and tea, which more than doubled in area. All other commodities grew in area as well, with the exception of bananas, which showed stagnation.
- However, the growth rates experienced in previous years have slowed, with some sectors undergoing either stagnation or significant drops. While cocoa experienced the greatest increase in certified area (28%) between 2015 and 2016, most other commodities experienced single-digit growth or even saw their certified area decline over the same period. For example, the oil palm area fell by 11.5%, and the sugarcane area by almost 8%.
- The certified forest area expanded by 57% between 2008 and 2016, with the Forest Stewardship Council (FSC) area growing by 91% to 196 million hectares and that of the Programme for the Endorsement of Forest Certification (PEFC) increasing by 39% to over 301 million hectares in the same period.

Multiple certification and data on total VSS area and production

Reporting a global total for certain commodities remains difficult, as many producers are certified by more than one VSS, and there are not enough reliable data on the share of multiple certifications. Taking this into account, FiBL, IISD and ITC decided that the best approach was to provide a range that encompasses the minimum and the maximum amounts possible, along with the average of the two at the country level. To calculate the maximum amount, the total production of all standards in the country was determined. For the minimum, the standard with the largest area or largest production volume in the country was used as the reference. An average of the maximum and minimum was then calculated. These figures must, however, be treated with caution, as they are simply estimates that indicate a trend.

3. Some of the VSS covered here are members of the non-governmental organization ISEAL, the International Social and Environmental Accreditation and Labelling Alliance. For more information see http://www.isealalliance.org/.
4. 2011 is the first year for which data are available on all the standards covered by this report, with the exception of GLOBALG.A.P. for which data is only available since 2012.
5. These growth rates are calculated by taking the minimum area possible as the reference.

Figure 1: Growing fast – Selected products certified by sustainability standards (minimum possible), 2008 – 2016



***Note*:** The products are sorted by largest area. The data in this figure were not adjusted for multiple certifications. For purposes of the figure it is assumed that there is a maximum amount of multiple certifications occurring within each commodity, corresponding to the minimum VSS-compliant area per commodity in a country. Therefore, the total VSS-compliant area corresponds to the VSS with the largest compliant area operating within a given sector. For Fairtrade International, as the 2016 data for coffee and cotton were not available, the 2015 data were used to draw a global picture.

***Sources*:** FiBL-ITC-SSI survey 2018: Coffee Assurance Services 2014, 2015, 2016, and 2018; Better Cotton Initiative 2014, 2015, 2017, and 2018; Bonsucro 2014, 2015, 2016, and 2018; Cotton made in Africa 2014, 2015, 2016, and 2018; Fairtrade International 2017 and 2018; GLOBALG.A.P. 2015, 2016, and 2018; FiBL survey 2018; ProTerra Foundation 2014, 2015, 2016, and 2018; Rainforest Alliance 2014, 2015, 2016, and 2018; Roundtable on Sustainable Palm Oil 2014, 2015, 2016, and 2018; Round Table on Responsible Soy 2014, 2015, 2016, and 2018; UTZ 2014, 2015, 2016, and 2018.

Table 1: Selected commodities: Minimum area 2016, 1-year growth, 2015–2016, and 6 years' growth, 2011–2016

Commodity	Minimum area [ha]	Share of total area [%]	Growth 2015–2016 [%]	Growth 2011–2016 [%]
Bananas	289,142	5.3%	-0.6%	-3.1%*
Cocoa	2,321,384	22.8%	28.3%	187.5%
Coffee	2,828,096	25.8%	8.3%	77.9%
Cotton	3,090,497	10.2%	-2.8%	243.0%
Oil palm	2,464,864	11.7%	-11.5%	116.2%
Soybeans	2,579,243	2.1%	1.1%	48.6%
Sugarcane	1,050,380	3.9%	-7.9%	26.8%
Tea	542,466	13.2%	-3.1%	117.4%

***Note*:** The data in this table were not adjusted for multiple certifications, thus the minimum possible is reported. The total VSS-compliant area corresponds to the VSS with the largest compliant area operating within a given sector by country.

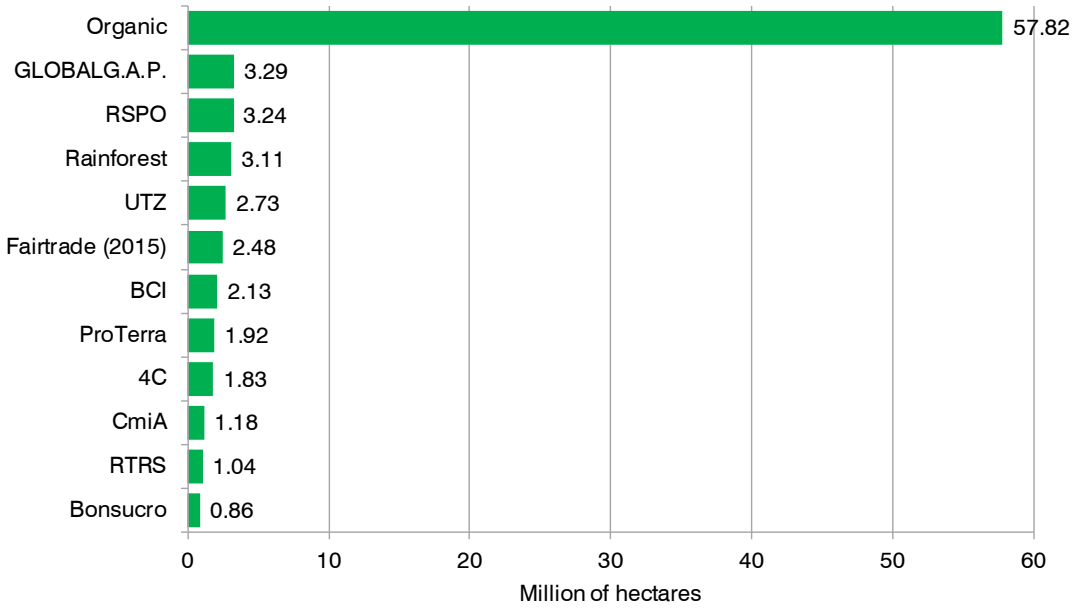
***Source*:** FiBL-ITC-SSI survey 2018.

**Please note that for bananas data are only available from 2012, so the growth rate is from 2012 to 2016.*

Standards are expanding their agricultural land coverage

- In 2016, more than 57.8 million hectares were organic-certified (including land that is in the process of becoming certified as organic), representing 1.2% of all agricultural land worldwide. Organic is the biggest sustainability standard in terms of area, and the one with the largest variety of agricultural products.
- GLOBALG.A.P. certified 4.2 million hectares, making it the standard with the second-largest area, representing 0.09% of the global agricultural area.
- RSPO had more than 3.2 million hectares (of which 2.4 million hectares were actually cultivated), and it is the third biggest standard in terms of certified area.

Figure 2: Certified area by standard, 2016



Note: For organic, a large part of the agricultural land is made up of permanent grazing areas (65%), which also include extensive grazing areas.

Sources: FiBL-ITC-SSI survey 2018: Coffee Assurance Services 2016; Better Cotton Initiative (BCI) 2018; Bonsucro 2018; Cotton Made in Africa (CmiA) 2018; Fairtrade International 2017; GLOBALG.A.P. 2018; FiBL survey 2018; ProTerra Foundation 2018; Rainforest Alliance (RA) 2018; Roundtable on Sustainable Palm Oil (RSPO) 2018; Round Table on Responsible Soy (RTRS) 2018; UTZ 2018.

Rising shares of total area break records – at least 26% of the world's coffee is certified

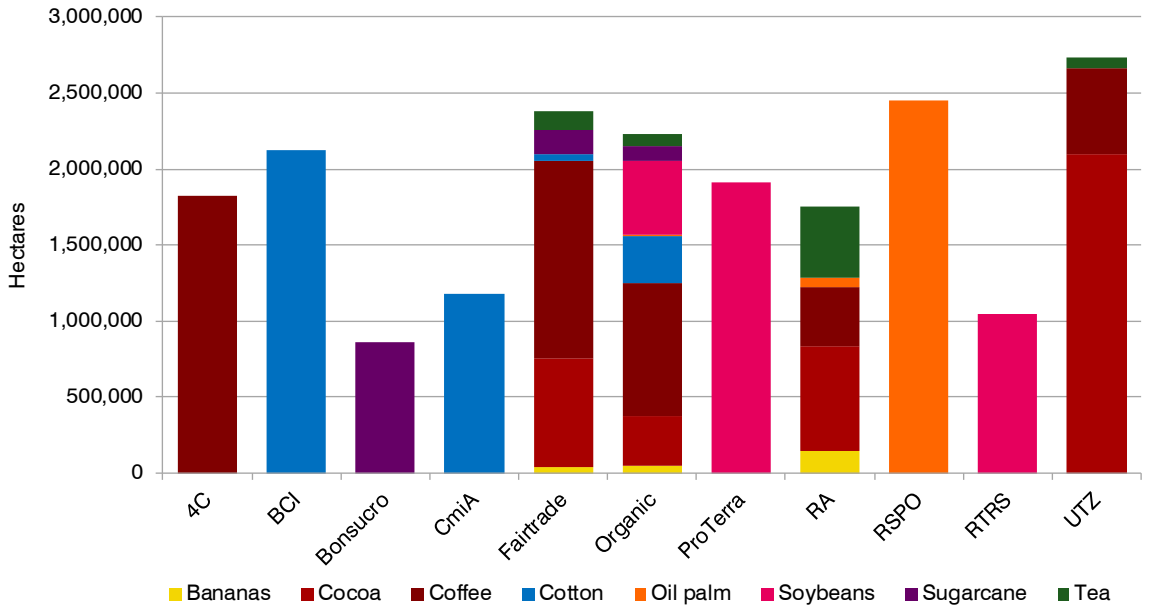
- If the minimum area is used as a reference, in 2016 almost 26% of the global coffee area and almost 23% of the global cocoa area were certified by at least one label; this is a record. For cocoa, UTZ has the highest share and it is the first label to break the 20% barrier. For coffee, 4C is the label with highest share.
- Certified oil palm has reached an area share of 11.7% and tea a share of 13.2% percent. By standard, the highest shares are reached by RSPO for oil palm and by Rainforest Alliance for tea.
- Certified cotton has reached a share of more than 10% of the global cotton area, and CmiA had high shares of the total seed cotton production in Africa: almost 26.2% of the continent's seed cotton area and 19.6% of its seed cotton production volume.
- In the forestry sector, PEFC holds the highest share of the global forest area, representing 7.5%.

For more details about each product, see Chapter 3.

Single-sector standards continue to dominate

- Growth and market uptake appear to be largely driven by standards directly targeting mainstream adoption within a specific sector. In each of the sectors discussed, where single-commodity standards[6]
- have been developed (coffee, cotton, forestry, oil palm, sugarcane and soy), they are by far the largest standard. The dominance of single-commodity standards is particularly remarkable given that they tend to be the newest standards on the market, with the exception of the forestry sector.
- Multiple-commodity standards[7] might, however, have lower coverage of a specific commodity than single-commodity standards due to their wider scope. This is most notable for organic agriculture, which has slightly more than 2.2 million hectares for the eight agricultural products discussed in this report, but 57.8 million hectares in total, with at least 27 product groups.[8]

Figure 3: Certified area by standard and selected agricultural products, 2016



Sources: FiBL-ITC-SSI survey 2018: Coffee Assurance Services 2016; Better Cotton Initiative (BCI) 2018; Bonsucro 2018; Cotton Made in Africa (CmiA) 2018; Fairtrade International 2018; GLOBALG.A.P. 2018; FiBL survey 2018; ProTerra Foundation 2018; Rainforest Alliance (RA) 2018; Roundtable on Sustainable Palm Oil (RSPO) 2018; Round Table on Responsible Soy (RTRS) 2018; UTZ 2018.

6. Single-commodity standards: voluntary sustainability standards that certify only one commodity. An example is the Global Coffee Platform, which only certifies coffee.
7. Multiple-commodity standards: voluntary sustainability standards that certify multiple commodities. An example is Fairtrade International, which certifies a wide variety of commodities.
8. Most of these crop groups cover a number of individual commodities, such as tropical fruit (bananas, pineapples, mangoes, avocados, etc.).

HIGHLIGHTS: AGRICULTURAL AND FORESTRY PRODUCTS

What follows is an overview of the key statistics for each of the selected sectors (bananas, cocoa, coffee, cotton, palm oil, soy, sugarcane, tea and forestry products). As noted previously, there is little information available about the share of multiple certification, and it was therefore decided to provide the minimum area (100% multiple-certified) and the maximum area (no multiple certification taking place) along with the average.

Bananas

Four of the VSS covered in this report – **Fairtrade International**, **GLOBALG.A.P.**, **organic** and **RA** – certified banana production in 2016. Combined, they certified a minimum of 289,000 hectares and a maximum of 488,000 (for an average of 389,000 hectares). In terms of the proportion of the VSS-certified area of the global banana area, the minimum represents 5.3%, the maximum, 8.9%, and the average, 7.1%. With more than 252,000 hectares, **GLOBALG.A.P.** had by far the largest VSS-certified banana area in 2016; the area with the highest growth (87%) in 2012–2016 was that of **RA**.

Cocoa

Four of the standards – **Fairtrade International**, **organic**, **RA** and **UTZ** – certified cocoa production. Combined, they certified a minimum of 2.3 million hectares and a maximum of 3.8 million hectares in 2016 (an average of 3.1 million hectares). In terms of the proportion of the VSS-certified area of the global cocoa area, the minimum represents 22.8%, the maximum, 37.6%, and the average, 30.2%. **UTZ** reported the largest VSS-certified cocoa area (2.1 million hectares), and as well reported the largest growth (fourfold between 2011 and 2016).

Coffee

Five of the standards – **4C**, **Fairtrade International**, organic, **RA** and **UTZ** – certified coffee production, with a combined minimum of 2.8 million hectares and a maximum of almost 5 million hectares in 2016 (average: 3.9 million hectares). In terms of the proportion of the VSS-certified area of the global coffee area, the minimum represents 25.8%, the maximum, 45.3%, and the average, 35.5%. **4C** had the largest VSS-certified coffee area, over 1.8 million hectares, and it also registered the largest growth in area (it trebled between 2011 and 2016). As the 2016 data for **Fairtrade International** were not available at the time this report was published, the latest available figures, covering 2015, were used instead.

Cotton

Four of the standards –**BCI**, **CmiA**, **Fairtrade International** and **organic** – certified cotton production. Combined, they certified a minimum of 3.1 million hectares and a maximum of 3.4 million hectares in 2016 (average: 3.3 million hectares). In terms of the proportion of the VSS-certified area of the global cotton area, the minimum represents 10.2%, the maximum, 11.4%, and the average, 10.8%. With 2.1 million hectares, **BCI** had the largest VSS-certified cotton area, and it showed the largest growth: a fivefold increase was reported for the 2011–2016 period.

Oil palm

Three of the standards – **organic**, **RA** and **RSPO** – certified oil palm production. Combined, they certified a minimum of 2.46 hectares and a maximum of almost 2.52 million hectares in 2016 (average: 2.5 million hectares). In terms of the proportion of the VSS-certified area of the global oil palm area, the minimum represents 11.7%, the maximum, 12%, and the average, 11.8%. With 3.2 million hectares, **RSPO** had the largest VSS-certified oil palm area, while organic showed the largest growth: its area trebled between 2013 and 2016.

Soy

Three of the standards – **organic**, **ProTerra Foundation** and **RTRS** – certified soybean production. Combined, they certified a minimum of 2.6 million hectares and a maximum of almost 3.45 million hectares in 2016 (average: 3 million hectares). In terms of the proportion of the VSS-certified area of the global soybean area, the minimum represents 2.1%, the maximum, 2.8%, and the average, 2.5%. ProTerra Foundation had the largest VSS-certified soybean area (1.9 million hectares), while the largest growth (a sevenfold increase between 2011 and 2016) was noted for RTRS.

Sugarcane

Three of the standards – **Bonsucro**, **Fairtrade International** and **organic** – certified sugarcane production. Combined, they certified a minimum of 1.05 million hectares and a maximum of 1.1 million hectares in 2016 (average: 1.08 million hectares). In terms of the proportion of the VSS-certified area of the global sugarcane area, the minimum represents 3.9%, the maximum, 4.1%, and the average, 4.0%. **Bonsucro** had the largest VSS-certified sugarcane area, 0.9 million hectares; the largest growth was noted for **Fairtrade International**, whose area almost doubled between 2011 and 2016.

Tea

Four of the standards – **Fairtrade International**, **organic**, **RA** and **UTZ** – certified tea production. Combined, they certified a minimum of more than 542,000 hectares and a maximum of 745,000 hectares in 2016 (average: 643,000 hectares). In terms of the proportion of the VSS-certified area of the global tea area, the minimum represents 13.2%, the maximum, 18.1%, and the average, 15.7%. **RA** had the largest VSS-certified tea area, almost 0.5 million hectares, and also showed the largest growth in area (a fourfold increase between 2011 and 2016).

Forestry

In 2016, an estimated 428 million hectares of certified forest were reported, representing almost 11% of the global forest area. There is an estimated certification overlap in the sector of 15% between **FSC** and **PEFC**.

CHAPTER 2

GETTING TO KNOW STANDARD-SETTERS

This section presents the latest available data for the selected voluntary sustainability standards.
Data covers 2008–2016. (Data were not always available for all years from all standards.)
Data on area, production volume and producers were available for all standards except for production volume data on GLOBALG.A.P.

4C

Since April 2016, the 4C Code (Common Code for the Coffee Community) and its corresponding verification scheme have been operated by Coffee Assurance Services (CAS), formerly a wholly owned subsidiary of the Global Coffee Platform (GCP). An independent advisory board was appointed in late 2016 to oversee the transformation of CAS into a completely independent stand-alone entity, and supported a number of key developments during the transitional years of 2016 and 2017. Among other things, this involved the formation of a new team, a move to new offices in Bonn, and the sale of the 4C Code of Conduct and CAS to Meo Carbon Solutions, which was completed on 1 January 2018.

The 4C Code was created through an extensive participatory, transparent and balanced consultation with global coffee stakeholders. 4C Code verification aims to gradually improve the social, economic and environmental conditions of coffee production and processing worldwide. To that end, the Code has two main components:

- A list of 10 unacceptable practices that have to be eliminated before applying for 4C verification;
- 27 principles that cover economic, social and environmental dimensions based on good agricultural and management practices as well as international conventions and recognized guidelines in the coffee sector.

The code remains unchanged in 2018 and continues to offer a very comprehensive standard for on-the-ground sustainability verifications. This was recently reinforced by the award of "Silver" equivalence based on the SAI[9] Platform's Farm Sustainability Assessment tool. GCP also continues to recognize the code as equivalent to BCC, the GCP reference code.

In 2016, over 1.8 million hectares of coffee worldwide received a 4C licence, representing 0.04% of global agricultural land and 16.6% of the global coffee area. Almost 570,000 producers were 4C-licenced and produced more than 2.7 million metric tons of coffee. Brazil had the largest 4C area (over 737,000 hectares), followed by Colombia (more than 354,000 hectares) and Viet Nam (over 150,000 hectares). Between 2008 and 2016, the 4C licence area grew almost ninefold; between 2015 and 2016, it grew almost 15%, whereas there was a drop in 2014 and 2015.

More information is available at www.cas-veri.com. For more information on 4C coffee, see Chapter 3.

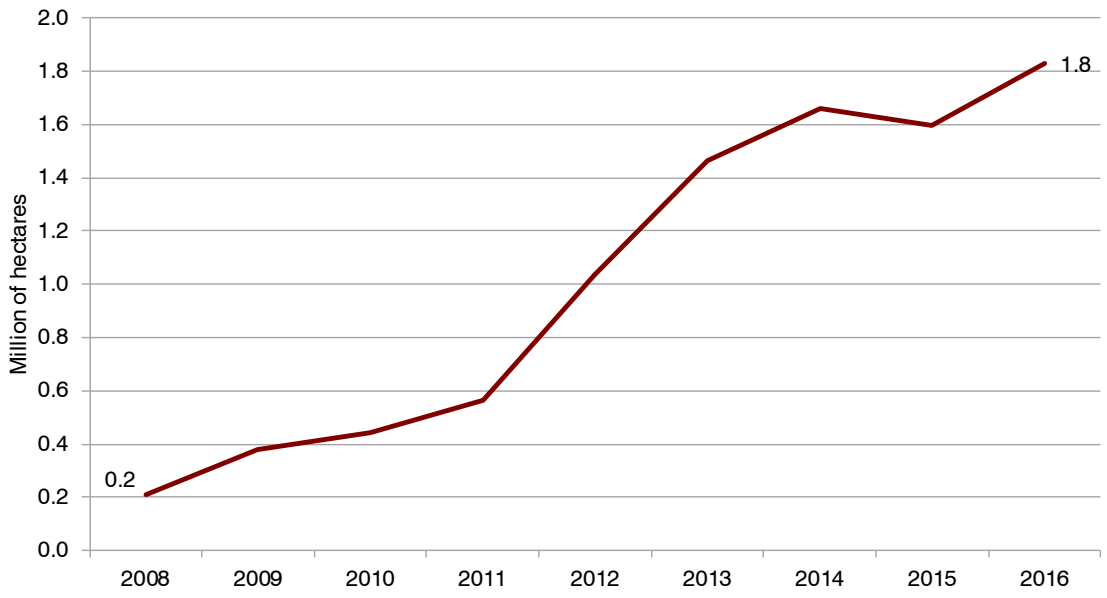
9. SAI refers to Sustainable Agriculture Initiative Platform. For more information, see www.saiplatform.org.

Table 2: 4C: Key indicators

4C 2016	
Area [hectares]	1,826,825
Share of 4C area of global agricultural land [%]	0.04
Share of 4C coffee area of global coffee area [%]	16.65
Production volume [metric tons]	2,764,002
Production volume sold under the label [metric tons]	504,379
Producers [no.]	569,222

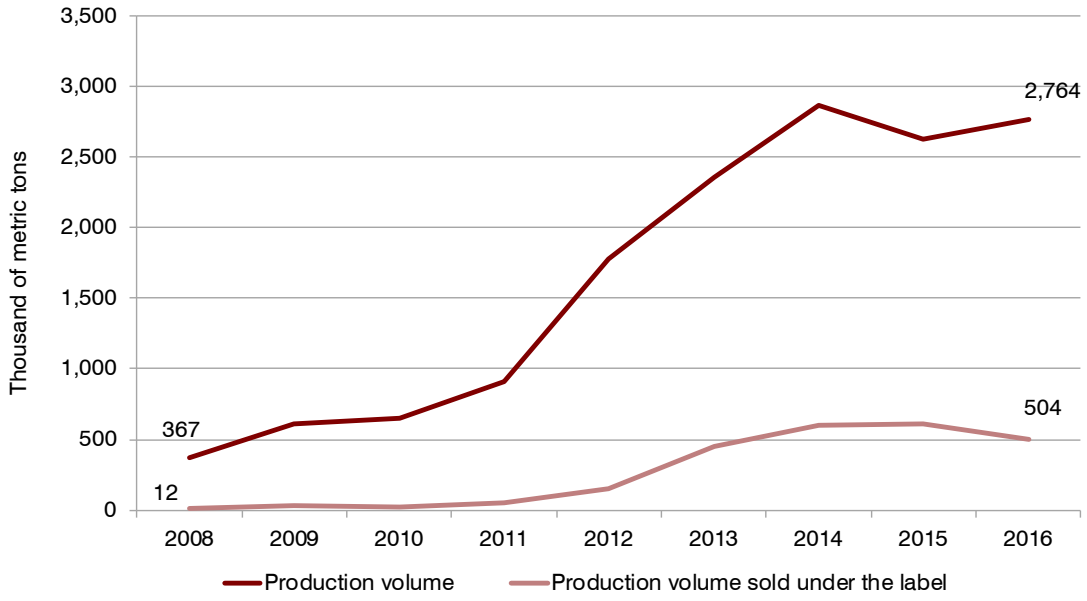
***Source*:** Coffee Assurance Services, 2018.

Figure 4: 4C: Certified area, 2008–2016



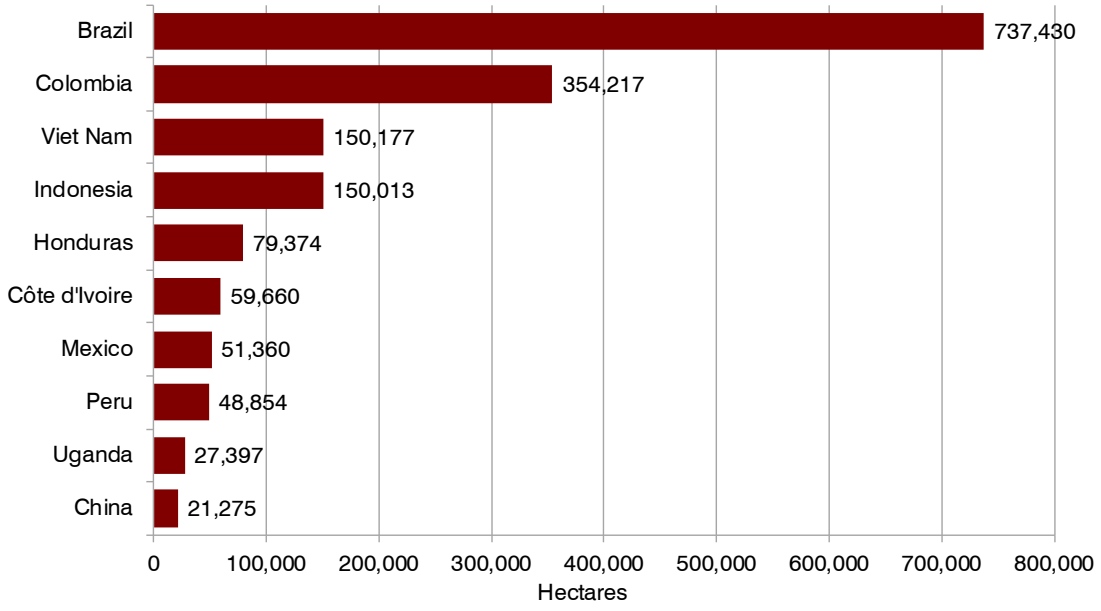
Source: Coffee Assurance Services, 2018.

Figure 5: 4C: Production volume and production volume sold under the 4C label, 2008–2016



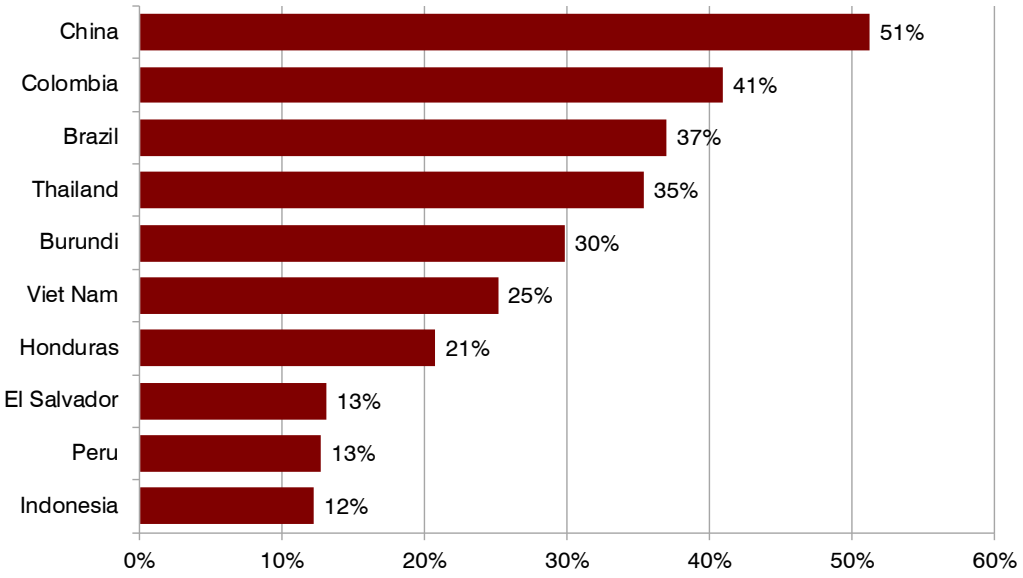
Source: Coffee Assurance Services, 2018.

Figure 6: 4C: 2016 close-up – Top 10 countries by area



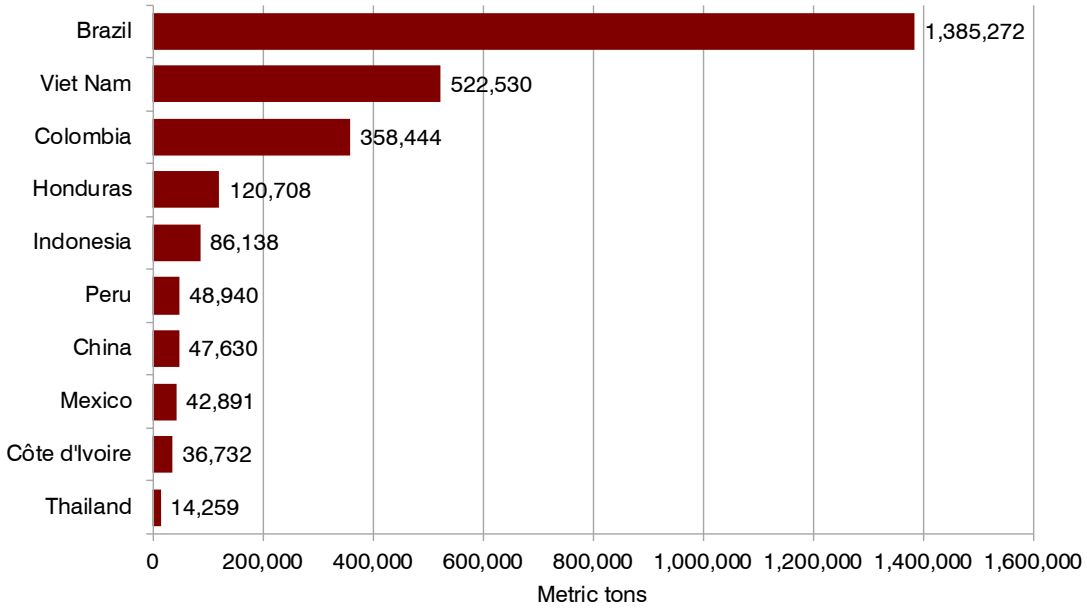
Source: Coffee Assurance Services, 2018.

Figure 7: 4C: Top 10 countries (percentage of total coffee area), 2016



Source: Coffee Assurance Services, 2018.

Figure 8: 4C: 2016 close-up – Production volume by country



Source: Coffee Assurance Services, 2018.

BETTER COTTON INITIATIVE

Founded in 2005, the Better Cotton Initiative (BCI) is a member-based initiative operating in the cotton sector with farmers producing "Better Cotton" across 23 countries (as of 2015/2016) (Better Cotton Initiative, 2017). The BCI standard is based on six principles and criteria, which were first published in 2010. The standard is undergoing an extensive review, which started in 2015 and is scheduled to be completed in 2018. It uses third-party verification to ensure compliance (Potts 2014).

Since 2005, BCI has grown substantially, capturing 11% of global cotton lint production in 2016 (Better Cotton Initiative, 2017). It is in the middle of its mainstreaming phase as it works towards enabling 5 million cotton farmers to produce 8.2 million tons of "Better Cotton" by 2020, corresponding to 30% of the global cotton market (Better Cotton Initiative, 2018).

The BCI programme is focused on building the capacity of its participating farmers to adopt cotton production practices aligned with the BCI standard, such as more sustainable and profitable water conservation approaches and pest management techniques. The BCI Growth and Innovation Fund was established in 2016 with IDH for sustainable trade, BCI Retailer and Brand Members, and other public and private investments. The fund invested significant resources in 2016/2017, enabling the participation of over 600,000 farmers in BCI programmes in China, India, Pakistan, Mozambique, Senegal, Tajikistan and Turkey (Better Cotton Initiative, 2016).

BCI certified over 2.1 million hectares worldwide in 2016, representing 0.04% of the global agricultural area and 7% of the global cotton area. Over 800,000 producers participated in its programmes, and 2.9 million metric tons of cotton lint were produced in 2016. Brazil has the largest BCI area (607,000 hectares), with 61% of its cotton area BCI-certified. It is followed by India, with 501,000 hectares (4.8% of the country's cotton area) and China, with 401,000 hectares (11.9% of the country's cotton area). Between 2011 and 2016, the BCI-certified area grew almost fivefold. However, between 2015 and 2016, a drop of 8% was reported.

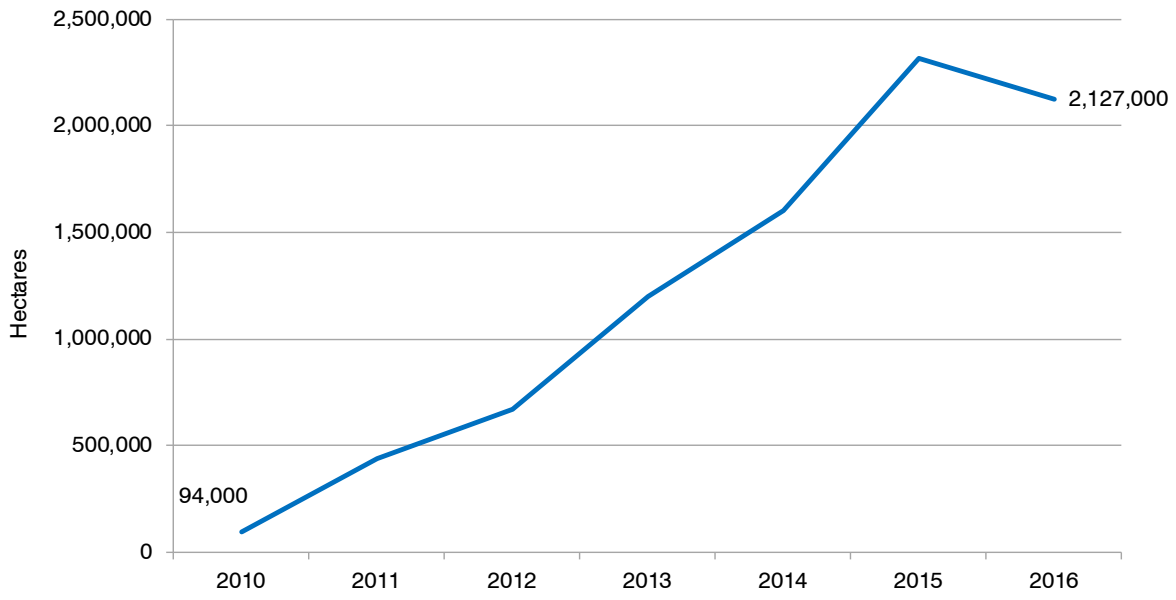
More information is available from www.bettercotton.org. For more information on BCI cotton, see Chapter 3.

Table 3: Better Cotton Initiative: Key indicators

Better Cotton Initative (BCI) 2016	
Area [hectares]	2,127,000
Share of BCI area of global agricultural land [%]	0.04
Share of BCI cotton area of global cotton area [%]	7.04
Share of BCI cotton lint production volume of global cotton lint production [%]	11.25
Cotton lint: Production volume [metric tons]	2,924,000
Producers participating in Better Cotton projects [no.]	802,457

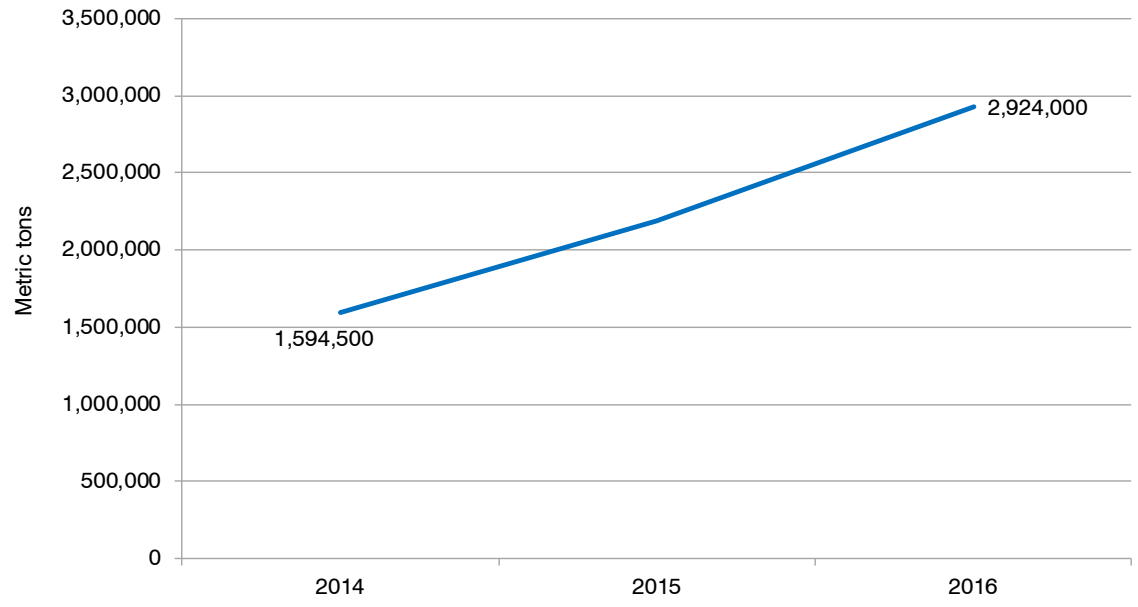
Source: Better Cotton Initiative (BCI), 2018.

Figure 9: Better Cotton Initiative: Certified area, 2010–2016



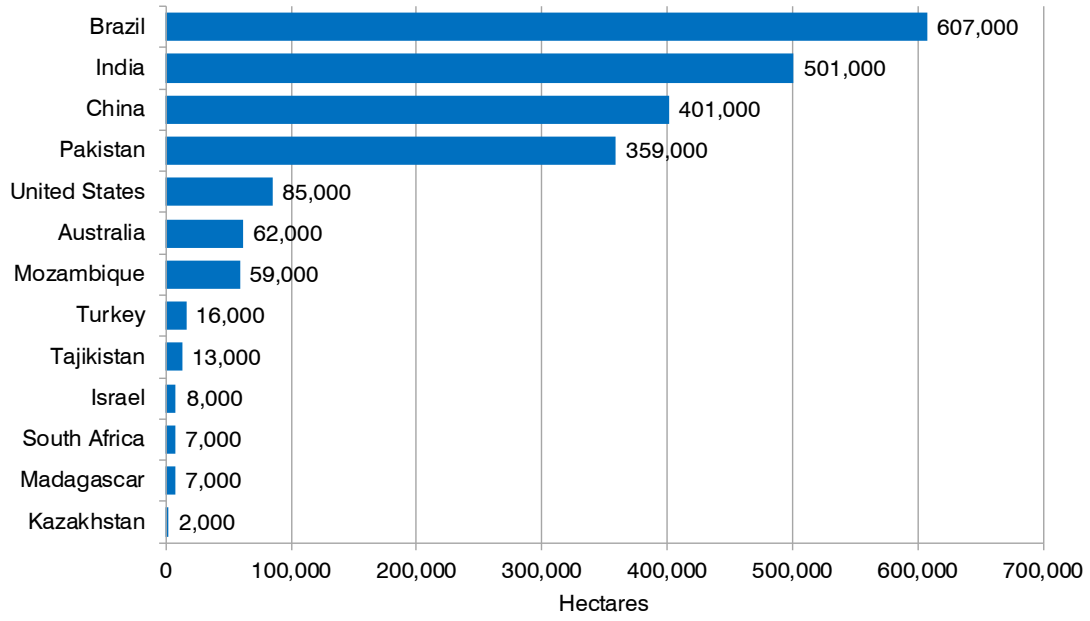
Source: Better Cotton Initiative (BCI), 2014, 2016, and 2018.

Figure 10: Better Cotton Initiative: Cotton lint production volume, 2010–2016



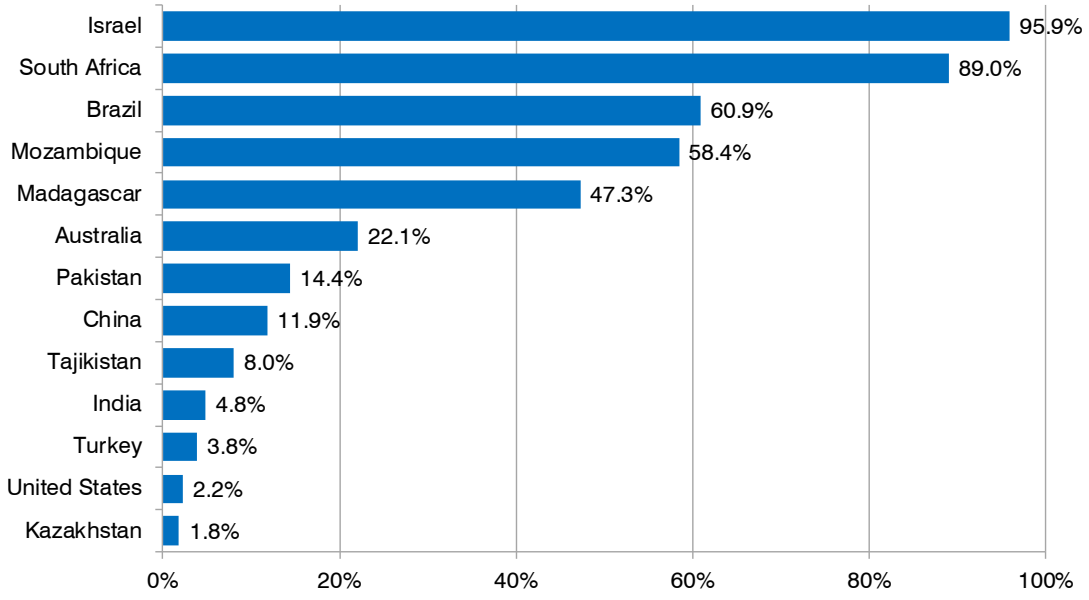
Source: Better Cotton Initiative (BCI), 2014, 2016, and 2018.

Figure 11: Better Cotton Initiative: 2016 close-up – Top countries by area



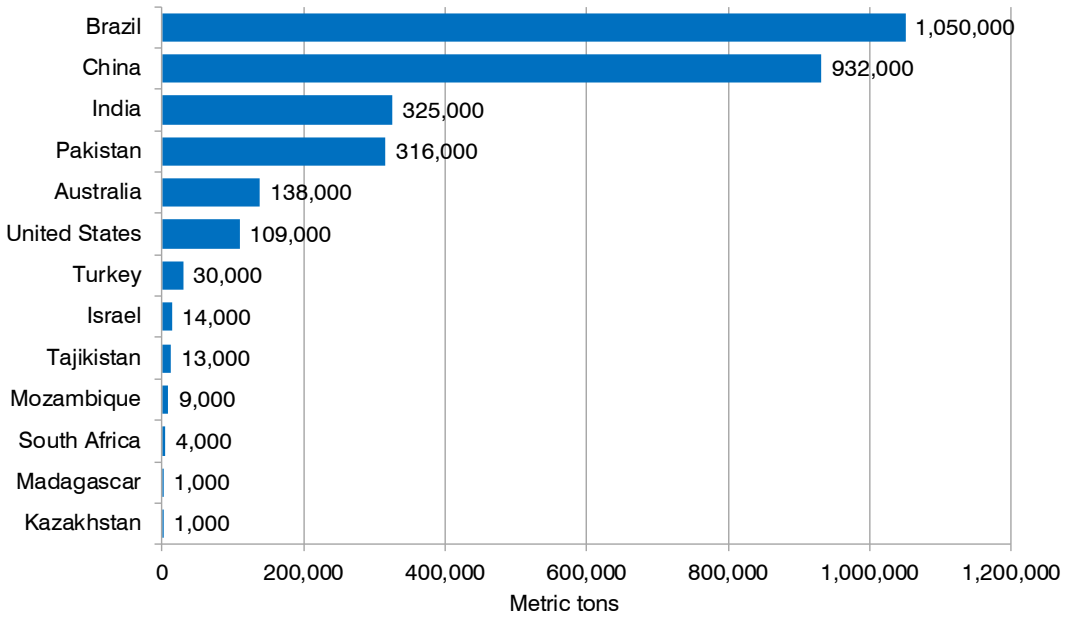
Source: Better Cotton Initiative (BCI), 2018.

Figure 12: Better Cotton Initiative: Top countries (percentage of total cotton area), 2016



Source: Better Cotton Initiative (BCI), 2018.

Figure 13: Better Cotton Initiative: 2016 close-up – Cotton lint production volume by country



Source: Better Cotton Initiative (BCI), 2018.

BONSUCRO

Bonsucro is a non-profit organization setting standards for sustainable production of sugarcane. It is a community composed of over 500 members, from farms, mills, non-governmental organizations (NGOs) and civil society to traders and end users.

Bonsucro's vision is of a sugarcane sector with thriving, sustainable producer communities and resilient, assured supply chains. Its mission is to ensure that responsible sugarcane production creates lasting value for the people, communities, businesses, economies and ecosystems in all cane-growing countries. Bonsucro has been certifying sugarcane since 2011 at the mill level, where mills engage with their supplying farmers to adopt more sustainable production practices (Bonsucro, 2018c). A total of 61 sugar mills were Bonsucro-certified by 2016. Bonsucro-certified products are traded via physical trades of certified Bonsucro sugar and via a credit-trading-scheme that supports the sustainable production of sugarcane products.

The Bonsucro Production Standard and the Chain-of-Custody Standard, both revised in 2016, guide the certification process and underpin efforts to change the sector. In addition to its standards, Bonsucro offers other tools and programmes to sugarcane producers, such as fast-track certification, benchmarking schemes, endorsing local improvement programmes, providing market-based value via productivity and professionalism, assisting smallholder farmers, and monitoring and evaluating its certified members (Bonsucro, 2018a, 2018b; Viart et al., 2017).

Bonsucro certified almost 861,000 hectares in 2016, representing 0.02% of the global agricultural area and 3.2% of the global sugarcane area. In 2016, Bonsucro-certified sugarcane was grown by 57 producers producing almost 52 million metric tons of sugarcane. Brazil had the largest number of producers – 42 – followed by Australia, with seven. Between 2011 and 2016, Bonsucro's certified area increased by over 20%, but dropped by 5.1% between 2015 and 2016.

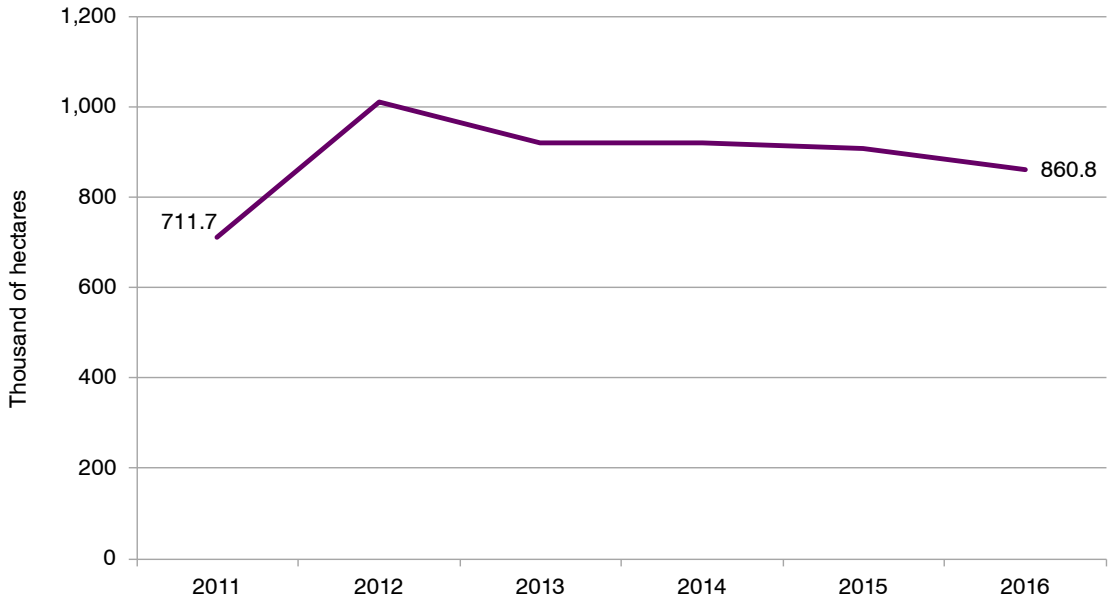
More information is available at www.bonsucro.com. For more information on Bonsucro sugarcane, see Chapter 3.

Table 4: Bonsucro: Key indicators

Bonsucro 2016	
Area [hectares]	860,771
Share of Bonsucro area of global agricultural land [%]	0.02
Share of Bonsucro sugarcane area of global sugarcane area [%]	3.2
Sugarcane: Production volume [metric tons]	52,860,000
Cane sugar: Production volume [metric tons]	3,366,890
Certificate holders [no.]	57

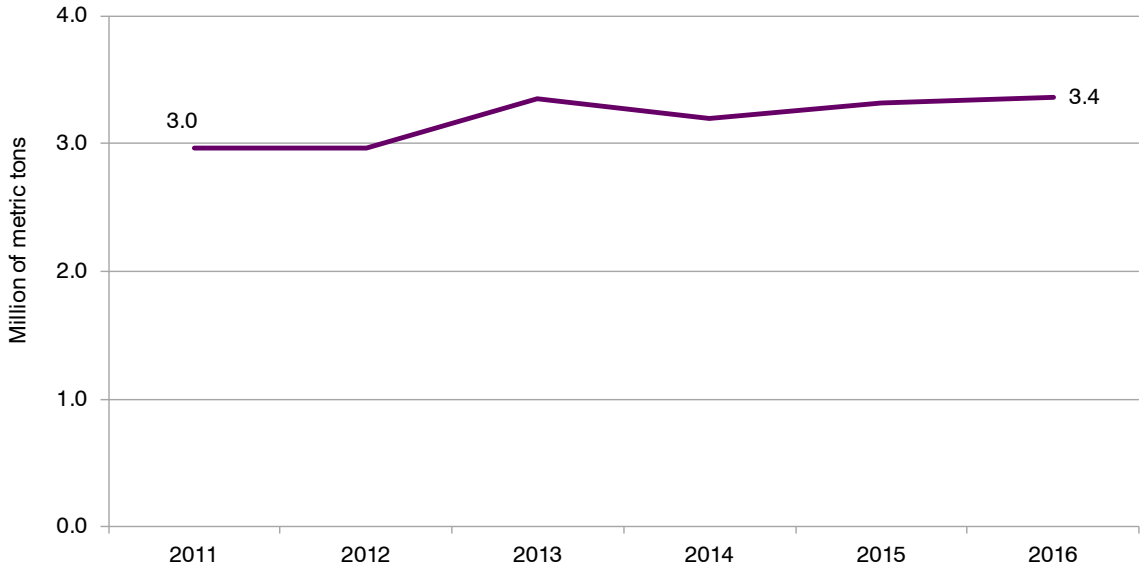
***Source*:** Bonsucro, 2018.

Figure 14: Bonsucro: Certified area, 2011–2016



Source: Bonsucro, 2014, 2015, 2016, and 2018.

Figure 15: Bonsucro: Cane sugar production volume, 2011–2016



Source: Bonsucro, 2014, 2015, 2016, and 2018.

COTTON MADE IN AFRICA

Founded in 2005, Cotton made in Africa (CmiA) is an initiative of the Aid by Trade Foundation that aims to assist African cotton farmers to help themselves through trade (Cotton made in Africa, 2018b). Thus far, it has been working with cotton farmers in 10 countries, and specifically with smallholder farmers, who cultivate rainfed handpicked cotton in accordance with the CmiA standard criteria, which are regularly verified for compliance (Cotton made in Africa, 2018d, 2018a). From 2009 to 2016, CmiA obtained significant support from the Competitive African Cotton Initiative, which focused on building the capacity of African cotton farmers to adopt more sustainable farming practices.

Almost a third of all sub-Saharan African cotton was grown in accordance with the CmiA standard in 2016. CmiA estimates that their efforts touched the lives of 6.7 million people, including the family members of the smallholder cotton farmers who are part of the initiative (Cotton made in Africa, 2016). This production led to the fabrication of about 50 million CmiA-labelled textiles representing almost 1.5 million euros in licence revenues (Cotton made in Africa, 2016). In addition to enabling sustainable cotton production, CmiA invested close to 1 million euros in village-level development projects in 2016 (Cotton made in Africa, 2016).

Almost 1.2 million hectares were CmiA-verified in 2016, representing 0.02% of the global agricultural area and 0.09% of the African agricultural area. Looking solely at the cotton area, the shares are considerably higher: the CmiA area represents 3.9% of the global cotton area and 26.2% of the continent's total cotton area. As the 2016 country data were not available at the time of publication, the latest available figures, for 2015, were used for the country level. In 2015, Côte d'Ivoire had the largest area (367,231 hectares), followed by Zambia (225,052 hectares) and Cameroon (209,930 hectares). Between 2008 and 2016, the CmiA-certified area increased more than tenfold. Between 2015 and 2016, a growth of over 21% was reported.

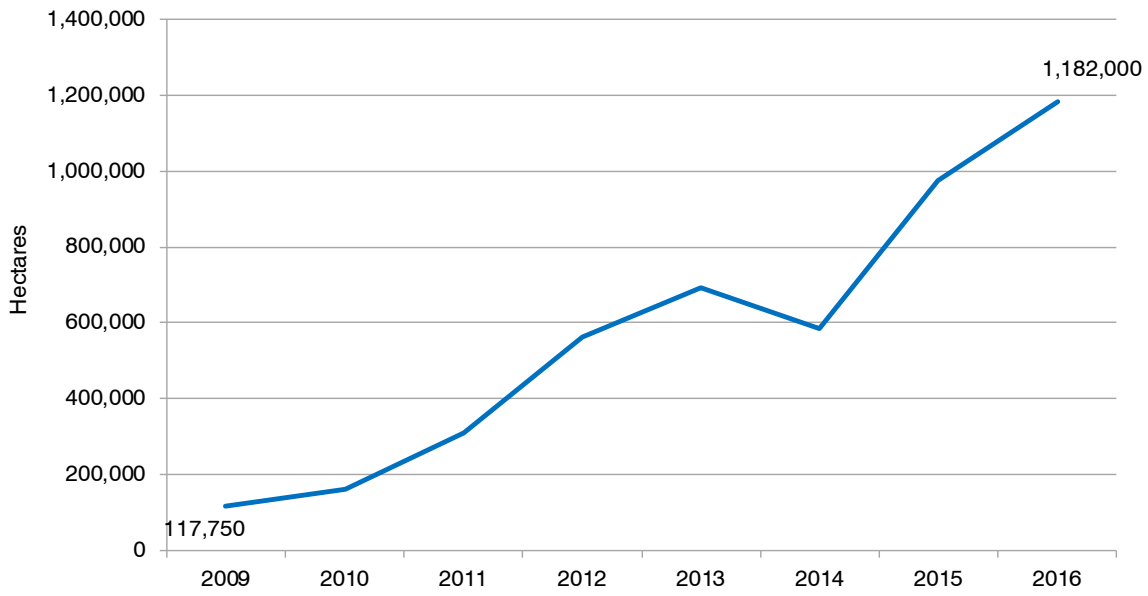
More information is available from www.cottonmadeinafrica.org/en/. For more information on CmiA cotton, see Chapter 3.

Table 5: Cotton made in Africa: Key indicators

Cotton made in Africa (CmiA) 2016	
Area harvested [hectares]	1,182,000
Share of CmiA area of global agricultural land [%]	0.02
Share of CmiA cotton area of global cotton area [%]	3.9
Share of CmiA cotton area of African cotton area [%]	26.2
Cotton lint: Production volume [metric tons]	320,100
Producers [no.]	780,000

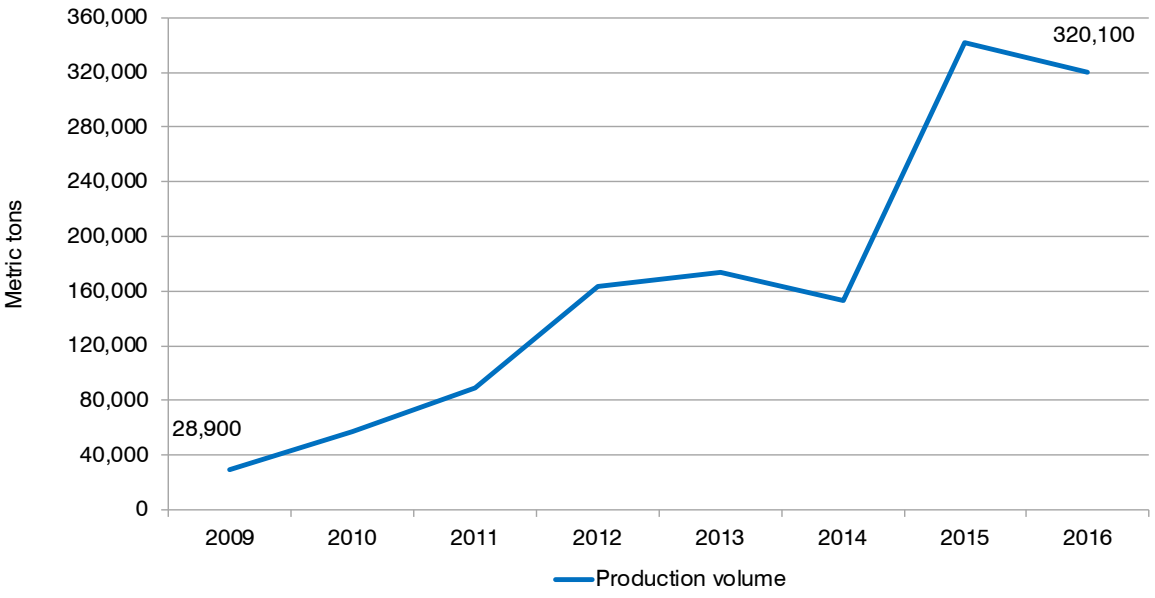
***Source*:** Cotton made in Africa (CmiA), 2018.

Figure 16: Cotton made in Africa: Certified area, 2009–2016



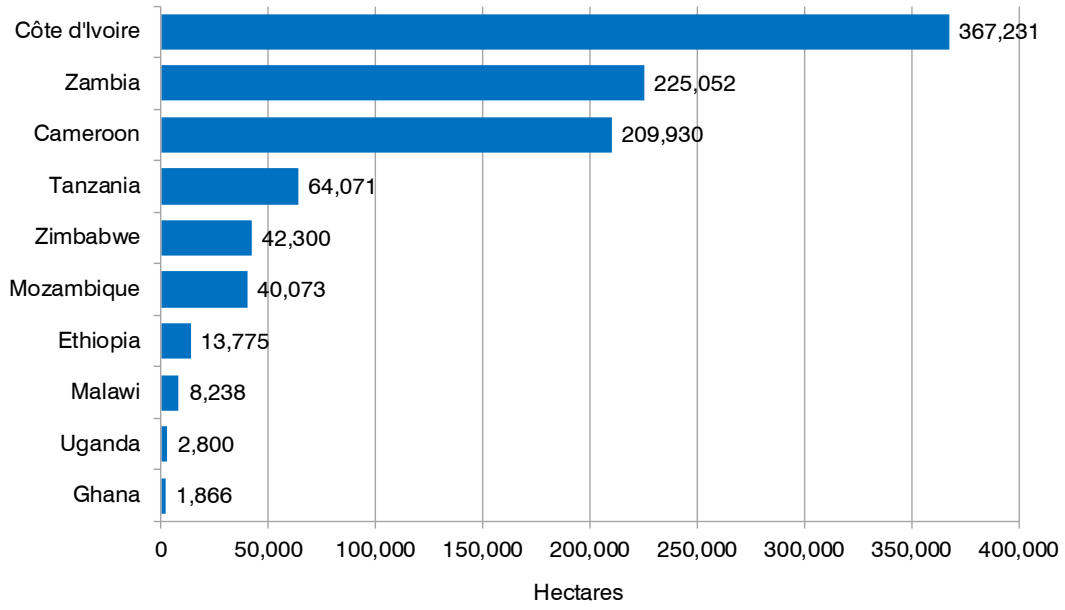
Source: Cotton made in Africa (CmiA), 2014, 2015, 2016, and 2018.

Figure 17: Cotton made in Africa: Production volume, 2009–2016



Source: Cotton made in Africa (CmiA), 2014, 2015, 2016, and 2018.

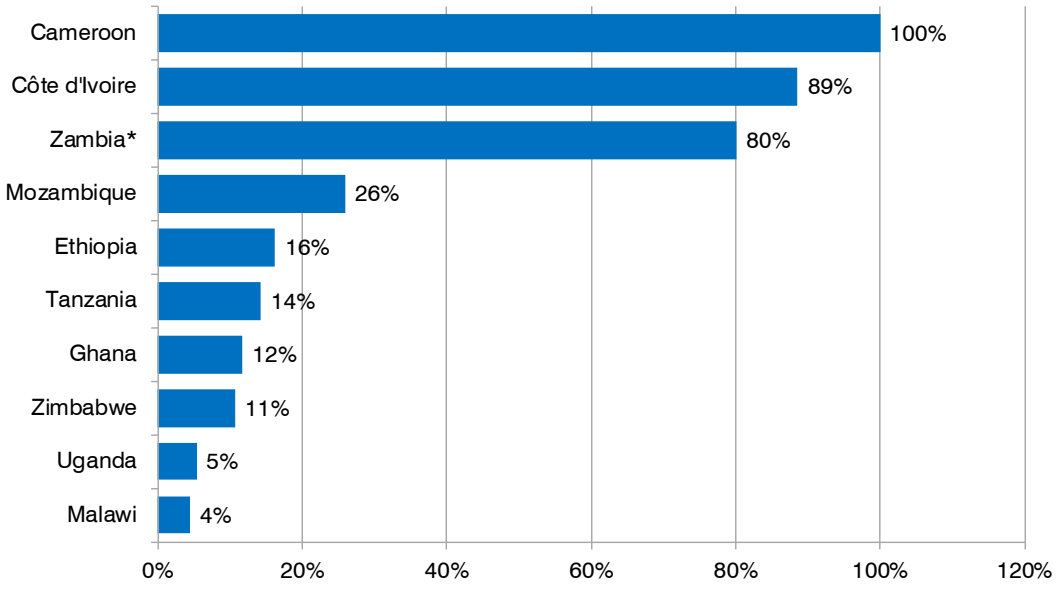
Figure 18: Cotton made in Africa: 2015 close-up – Top countries by area



***Note*:** As the country-level data for 2016 had not been finalized at the time of publication, the 2015 data were used for the country level

Source: Cotton made in Africa (CmiA), 2016.

Figure 19: Cotton made in Africa: Top 10 countries (percentage of total seed cotton area), 2015

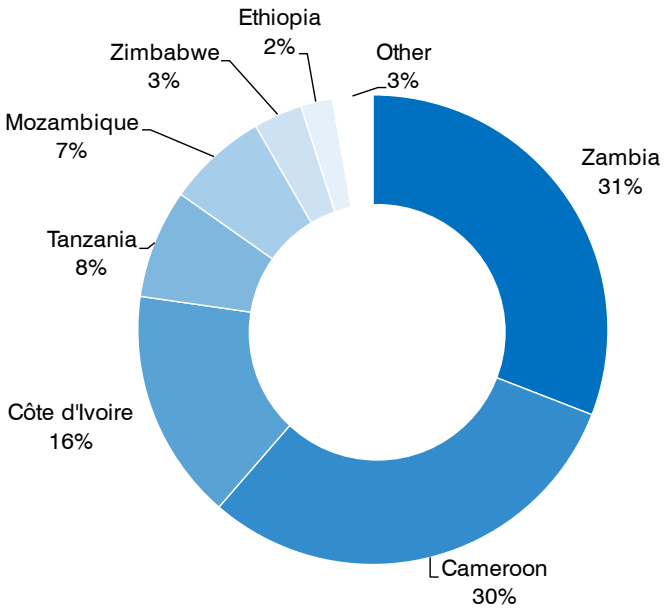


Note: As the country-level data for 2016 had not been finalized at the time of publication, the 2015 data were used for the country level

***Note:** The CmiA seed cotton share for Zambia was estimated based on the cotton lint production volume share, as the total seed cotton area data for the country are incomplete.

Source: Cotton made in Africa (CmiA), 2016.

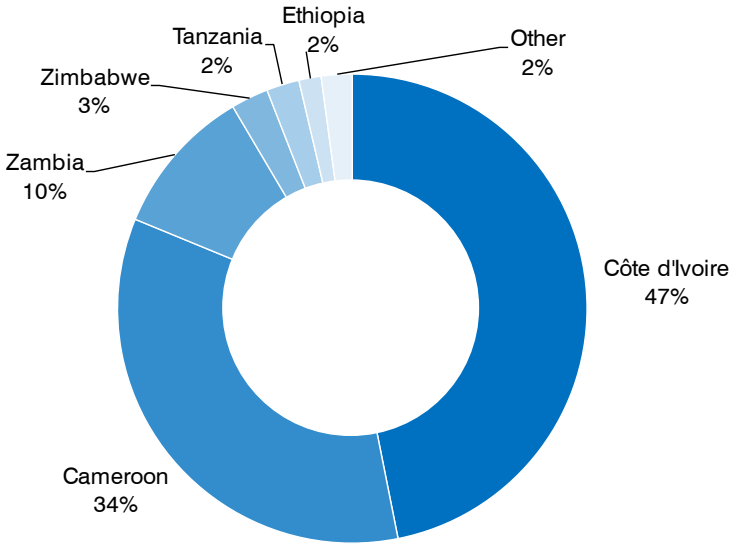
Figure 20: Cotton made in Africa: Producers by country, 2015



Note: As the country-level data for 2016 had not been finalized at the time of publication, the 2015 data were used for the country level

Source: Cotton made in Africa (CmiA), 2016.

Figure 21: Cotton made in Africa: Production volume by country, 2015



Note: As the country-level data for 2016 had not been finalized at the time of publication, the 2015 data were used for the country level

Source: Cotton made in Africa (CmiA), 2016.

FAIRTRADE INTERNATIONAL

Founded in 1997, Fairtrade International is a member-based initiative operating in the food and agriculture sector across 74 countries, including 21 low-income countries (Fairtrade International, 2018a). The initiative coordinates Fairtrade labelling at the international level and sets minimum pricing and premium levels as part of its commitment to poverty reduction for developing-country producers.

As part of Fairtrade International's mission to establish equitable and just trading relationships for its producers, the Fairtrade standards for smallholders and hired labour working primarily in plantations must be adhered to by participating entities for their products to be labelled Fairtrade. The Fairtrade Minimum Price is based on the average cost of sustainable production for a given commodity. It is applied only if market prices fall below minimum prices, thus effectively protecting producers from the vagaries of global markets. A price premium is also obtained for all Fairtrade products sold, which goes towards community sustainable development projects.

Fairtrade is embarking on ambitious sustainable consumption and production initiatives in Europe and Asia, including India and Bhutan (Fairtrade International, 2018c). These efforts will contribute to the objectives of the Fairtrade Strategy 2016–2020 by strengthening its global networks and movements and by expanding its reach in India and Bhutan by developing new Fairtrade supply chains and enhancing consumer awareness.

Unfortunately, the 2016 data were not available for all crops at the time of publication, and so a complete picture could not be drawn for Fairtrade International in 2016. However, the 2016 data have been reported when available; this is the case of bananas, cocoa, cotton (except for the area), sugarcane and tea.

Almost 2.5 million hectares were Fairtrade-certified in 2015, representing 0.05% of the global agricultural area. Fairtrade International certifies a wide range of commodities, from tropical fruit to cereals, gold and textiles. Coffee accounted for over half of the total Fairtrade International area, with almost 1.3 million hectares, or nearly 12% of the global coffee area. After coffee, cocoa was the second most important product, with more than 570,000 hectares, representing almost 6% of the global cocoa area. In 2016, Fairtrade International certified 1,411 producer organizations, mainly in Latin America (52%), followed by Africa (31%) and Asia (17%). Between 2011 and 2015, the Fairtrade-certified area grew by over 80%, and by 19% between 2014 and 2015 alone.

In 2015, Fairtrade International retail sales amounted to $8.1 billion, and the largest markets were in the United Kingdom ($2.4 billion), Germany (almost $1.2 billion) and the United States (more than $1 billion).

More information is available at www.fairtrade.net. For more information on Fairtrade commodities, see Chapter 3.

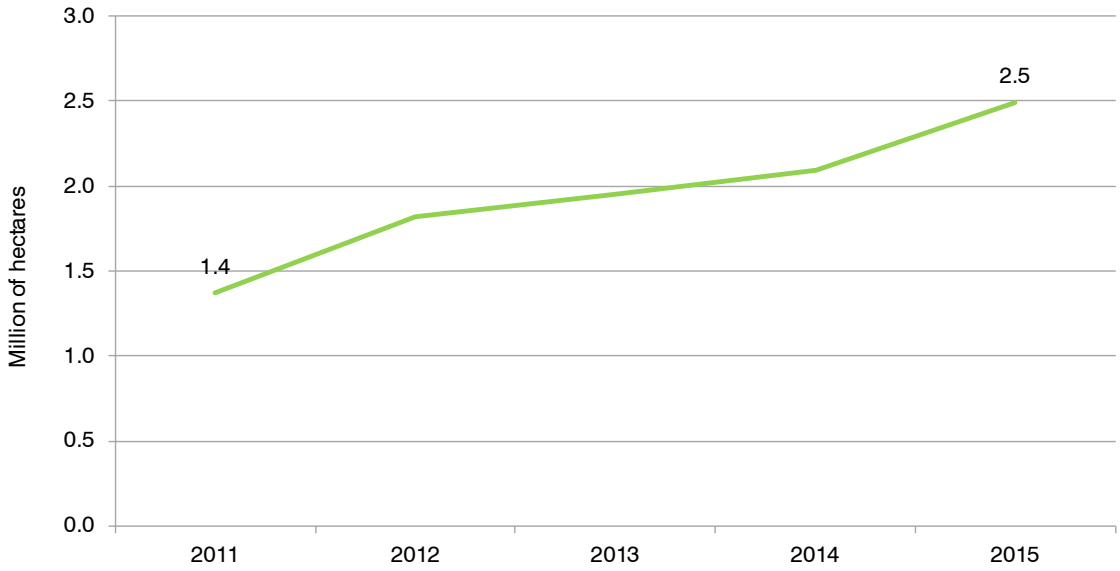
Table 6: Fairtrade International: Key indicators

Fairtrade International 2015	
Area harvested [hectares]	2,479,339
Share of Fairtrade International area of global agricultural land [%]	0.05
Production value [million $][10]	1,205
Production volume [metric tons]	3,085,692
Production volume sold under the label [metric tons]	1,030,786
Producer organizations [no.]	1,239
Global retail sales [million $]	8,099
Global retail sales: Growth rate 2014–2015 [%]	16

***Source*:** Fairtrade International, 2017.

***Note*:** The 2015 totals have been revised and might differ from those reported in the previous edition of this report.

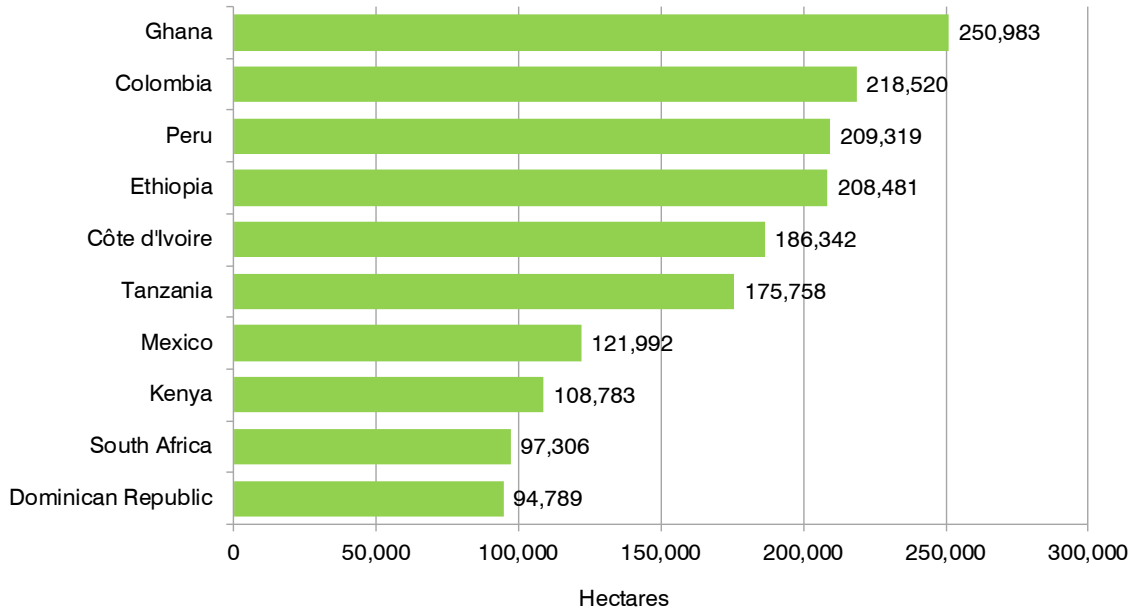
Figure 22: Fairtrade International: Certified area, 2011–2015



Source: Fairtrade International, 2017.

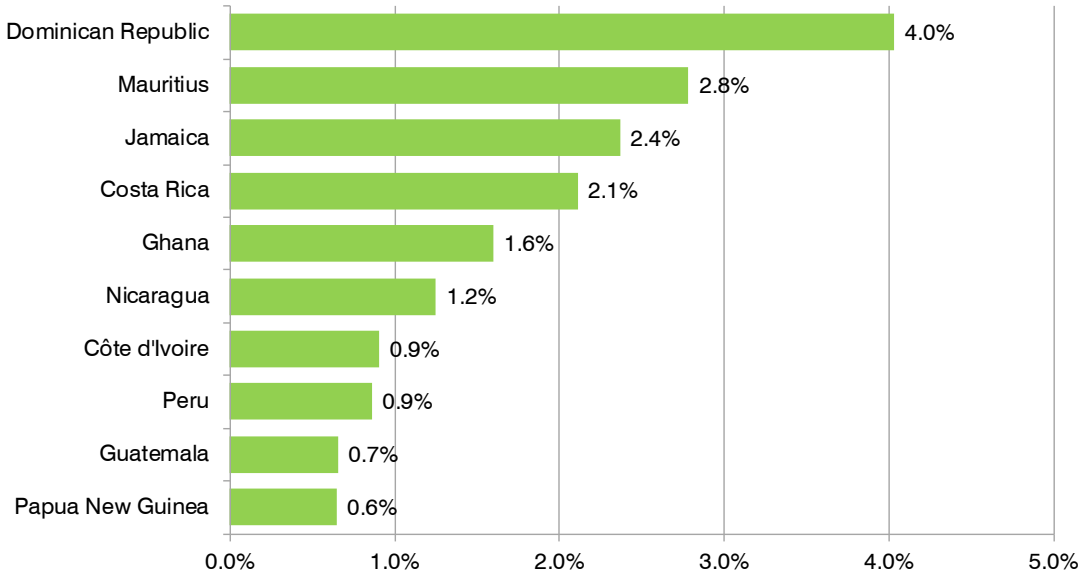
10. This refers to the total Fairtrade production volume and value with the exception of flowers, gold and sport balls. The figure might differ from the data reported in the Fairtrade monitoring reports.

Figure 23: Fairtrade International: 2015 close-up – Top 10 countries by area



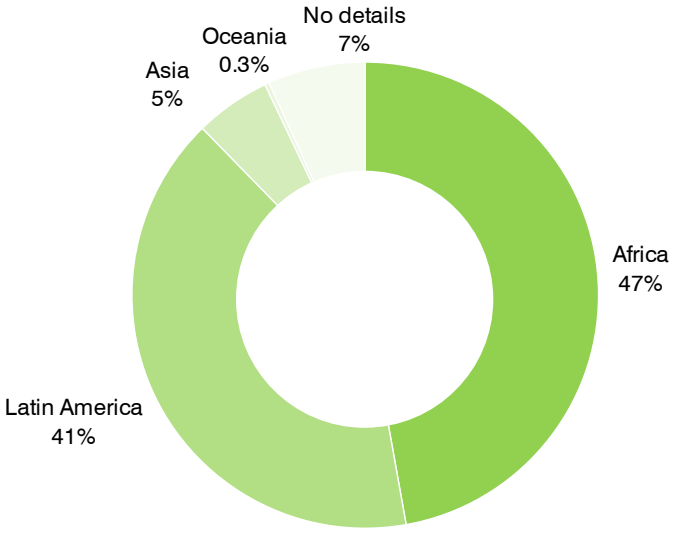
Source: Fairtrade International, 2017.

Figure 24: Fairtrade International: Top 10 countries (percentage of total agricultural area), 2015



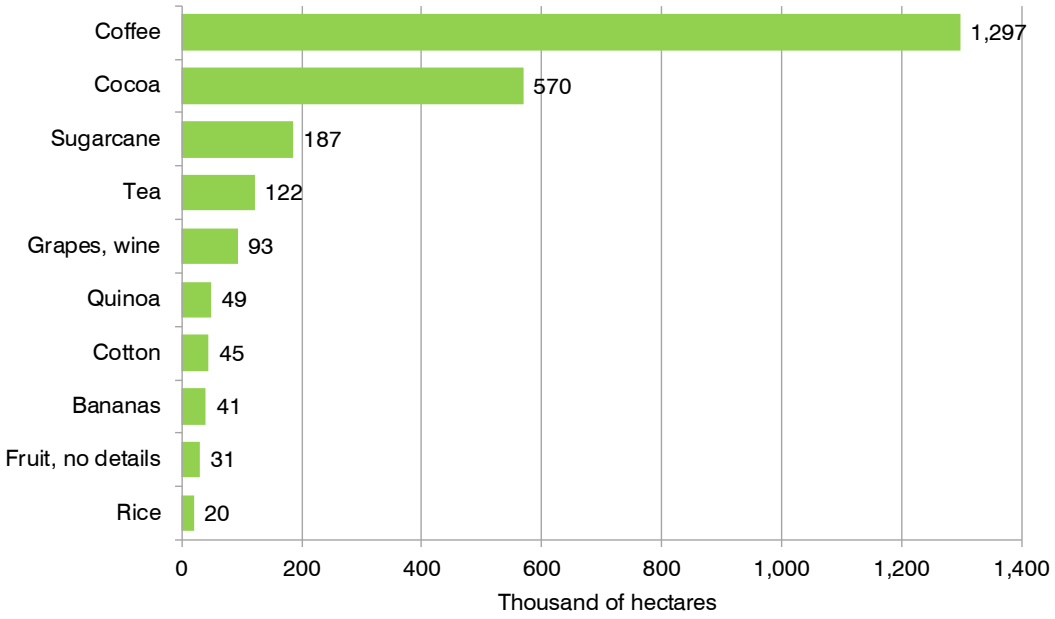
Source: Fairtrade International, 2017.

Figure 25: Fairtrade International: Area by region, 2015



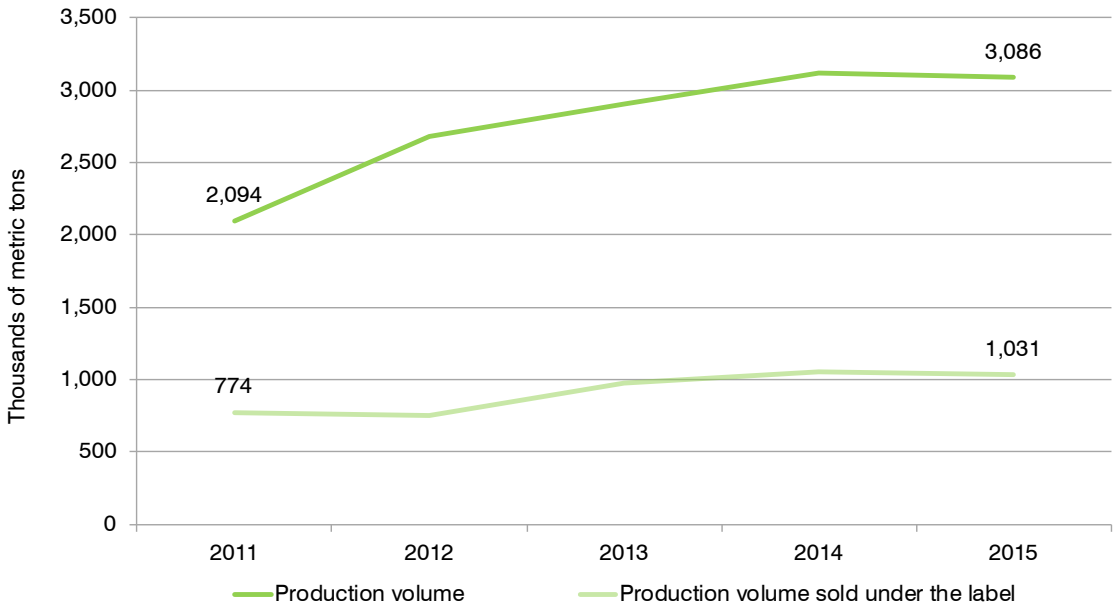
Source: Fairtrade International, 2017.

Figure 26: Fairtrade International: Top 10 products by area, 2015



Source: Fairtrade International, 2017.

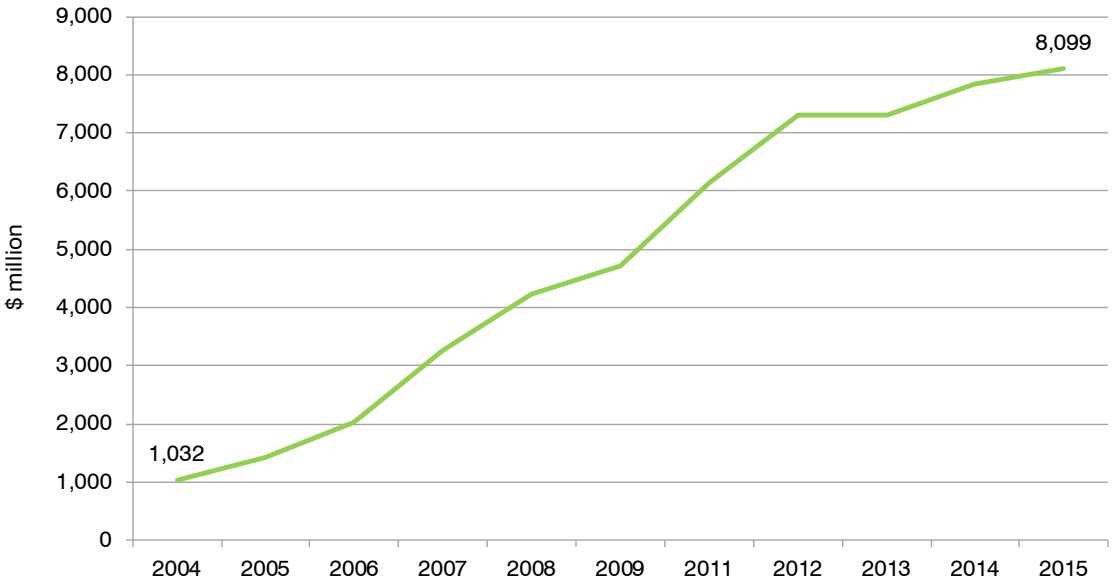
Figure 27: Fairtrade International: Production volume and production volume sold under the Fairtrade label, 2011–2015



Note: This refers to the total Fairtrade production volume and value with the exception of flowers, gold, nuts, honey and sport balls. The figure might differ from the data reported in the Fairtrade monitoring reports.

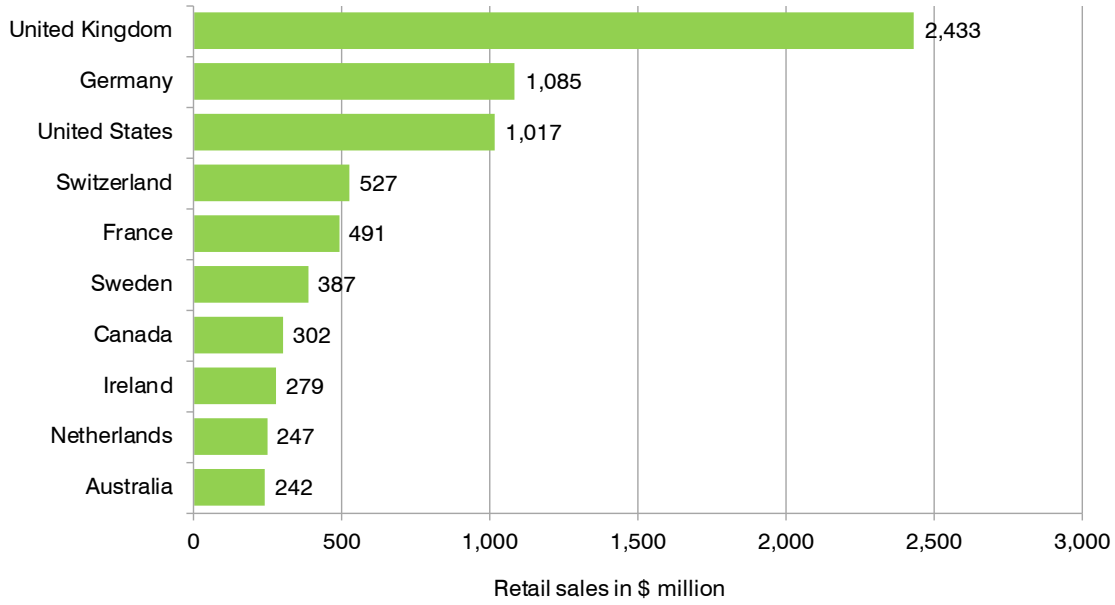
Source: Fairtrade International, 2017.

Figure 28: Fairtrade International: Retail sales, 2004–2015



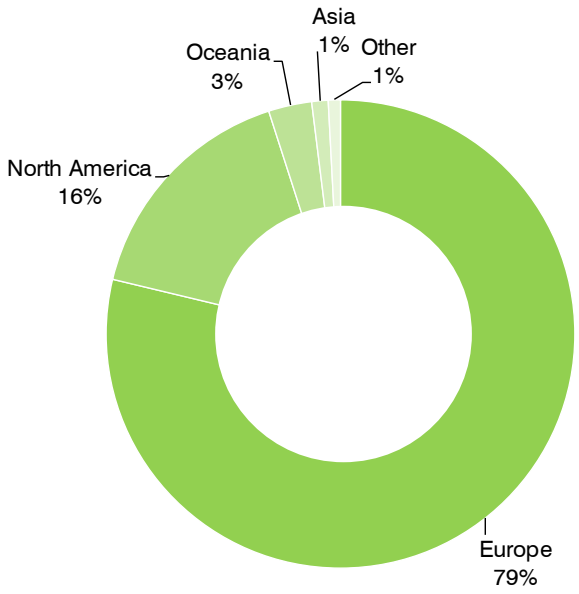
Source: Fairtrade International 2005–2016 (data missing for 2010). Original data in euros; the 2015 annual average exchange rate from the Statistical Data Warehouse of the European Central Bank was used.

Figure 29: Fairtrade International: Top 10 countries by retail sales, 2015



Source: Fairtrade International 2016. Original data in euros; the 2015 annual average exchange rate from the Statistical Data Warehouse of the European Central Bank was used.

Figure 30: Fairtrade International: Retail sales by region, 2015



Source: Fairtrade International, 2016. Original data in euros; the 2015 annual average exchange rate from the Statistical Data Warehouse of the European Central Bank was used.

FOREST STEWARDSHIP COUNCIL

Founded in 1993, FSC is a member-based initiative operating in over 80 countries (Forest Stewardship Council, 2018c). The FSC Principles and Criteria (P&C) articulate the requirements for forest management certification. To ensure that the global P&C are well suited for national and regional contexts, standard development groups are formed to establish national and regional standards.

Based on annual field and office audits, independent, accredited certification bodies issue Forest Management and Chain of Custody certificates, which correspond to the different origins, stages of production and subsequent progress of forest products through the value chain (FSC, 2016a). Forest Management certification aims to protect the environmental and social values of forests being used for timber extraction, for instance, and to protect areas of high conservation value and Indigenous Peoples' land rights.

The FSC chain-of-custody certification ensures that FSC-certified wood remains separate from non-certified wood throughout the supply chain (Forest Stewardship Council, 2018a). In order to display the FSC Mix label (the standard's most common label), products must be made up, on balance, of at least 70% FSC-certified material. The remainder can be FSC-Controlled Wood. This material has been assessed as having a low risk of coming from unacceptable sources in uncertified forests, and a low risk of having mixed with unacceptable material in the supply chain. The "Controlled Wood" status ensures that wood is harvested legally in accordance with traditional and civil rights and is not sourced from areas of high conservation value, from forests with genetically modified trees or from areas being permanently deforested to give way to plantations or other non-forest uses (Forest Stewardship Council, 2018b).

Proactive stakeholder engagement is at the core of the organization. FSC members and other stakeholders make the most relevant decisions related to FSC certification and FSC governance processes. FSC's governance structure balances both societal interests and North-South perspectives to develop transparent, consensus-based solutions at global and local level to promote responsible forest stewardship. FSC increasingly works to forge stronger business linkages between suppliers and buyers of forest products that come from responsible sources.

More than 196 million hectares of forest were FSC-certified in 2016 (data per January 2017), representing 4.9% of the global forest area. Canada had the largest area, with almost 54.7 million hectares, followed by the Russian Federation (nearly 44 million hectares) and the United States (almost 14 million hectares). Together, these three countries represented 57% of the global FSC-certified area. In 2016, there were 1,462 forest-management certificate holders and almost 31,600 chain-of-custody certificate holders.

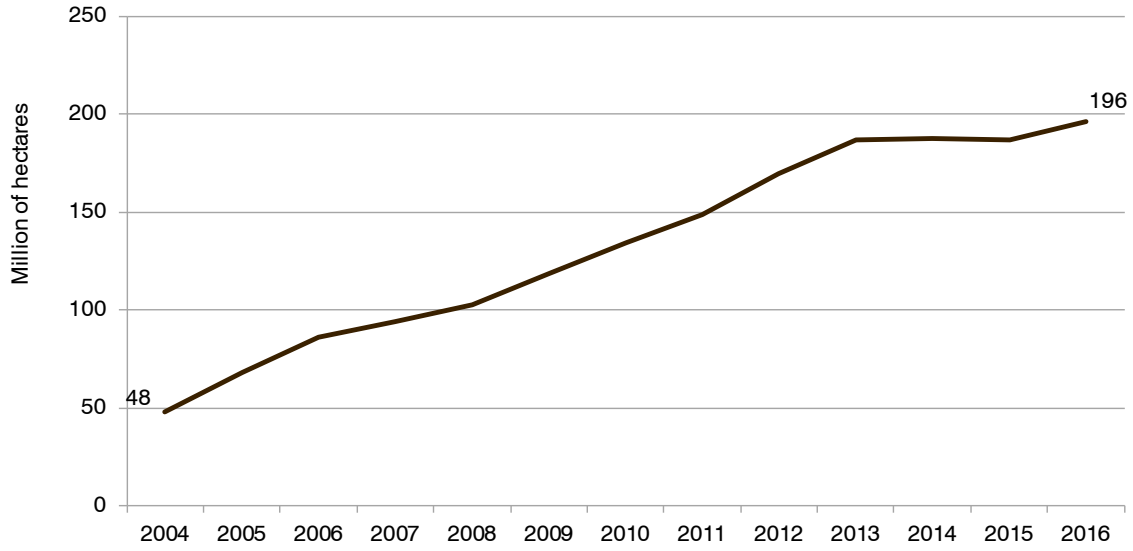
More information is available at www.ic.fsc.org/en. For more information on forestry, see Chapter 3.

Table 7: Forest Stewardship Council: Key indicators

Forest Stewardship Council (FSC) 2016 [11]	
Area certified as managed in compliance with the FSC standards [hectares]	196,285,055
Share of total forest area [%]	4.9
Forest management certificate holders [no.]	1,462
Chain-of-custody certificate holders [no.]	31,599

***Source*:** Forest Stewardship Council (FSC), 2016.

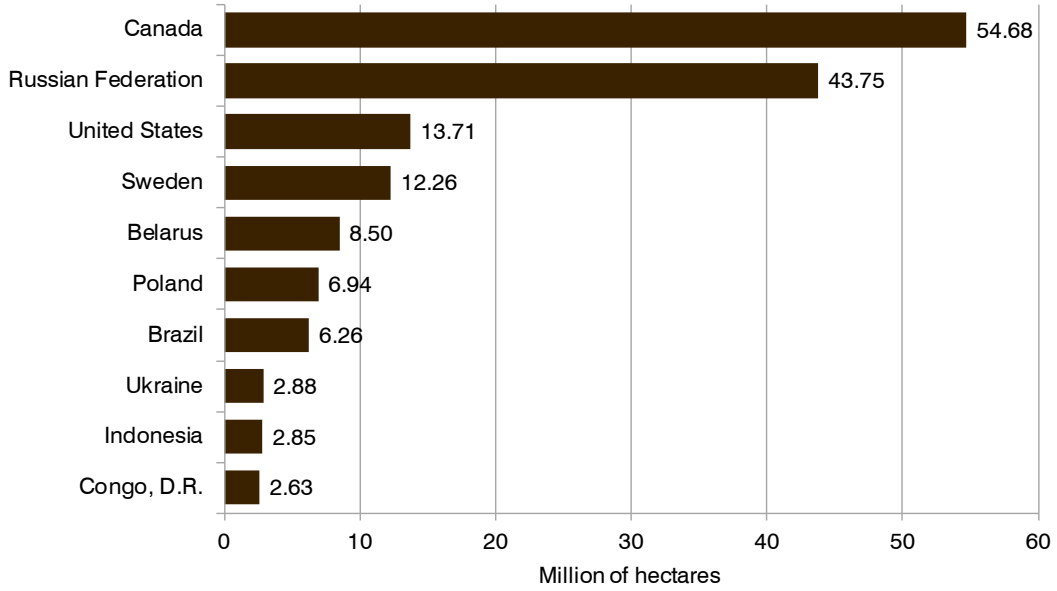
Figure 31: Forest Stewardship Council: Certified area, 2004–2016



Source: Forest Stewardship Council (FSC), 2005–2018.

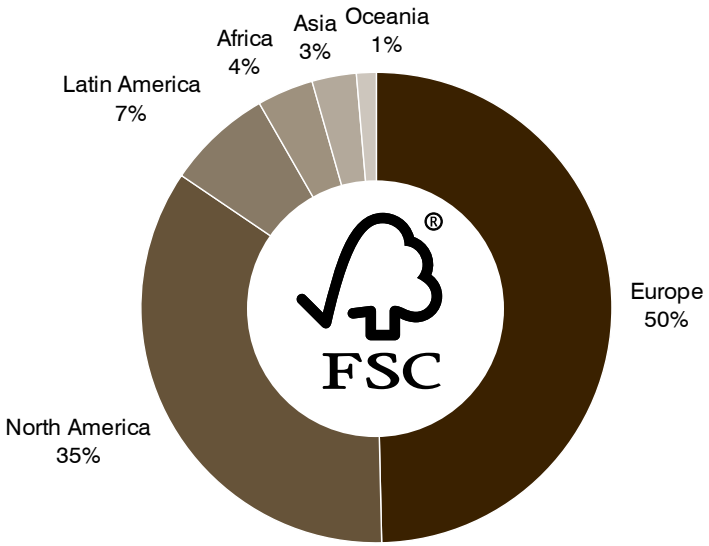
11. Data reported in January 2017.

Figure 32: Forest Stewardship Council: 2016 close-up – Top 10 countries by area



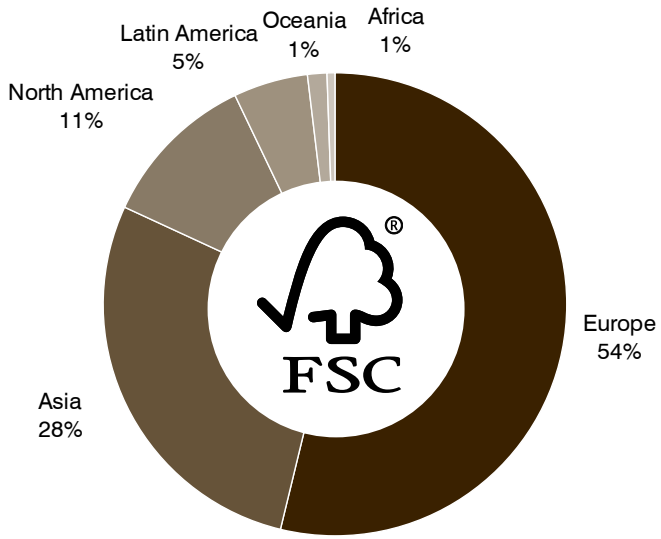
Source: Forest Stewardship Council (FSC), 2018.

Figure 33: Forest Stewardship Council: Area by region, 2016



Source: Forest Stewardship Council (FSC), 2018.

Figure 34: Forest Stewardship Council: Forest Management by region, 2016



Source: Forest Stewardship Council (FSC), 2018.

GLOBAL G.A.P.

Founded in 1997, the Global Partnership for Good Agricultural Practices (GLOBALG.A.P.) is a private initiative operating in the food and agriculture sector across 125 countries (GLOBALG.A.P., 2018c). It evolved from the efforts of the Euro-Retailer Produce Working Group, which decided to partner with their suppliers and establish their own standard to meet food safety, environmental impact, worker health and safety, and animal welfare concerns and requirements for their European-based stores. The standard eventually became global in scope, was chaired by a farmer and adopted the name GLOBALG.A.P.

GLOBALG.A.P. runs 40 standards for crops, livestock and aquaculture production (GLOBALG.A.P., 2018a). It also implements a Chain-of-Custody Standard to ensure product segregation of the certified products. The local G.A.P. programme provides retailers with a less stringent stepwise approach to accessing local markets and eventually becoming GLOBALG.A.P.-certified (GLOBALG.A.P., 2018a). This approach enables new growers to meet minimum requirements for food safety and hygiene at its "Foundation" level before advancing to other food safety criteria. For retailers looking to go beyond the GLOBALG.A.P. certification, the standard offers add-on modules that can enhance their certification by addressing additional worker health and safety and animal welfare considerations as well as specific retailer sustainability initiatives. Examples are the COOP Sustainable Program for Irrigation and Groundwater Use and the Tesco Nurture Program associated with the plant protection product list (GLOBALG.A.P., 2018b).

In 2016, almost 3.3 million hectares were certified against the GLOBALG.A.P. standard[12], managed by over 170,000 horticulture producers.[13] The product with the largest area was potatoes, with over 350,000 hectares, followed by bananas (nearly 253,000 hectares) and apples (almost 245,600 hectares). Most of GLOBALG.A.P.'s certified area is in Europe (44%), followed by Latin America (26%), Africa (12%) and North America (5%). Spain had the largest certified area (over 402,000 hectares), followed by Italy (almost 189,000 hectares) and France (over 181,000 hectares). Between 2011 and 2016, the GLOBALG.A.P.-certified area increased by 23%.

GLOBALG.A.P. certifies a wide variety of fruits and vegetables worldwide, more than 230 such products are also certified within the Integrated Farm Assurance (IFA) standard worldwide.

More information is available from www.globalgap.org/uk_en. For more information on GLOBALG.A.P. bananas, see Chapter 3.

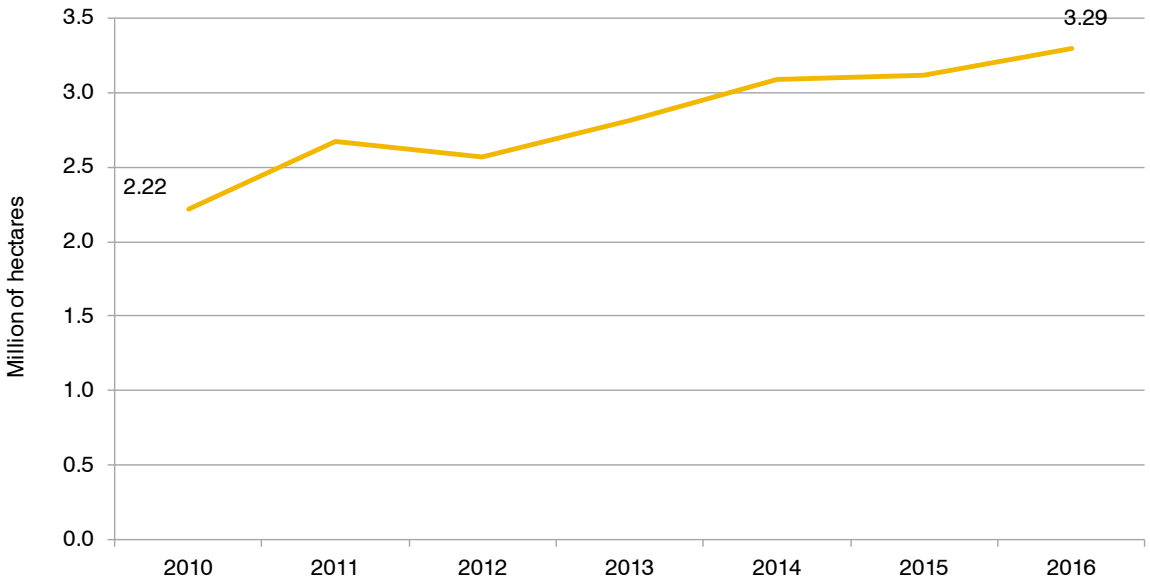
12. This includes many hectares covered by greenhouses and plastic tunnels for intensive production.
13. The number of producers includes crop producers only, and excludes livestock and aquaculture operators.

Table 8: GLOBALG.A.P.: Key indicators

GLOBALG.A.P. IFA Standard 2016 [14]	
Total area [hectares]	3,293,282
Area non-covered [hectares]	3,173,965
Area covered [hectares] (greenhouses and plastic tunnels)	119,317
Certificate holders [no.]	47,215
Producers [no.]	174,316

***Source*:** GLOBALG.A.P., 2018.

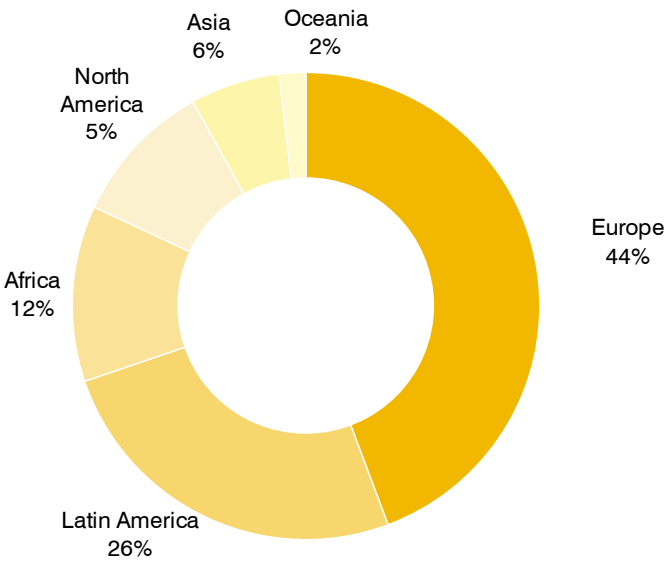
Figure 35: GLOBALG.A.P.: Certified area, 2010–2016



Source: GLOBALG.A.P., 2018.

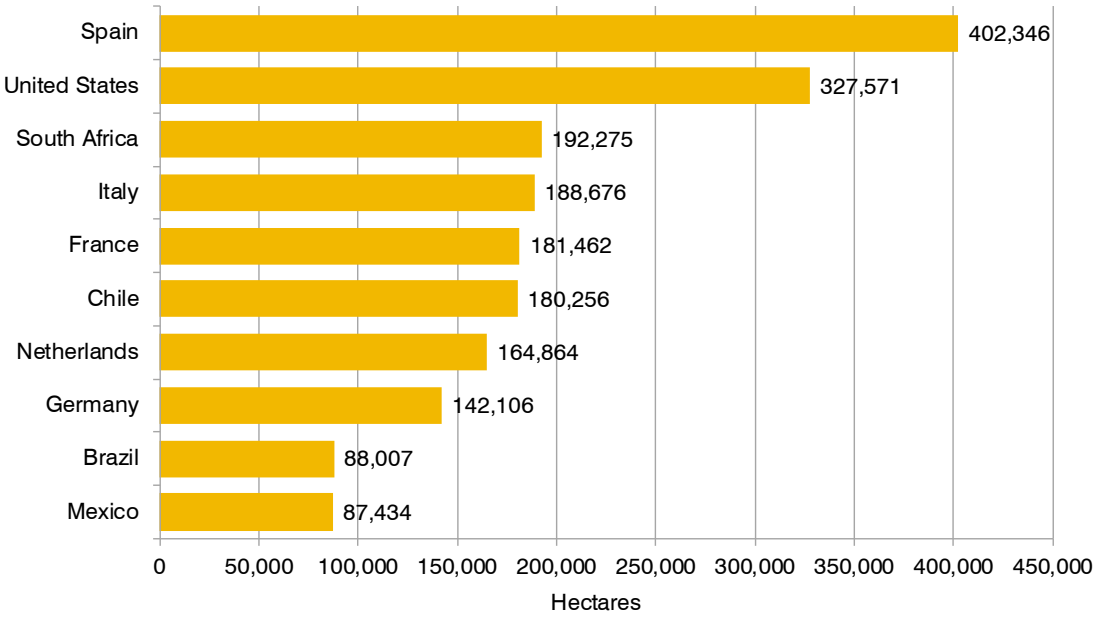
14. The number of producers and the number of certificate holders include the total number of producers/certificate holders under certification within the Integrated Farm Assurance (IFA) Standard. For more information on the IFA Standard, see www.globalgap.org/uk_en/what-we-do/globalg.a.p.-certification/globalg.a.p./.

Figure 36: GLOBALG.A.P.: Area by region, 2016



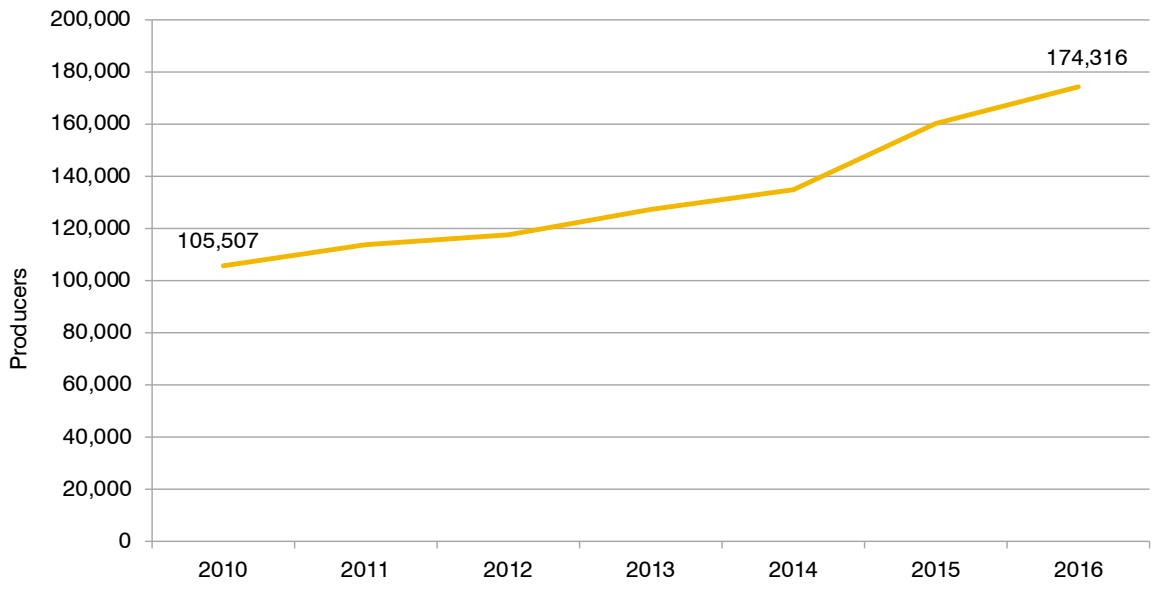
Source: GLOBALG.A.P., 2018.

Figure 37: GLOBALG.A.P.: 2016 close-up – Top 10 countries by area



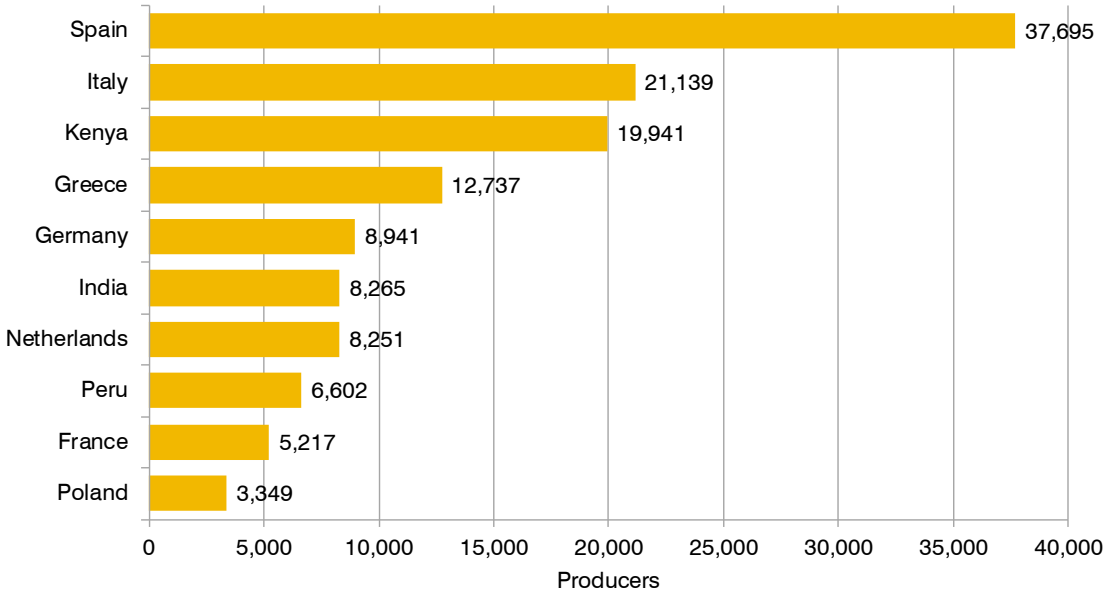
Source: GLOBALG.A.P., 2018.

Figure 38: GLOBALG.A.P.: Producers, 2010–2016



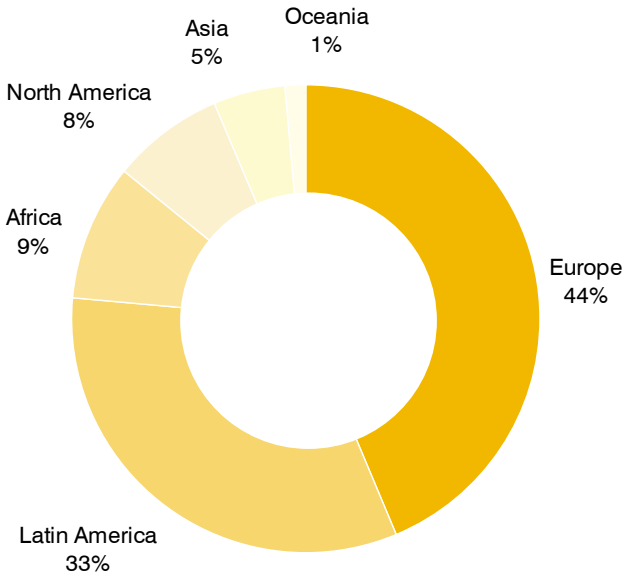
Source: GLOBALG.A.P., 2018.

Figure 39: GLOBALG.A.P.: Top 10 countries by certified producers, 2016



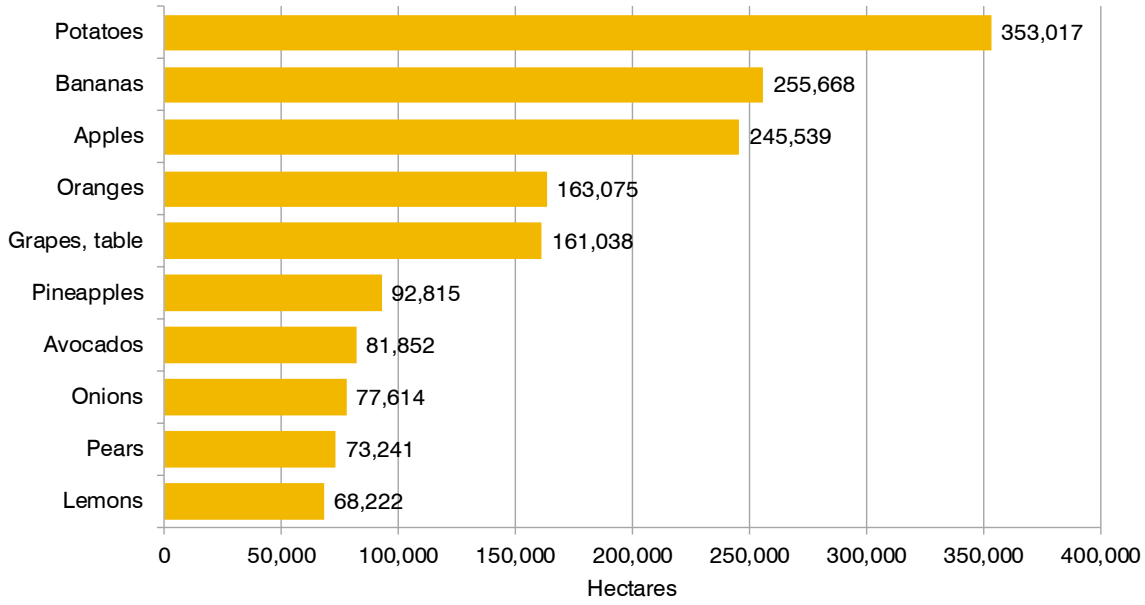
Source: GLOBALG.A.P., 2018.

Figure 40: GLOBALG.A.P: Producers by region, 2016



Source: GLOBALG.A.P., 2018.

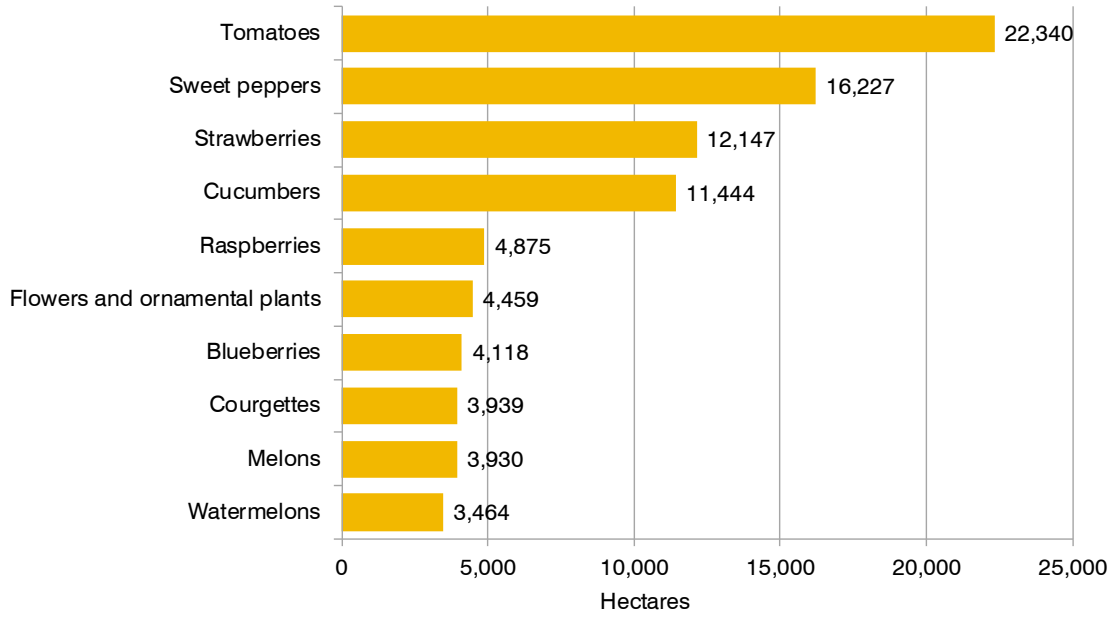
Figure 41: GLOBALG.A.P.: Top 10 non-covered crops by area,[15] 2016



Source: GLOBALG.A.P., 2018.

15. Non-covered crops include crops that are not grown under greenhouses or plastic tunnels for intensive production.

Figure 42: GLOBALG.A.P.: Top 10 covered crops by area,[16] 2016



Source: GLOBALG.A.P., 2018.

16. Covered crops include crops covered by greenhouses and plastic tunnels for intensive production.

IFOAM – ORGANICS INTERNATIONAL

Founded in 1972, IFOAM – Organics International is a membership-based umbrella organization representing the organic movement across the entire value chain, with affiliates in more than 127 countries (Willer/Lernoud, 2018). One of its areas of work is to set standards and quality assurance systems for organic standards and to promote the adoption of organic agriculture worldwide.

Organic certification is typically determined by standards set at the national or regional level. Many different organic standards may operate within a single country, and they may or may not follow the IFOAM standard or comply with the standards included in the IFOAM Family of Standards. Some 87 countries have local organic standards, and 18 countries are in the process of drafting legislation (Huber and Schmid, 2018).

IFOAM – Organics International plays a special role in the organic sector by uniting organic stakeholders, advocating long-term social and ecological change, facilitating production and trade, assisting organic development and building the capacity of future organic leaders. Unlike most other standard-setting organizations, it is not involved in the certification and control process; all its efforts focus on the development of the organic sector. IFOAM – Organics International is currently involved in enabling the organic movement to address global socio-environmental challenges (IFOAM, 2018).

In 2016, 57.8 million hectares were certified organic worldwide, representing 1.2% of the global agricultural land. There were at least 2.7 million producers in 178 countries practising organic farming. Australia has the largest organic area, with 27.1 million hectares, followed by Argentina (3 million hectares) and the United States (2.3 million hectares). Almost all agricultural products can be certified according to organic standards and regulations; indeed, organic has the largest range of commodities of all the standards presented in this report. Apart from agricultural products, wild collection, aquaculture and forestry products are certified. In 2016, these areas covered almost 40 million hectares.

The organic market surpassed the $90-billion mark in 2016, and the leading countries were the United States (46% of the global organic market), Germany (11%) and France (8%). Data collection on organic agriculture is carried out annually by FiBL, and the data are published in the joint FiBL-IFOAM – Organics International publication The World of Organic Agriculture (Willer and Lernoud, 2018). The data on organic cotton shown in this report were provided by Textile Exchange.

As production volume data are not available for most countries, FiBL has estimated the area harvested and the production volume for the products covered by this report: bananas, cocoa, coffee, cotton, oil palm, soybeans, sugarcane and tea. For the harvested area, it was assumed that 90% of the fully converted area was harvested. The production volume was arrived at using estimated yields based on country yields as provided by the Food and Agriculture Organization Corporate Statistical Database (FAOSTAT), assuming that organic has a lower yield in most cases.

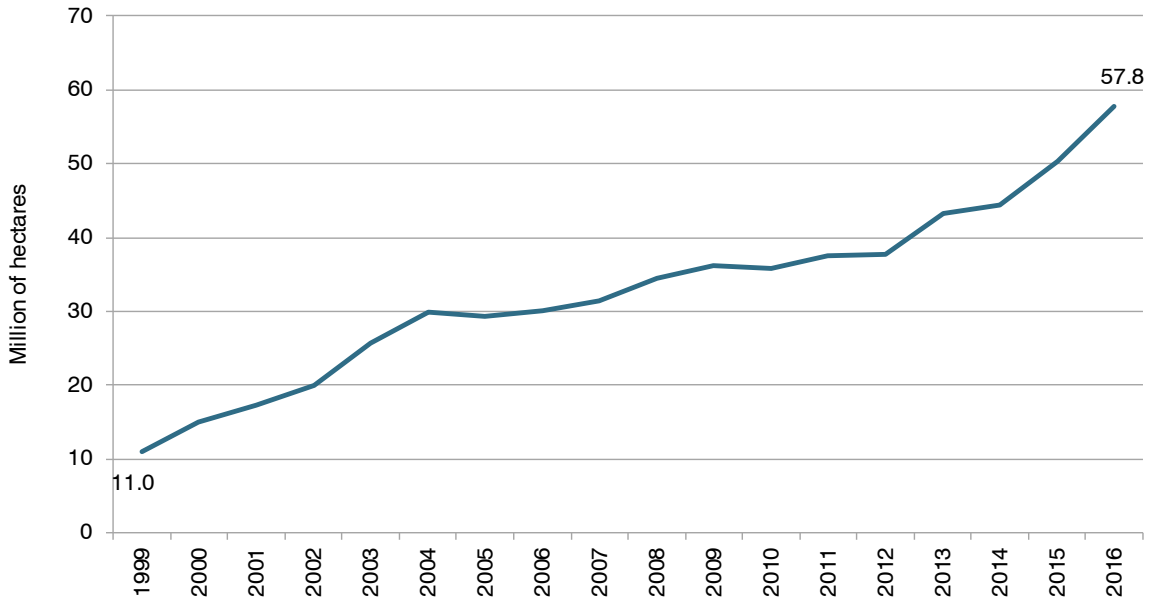
More information is available at www.ifoam.bio. For information on organic commodities, see Chapter 3.

Table 9: Organic: Key indicators

Organic 2016	
Agricultural area [hectares] (including in-conversion areas)	57,816,759
Other organic areas [hectares] (Wild collection, aquaculture, etc.)	39,712,910
Share of organic area of global agricultural land [%]	1.2
Producers [no.]	2,726,967
Global retail sales [million $]	93,753

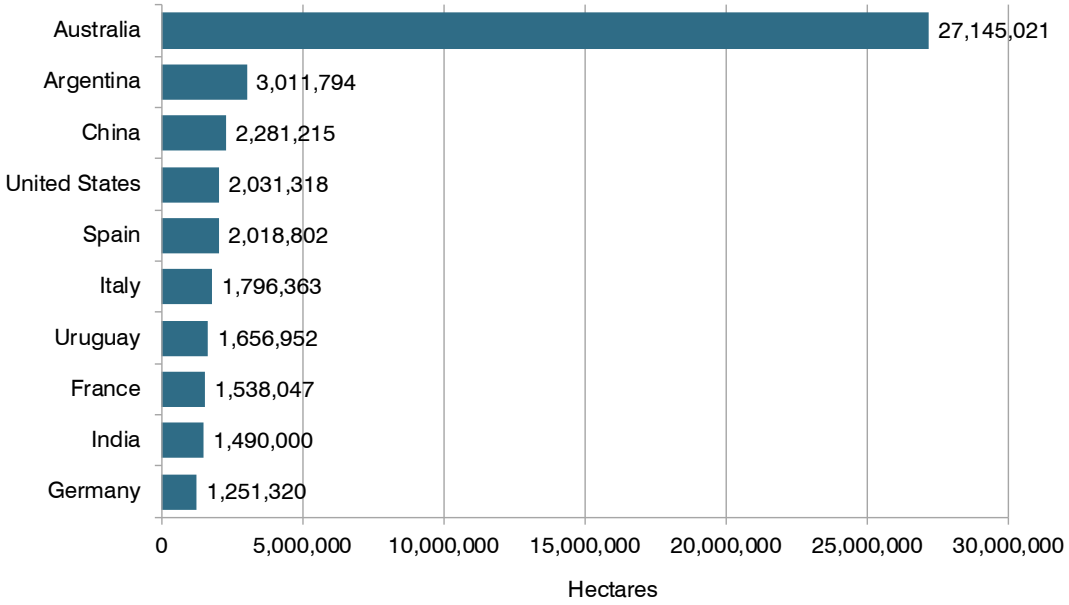
***Source*:** FiBL survey, 2018 (Willer and Lernoud 2018).

Figure 43: Organic: Certified area, 1999–2016



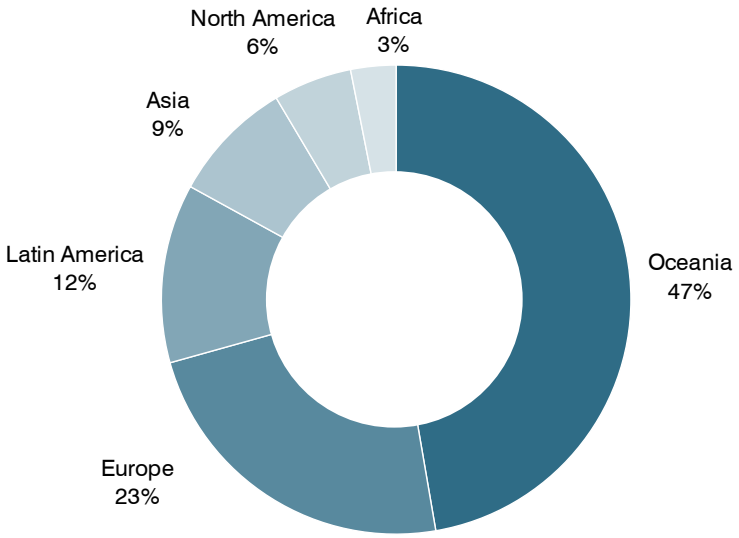
Source: GLOBALG.A.P., 2018.

Figure 44: Organic: 2016 close-up – Top 10 countries by area



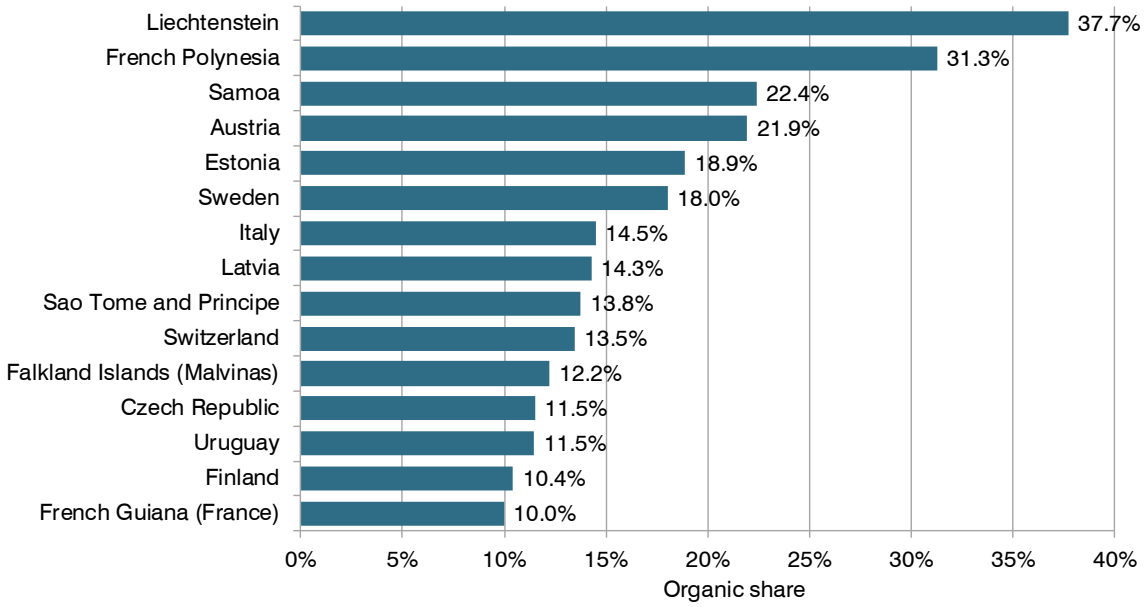
Source: FiBL survey, 2018 (Willer and Lernoud 2018). Based on national data sources and data from certifiers.

Figure 45: Organic: Area by region, 2016



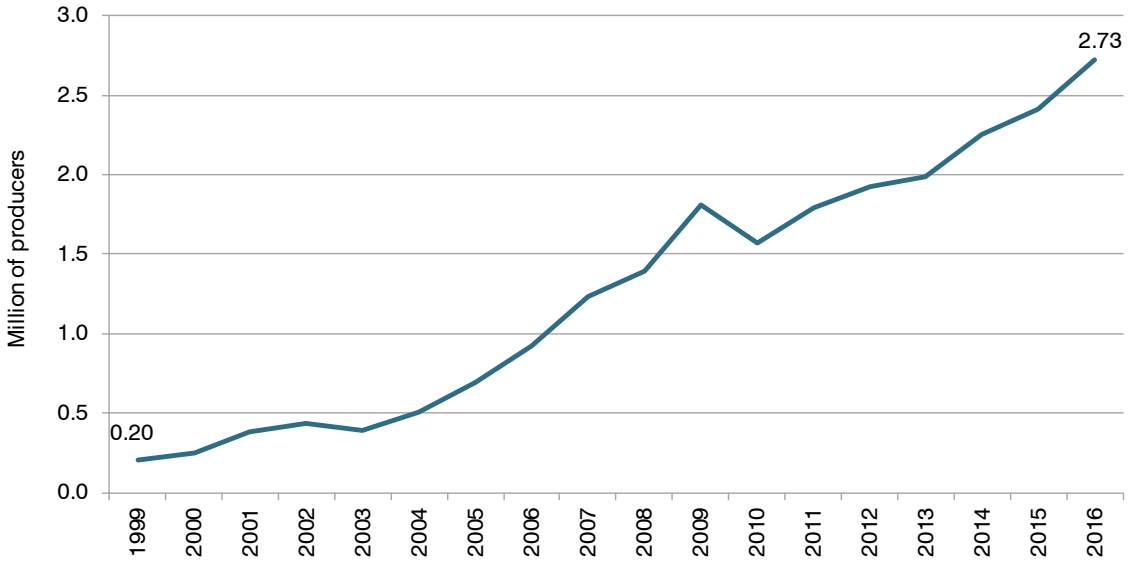
Source: FiBL, 2018 (Willer and Lernoud 2018). Based on national data sources and data from certifiers.

Figure 46: Organic: Top countries and territories (percentage of total agricultural area), 2016



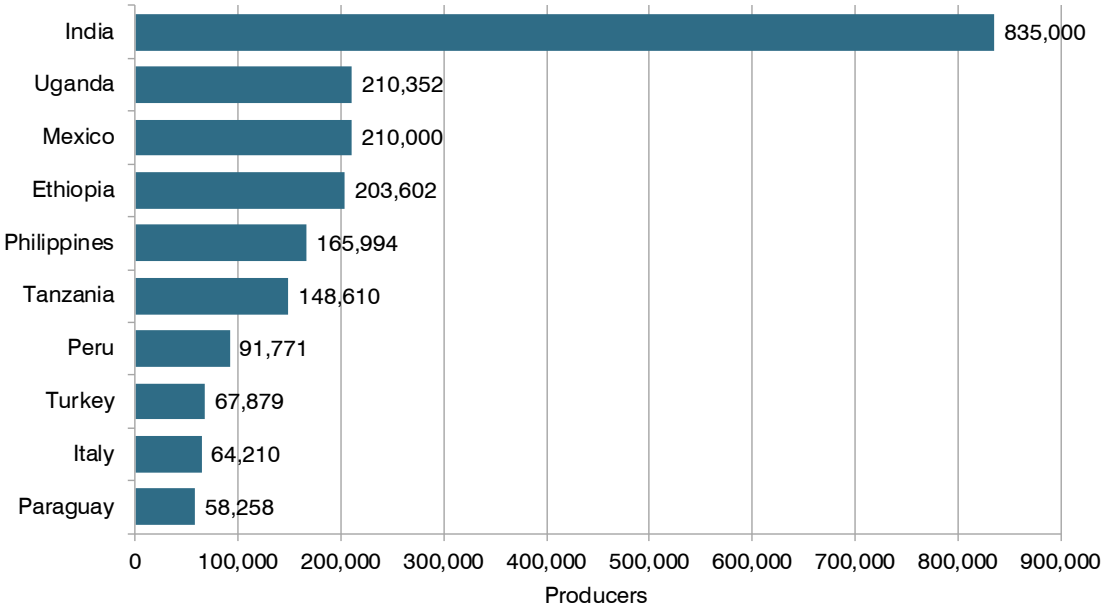
Source: FiBL survey, 2018 (Willer and Lernoud 2018). Based on national data sources and data from certifiers.

Figure 47: Organic: Producers, 1999–2016



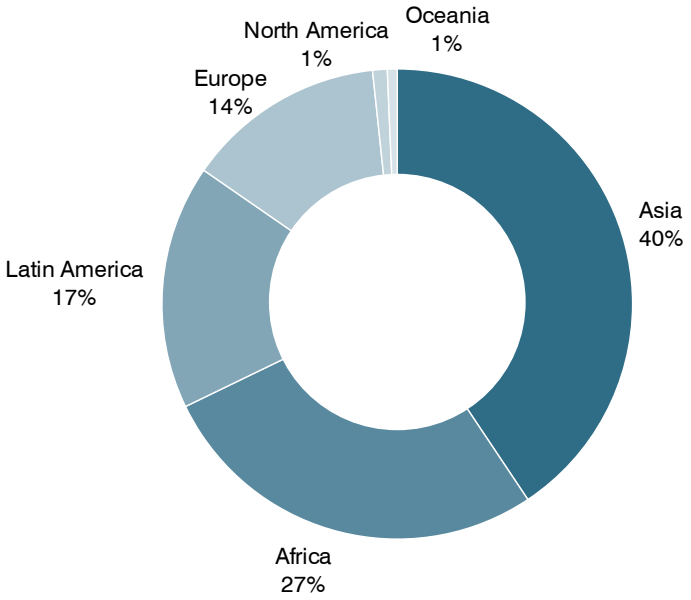
Source: FiBL, 2018 (Willer and Lernoud 2018).

Figure 48: Organic: Top 10 countries by certified producers, 2016



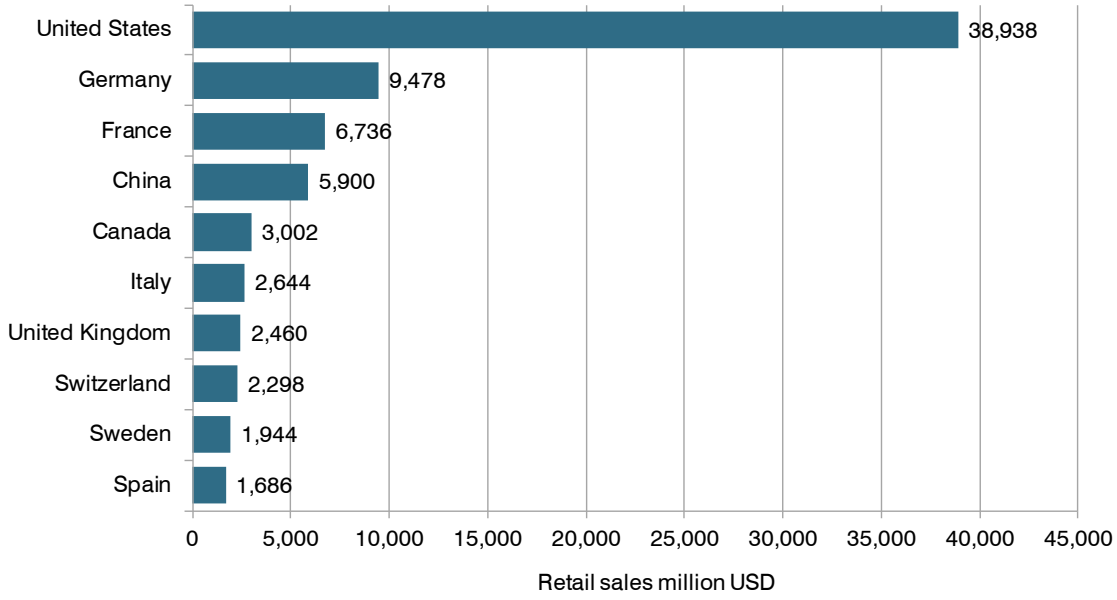
Source: FiBL survey, 2018 (Willer and Lernoud 2018). Based on national data sources and data from certifiers.

Figure 49: Organic: Producers by region, 2016



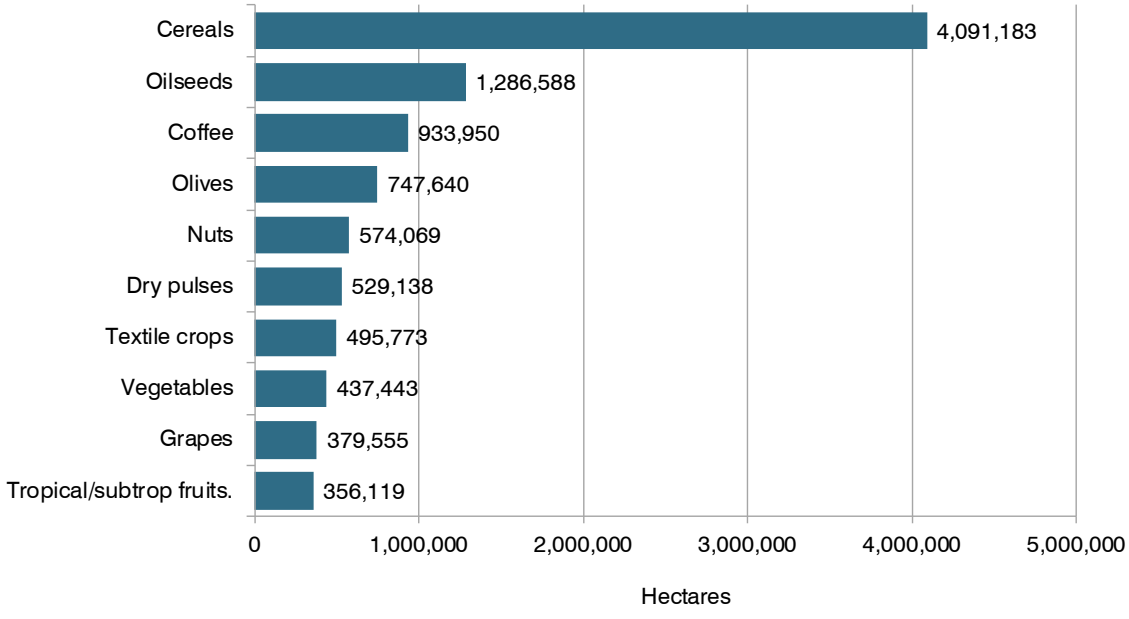
Source: FiBL survey, 2018 (Willer and Lernoud 2018). Based on national data sources and data from certifiers.

Figure 50: Organic: Top 10 countries by retail sales, 2016



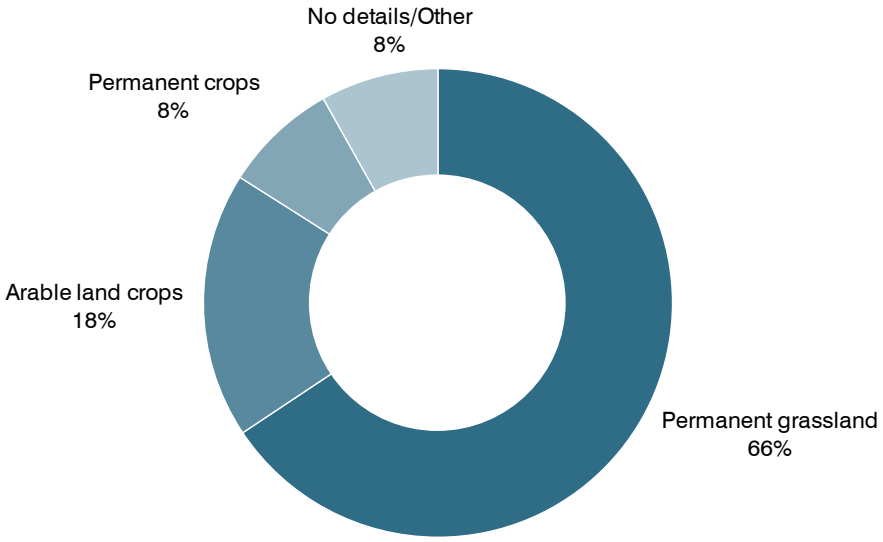
Source: FiBL survey, 2018 (Willer and Lernoud 2018). Based on national data sources.

Figure 51: Organic: Top 10 crops/crop groups, 2016



Source: FiBL survey, 2018 (Willer and Lernoud 2018). Based o n national data sources and data from certifiers.

Figure 52: Organic: Land by main use type, 2016



Source: FiBL survey, 2018 (Willer and Lernoud 2018). Based on national data sources and data from certifiers.

PROGRAMME FOR THE ENDORSEMENT OF FOREST CERTIFICATION

Founded in 1999, the Programme for the Endorsement of Forest Certification (PEFC) is a global alliance of independent national standard-setting bodies and international stakeholder members. PEFC is currently represented in 49 countries via its national organizations (PEFC, 2018). The initiative manages the PEFC Sustainability Benchmarks, which set baseline requirements for national standards initiatives to be endorsed by PEFC.

PEFC is an international umbrella organization that develops forest management and Chain of Custody standards and provides independent assessment and endorsement of national forest certification systems. It operates on a business-to-consumer basis, developing standards and marketing the PEFC label to ensure sustainable forestry practices.

PEFC continues to push the boundaries of forest certification by challenging its members to address various sustainability challenges. For instance, members explored adopting a landscape approach to address deforestation at the PEFC Forest Week 2015 and 2016 (Collins & Voora, 2016; Turley, 2015), and a task force explored certifying trees outside of forests as they also provide valuable ecosystem services (PEFC, 2016).

PEFC certified more than 301 million hectares of forest worldwide in 2016, or 7.5% of the global forest area. Canada had the largest PEFC-certified forest area, with over 131 million hectares, followed by the United States and Australia. In 2016, there were 10,867 chain-of-custody certificate holders.

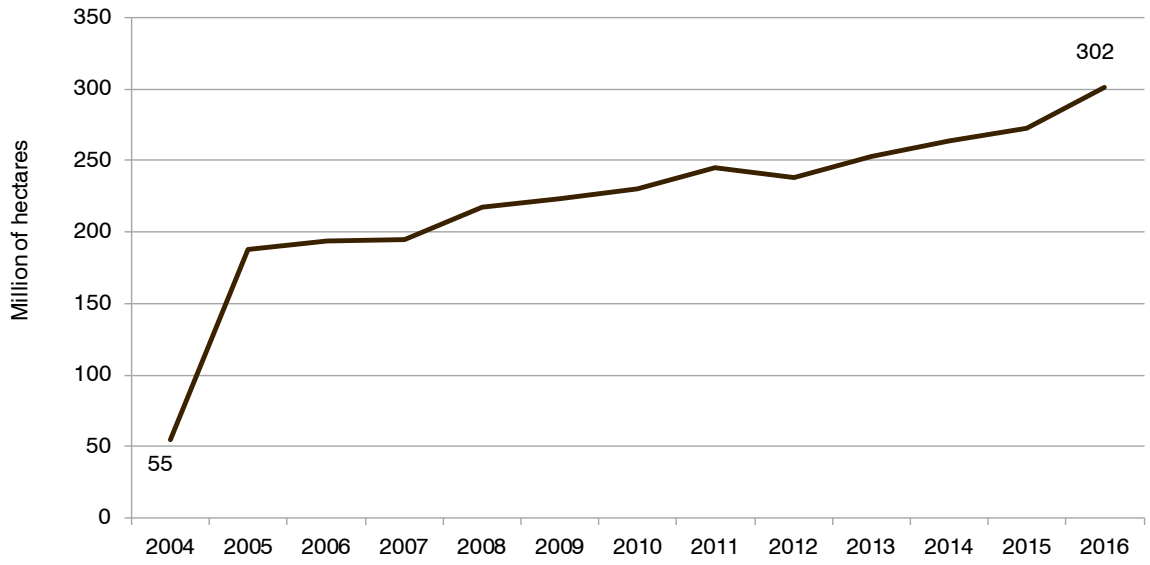
More information is available at www.pefc.org. For more information on forestry, see Chapter 3.

Table 10: Programme for the Endorsement of Forest Certification Schemes: Key indicators

Programme for the Endorsement of Forest Certification (PEFC) 2016	
Forest area [hectares]	301,569,608
Share of total forest area [%]	7.5
Chain-of-custody certificate holders [no.]	10,867

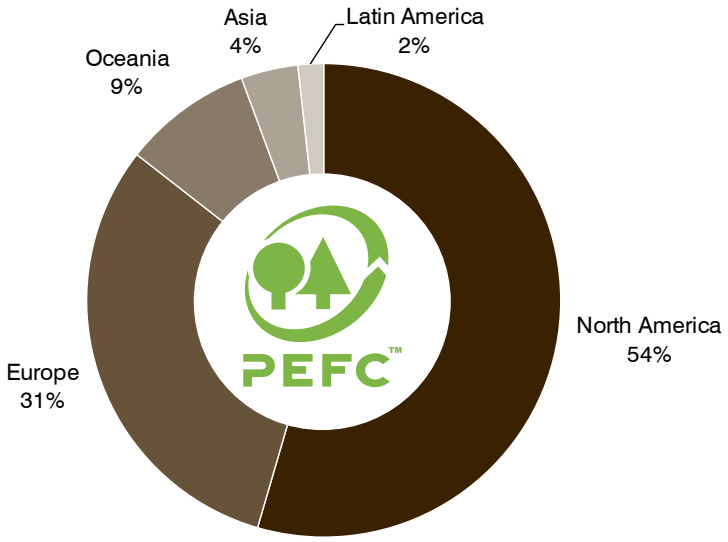
***Source*:** Programme for the Endorsement of Forest Certification (PEFC), 2018.

Figure 53: Programme for the Endorsement of Forest Certification: Certified area, 2004–2016



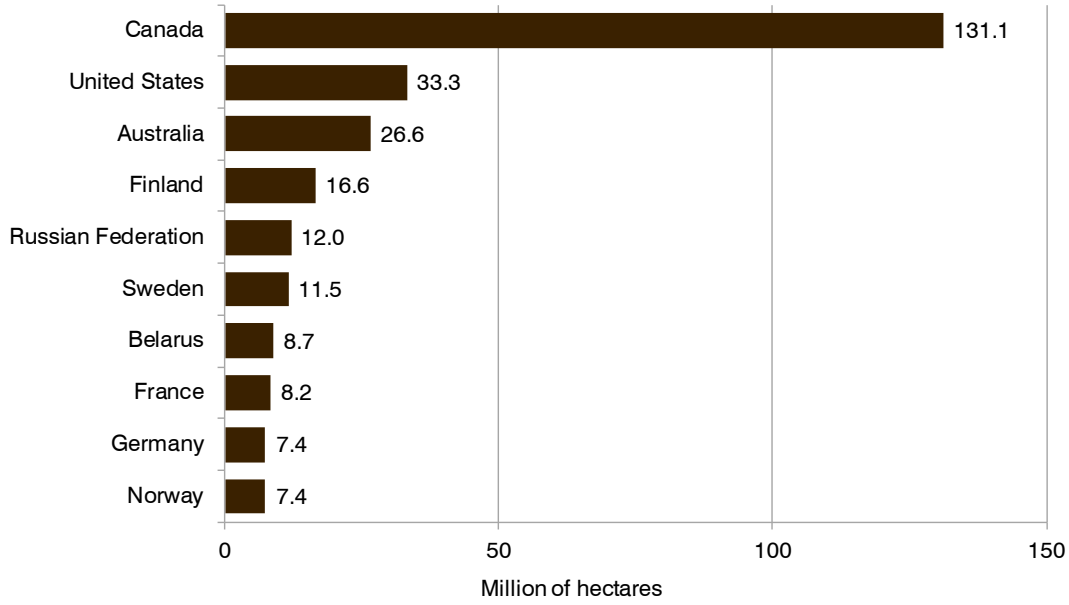
Source: Programme for the Endorsement of Forest Certification (PEFC), 2005–2018.

Figure 54: Programme for the Endorsement of Forest Certification: Area by region, 2016



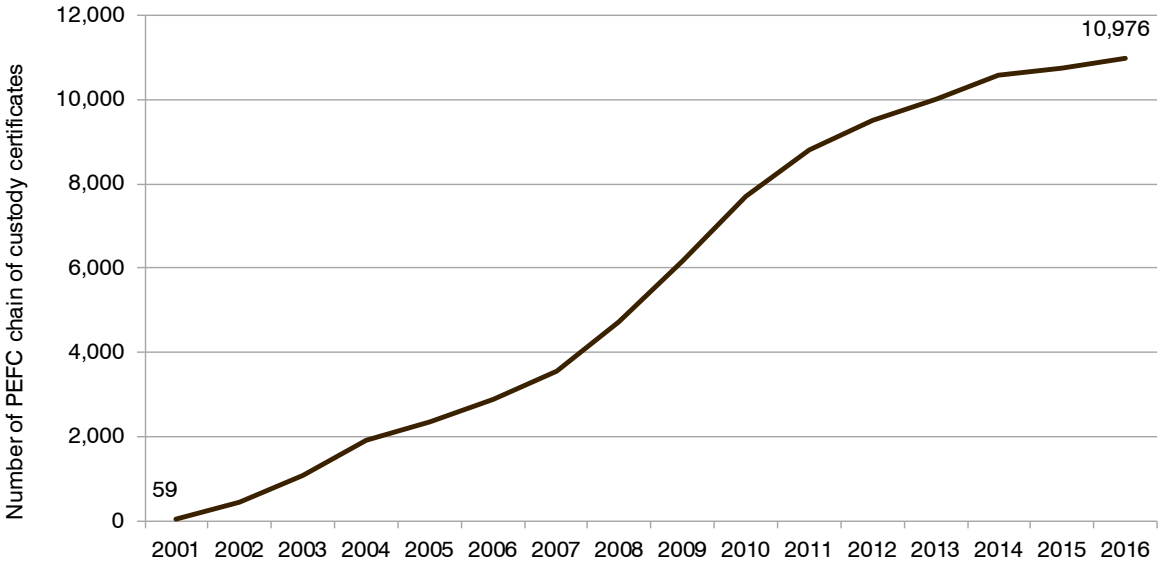
Source: Programme for the Endorsement of Forest Certification (PEFC), 2018.

Figure 55: Programme for the Endorsement of Forest Certification: 2016 close-up – Top 10 countries by area



Source: Programme for the Endorsement of Forest Certification (PEFC), 2018.

Figure 56: Programme for the Endorsement of Forest Certification: Chain-of-custody certificate holders, 2001–2016



Source: Programme for the Endorsement of Forest Certification (PEFC), 2002–2018.

PROTERRA FOUNDATION

Founded in 2012, the ProTerra Foundation is a member-based, not-for-profit foundation operating in 39 countries (The ProTerra Foundation, 2018). The ProTerra standard is based on the Basel Criteria for Sustainable Soy Production but was designed to be applicable to all agricultural products (ProForest, 2004). Till now the ProTerra standard has been primarily applied to the sustainable production of soy and soy-derived consumer products but it is also being used in the sugarcane and tree nut sectors. All certified products arrive in the market as "Identity Preserved", meaning there is full traceability and the raw material comes from certified farms.

The ProTerra Foundation standard version 3.0 was last revised in 2014. Its key components centre around the protection of high-conservation-value areas; good labour practices, such as worker health and safety and prevention of child labour; maintaining community rights; adopting good agricultural practices, such as sustaining soil fertility and water resources; lowering the use of fertilizers and pesticides; and rigorous non-genetically-modified-organism (GMO) requirements (ProTerra Foundation, 2018). The ProTerra standard will be revised in 2018 to version 4.0.

In 2016, 1.9 million hectares were ProTerra-certified, representing 0.04% of the global agricultural area and 1.6% of the global soybean area. There were almost 3.9 million metric tons of ProTerra-certified soybeans. Seven countries produced ProTerra-certified soy; the largest area was in Brazil, with some 1.8 million hectares, representing 93% of the global ProTerra Foundation area. Since 2008, the ProTerra-certified area has grown by 54%. Between 2015 and 2016, a growth of almost 6% was noted.

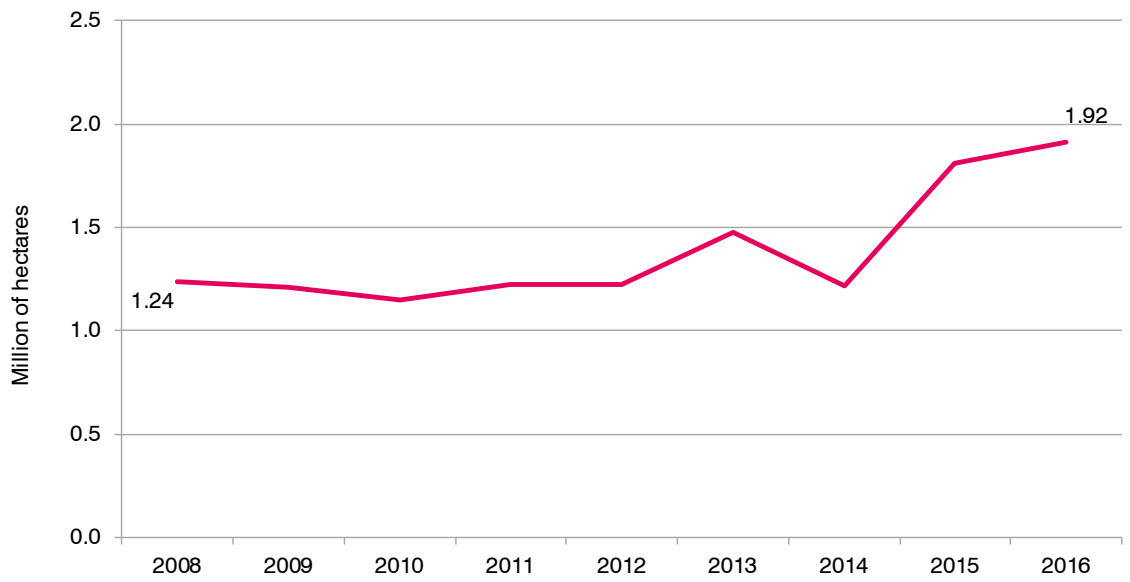
More information is available from www.proterrafoundation.org. For more information on ProTerra soybeans, see Chapter 3.

Table 11: ProTerra Foundation: Key indicators

ProTerra Foundation 2016	
Area [hectares]	1,916,050
Share of ProTerra area of global agricultural land [%]	0.04
Share of ProTerra soybean area of global soybean area [%]	1.6
Soybeans: Production volume [metric tons]	3,873,000

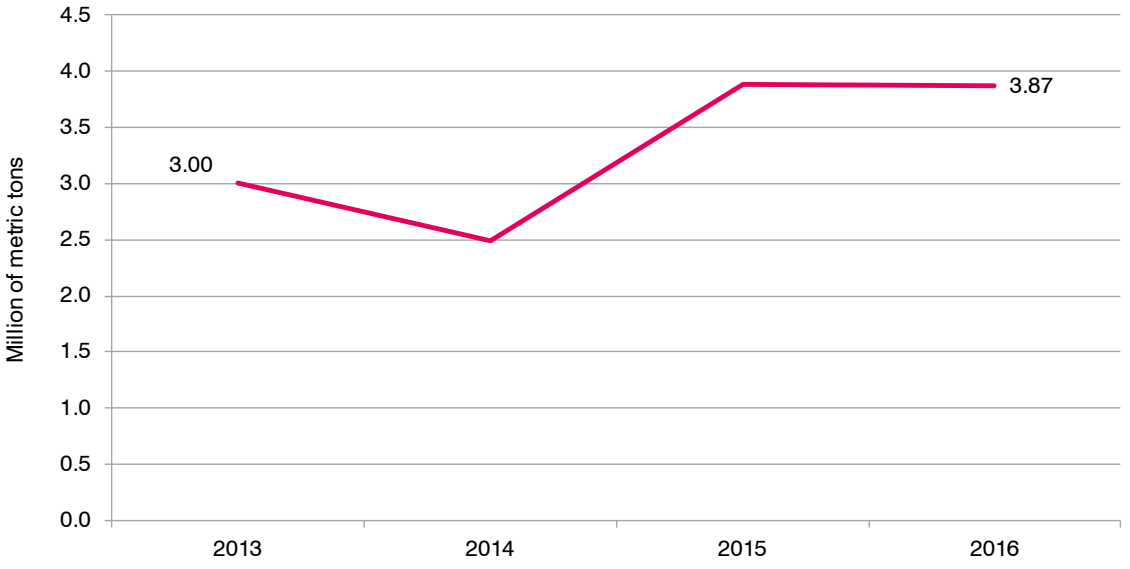
***Source*:** ProTerra Foundation, 2018.

Figure 57: ProTerra: Certified area, 2008–2016



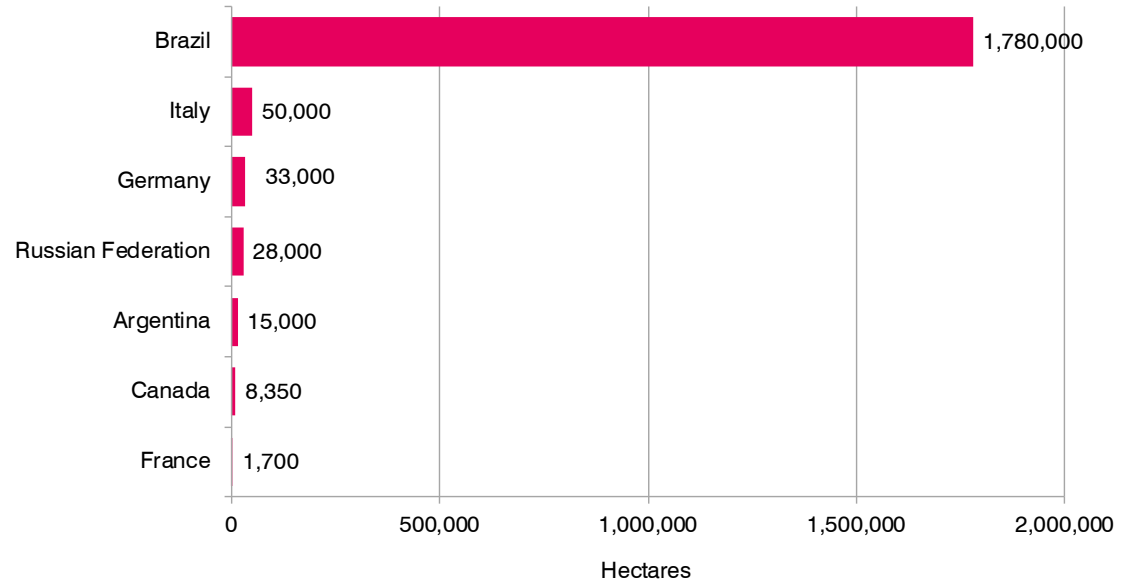
Source: ProTerra Foundation, 2018.

Figure 58: ProTerra Foundation: Production volume, 2013–2016



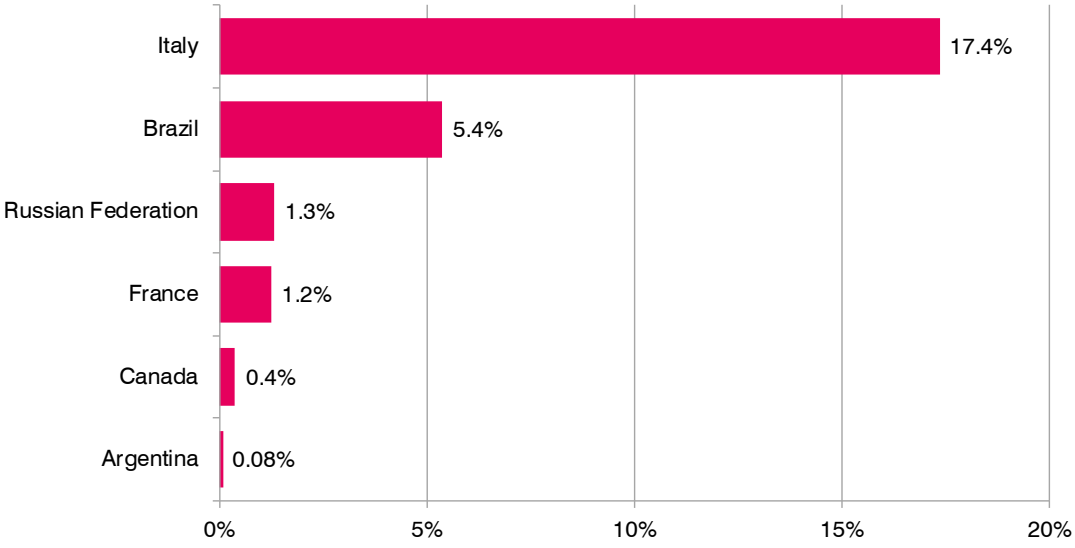
Source: ProTerra Foundation, 2018.Figure 59: ProTerra: 2016 close-up – Top countries by area

Figure 59: ProTerra: 2016 close-up – Top countries by area



Source: ProTerra Foundation, 2018. The data from Germany include values from Austria, Czech Republic, Hungary, Serbia, Slovakia and Ukraine.

Figure 60: ProTerra: Top countries (percentage of total soybean area), 2018



Source: ProTerra Foundation, 2018.

RAINFOREST ALLIANCE

Founded in 1987, the Rainforest Alliance (RA) is a member-based initiative operating in the food and agriculture sector across 43 countries. RA and UTZ agreed to merge in 2017 to take advantage of their respective organizational strengths (Rainforest Alliance, 2017). Both VSS work in similar agricultural commodity sectors, which include primarily coffee, tea and cocoa. RA also certifies palm oil, cattle, bananas and cut flowers, while UTZ also certifies hazelnuts.

The Sustainable Assistance Network (SAN) was the sole standard-setting body for RA-certified agricultural products until November 2017 but has since moved on from this role. The Rainforest Alliance Sustainable Agriculture Standard has replaced the SAN standard, and authorized certification bodies will continue to audit participating farmers against the standard, which will be combined with the UTZ Codes into a new certification programme by 2019 (Rainforest Alliance, 2018).

The Rainforest Alliance continues to manage labelling and marketing support of RA-compliant products. It owns the trademark and manages the traceability, labelling and marketing of RA-certified products. Farms meeting the standard's requirements can sell their products as RA-certified and use the RA trademarks. These functions will be maintained and will evolve as the Rainforest Alliance and UTZ merger advances over time. The UTZ and RA certification programmes will continue to operate in parallel until the publication of a new certification programme at the end of 2019 (with transition beginning in 2020).

In 2016, the Rainforest Alliance certified more than 3.1 million hectares of a wide variety of commodities, managed by almost 1.3 million producers. The product with the largest area was cocoa, with 692,000 hectares, followed by tea (almost 469,000 hectares) and coffee (over 387,000 hectares). Most of the RA-certified area was in Africa (52%), followed by Latin America (32%), Asia (15%) and Europe (1%). Côte d'Ivoire had the largest area (642,000 hectares), followed by Kenya (316,000 hectares) and Brazil (almost 301,000 hectares). Between 2010 and 2016, the RA-certified area increased fourfold.

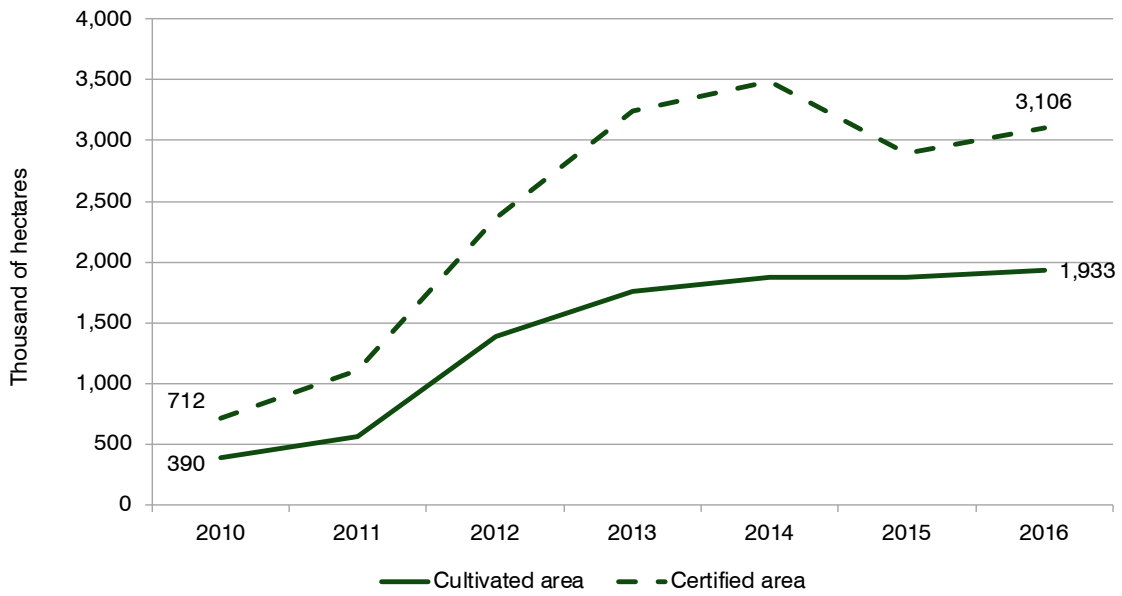
More information is available at www.rainforest-alliance.org. For more information on Rainforest Alliance commodities, see Chapter 3.

Table 12: Rainforest Alliance: Key indicators

Rainforest Alliance 2016	
Certified area [hectares]	3,105,608
Cultivated area [hectares]	1,933,235
Certificate holders [no.]	1,948
Producers [no.]	1,275,726

***Note*:** The data presented in this table cover all RA commodities. "Certified area" refers to the entire farm, including infrastructure, set-aside, and any other non-crop-bearing land, while "Cultivated area" refers only to the land on which crops are grown.
Source: Rainforest Alliance (RA), 2018.

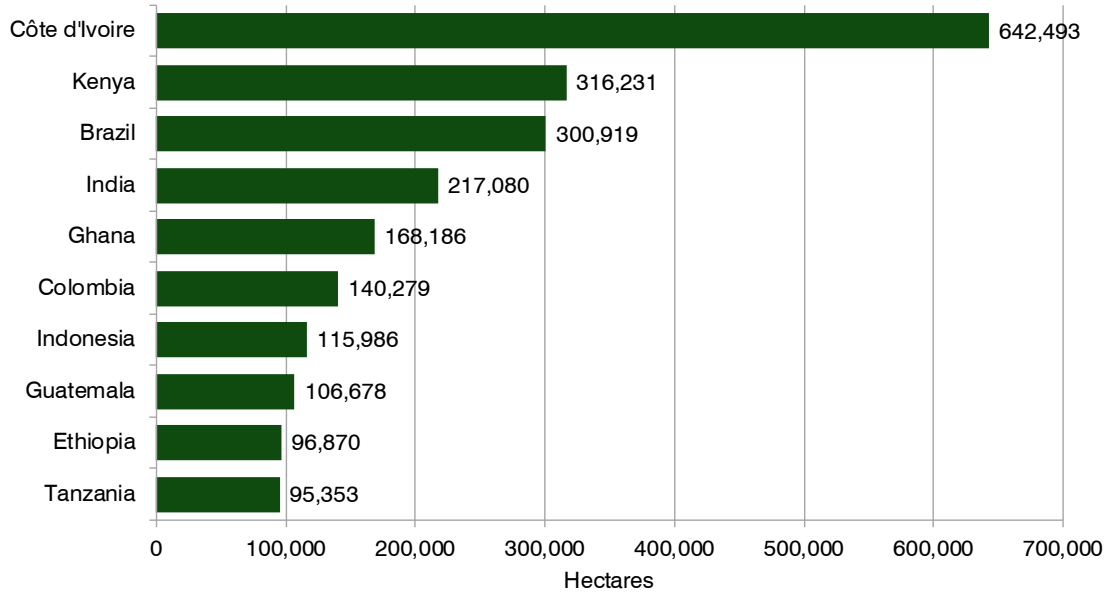
Figure 61: Rainforest Alliance: Certified area, 2008–2016



Note: "Certified area" refers to the entire farm, including infrastructure, set-aside, and any other non-crop-bearing land, while "Cultivated area" refers only to the land on which crops are grown.

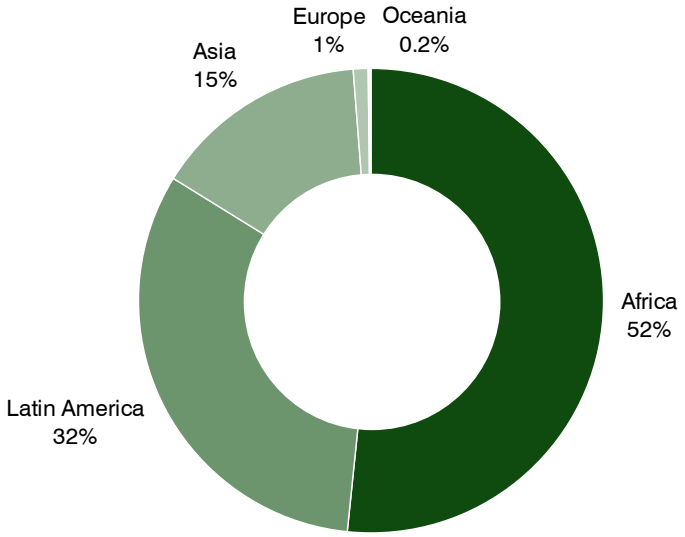
Source: Rainforest Alliance, 2014, 2015, 2016, and 2018.

Figure 62: Rainforest Alliance: 2016 close-up – Top 10 countries by area



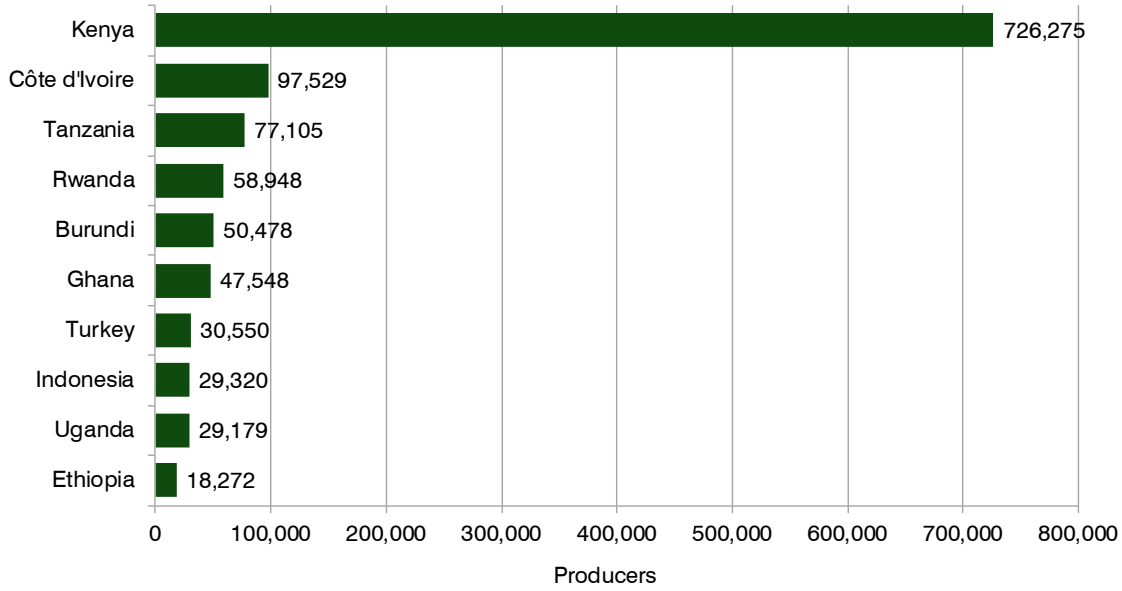
Source: Rainforest Alliance, 2018.

Figure 63: Rainforest Alliance: Area by region, 2016



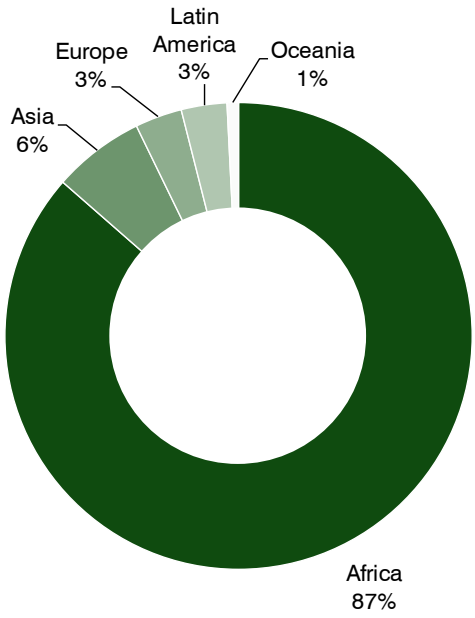
Source: Rainforest Alliance, 2018.

Figure 64: Rainforest Alliance: Top 10 countries by certified producers, 2016



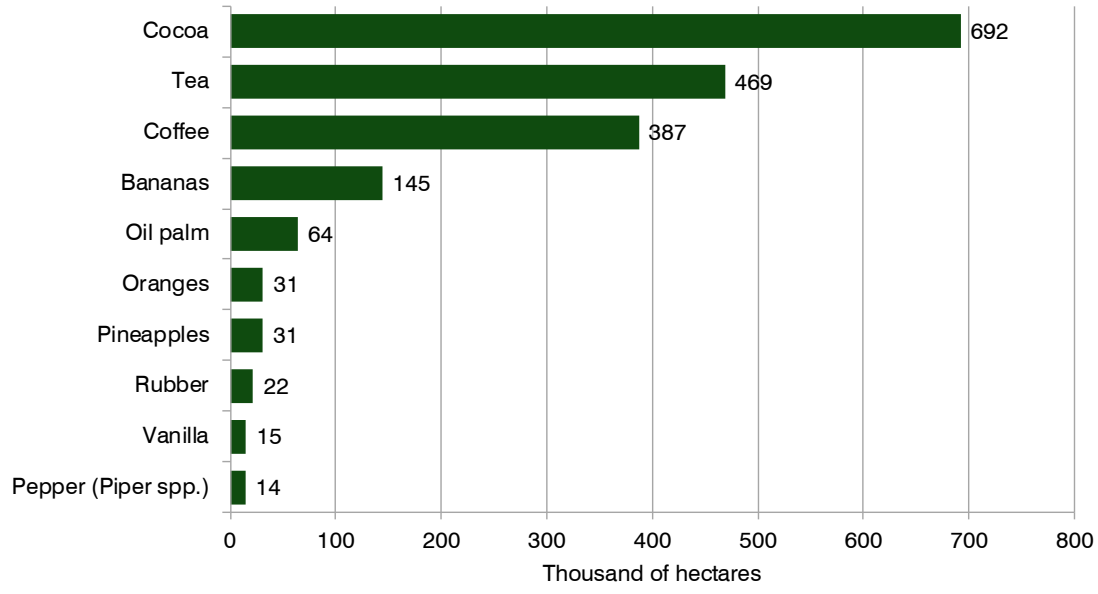
Source: Rainforest Alliance, 2018.

Figure 65: Rainforest Alliance: Producers by region, 2016



Source: Rainforest Alliance, 2018.

Figure 66: Rainforest Alliance: Top 10 products by area, 2016



Source: Rainforest Alliance, 2018.

ROUNDTABLE ON SUSTAINABLE PALM OIL

Founded in 2004, the Roundtable on Sustainable Palm Oil (RSPO) is a member-based initiative operating in the palm oil sector across 89 countries, with 16 countries producing RSPO-certified oil palm (RSPO, 2017a). The initiative aims to achieve mainstream market uptake of palm oil production and processing.

Palm oil producers are certified by accredited certifying bodies through verification of the production process in keeping with the RSPO principles and criteria. Certification can be withdrawn at any time in case of infringement of the rules and standards. Elements of the RSPO certification scheme include the standard itself, accreditation, and the process requirements. RSPO principles and criteria are developed and revised every five years (RSPO, 2016).

RSPO continues to expand and work towards capturing more market share. In December 2017, it announced the formation of the North American Sustainable Palm Oil Network, which aims to mainstream sustainable palm oil in North America (RSPO, 2017b). It is expanding steadily in South America and specifically in Colombia and Brazil. By establishing the RSPO smallholder task force and fund, it hopes to make its certification programme accessible to palm oil producers (Andrade, 2016; RSPO, 2018; Voora, 2014).

In 2016, more than 3.2 million hectares of oil palm were RSPO-certified (2.5 million cultivated), representing 0.07% of the global agricultural land and 15.3% of the global oil palm area. Almost 12 million metric tons of palm oil were produced under the RSPO standards. The largest areas were in Indonesia (over 1.7 million hectares), Malaysia (almost 942,000 hectares) and Papua New Guinea (nearly 124,500 hectares). Asia has 83% of the RSPO area, followed by Latin America (8.8%) and Oceania (6%). Between 2008 and 2016, the RSPO-certified area increased more than 35 times. Between 2015 and 2016, a drop of 6.6% was reported.

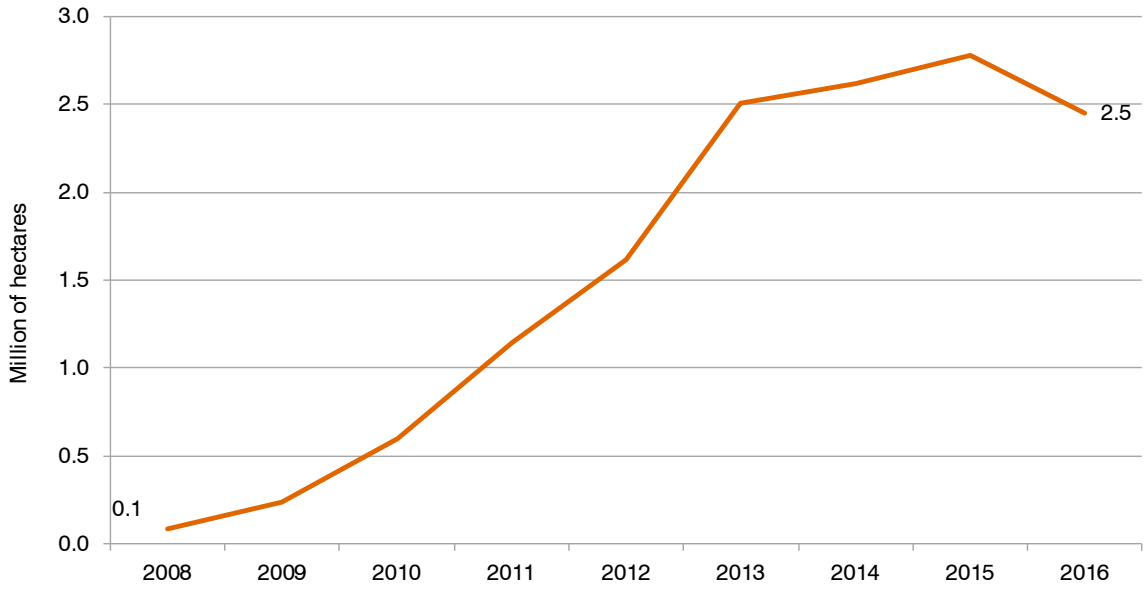
More information is available at www.rspo.org. For more information on RSPO oil palm, see Chapter 3.

Table 13: Roundtable on Sustainable Palm Oil: Key indicators

Roundtable on Sustainable Palm Oil (RSPO) 2016	
Certified area [hectares]	3,236,429
Cultivated area [hectares]	2,451,573
Share of RSPO area of global agricultural land [%]	0.07
Share of RSPO oil palm area of global oil palm area [%]	15.3
Palm oil: Production volume [metric tons]	11,710,919
Palm kernel: Production volume [metric tons]	2,683,835
Certificate holders [no.]	2,387

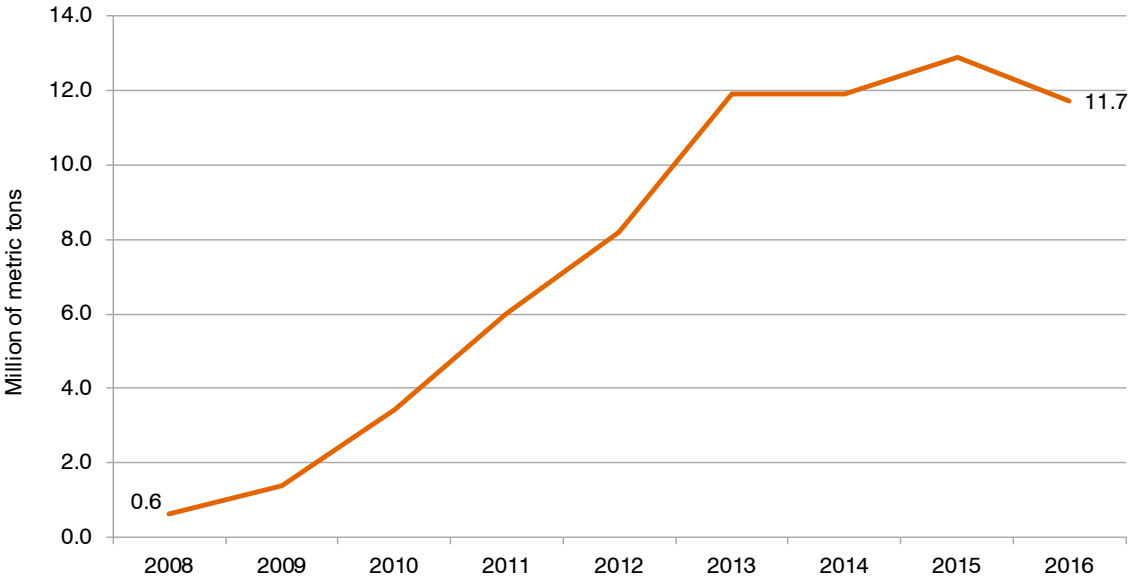
Source: Roundtable on Sustainable Palm Oil (RSPO), 2018.

Figure 67: Roundtable on Sustainable Palm Oil: Cultivated area, 2008–2016



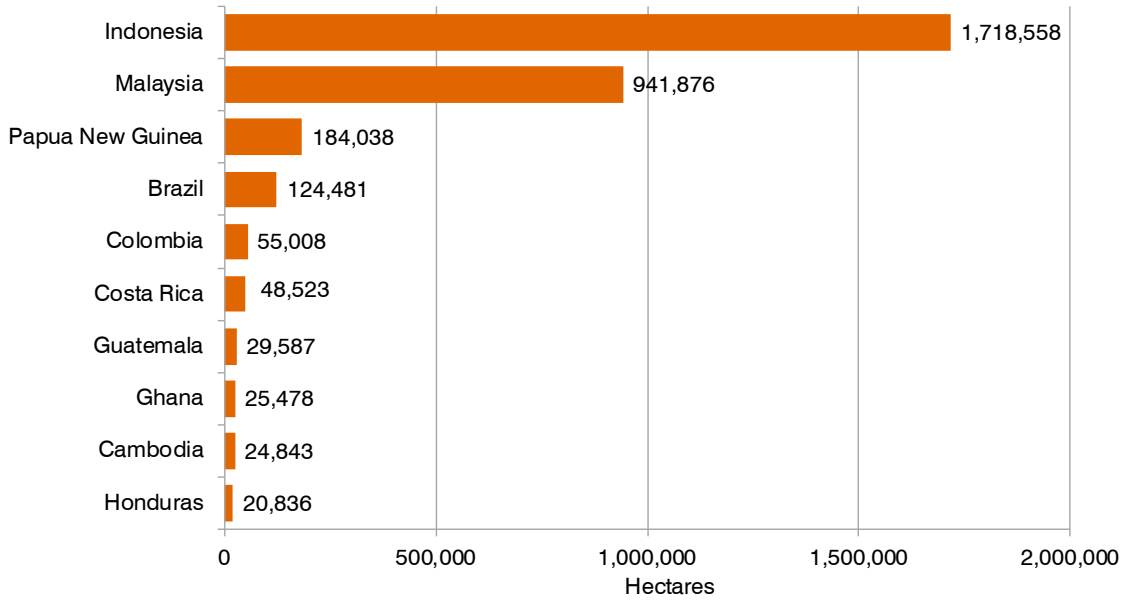
Source: Source: Roundtable on Sustainable Palm Oil (RSPO) 2014, 2015, 2016, and 2018.

Figure 68: Roundtable on Sustainable Palm Oil: Palm oil production volume, 2008–2016



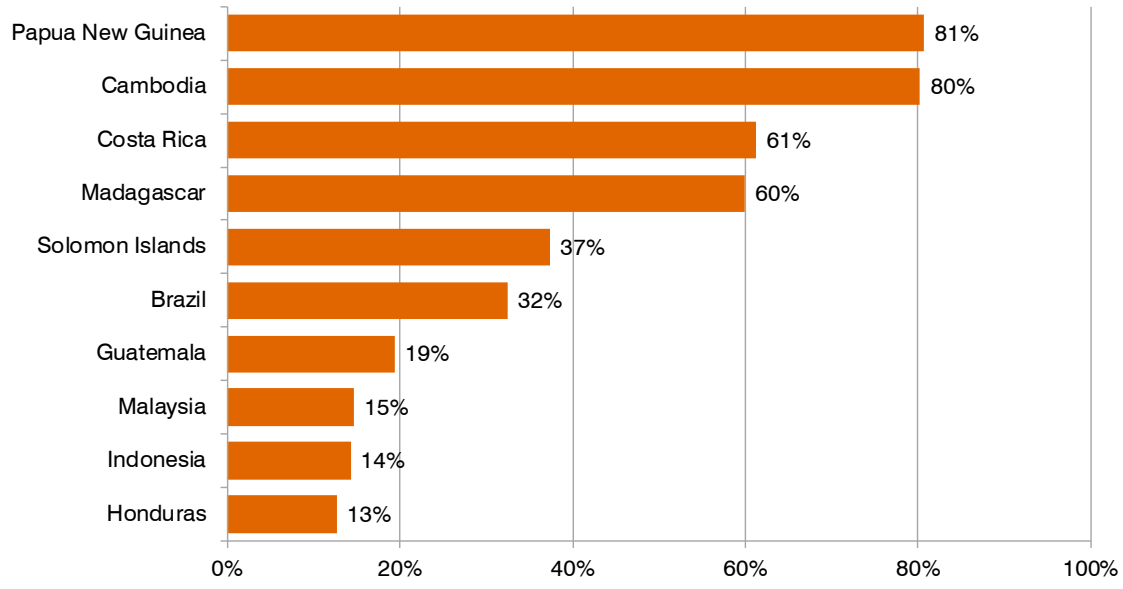
Source: Roundtable on Sustainable Palm Oil (RSPO) 2014, 2015, 2016, and 2018.

Figure 69: Roundtable on Sustainable Palm Oil: 2016 close-up – Top 10 countries by area



Source: Roundtable on Sustainable Palm Oil (RSPO), 2018.

Figure 70: Roundtable on Sustainable Palm Oil: Top 10 countries (percentage of total oil palm area), 2016



Source: Roundtable on Sustainable Palm Oil (RSPO), 2018.

ROUND TABLE ON RESPONSIBLE SOY

Founded in 2006, the Round Table on Responsible Soy (RTRS) is a member-based initiative functioning as a multi-stakeholder platform that works to achieve responsible soy value chains. Lowering soy production impacts on the Amazon and Cerrado ecosystems of South America was the main motivation for its establishment (Confino, 2014; WWF, 2017). Consequently, RTRS started its operations primarily in South America but expanded over time to Asia, Africa, and North America. The initiative develops and manages products and chain-of-custody standards for responsible soy production and currently operates across eight countries (Round Table on Responsible Soy, 2017).

Demand is expected to grow, as 14 of the 17 new RTRS members are from industry, trade and the finance sector (Round Table on Responsible Soy, 2017). Three quarters of all soy production is destined for animal and fish feed, and the Aquaculture Stewardship Council recently incorporated a requirement for its feed manufacturers to source strictly RTRS-certified soy (Confino, 2014; Round Table on Responsible Soy, 2017).

RTRS offers a generic set of principles and criteria explicitly designed to apply to genetically modified, conventional and organic production systems. Version 3.0 of the RTRS Soy Production Standard, which was approved in 2016, includes zero deforestation provisions for all natural conservation areas. In 2017, RTRS made two important changes to the standard by including a requirement to completely phase out Paraquat by 2021 and updating the biofuel-specific module (RTRS EU-RED) to align it with the European Commission requirements (Round table on Responsible Soy, 2017).

RTRS certified over 1 million hectares in 2016, representing 0.02% of the global agricultural area and 0.9% of the global soybean area. More than 32,600 producers harvested almost 3.3 million metric tons of soybeans worldwide. Nearly 99% of the RTRS producers are in India. However, Brazil had the largest RTRS area (690,363 hectares), followed by Argentina (223,770 hectares). Between 2011 and 2016, the RTRS-certified area increased more than sevenfold, and between 2015 and 2016, a growth rate of more than 42% was noted.

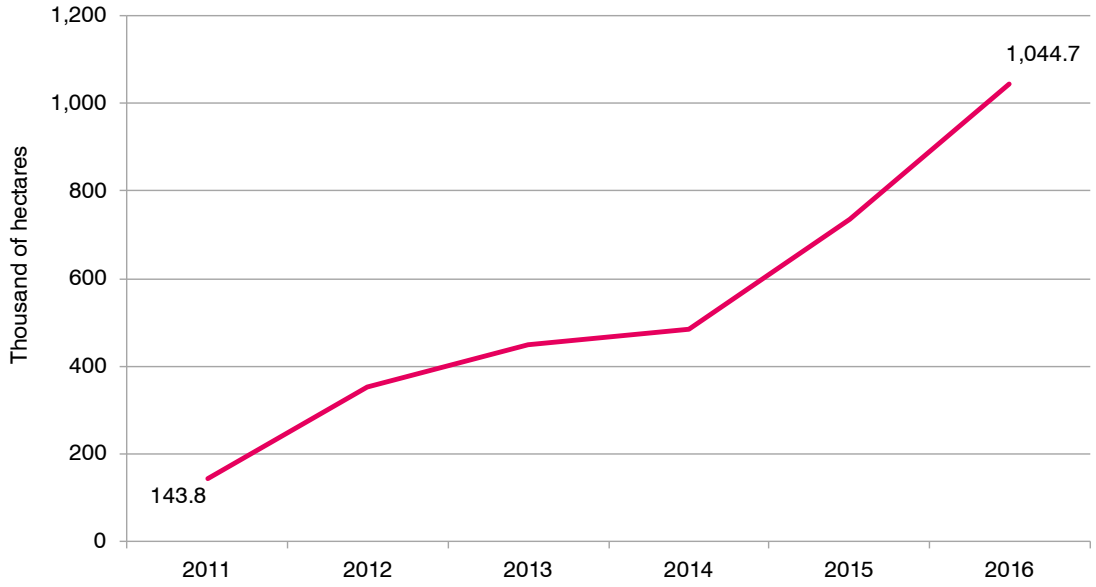
More information at www.responsiblesoy.org. For more information on RTRS soybeans, see Chapter 3.

Table 14: Round Table on Responsible Soy: Key indicators

Round Table on Responsible Soy (RTRS) 2016	
Area [hectares]	1,044,658
Share of RTRS area of global agricultural land [%]	0.02
Share of RTRS soybean area of global soybean area [%]	0.9
Production volume [metric tons]	3,266,561
Production volume sold under the label [metric tons]	2,040,721
Producers [no.]	32,646

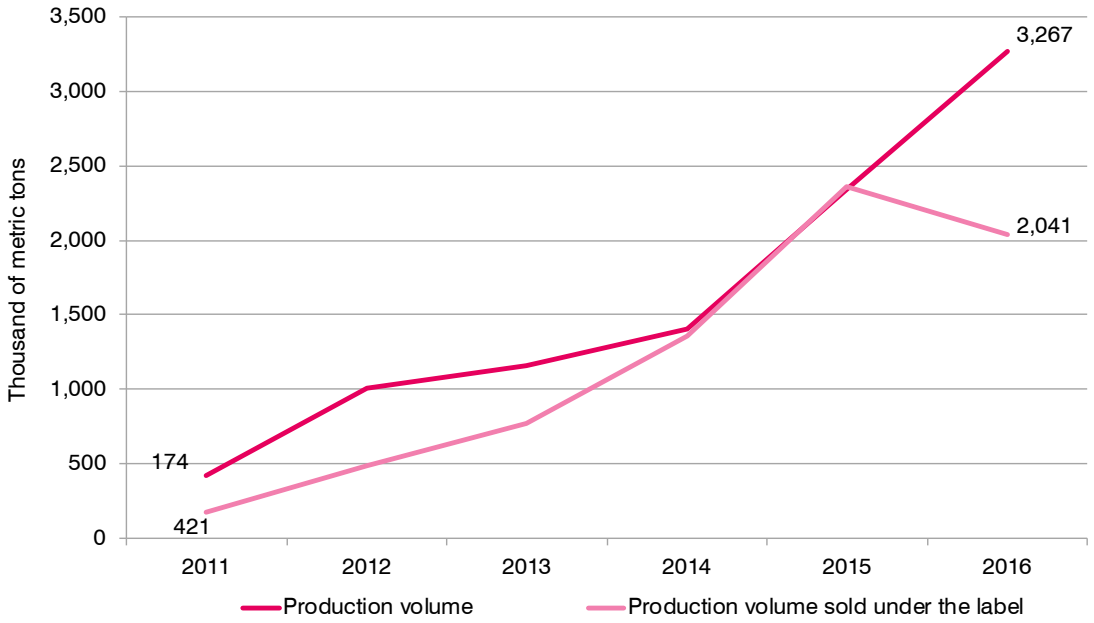
***Source*:** Round Table on Responsible Soy (RTRS), 2018.

Figure 71: Round Table on Responsible Soy: Certified area, 2011–2016



Source: Round Table on Responsible Soy (RTRS), 2018.

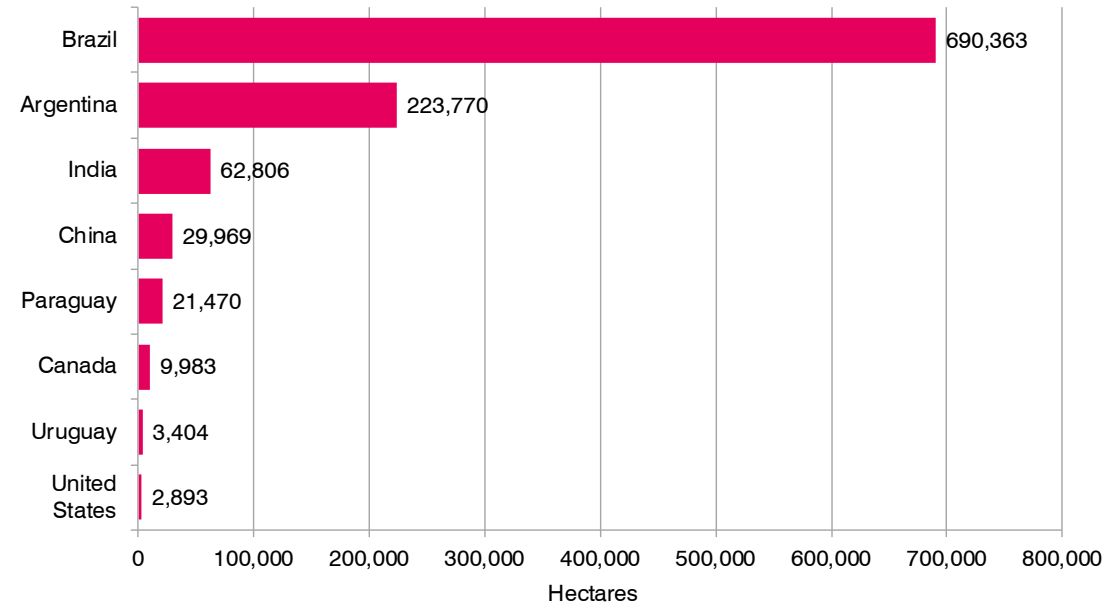
Figure 72: Round Table on Responsible Soy: Production volume and production volume sold under RTRS label, 2011–2016



Note: Stocked production from previous years might be sold in the following year; hence, for some years the volume sold under the label might be higher than the year's production.

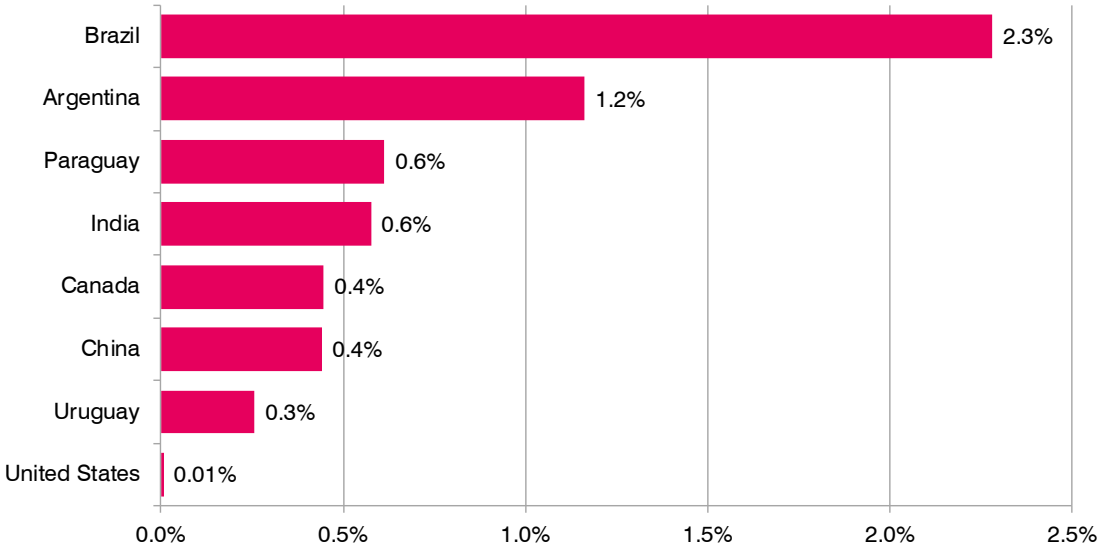
Source: Round Table on Responsible Soy (RTRS), 2018.

Figure 73: Round Table on Responsible Soy: 2016 close-up – Top countries by area



Source: Round Table on Responsible Soy (RTRS), 2018.

Figure 74: Round Table on Responsible Soy: Top countries (percentage of total soybean area), 2016



Source: Round Table on Responsible Soy (RTRS), 2018.

UTZ

Founded in 2002, UTZ is a multi-stakeholder initiative operating in the food and agriculture sector across 41 producing countries. A product of the vision of a Guatemalan coffee grower and a Dutch coffee roaster, UTZ has grown into an independent, non-governmental, not-for-profit organization. It certifies cocoa, coffee, tea and hazelnut production in various parts of the world.

To become certified, all UTZ producers follow a code of conduct, which offers expert guidance on better farming methods, farm management and social issues, such as working conditions and care for nature. UTZ supports its farmers by providing training and working on several aspects of sustainability. For instance, in collaboration with the International Center for Tropical Agriculture (CIAT), it recently conducted a study on climate suitability scenarios for tea production in Malawi (CIAT & UTZ Certified, 2017). UTZ also invests in evaluating and measuring impact. It is one of the few VSS to track multiple certification, which is a major challenge to be overcome in VSS market performance reporting.

UTZ has developed rigorous measurement and traceability systems, which have been adopted by other standards. RSPO uses the e-trace system developed and managed by UTZ for enhanced traceability in its palm oil supply chains. The Sustainable Rice Platform benefited from UTZ's guidance and expertise in the development of its standard.

UTZ has recently merged with the Rainforest Alliance, forming a new organization that carries forward the Rainforest Alliance name. The UTZ and RA certification programmes will continue to operate in parallel until the publication of a new certification programme at the end of 2019 (with transition beginning in 2020).

In 2016, cocoa, coffee and tea covered 2.7 million hectares worldwide, representing 0.06% of the global agricultural area. Cocoa was the largest UTZ-certified product, with almost 2.1 million hectares, representing almost 21% of the global cocoa area and nearly 77% of the total UTZ-certified area. UTZ coffee was grown on over 567,000 hectares, or 5.2% of the global coffee area (21% of UTZ's certified area). UTZ tea was grown on almost 68,000 hectares, or 1.7% of the global tea area.

In 2016, there were over 853,000 producers operating under UTZ standards. Côte d'Ivoire has the largest UTZ area (1.1 million hectares), followed by Ghana (almost 401,500 hectares) and Brazil (over 145,700 hectares). Between 2011 and 2016, the UTZ-certified area more than trebled, and between 2015 and 2016, it registered a 28% growth.

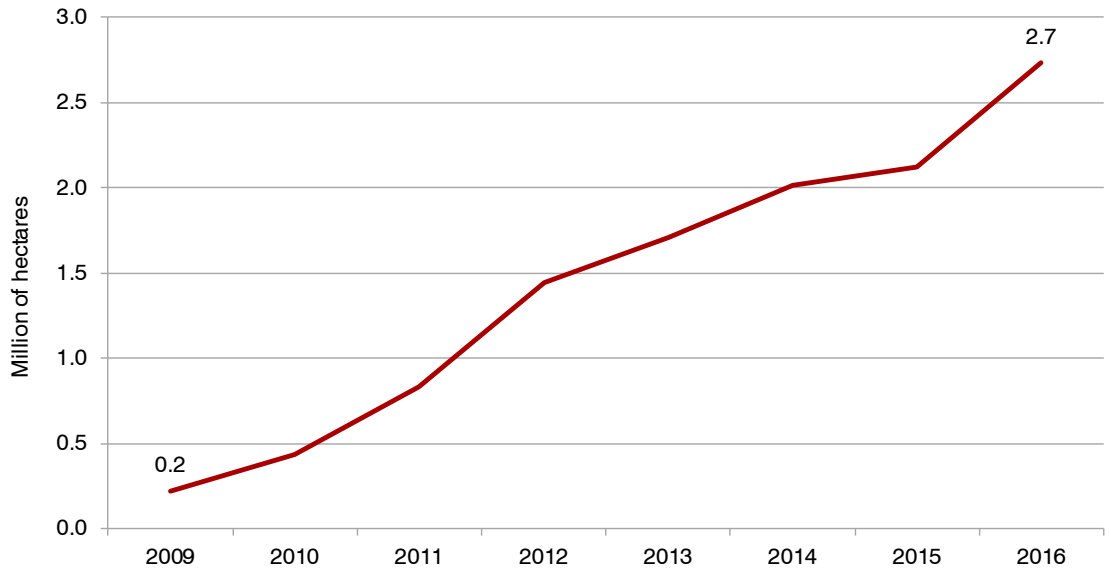
More information is available at www.utzcertified.org. On UTZ commodities, see Chapter 3.

Table 15: UTZ: Key indicators

UTZ (Cocoa, coffee and tea) 2016	
Area [hectares]	2,731,954
Share of UTZ area of global agricultural land [%]	0.06
Share of UTZ cocoa, coffee, and tea area of total cocoa, coffee, and tea area [%]	10.8
Estimated production volume [metric tons][17]	2,177,909
Production volume sold under the label [metric tons]	967,146
Certificate holders [no.]	1,286
Producers [no.]	853,232

***Source*:** UTZ, 2018.

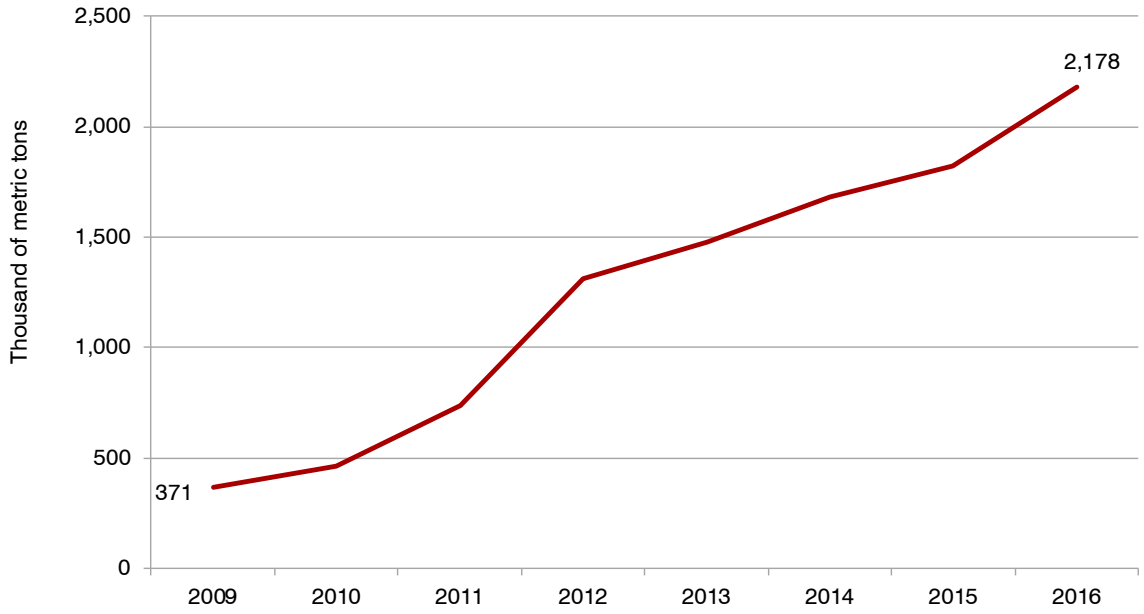
Figure 75: UTZ: Certified area, 2009–2016



Source: UTZ, 2014, 2015, 2016, and 2018. This graph refers to the cocoa, coffee and tea UTZ-certified area.

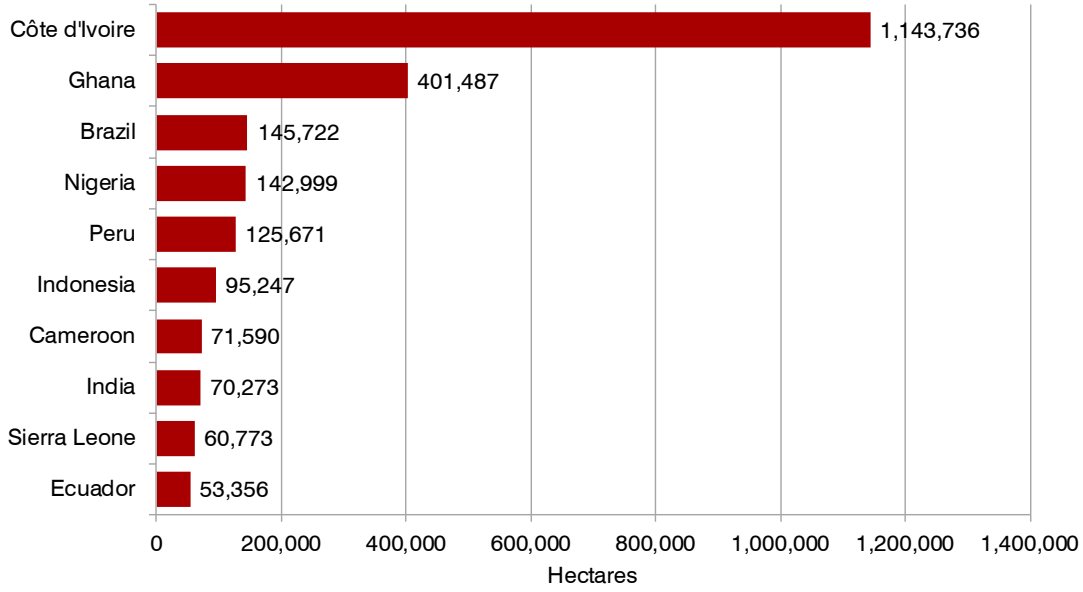
17. UTZ defines certified volume as the estimated production potential.

Figure 76: UTZ: Estimated production volume, 2009–2016



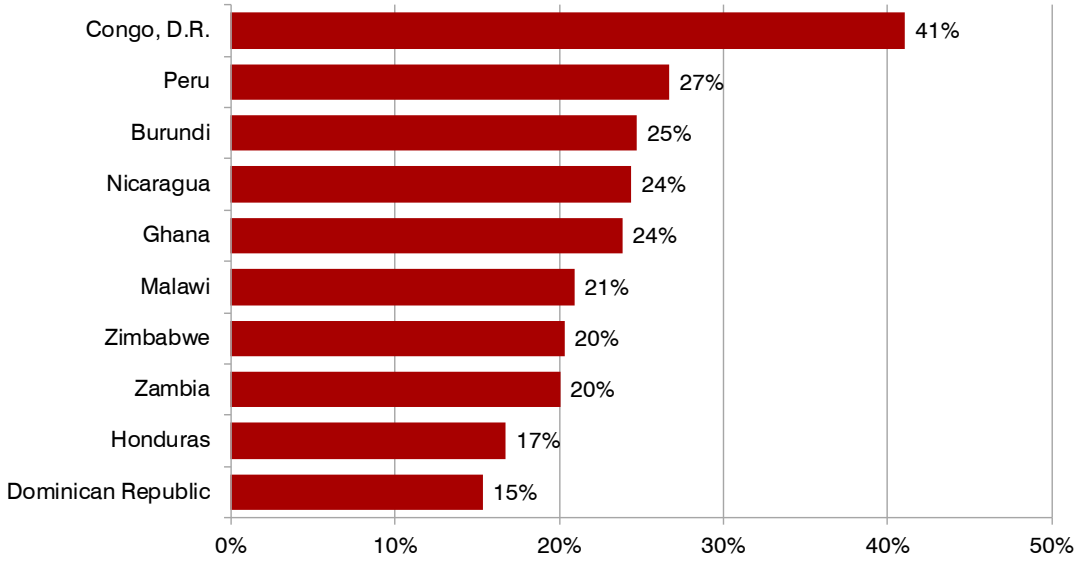
Source: UTZ, 2014, 2015, 2016, and 2018. This graph refers to the cocoa, coffee and tea UTZ-certified production volume.

Figure 77: UTZ: 2016 close-up – Top 10 countries by area



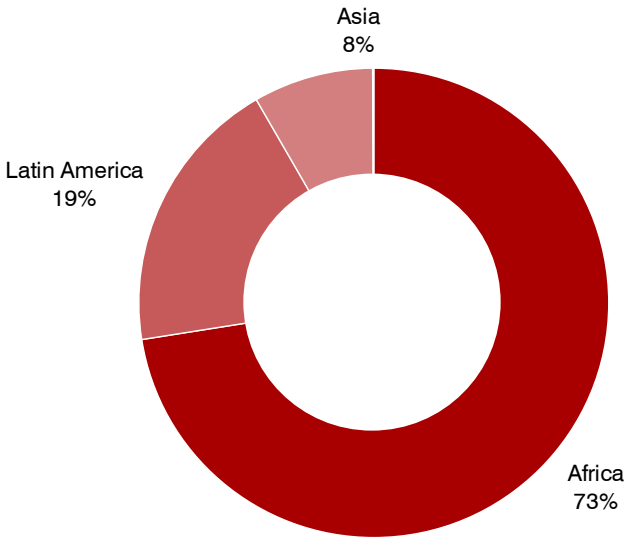
Source: UTZ, 2018. This graph refers to the cocoa, coffee and tea UTZ-certified area.

Figure 78: UTZ: Top 10 countries (percentage of total cocoa, coffee, and tea area), 2016

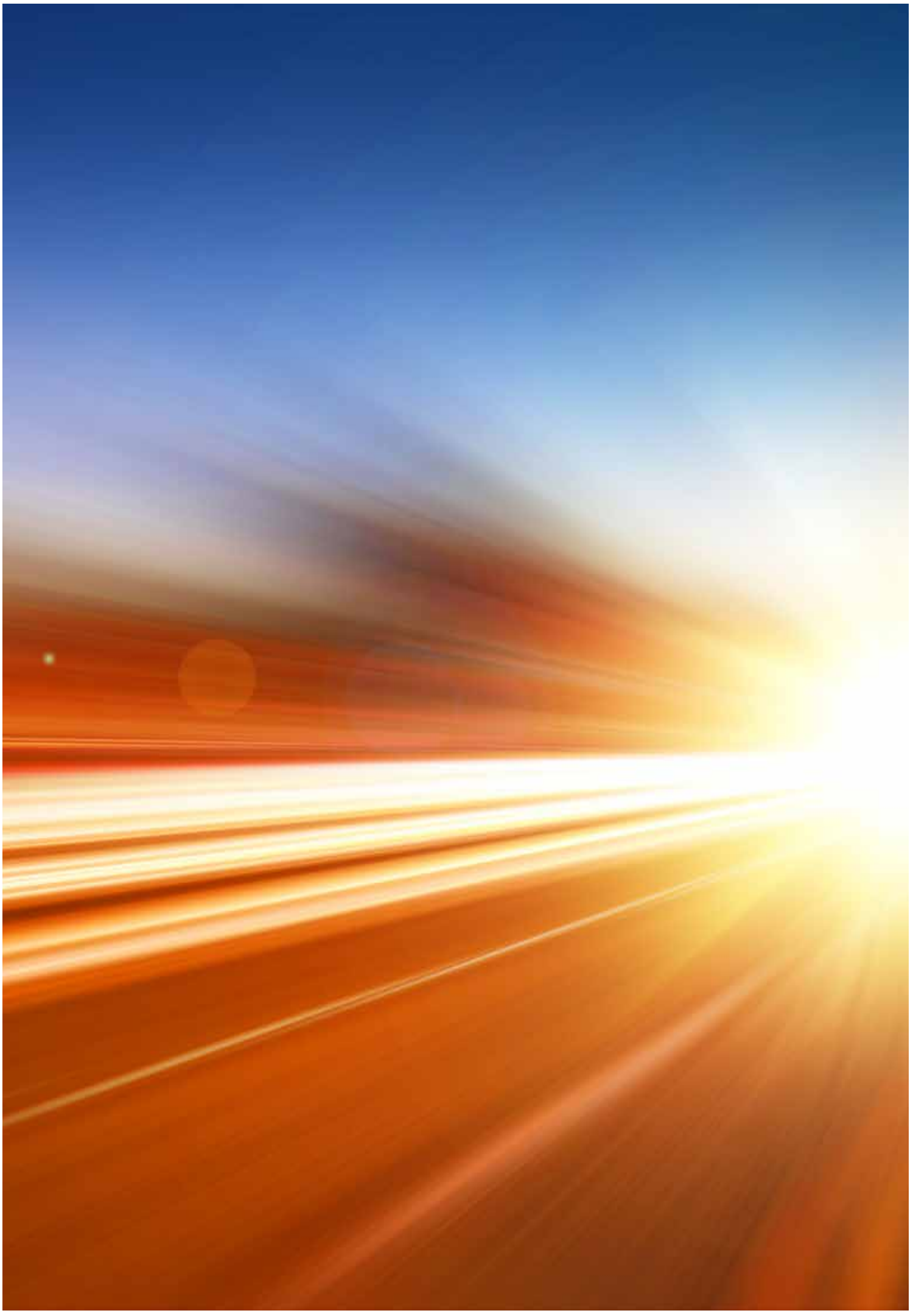


Source: UTZ, 2018.

Figure 79: UTZ: Area by region, 2016



Source: UTZ, 2018. This graph refers to the cocoa, coffee and tea UTZ-certified area.



CHAPTER 3

FAST GROWTH IN AGRICULTURE AND FORESTRY

This section presents the latest market and statistical data on the selected agricultural products by standard – bananas, cocoa, coffee, cotton, oil palm, soybeans, sugarcane and tea. The data cover the area, production volume, producers, and area and production volume shares of the overall total for each product.

The end of the section presents the latest data on FSC- and PEFC-certified forestry.

BANANAS

Asian and African countries expand their production

As of 2016, the top five banana-producing countries (India, China, Indonesia, Brazil, Ecuador) account for 55% of world production and 37% of the total harvested area for this crop (FAOSTAT, 2018). Over the period 2011–2016, China, India and Indonesia expanded their production by nearly 10% (4 million tons), which is equivalent to the 2016 banana production of Angola, the world's seventh largest producing country (FAOSTAT, 2018). In contrast, Brazil and Ecuador's production declined by 7% during the same period (FAOSTAT, 2018). A similar phenomenon can be seen around the world as Asian and African countries expand their production, while the traditional banana-producing countries of Latin America and the Caribbean have seen their overall banana production decline. The net result is a 3.5% growth in global banana production over 2011–2016 (FAOSTAT, 2018).

Looking forward, banana production can be expected to continue growing at a similar rate, mainly due to the expansion of production in Asian and, to a lesser degree African, countries. While there are concerns about the growing incidence of new strains of the Panama disease, to which the Cavendish and other popular cultivars are increasingly susceptible, the future rate at which the disease will affect banana production is yet to be fully known. The industry is currently developing new banana cultivars with greater resistance to the disease (Wageningen University, 2017).

On the demand side, the industry is heavily concentrated: four companies (Chiquita, Fyffes, Dole and Del Monte) account for nearly 40% of trade in international markets (Banana Link, 2016a). These companies produce the large majority of standard-compliant bananas. Fyffe is the largest importer of Fairtrade bananas in the European Union, while Chiquita and Dole are committed to RA-certified bananas. However, while standards compliance plays a major role in the international banana market, it still plays a relatively minor role in worldwide banana production, since less than one fifth of the world's banana production is traded in international markets. Nonetheless, major intermediaries and retailers are ramping up their commitment to standards-compliant banana sourcing, with such companies as Aldi, Lidl and Asda recently making significant commitments (Banana Link, 2016b; The Guardian, 2016).

GLOBALG.A.P. has the largest certified banana area

Four of the voluntary sustainability standards covered in this report – **Fairtrade International**, **GLOBALG.A.P.**, **organic** and **Rainforest Alliance** – certified banana production in 2016. Combined, they certified a minimum of 289,000 hectares and a maximum of 488,000 hectares (average almost 389,000 hectares).[18] In terms of the proportion of the VSS-certified area of the global banana area, the minimum represents 5.3%, the maximum, 8.9% and the average, 7.1% of the total banana area. Based on the minimum area, the certified banana area has remained stable since 2012. **GLOBALG.A.P.** had by far the largest VSS-certified banana area in 2016, with more than 252,000 hectares; the largest area growth (2012–2016) was noted for **RA**, 87%.[19]

Fairtrade International certified almost 36,500 hectares of bananas in 2016, constituting 0.7% of the global banana area. Almost 831,000 metric tons were produced, representing 0.7% of the global banana production volume. The countries with the largest areas were the Dominican Republic (almost 12,600 hectares), Peru (almost 6,800 hectares), Colombia (6,414 hectares) and Ecuador (5,210 hectares). Together, these five countries accounted for 82% of the total **Fairtrade International** banana area. Between 2012 and 2016, that area increased by almost 15%. However, between 2015 and 2016 a drop of 10% was reported.

More than 252,000 hectares of bananas were **GLOBALG.A.P.**-certified in 2016, equivalent to 4.6% of the global banana area. The largest areas were in Ecuador (over 69,000 hectares), Colombia (42,500 hectares), Costa Rica (26,200 hectares), Guatemala (almost 22,300 hectares) and the Dominican Republic (15,700 hectares), representing close to 42% of the total **GLOBALG.A.P.** banana area. Between 2015 and 2016 that area increased by 1.7%, after the drop reported in 2015. However, when compared with 2012, when data first became available, the **GLOBALG.A.P.** banana area declined by 5.7%.

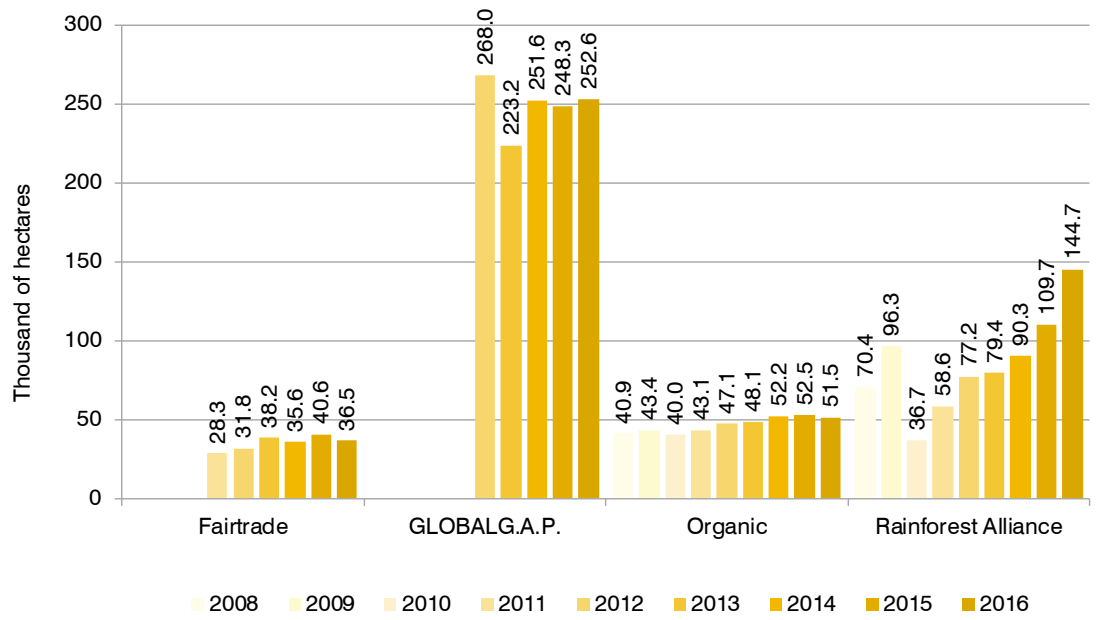
Organic bananas represented almost 1% of the global banana area, or almost 51,500 hectares (estimated harvested area).[20] An estimated 1.1 million metric tons were produced in 2016, 1% of the world's banana production. The Dominican Republic (20,350 hectares), Ecuador (13,200 hectares), the Philippines (5,500 hectares), Peru (4,900 hectares) and Mexico (3,100 hectares) had the largest **organic** banana areas, together representing 91% of the total **organic** banana area. That area decreased by 2% compared with 2015; however, between 2012 and 2016, it increased by 9.4%.

Rainforest Alliance reported almost 145,000 hectares and almost 7.4 million metric tons of certified bananas in 2016, accounting for 6.5% of the global banana production volume. Five countries represented 85% of the total **RA** banana area: Colombia (over 38,000 hectares), Costa Rica (29,230 hectares), Guatemala (26,414 hectares), Ecuador (20,321 hectares) and Honduras (8,514 hectares). The **RA** banana area increased by 87% between 2012 and 2016 and by 32% between 2015 and 2016 alone.

For tables of VSS-compliant banana production, see the appendix with data tables by country.

18. Multiple certification: Many of the areas certified by VSS are multiple-certified. An average of the maximum and minimum areas provides an estimate of the possible VSS area for a given sector. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.
19. 2012 is the year for which data on all the standards covered are available.
20. In total, almost 58,407 hectares of organic bananas were certified in 2016, including in-conversion areas and areas for bananas associated with other crops, and representing 0.6% of the global banana area (Willer/Lernoud, 2018).

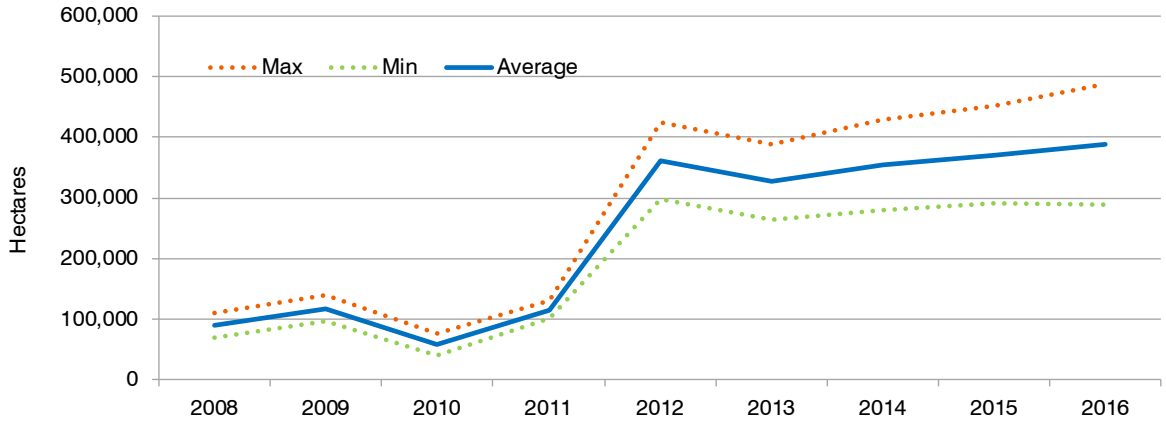
Figure 80: Banana: Production area by standard, 2008–2016



Note: The organic area is the area harvested as estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance, the area cultivated is shown.

Source: Fairtrade International, 2018; GLOBALG.A.P., 2018; FiBL, 2018; Rainforest Alliance, 2018.

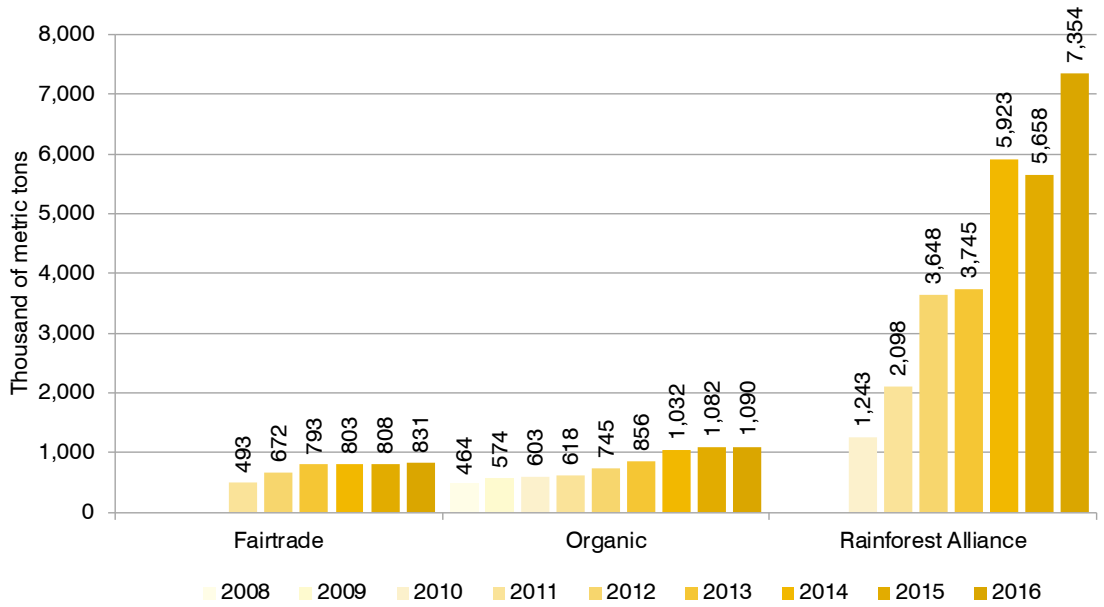
Figure 81: Banana: Average production area, 2008–2016



Note: Data from GLOBALG.A.P have been available since 2012.

Source: FiBL-IISD-ITC survey, 2018. VSS: Fairtrade International, GLOBALG.A.P., organic, and Rainforest Alliance.

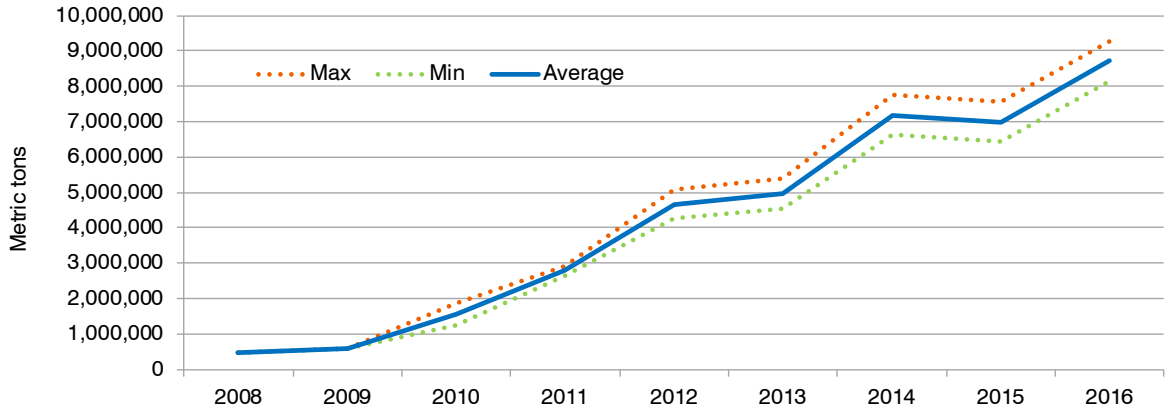
Figure 82: Banana: Production volume by standard, 2008–2016



Note: The organic production volume was estimated by FiBL based on estimated yields as data are not available for most of the countries. Production volume data from GLOBALG.A.P. are not available.

Source: Fairtrade International, 2018; FiBL, 2018; Rainforest Alliance, 2018.

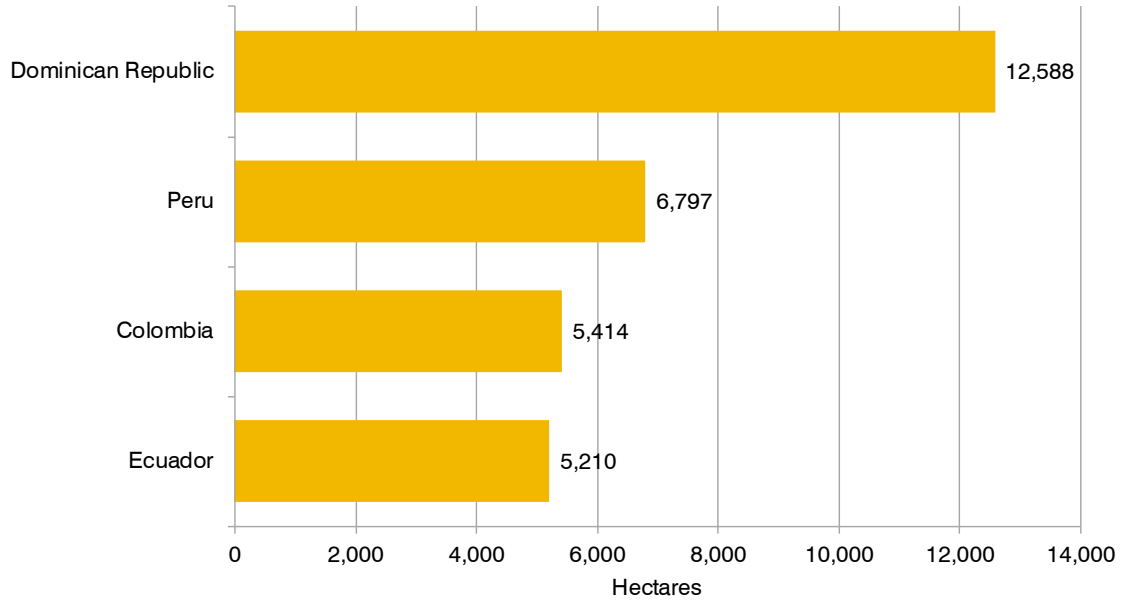
Figure 83: Banana: Average production volume, 2008–2016



Note: Production volume data from GLOBALG.A.P. are not available.

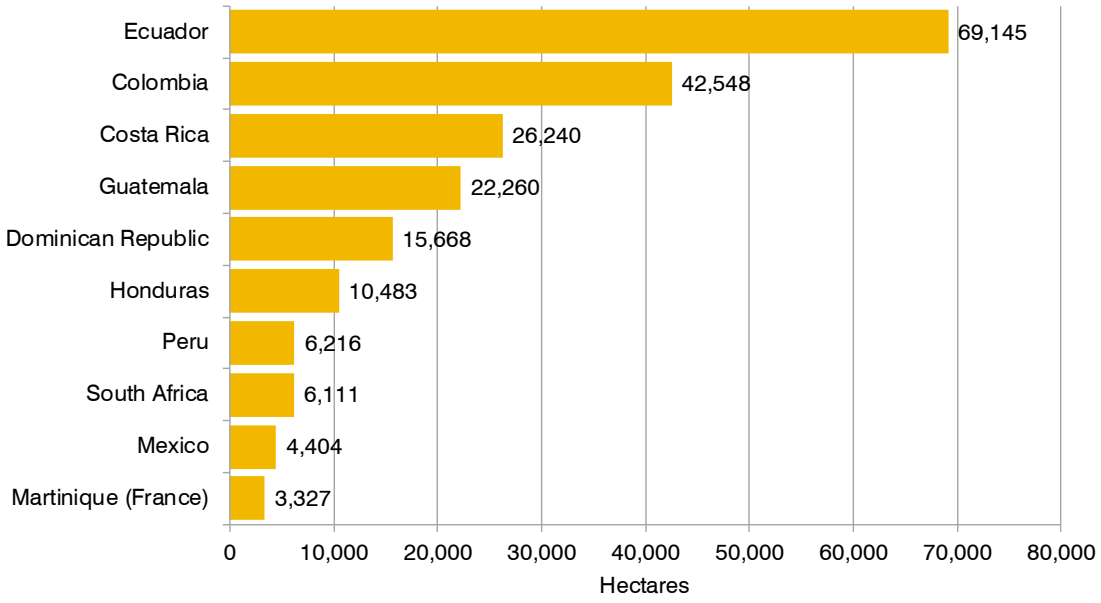
Source: FiBL-IISD-ITC survey, 2018. VSS: Fairtrade International, organic, and Rainforest Alliance.Figure 76: UTZ: Estimated production volume, 2009–2016

Figure 84: Banana: Fairtrade International – Top countries by area, 2016



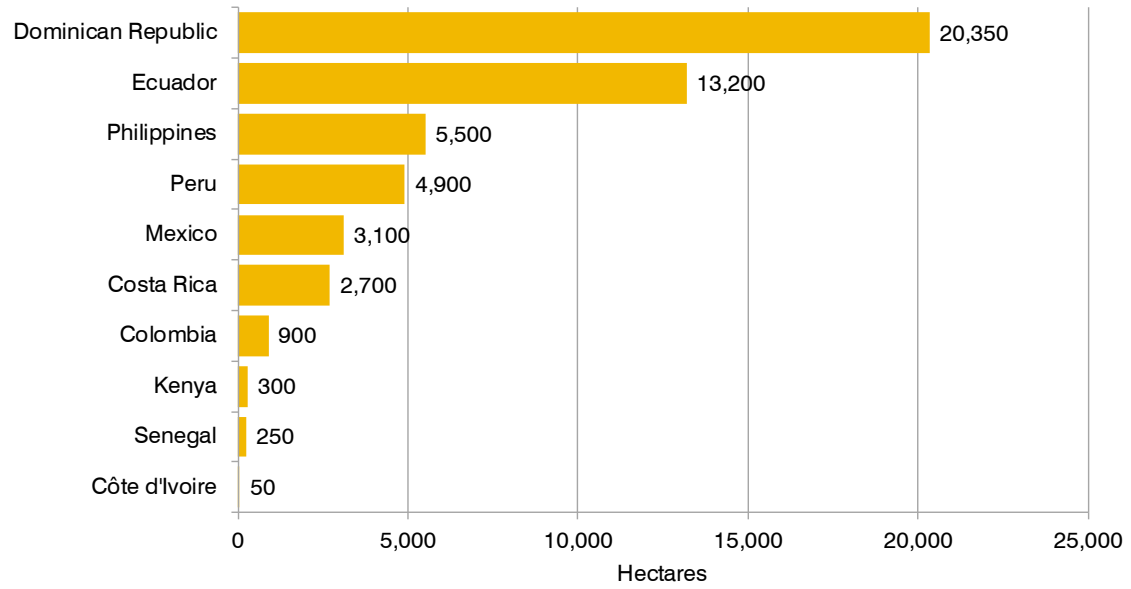
Source: Fairtrade International, 2018.

Figure 85: Banana: GLOBALG.A.P. – Top 10 countries or territories by area, 2016



Source: GLOBALG.A.P., 2018.

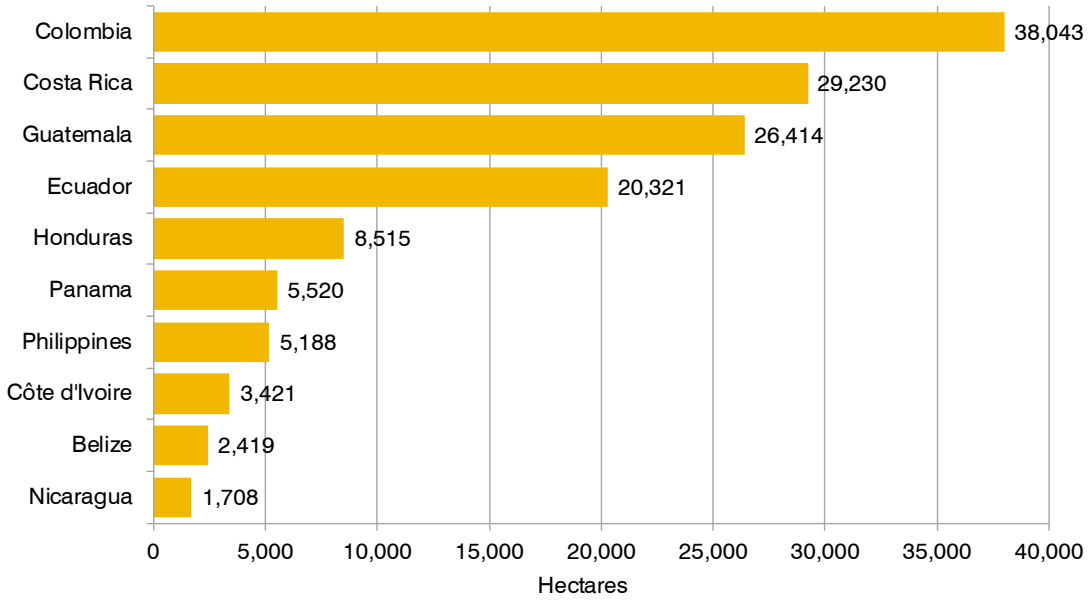
Figure 86: Banana: Organic – Top 10 countries by area, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

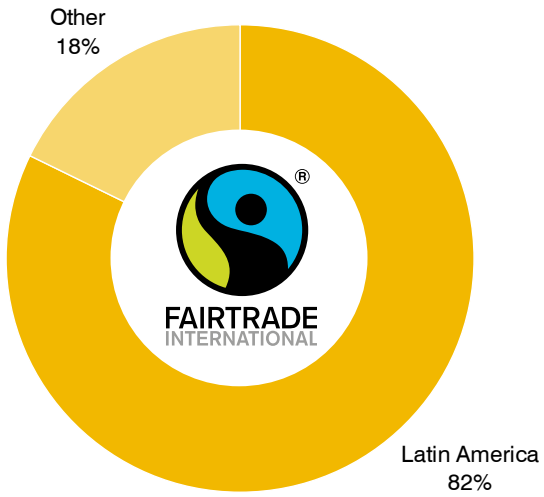
Source: FiBL, 2018. Based on national data sources and data from certifiers.

Figure 87: Banana: Rainforest Alliance – Top 10 countries by area, 2016



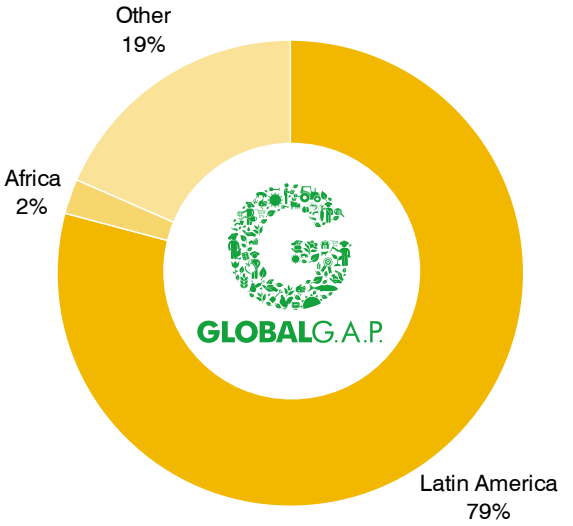
Source: Rainforest Alliance, 2018.

Figure 88: Banana: Fairtrade-certified area by region, 2016



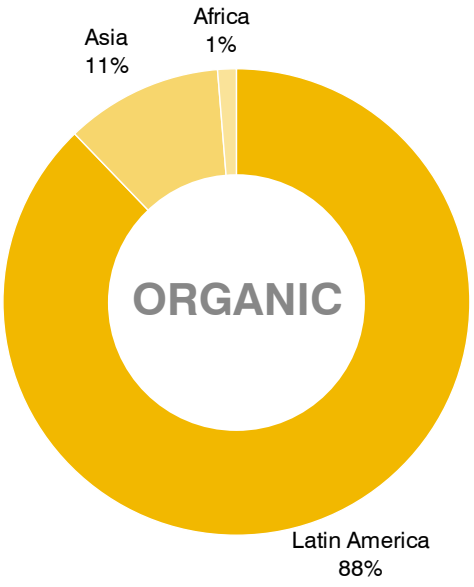
Source: Fairtrade International, 2018.

Figure 89: Banana: GLOBALG.A.P.-certified area by region, 2016



Source: GLOBALG.A.P, 2018.

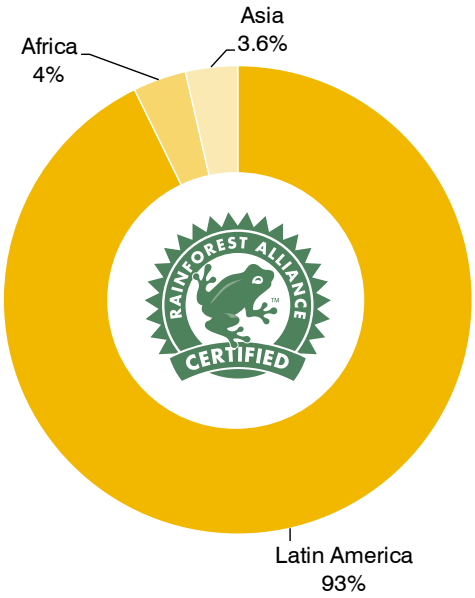
Figure 90: Banana: Organic-certified area by region, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested

Source: FiBL, 2018.

Figure 91: Banana: Rainforest Alliance-certified area by region, 2016

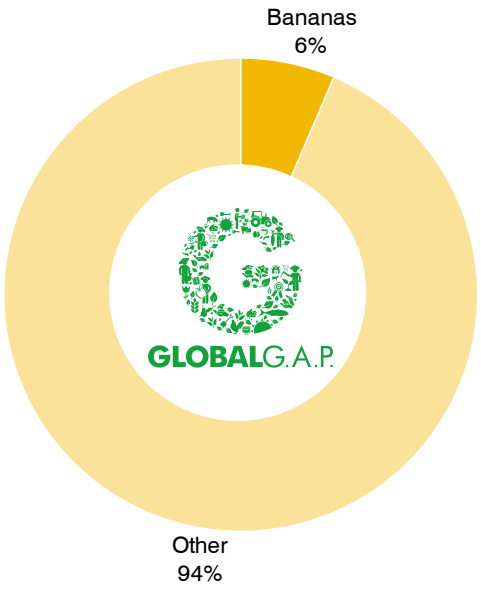


Source: Rainforest Alliance, 2018.

Figure 92: Banana: Share of Fairtrade area, 2015

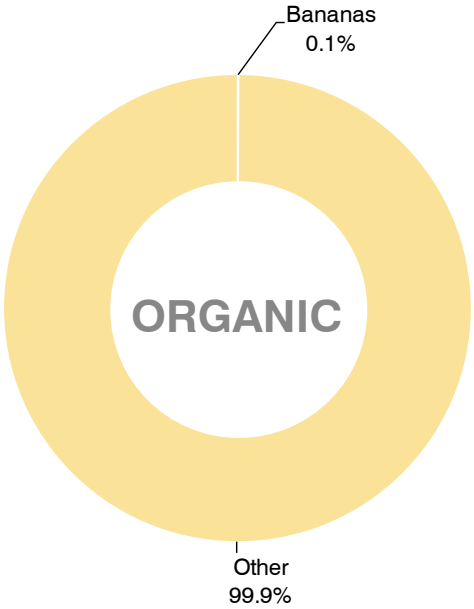
Source: Fairtrade International, 2017.

Figure 93: Banana: Share of GLOBALG.A.P. area, 2016



Source: GLOBALG.A.P, 2018.

Figure 94: Banana: Share of organic area, 2016



Source: FiBL, 2018..

Figure 95: Banana: Share of Rainforest Alliance area, 2016

Source: Rainforest Alliance, 2018.

COCOA

The Netherlands commits to 100% sustainable cocoa by 2025

The top five cocoa-producing countries (Côte d'Ivoire, Ghana, Indonesia, Cameroon, Nigeria) account for 79% of global production and 76% of the total harvested area for this crop (FAOSTAT, 2018). Between 2011 and 2016 Côte d'Ivoire, Indonesia and Nigeria decreased their production, while Ghana and Cameroon increased theirs, resulting in an aggregate decrease of 1% in the total production and harvested area of these five countries. Globally, a 3% decrease in yield was observed during the same period.

Conditions of oversupply in the cocoa market are expected for 2017/2018, with farmers likely to continue their slow shift to other crops (World Bank, 2017). Cocoa farmers number approximately 5 to 6 million globally, and the cocoa industry contributes to the livelihoods of 40 to 50 million people (WCF, 2012).

On the demand side, the industry is heavily concentrated, with eight traders and grinders controlling about three quarters of the global trade in cocoa and the six biggest chocolate-manufacturing companies accounting for 40% of global sales in chocolate products (Fountain & Hütz-Adams, 2015). Several companies, including Hershey's, Mars and Ferrero, have committed to 100% standards-compliant sourcing of cocoa by 2020. Other multinationals, such as Mendelez and Nestlé, have also made significant commitments.

At the national level, some European countries have adopted sustainable cocoa sourcing commitments: the Netherlands, for example, has pledged to achieve 100% sustainable cocoa consumption by 2025, and Germany is committed to sourcing at least 50% of its cocoa from standards-compliant producers by 2020 (Fountain & Hütz-Adams, 2015).

A record: Almost 21% of the world's cocoa area is UTZ-certified

Four of the standards covered in this report – **Fairtrade International**, **organic**, **RA** and **UTZ** – certify cocoa production. Combined, they certified a minimum of 2.3 million hectares and a maximum of 3.8 million hectares in 2016 (average 3.1 million hectares).[21] In terms of the proportion of the VSS-certified area of the global cocoa area, the minimum represents 22.8%, the maximum, 37.6%, and the average, 30.2%. Based on the minimum area, the certified cocoa area has almost trebled between 2011 and 2016. **UTZ** reported the largest VSS-certified cocoa area (2.1 million hectares) and the largest area growth from 2011 to 2016.

Fairtrade International certified over 722,000 hectares of cocoa in 2016, constituting 7.1% of the global cocoa area. In 2016, almost 292,000 metric tons of **Fairtrade International** cocoa were produced, or 6.5% of global cocoa production. The countries with the largest cocoa areas were Côte d'Ivoire (over 308,000 hectares), Ghana (more than 245,700 hectares), the Dominican Republic (71,200 hectares), Peru (almost 37,700 hectares) and Ecuador (almost 9,100 hectares). These five countries combined accounted for 93% of the total **Fairtrade International** cocoa area. That area more than doubled between 2011 and 2016, and grew by almost 27% between 2015 and 2016 alone.

Organic cocoa represented 3.1% of the global cocoa area, or 320,100 hectares (estimated harvested area).[22] An estimated 157,275 metric tons of cocoa were produced in 2016, 3.5% of the world's cocoa production. The Dominican Republic (153,200 hectares), the Democratic Republic of Congo (30,600 hectares), Peru (23,050 hectares), Sierra Leone (20,300 hectares) and United Republic of Tanzania (19,750 hectares) were the biggest **organic** cocoa-producing countries, together representing 77% of the total organic cocoa area. Between 2011 and 2016, that area increased by over 64%, and between 2015 and 2016, it grew by almost 20%.

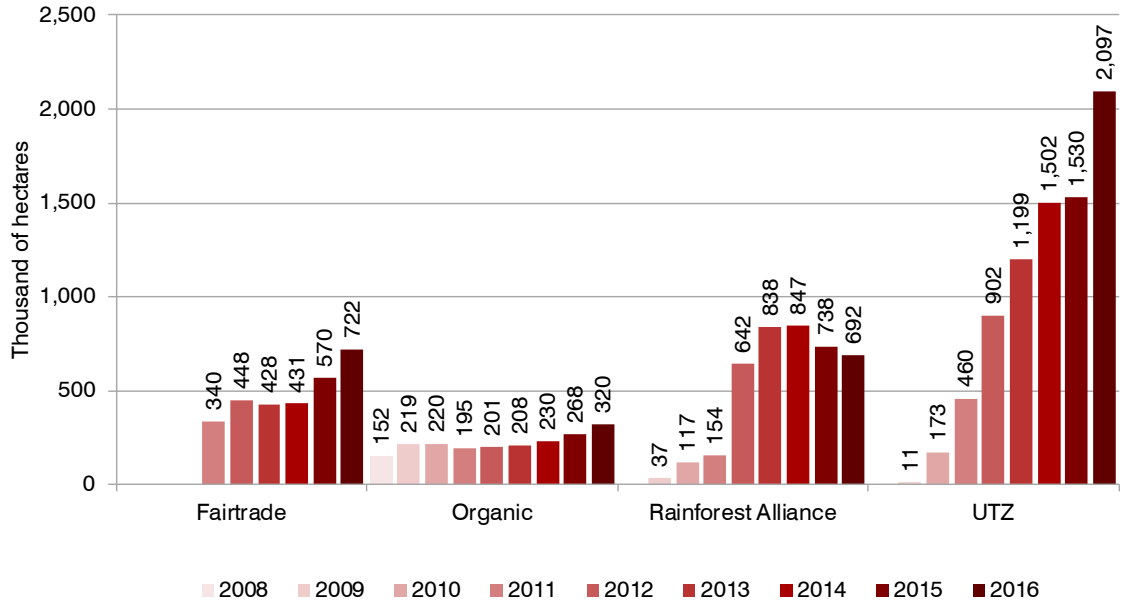
RA certified more than 692,000 hectares in 2016. Almost 473,500 metric tons of **RA** cocoa were reported in 2016, or 10.6% of the global cocoa production volume. The five countries with the largest cocoa area certified by **RA** – Côte d'Ivoire (almost 472,200 hectares), Ghana (almost 128,400 hectares), Dominican Republic (almost 24,000 hectares), Indonesia (almost 21,550 hectares) and Ecuador (19,400 hectares) – represented 96% of the standard's total cocoa area. Th at area increased more than fourfold between 2011 and 2016, but dropped by 6% between 2015 and 2016.

Over 2 million hectares of cocoa were **UTZ**-certified in 2016, or almost 21% of the global cocoa area. The countries with the largest **UTZ**-certified cocoa areas were Côte d'Ivoire (1.1 million hectares), Ghana (almost 401,500 hectares), Nigeria (almost 143,000 hectares), Indonesia (over 76,000 hectares) and Cameroon (over 71,000 hectares), together representing almost 88% of the **UTZ** total cocoa area. **UTZ** reported an estimated production volume of almost 1.2 million metric tons in 2016, which is nearly 27% of the global cocoa production volume. Between 2011 and 2016, the **UTZ** cocoa area more than trebled, and grew by 37% between 2015 and 2016 alone.

For tables of VSS-compliant cocoa production, see the appendix with data tables by country.

21. Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area provides an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.
22. The total organic cocoa area (including in-conversion areas) was 344,666 hectares in 2016, representing 3.4% of the global cocoa area (Willer/Lernoud, 2018).

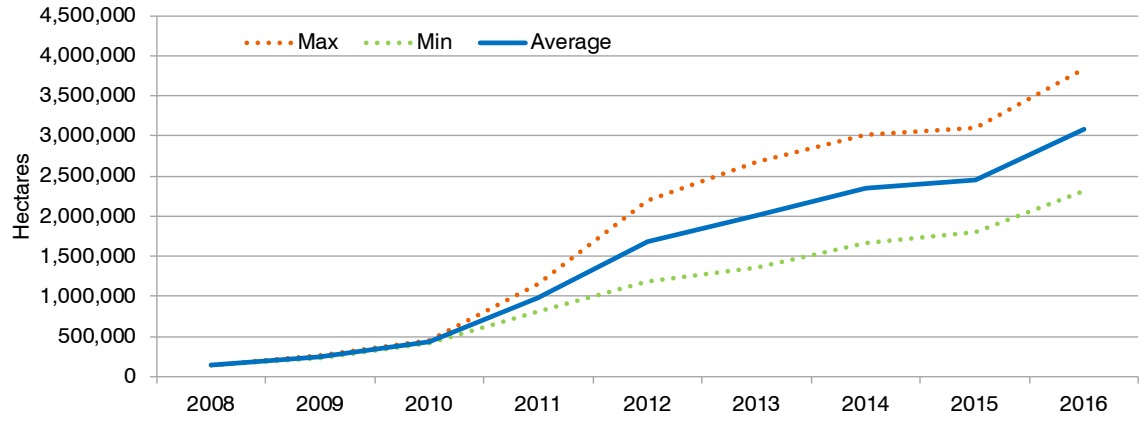
Figure 96: Cocoa: Production area by standard, 2008–2016



Note: The organic area is the area harvested as estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance, the area cultivated is shown.

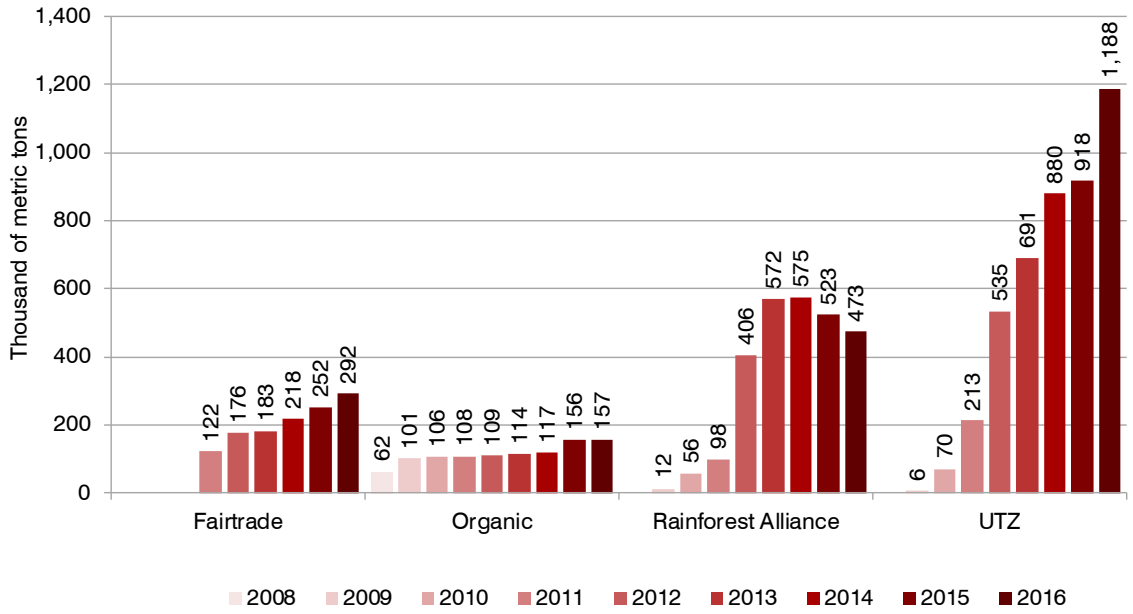
Source: Fairtrade International, 2018; FiBL, 2018; Rainforest Alliance, 2018; UTZ, 2018.

Figure 97: Cocoa: Average production area, 2008–2016



Source: FiBL-IISD-ITC survey, 2018. VSS: Fairtrade International, organic, Rainforest Alliance and UTZ.

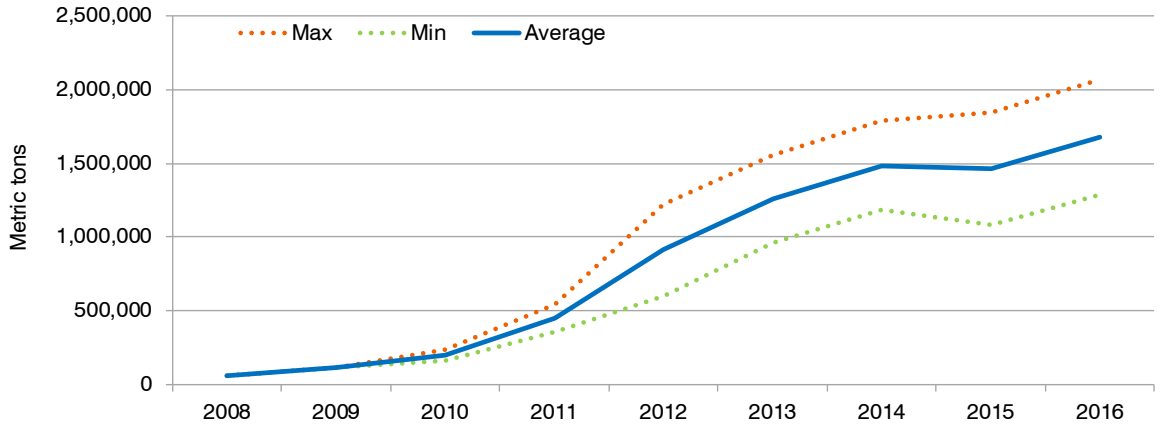
Figure 98: Cocoa: Production volume by standard, 2008–2016



Note: The organic production volume was estimated by FiBL based on estimated yields, as data is not available for most of the countries. UTZ defines certified volume as the estimated production potential.

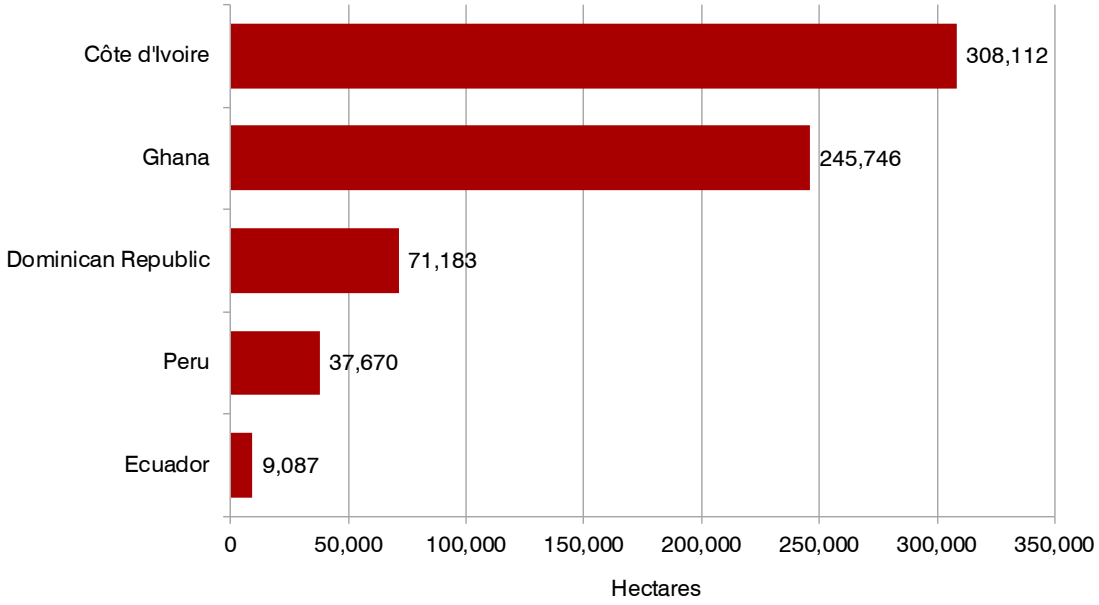
Source: Fairtrade International, 2018; FiBL, 2018; Rainforest Alliance, 2018; UTZ, 2018.

Figure 99: Cocoa: Average production volume, 2008–2016



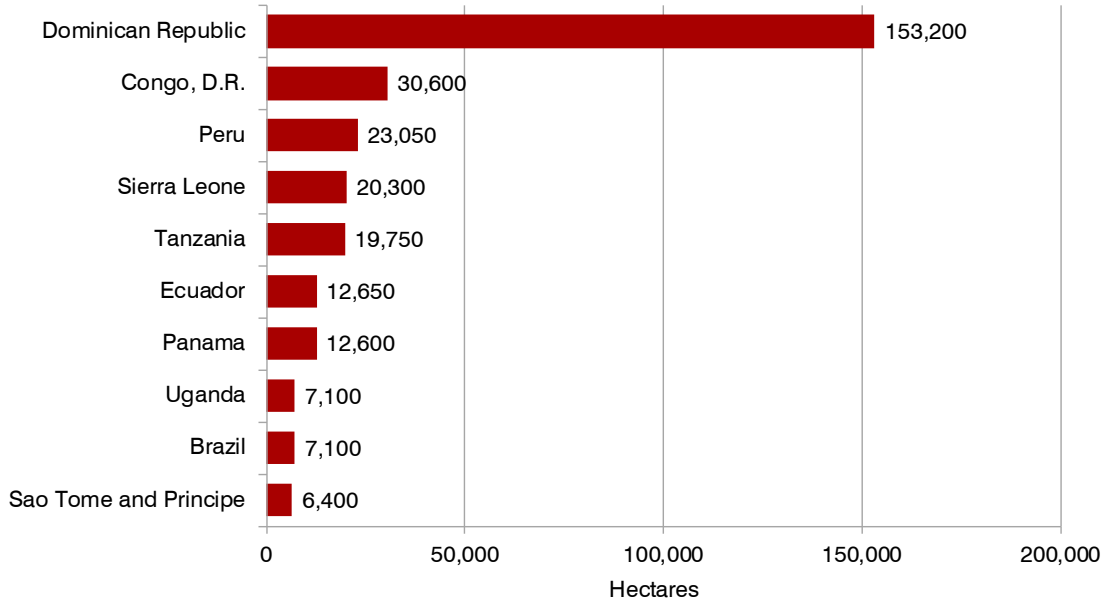
Source: FiBL-IISD-ITC survey, 2018. VSS: Fairtrade International, organic, Rainforest Alliance and UTZ.

Figure 100: Cocoa: Fairtrade International – Top countries by area, 2016



Source: Fairtrade International, 2018.

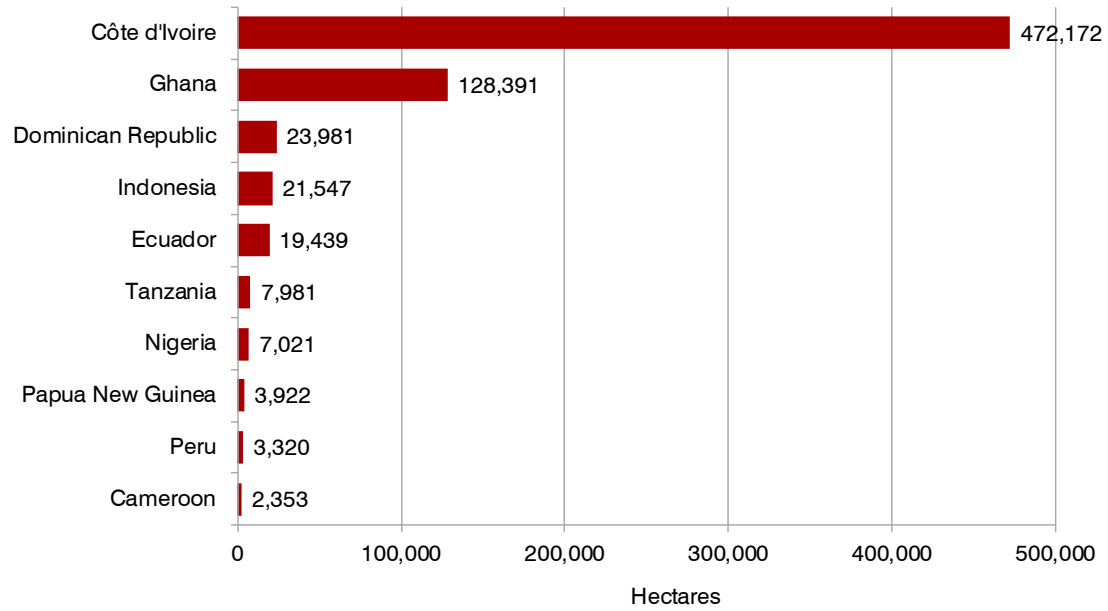
Figure 101: Cocoa: Organic – Top 10 countries by area, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

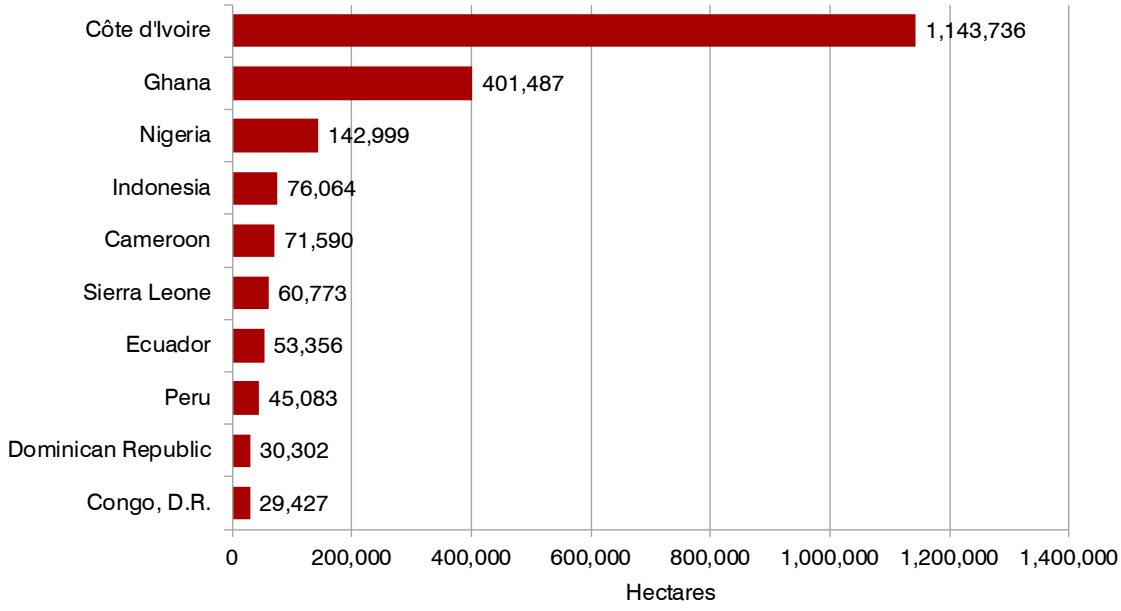
Source: FiBL, 2018. Based on national data sources and data from certifiers.

Figure 102: Cocoa: Rainforest Alliance – Top 10 countries by area, 2016



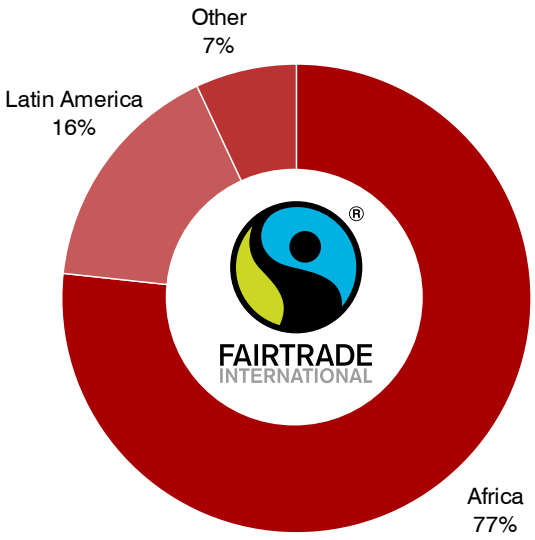
Source: Rainforest Alliance, 2018.

Figure 103: Cocoa: UTZ – Top 10 countries by area, 2016



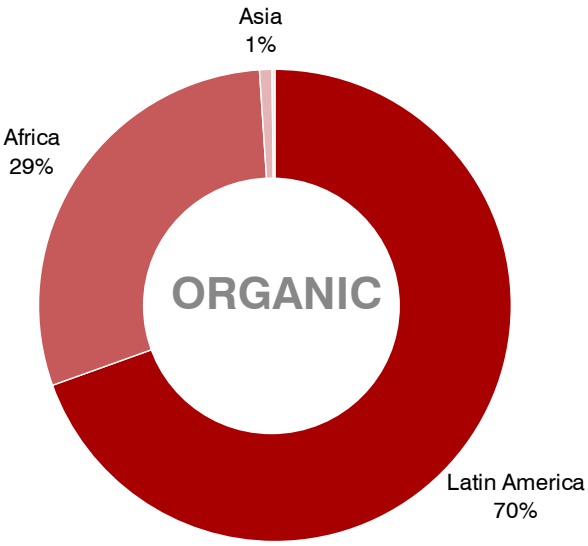
Source: UTZ, 2018.

Figure 104: Cocoa: Fairtrade-certified area by region, 2016



Source: Fairtrade International, 2018.

Figure 105: Cocoa: Organic-certified area by region, 2016

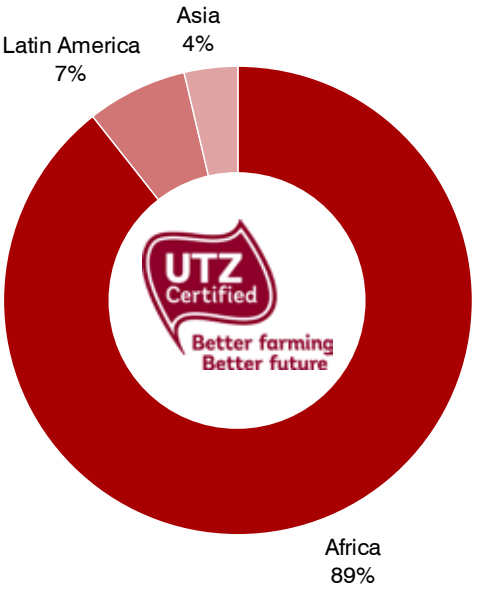


Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

Figure 106: Cocoa: Rainforest Alliance-certified area by region, 2016

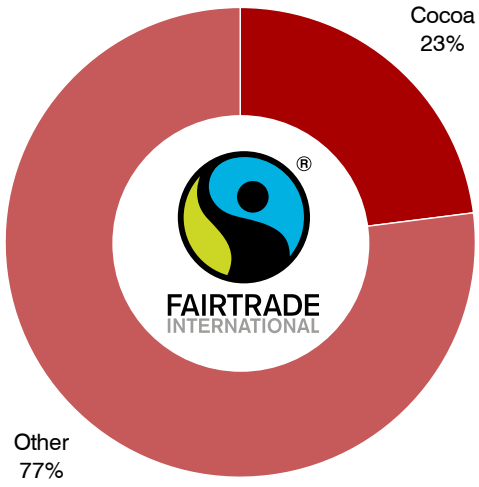
Source: Rainforest Alliance, 2018.

Figure 107: Cocoa: UTZ-certified area by region, 2016



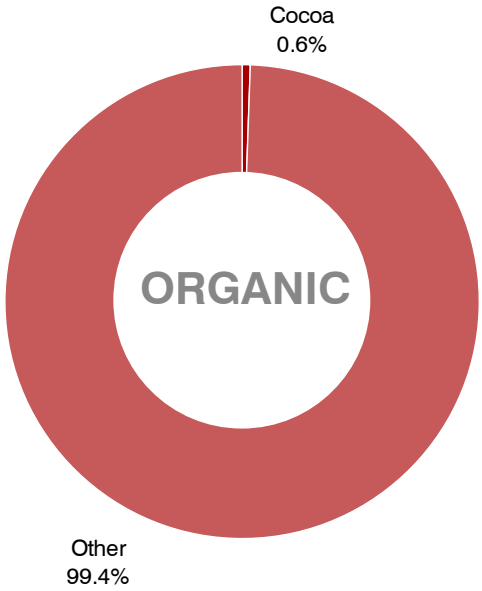
Source: UTZ, 2018.

Figure 108: Cocoa: Share of Fairtrade area, 2015



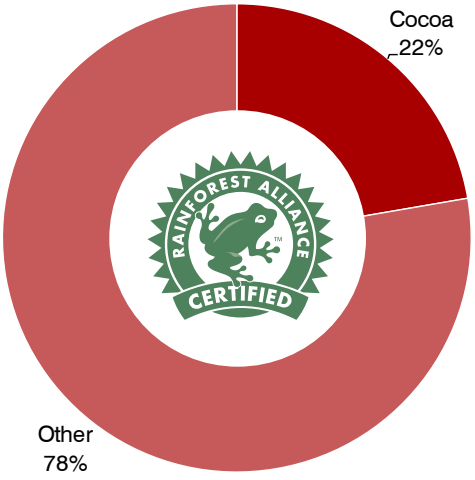
Source: Fairtrade International, 2017.

Figure 109: Cocoa: Share of Organic area, 2016



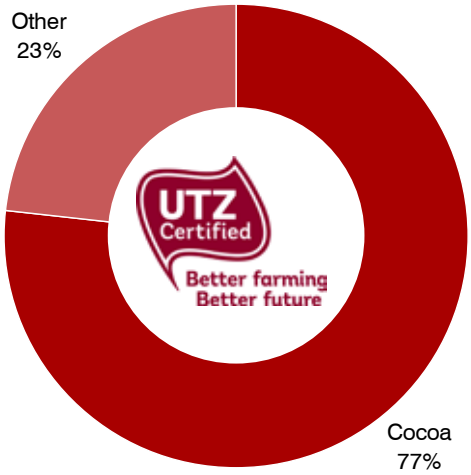
Source: FiBL, 2018.

Figure 110: Cocoa: Share of Rainforest Alliance area, 2016



Source: Rainforest Alliance, 2018.

Figure 111: Cocoa: Share of UTZ area, 2016



Source: UTZ, 2018.

COFFEE

Climate change threatens coffee production

The top five coffee-producing countries (Brazil, Viet Nam, Colombia, Indonesia, and Ethiopia) account for 69% of global production and 49% of the total harvested area for this crop (FAOSTAT, 2018). However, the top two countries, Brazil and Viet Nam, together produce half of the world's coffee (FAOSTAT, 2018). Over the past five years (2011–2016), these five countries have increased their production by 16%, although their harvested area has risen by only 3%, indicating an increase in yields (FAOSTAT, 2018). During the same time period, in Brazil the coffee area decreased, while production increased by over 0.3 million tons (FAOSTAT, 2018). In the past few years, coffee production has struggled to keep up with strong and growing demand for coffee; Robusta coffee beans experienced several consecutive years of supply shortage owing to adverse weather conditions in the major producing countries.

Climate change adaptation in the coffee sector has become an ever-greater concern. The two most common varieties of coffee, Arabica and Robusta, require sufficient amounts of rainfall (1500–3000 mm annually) and a pattern of alternating rainy and dry periods to ensure adequate plant growth, budding and flowering (Panhuysen and Pierrot, 2014). The incidence of climate extremes, such as abnormally high temperatures, dry spells and excess rain, in the coffee-growing regions has reduced the productivity of the crop and stimulated outbreaks of such diseases as the roya fungus and coffee rust (ICO, 2013).

While VSS once accounted for a niche segment of the market, they have since grown to become a precompetitive tool for ensuring transparency and progress in improving supply chains across the mainstream coffee market. Of all the sectors covered in this report, coffee continues to be the one with the highest rate of VSS compliance. Important commitments by multinationals include Nestlé's plan to source 90,000 tons of RA-compliant coffee by 2020 and Keurig Green Mountain's plan for 100% standards-compliant sourcing according to various standards, including Fair Trade and RA, by 2020 (Keurig Green Mountain, 2016). Many companies, including Starbucks, Tchibo and Mondelez, have developed their own sustainability certification or verification scheme.

At least a quarter of the world's coffee is currently certified

Five of the voluntary sustainability standards covered in this report – **4C**, **Fairtrade International**, **organic**, **RA** and **UTZ** – certify coffee production. Combined, they certified a minimum of 2.8 million hectares and a maximum of almost 5 million hectares in 2016 (average 3.9 million hectares).[23] In terms of the proportion of the VSS-certified area of the global coffee area, the minimum represents 25.8%, the maximum, 45.3% and the average, 35.5%. Based on the minimum area, the certified coffee area increased by almost 80% between 2011 and 2016. With over 1.8 million hectares, **4C** continues to have the largest VSS-certified (licensed) coffee area, and it registered the largest area growth: its certified area trebled between 2011 and 2016. As the 2016 data for **Fairtrade International** were not available at the time of publication, the latest available figures, covering 2015, were used instead.

Over 1.8 million hectares of coffee worldwide were **4C**-certified in 2016, accounting for 16.6% of the global coffee area. Almost 2.8 million metric tons of 4C coffee were reported. **4C** is present in some of the most important coffee-producing countries. In 2016, its largest coffee areas were in Brazil (almost 0.7 million hectares), Colombia (over 0.3 million hectares), Viet Nam (almost 170,000 hectares), Indonesia (73,400 hectares) and Peru (66,750 hectares). These five countries represented almost 71% of the standard's total. Between 2011 and 2016, the **4C** coffee area trebled. Between 2015 and 2016 alone, it grew by almost 17%.

Fairtrade International certified almost 1.3 million hectares of coffee in 2015, or nearly 12.4% of the global coffee area. Close to 560,000 metric tons were produced. The largest **Fairtrade International** coffee areas were in Colombia (213,000 hectares), Ethiopia (almost 208,000 hectares), United Republic of Tanzania (167,000 hectares), Peru (almost 160,000 hectares) and Mexico (almost 118,000 hectares). Together, these five countries represented 67% of the standard's total coffee area. Between 2011 and 2015, that area increased by 61%; and between 2014 and 2015 alone by almost 17%.

For **organic**, the estimated harvested area represented 8% of the global coffee area,[24] almost 882,000 hectares. FiBL estimates that more than 447,000 metric tons were produced in 2016. The countries with the largest **organic** coffee areas were Mexico (231,000 hectares), Ethiopia (almost 160,000 hectares), Peru (99,050 hectares), Indonesia (81,750 hectares) and United Republic of Tanzania (79,250 hectares), which together represented 73% of the total **organic** coffee area. That area increased by 60.5% between 2011 and 2016, and between 2015 and 2016, by nearly 10.5%.

RA certified more than 387,000 hectares of coffee worldwide. Over 500,000 metric tons of **RA** coffee were reported in 2016, 5.5% of the global coffee production volume. The five largest RA coffee areas represented almost 56% of the total **RA** coffee area: Brazil (over 76,300 hectares), Ethiopia (40,900 hectares), Colombia (almost 39,600 hectares), Peru (almost 35,150 hectares), and United Republic of Tanzania (almost 24,000 hectares). Between 2011 and 2016, the **RA** coffee area doubled, but between 2015 and 2016 it dropped by 4%.

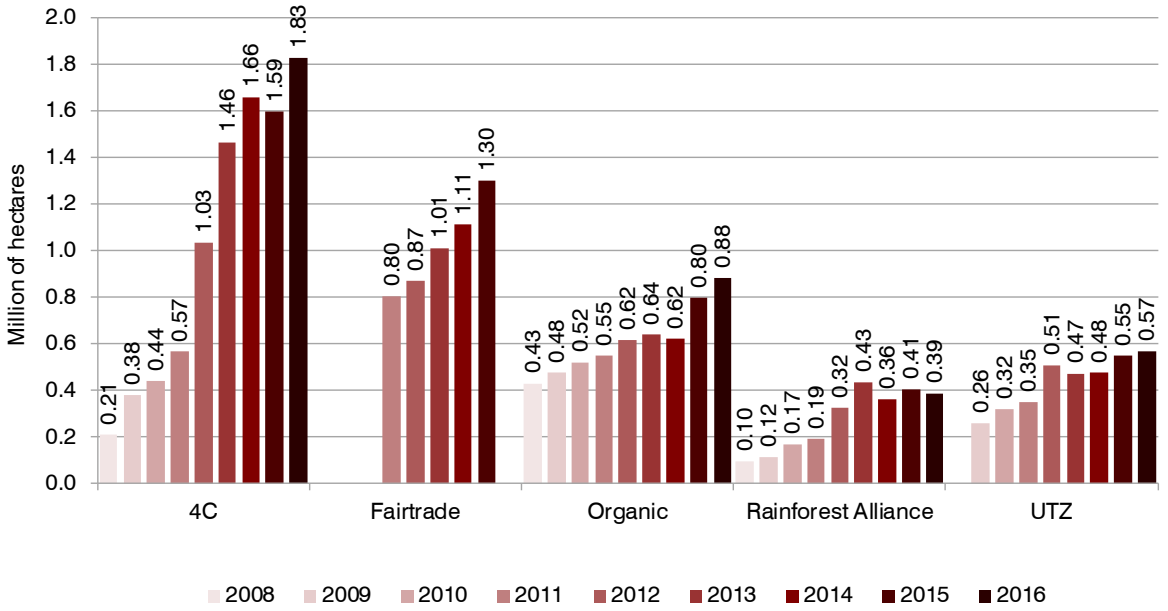
More than 567,000 hectares of coffee were **UTZ**-certified in 2016, which is 5.2% of the global coffee area. **UTZ** estimated a production volume of over 870,000 metric tons of coffee in 2016, or 9.4% of global coffee production. Brazil has the largest **UTZ** coffee area, with almost 135,000 hectares, followed by Peru (almost 80,600 hectares), Honduras (50,800 hectares), Viet Nam (almost 50,600 hectares), Colombia (44,600 hectares) and India (37,200 hectares). These six countries together accounted for almost 70% of the total **UTZ** coffee area. Between 2011 and 2016, that area grew by almost 63%, and by over 3% between 2015 and 2016.

For tables of VSS-compliant coffee production, see the appendix with data tables by country.

23. Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area provides an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

24. In total, 933,950 hectares of organic coffee were certified in 2016 (including in-conversion areas), representing 8.5% of the global coffee area (Willer/Lernoud, 2018).

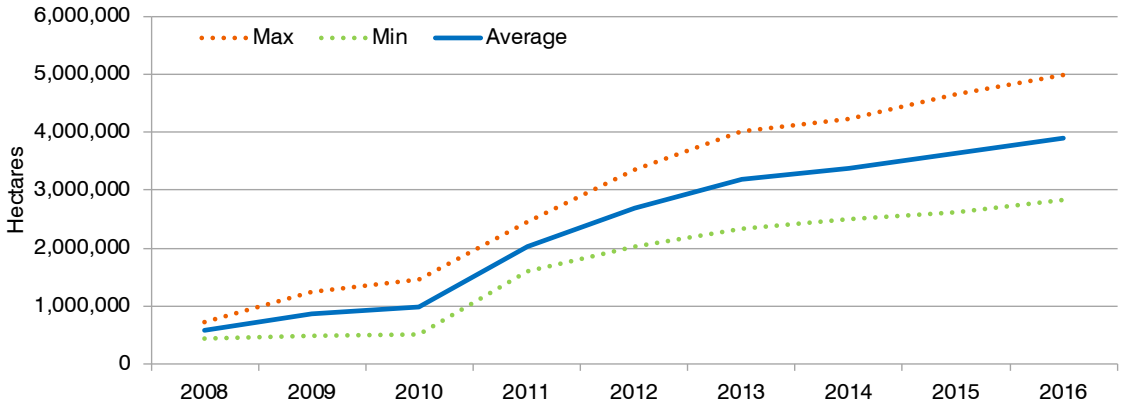
Figure 112: Coffee: Production area by standard, 2008–2016



***Note*:** The organic area is the area harvested as estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance, the area cultivated is shown. As the 2016 data for Fairtrade International were not available at the time of publication, the latest available figures, covering 2015, were used instead.

Source: Coffee Assurance Services, 2016; Fairtrade International, 2017; FiBL, 2018; Rainforest Alliance, 2018; UTZ, 2018.

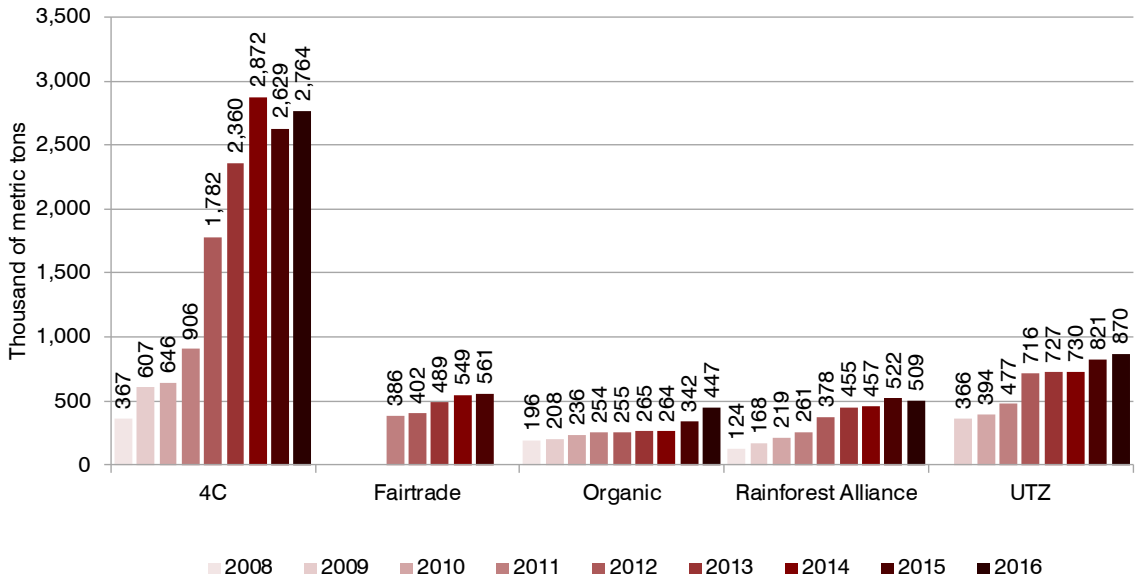
Figure 113: Coffee: Average production area, 2008–2016



Note: For Fairtrade International the 2016 data were not available. For purposes of comparison, the 2015 data were used instead.

Source: FiBL-IISD-ITC survey, 2018. VSS: Coffee Assurance Services, Fairtrade International, organic, Rainforest Alliance and UTZ.

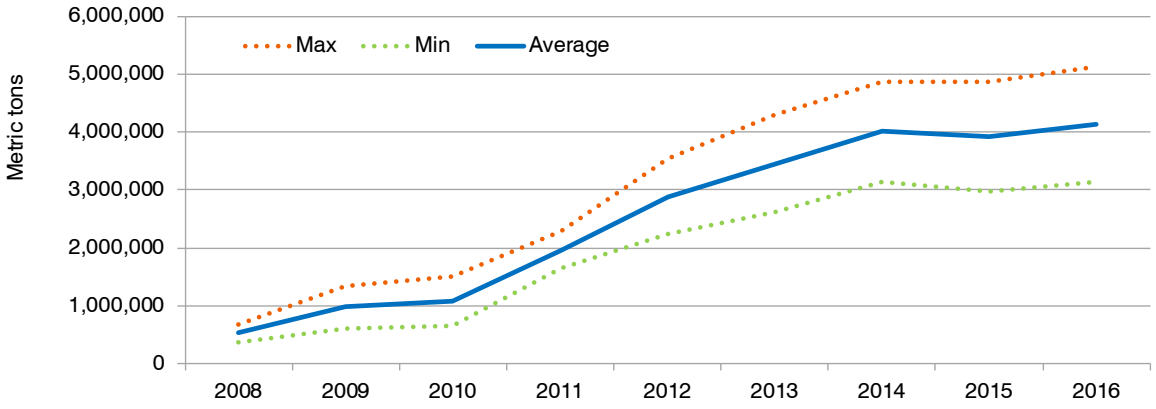
Figure 114: Coffee: Production volume by standard, 2008–2016



***Note*:** The organic production volume was estimated by FiBL based on estimated yields, as data are not available for most of the countries. UTZ defines certified volume as the estimated production potential. As the 2016 data for Fairtrade International were not available at the time of publication, the latest available figures, covering 2015, were used instead.

Source: Coffee Assurance Services, 2016; Fairtrade International, 2017; FiBL, 2018; Rainforest Alliance, 2018; UTZ, 2018.

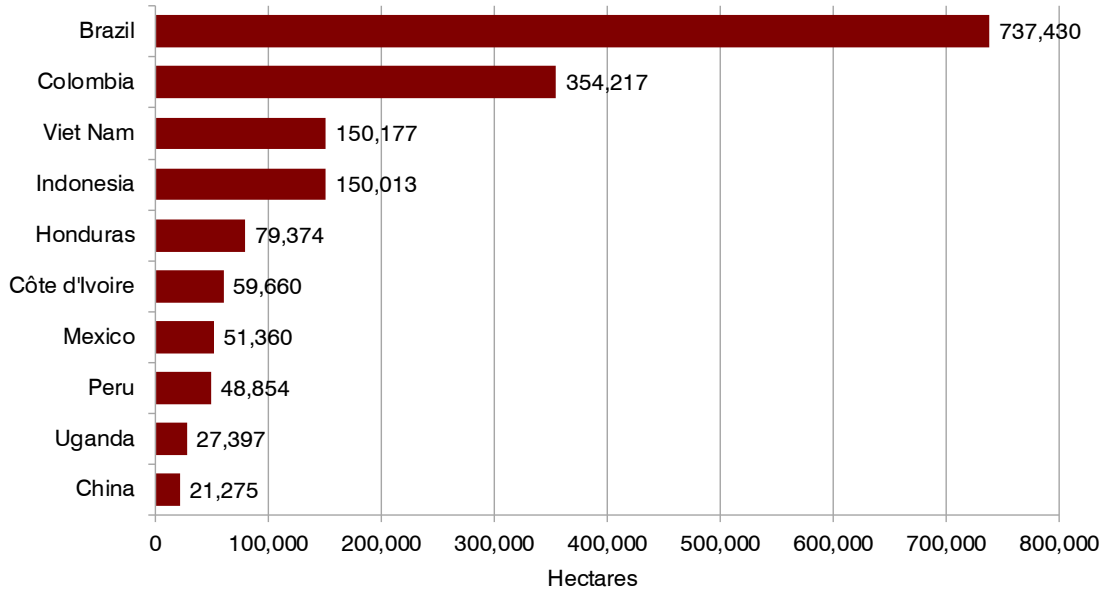
Figure 115: Coffee: Average production volume, 2008–2016



Note: For Fairtrade International the 2016 data were not available. For purposes of comparison the 2015 data were used instead.

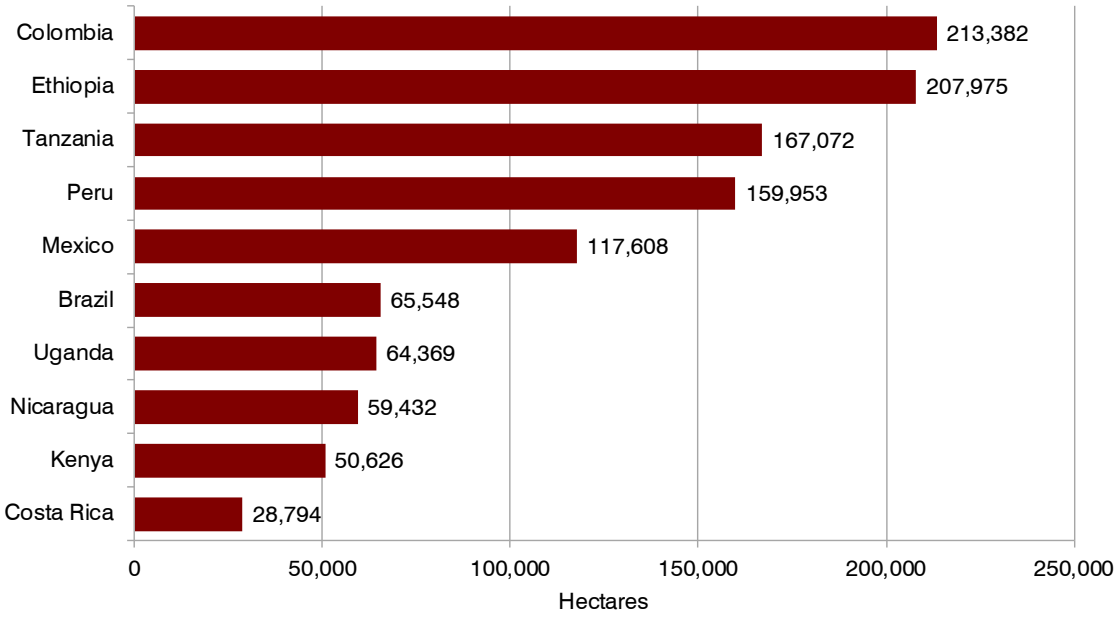
Source: FiBL-IISD-ITC survey, 2018. VSS: 4C, Fairtrade International, organic, Rainforest Alliance and UTZ.

Figure 116: Coffee: 4C – Top 10 countries by area, 2016



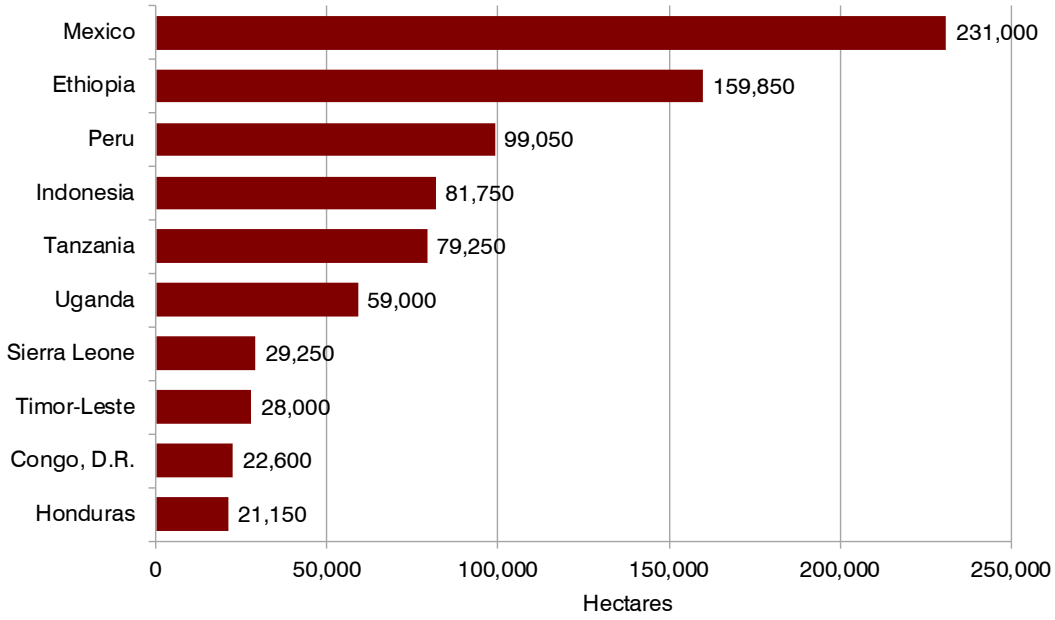
Source: Coffee Assurance Services, 2018.

Figure 117: Coffee: Fairtrade International – Top 10 countries by area, 2015



Source: Fairtrade International, 2017.

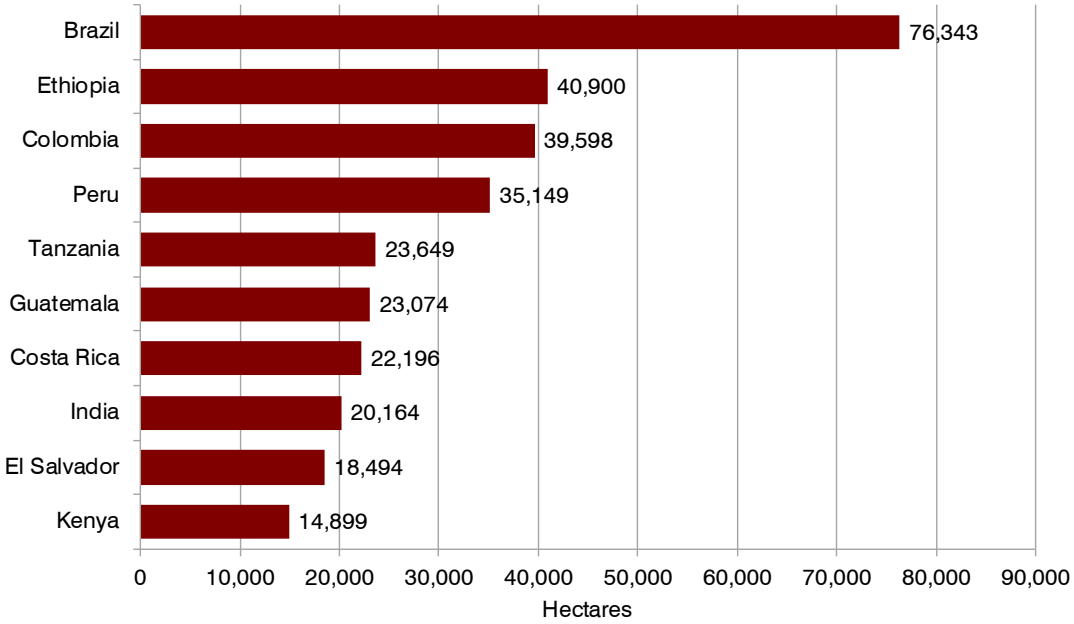
Figure 118: Coffee: Organic – Top 10 countries by area, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

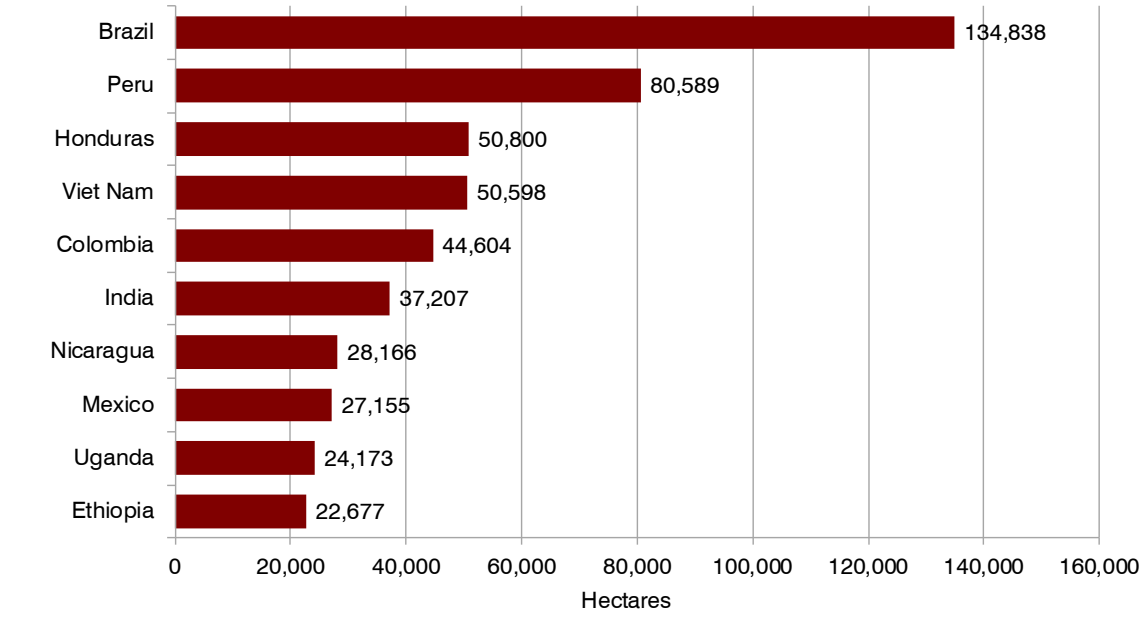
Source: FiBL, 2018. Based on national data sources and data from certifiers.

Figure 119: Coffee: Rainforest Alliance – Top 10 countries by area, 2016



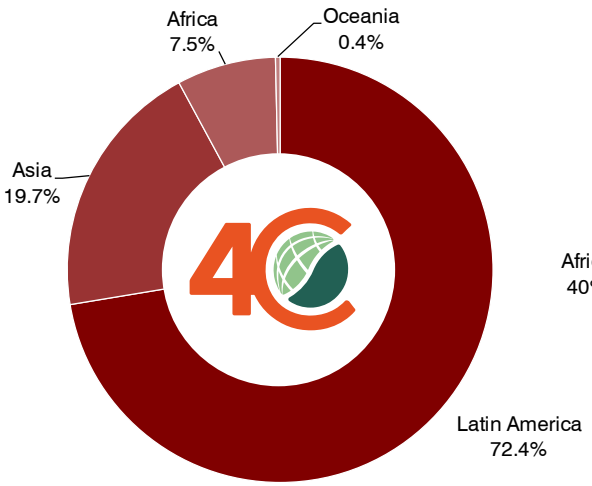
Source: Rainforest Alliance, 2018.

Figure 120: Coffee: UTZ – Top 10 countries by area, 2016



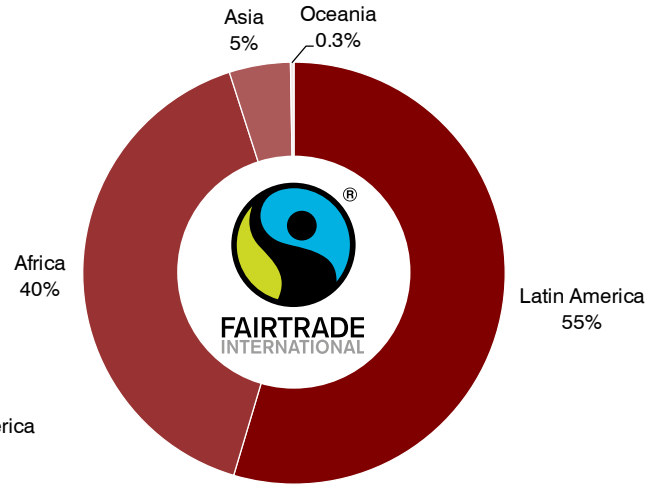
Source: UTZ, 2018.

Figure 121: Coffee: 4C-certified area by region, 2016



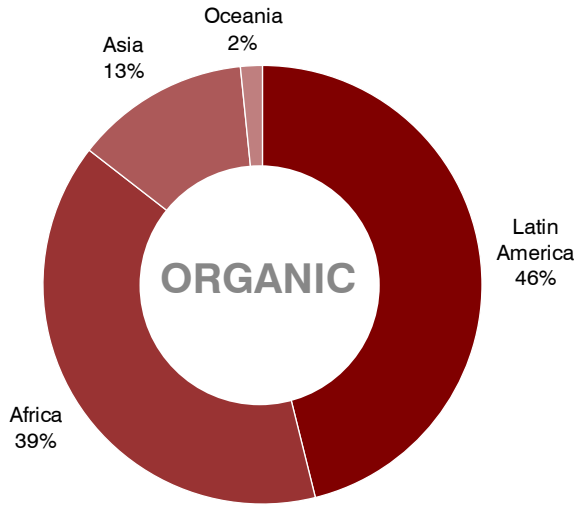
Source: Coffee Assurance Services, 2018.

Figure 122: Coffee: Fairtrade-certified area by region, 2015



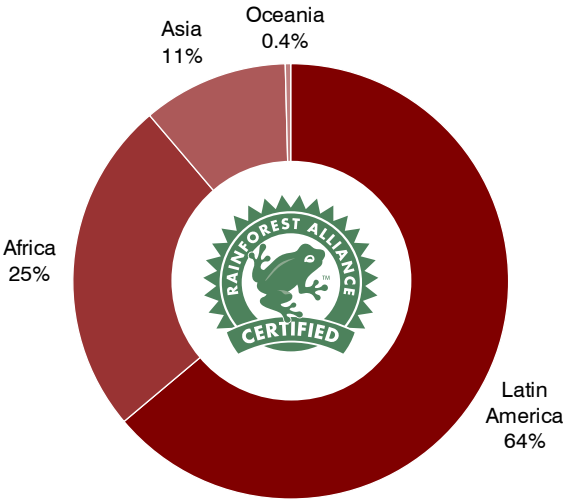
Source: Fairtrade International, 2017

Figure 123: Coffee: Organic-certified area by region, 2016



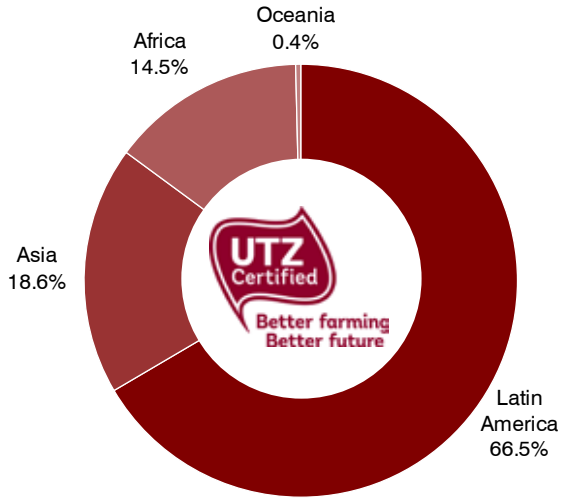
Source: FiBL, 2018. Please note that the organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

Figure 124: Coffee: Rainforest Alliance-certified area by region, 2016



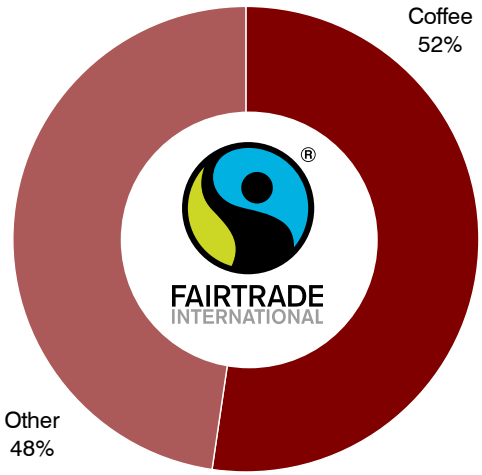
Source: Rainforest Alliance 2018.

Figure 125: Coffee: UTZ-certified area by region, 2016



Source: UTZ, 2018.

Figure 126: Coffee: Share of Fairtrade area, 2015

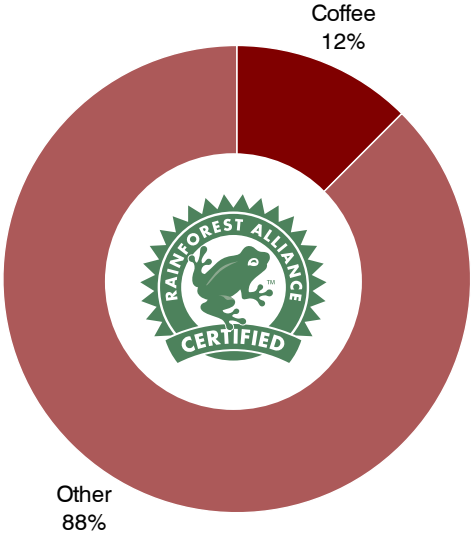


Source: Fairtrade International, 2017.

Figure 127: Coffee: Share of Organic area, 2016

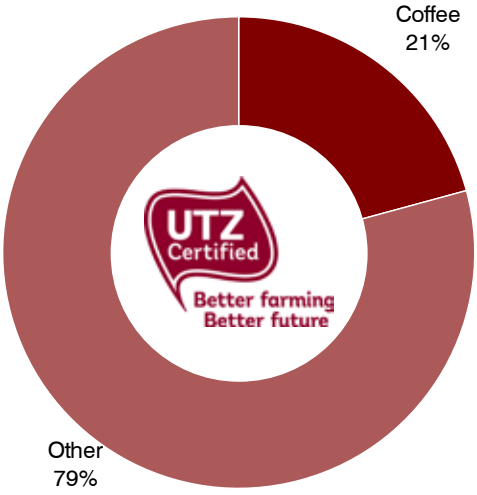
Source: FiBL, 2018.

Figure 128: Coffee: Share of Rainforest Alliance area, 2016



Source: Rainforest Alliance, 2018.

Figure 129: Coffee: Share of UTZ area, 2016



Source: UTZ, 2018.

COTTON

Low demand and high stocks: Global cotton production dropping, keeping cotton prices low

As of 2016, the top five cotton-producing countries (China, India, United States, Pakistan, Brazil) accounted for 75% of world seed cotton production and 70% of the total harvested area for this crop (FAOSTAT, 2018). China and India produce 16 million and 14 million tons respectively, or 47% of global production (FAOSTAT, 2018). However, China's yield is three times that of India: China's 16 million tons are produced on just 3.4 million hectares, whereas India's 14 million tons come from 10.5 million hectares (FAOSTAT, 2018).

Although China's yield increased 20% over the past five years, cotton yields have been falling in the other major producing countries. As a result, world cotton production has declined from 80 million tons in 2011 to 65 million tons in 2016 (FAOSTAT, 2018). Factors such as adverse weather conditions, lower global demand, high global stock levels and fierce competition from synthetic fibres have contributed to this decline (OECD-FAO, 2016). Cotton is also one of the world's most pesticide- and water-intensive crops.

Cotton production and area harvested are expected to be stable over the next five years as the large stock levels accumulated between 2010 and 2014 are gradually sold on the market, keeping the price of cotton relatively low (OECD-FAO, 2016). The major importers of cotton (Bangladesh, Viet Nam, China, Indonesia, Turkey) account for 67% of world import volume (USDA, 2018). However, the current trend of trading cotton yarn and fabrics instead of raw cotton will continue to dampen trade, which is expected to reach 8.7 million tons by 2025, representing a modest 7% increase from the period 2013–2015 (OECD-FAO, 2016).

While VSS have been present in the cotton market since the 1980s as organic cotton, increasing demand for social and economic accountability has led to the adoption of several additional voluntary standards over the past decade, notably Fairtrade International, CmiA and BCI. All allow synthetic fertilizers and pesticides, with the exception of organic, and BCI allows genetically modified (GM) seeds as well (BCI, 2017). As with most other agricultural sectors, growth in compliance has been driven by industry commitments, with 100% commitments expected by 2020 or earlier from such companies as Adidas, H&M, Ikea and Nike (Adidas, 2018; H&M, 2016; Nike, 2016).

At least 10% of the world's cotton area is certified by at least one standard

Four of the VSS covered in this report – **BCI**, **CmiA**, **Fairtrade International** and **organic** – certify cotton production. Combined, they certified a minimum of 3.1 million hectares and a maximum of 3.4 million hectares in 2016 (average 3.3 million hectares).[25] In terms of the proportion of the VSS-certified area of the global cotton area, the minimum represents 10.2%, the maximum, 11.4% and the average, 10.8%. Based on the minimum area, the certified cotton area more than trebled between 2011 and 2016. **BCI** had the largest VSS-certified cotton area, 2.1 million hectares, and the highest growth, a fivefold increase between 2011 and 2016.

BCI cotton was grown on more than 2.1 million hectares worldwide in 2016, or 7% of the global cotton area and 11% of the global cotton lint production volume (2.9 million metric tons). In 2016, the countries with the largest **BCI** cotton areas were Brazil (607,000 hectares), India (501,000 hectares), China (401,000 hectares) and Pakistan (359,000 hectares). These four countries represent almost 89% of the total **BCI** cotton area. Between 2011 and 2016, that area increased almost fivefold. However, between 2015 and 2016 alone it dropped by 8%.

CmiA certified almost 1.2 million hectares of cotton in 2016, or some 4% of the global cotton area and 26% of the cotton area in Africa. More than 320,000 metric tons of cotton lint were produced in 2016, which is about 1.2% of global production, and almost 20% of the cotton lint produced in Africa was **CmiA**-certified. **CmiA** was active in 10 countries. Unfortunately, country data was not available at the time this report was produced. Between 2011 and 2016, that area more than trebled, and grew by almost 21% between 2015 and 2016 alone.

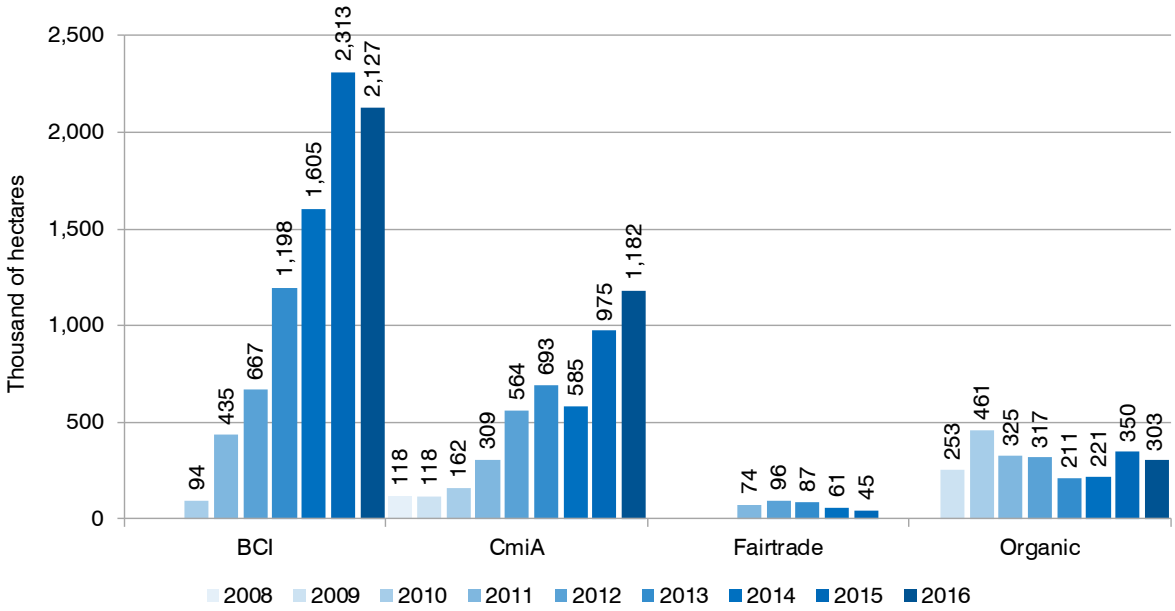
Unfortunately, at the press time this reported was produced the 2016 country level data for Fairtrade International was not yet available. The latest figures available, covering 2015, were used instead. **Fairtrade International** certified more than 45,000 hectares of cotton in 2015, or 0.1% of the global cotton area. Almost 44,000 metric tons of cotton lint were produced, representing 0.2% of the global cotton lint production volume. The standard's largest cotton areas were in India (almost 33,000 hectares) and Senegal (more than 3,000 hectares). Between 2011 and 2015, that area decreased by almost 40%, and by nearly 26% between 2014 and 2015 alone.

With more than 302,500 hectares, **organic** cotton represented 1% of the global cotton area. According to the Textile Exchange, almost 298,000 metric tons of seed cotton were registered in 2016 (0.5% of the world's seed cotton production) and close to 108,000 metric tons of cotton lint (0.4% of global cotton lint production). India (over 189,000 hectares), the United Republic of Tanzania (almost 64,100 hectares) and China (over 9,600 hectares) had the largest **organic** cotton areas. Together, these countries accounted for nearly 87% of the total **organic** cotton area. Between 2011 and 2016, that area dropped by almost 7%, and by almost 14% between 2015 and 2016 alone, mainly due to a significant reduction in the organic cotton area in India.

For tables on VSS-compliant cotton production, see the appendix with data tables by country.

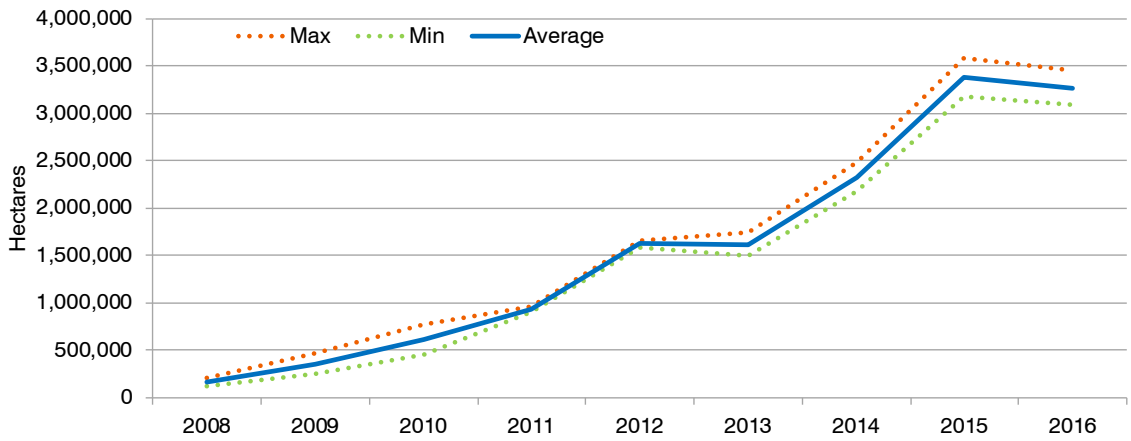
25. Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area provides an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

Figure 130: Cotton: Production area by standard, 2008–2016



Source: Better Cotton Initiative, 2018; Cotton Made in Africa, 2018; Fairtrade International, 2017; Textile Exchange, 2018.

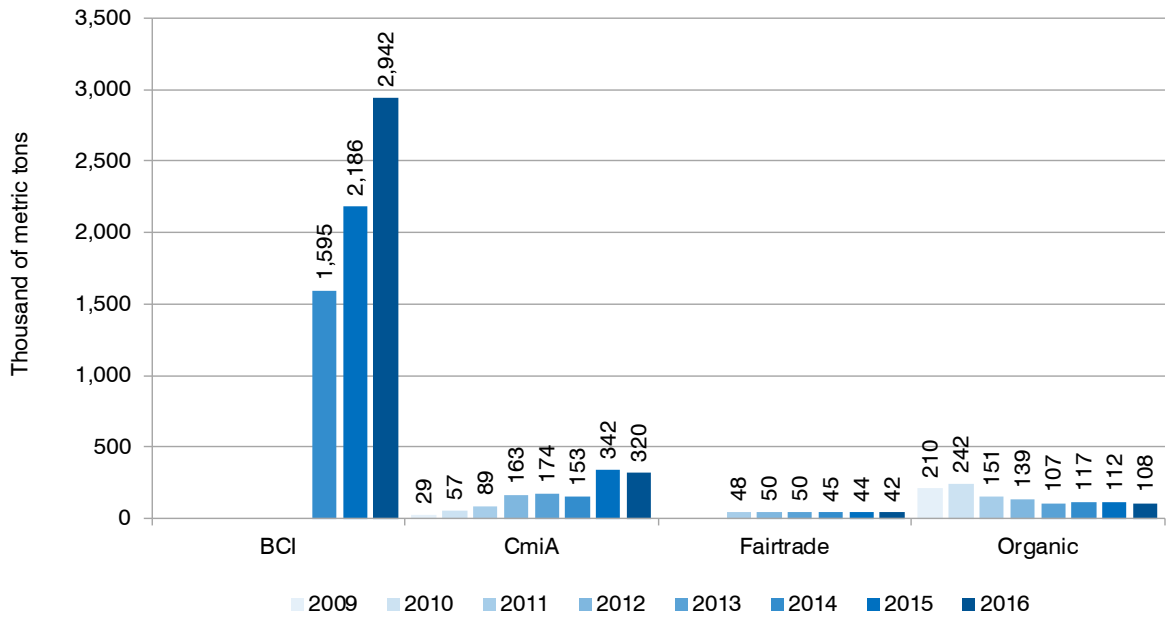
Figure 131: Cotton: Average production area, 2008–2016



Note: For Fairtrade International and CmiA the 2016 country data were not available. For purposes of comparison the 2015 data were used instead.

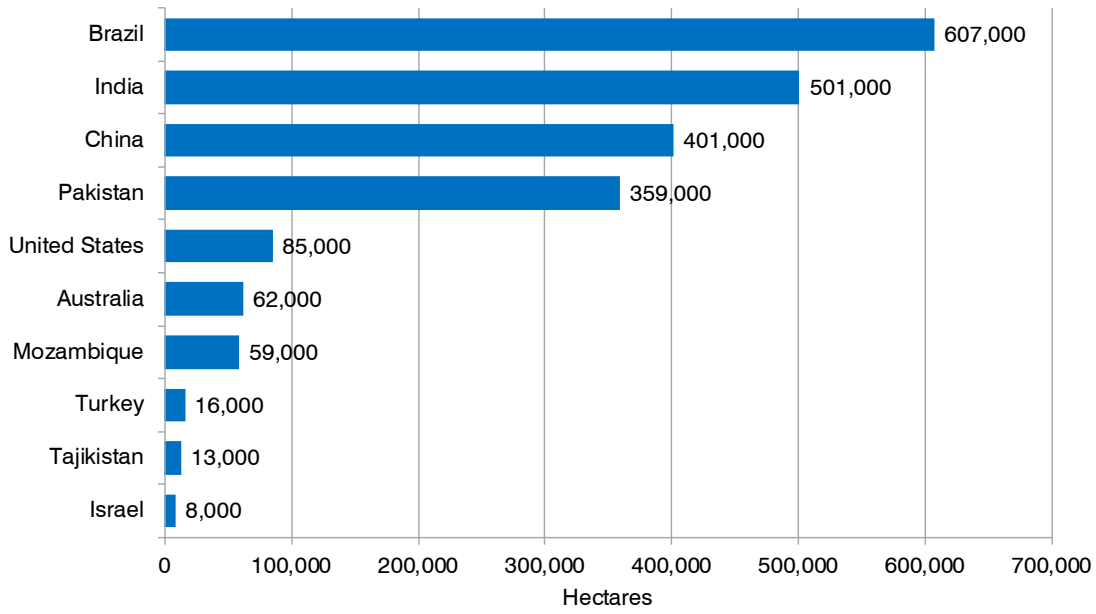
Source: FiBL-IISD-ITC survey, 2018. VSS: Better Cotton Initiative, Cotton Made in Africa, Fairtrade International and organic.

Figure 132: Cotton lint: Production volume by standard, 2008–2016



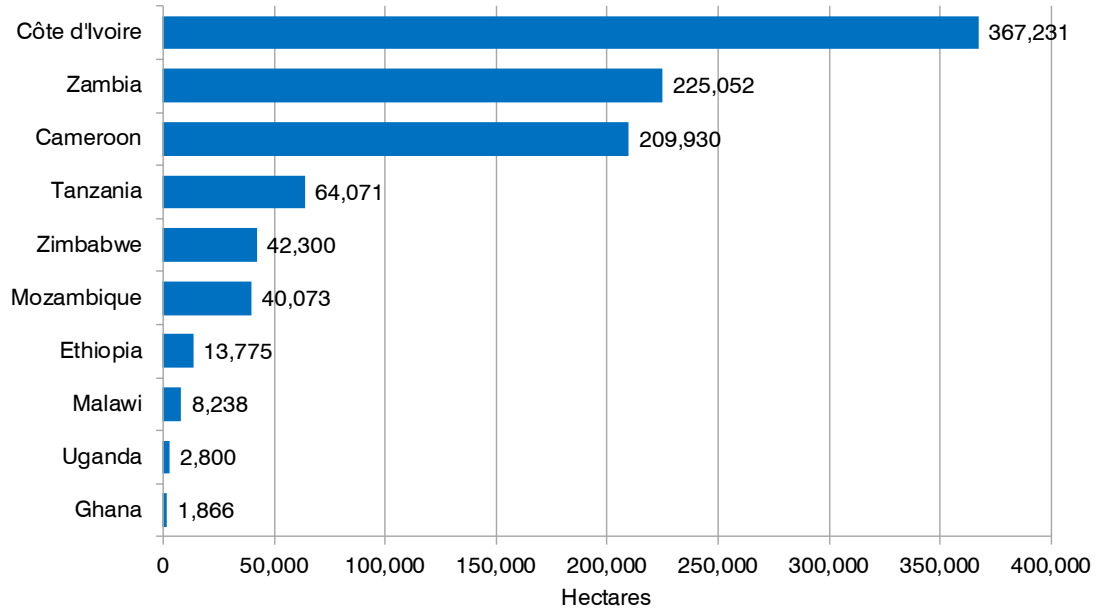
Source: Better Cotton Initiative, 2018; Cotton Made in Africa, 2018; Fairtrade International, 2017; Textile Exchange, 2018.

Figure 133: Cotton: Better Cotton Initiative – Top 10 countries by area, 2016



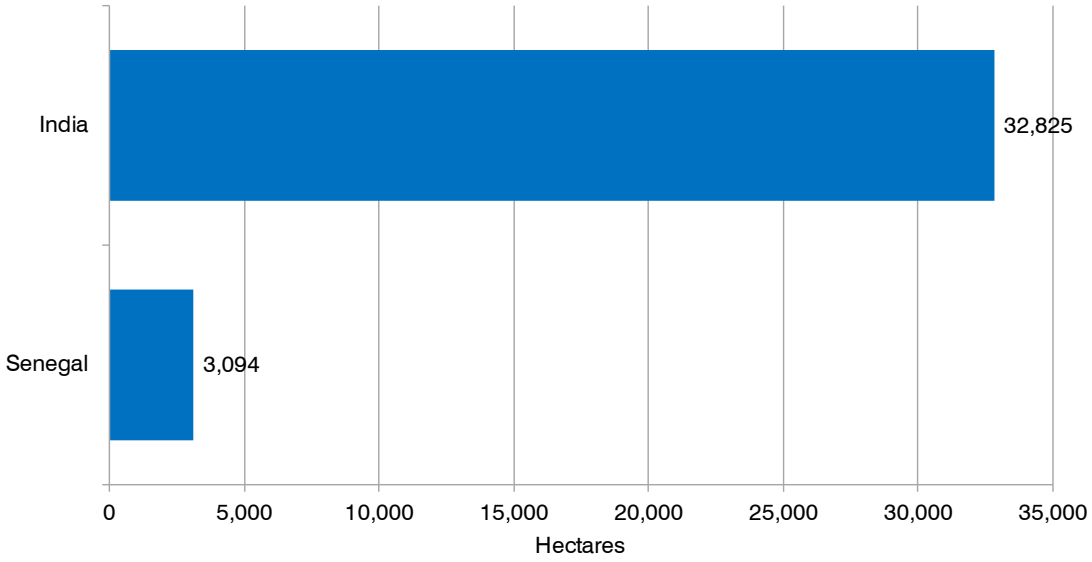
Source: Better Cotton Initiative (BCI), 2018.

Figure 134: Cotton: Cotton Made in Africa – Top countries by area, 2015



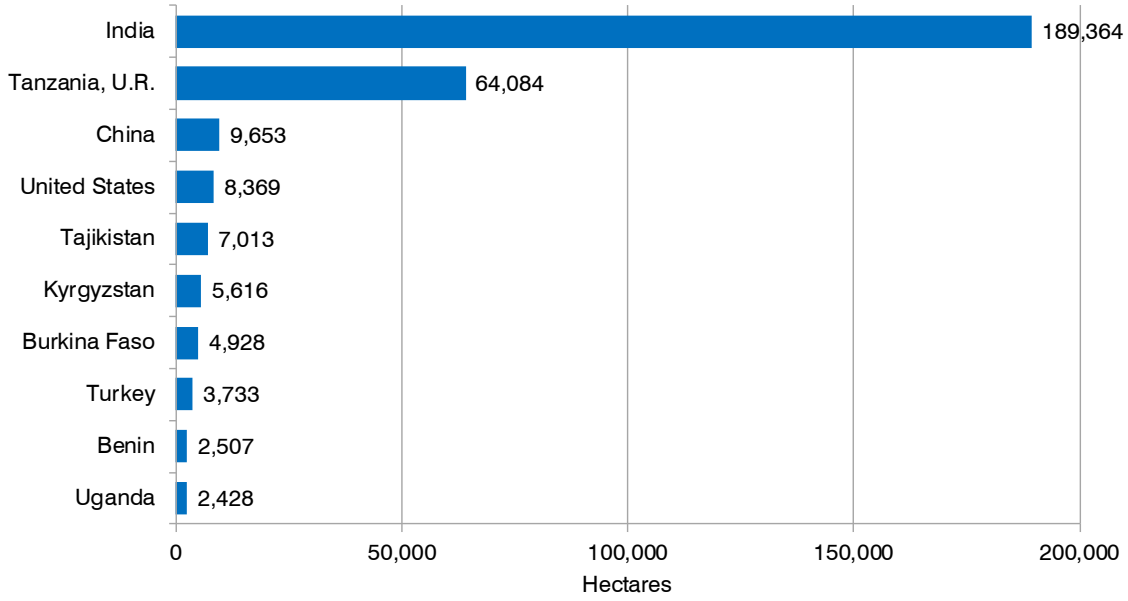
Source: Cotton Made in Africa (CmiA), 2016. As the 2016 country level data were not available at the time of publication, the 2015 data were used instead.

Figure 135: Cotton: Fairtrade International – All countries by area, 2015



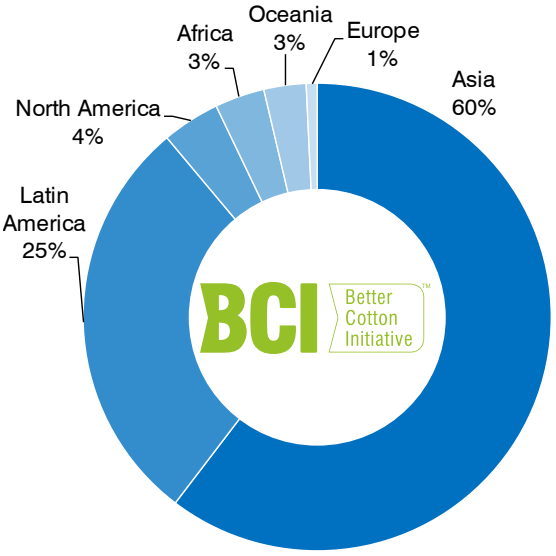
Source: Fairtrade International, 2017. As the 2016 country-level data were not available at the time of publication, the 2015 data were used instead.

Figure 136: Cotton: Organic – Top 10 countries by area, 2016



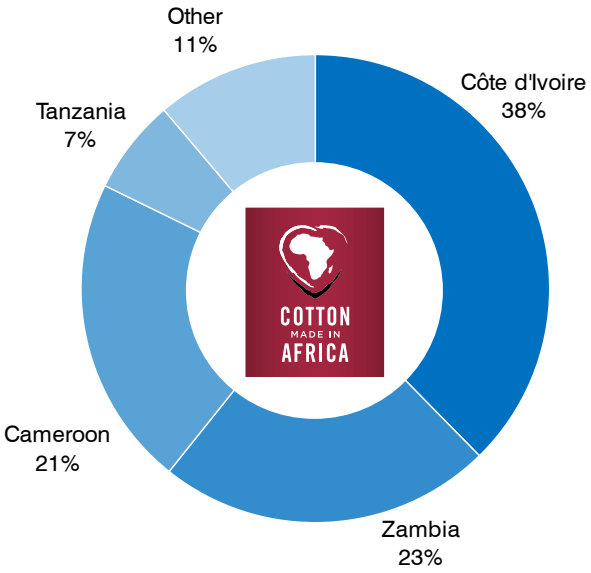
Source: Textile Exchange, 2018

Figure 137: Cotton: Better Cotton Initiative-certified area by region, 2016



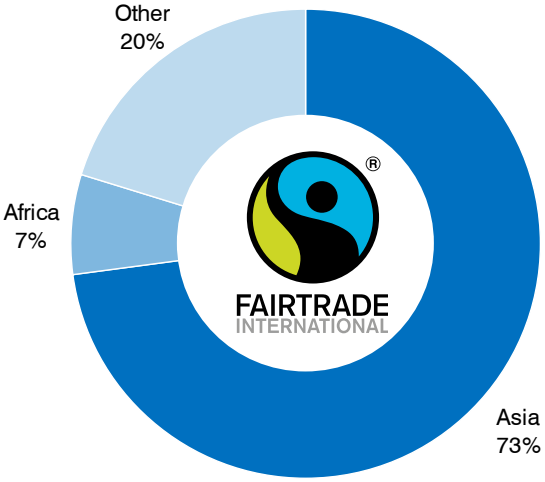
Source: Better Cotton Initiative (BCI), 2018.

Figure 138: Cotton: Cotton Made in Africa-certified area by country, 2015



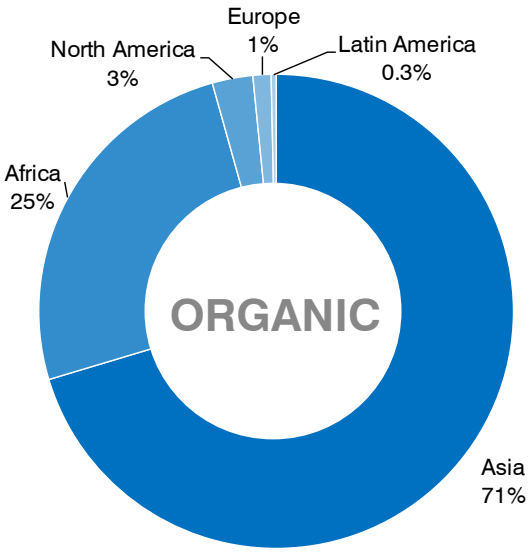
Source: Cotton Made in Africa (CmiA), 2016.

Figure 139: Cotton: Fairtrade-certified area by region, 2015



Source: Fairtrade International, 2017.

Figure 140: Cotton: Organic-certified area by region, 2016



Source: Textile Exchange, 2018.

PALM OIL

Large multinational companies commit to 100%-RSPO palm oil

As of 2016, the top three palm oil-producing countries (Indonesia, Malaysia and Thailand) accounted for 86% of global production and 71% of the total harvested area for this crop (FAOSTAT, 2018). Over the past 5 years (2011–2016), these countries expanded their aggregate production by 24% and their harvested area by 28%, which is indicative of continued rapid growth combined with aggregate declining yields in these traditional palm oil-producing countries (FAOSTAT, 2018).

At the global level, the opposite phenomenon – increasing yield – was observed, mainly driven by Latin American and African countries. Over the next five years, palm oil production is expected to continue growing at a similar or higher rate due to global interest in increasing palm oil production in African and Latin American countries and the rising global demand for vegetable oils. One study indicated that the global palm oil market is estimated to grow to $92.84 billion in 2021, up from $65.73 billion in 2015 (Zion Market Research, 2017).

While campaigns by such non-governmental organizations (NGOs) as Greenpeace and WWF will continue to pressure palm oil companies, retailers, consumer goods, manufacturers, and policymakers to adopt sustainable sourcing and production strategies, the industry is still subject to strong demand from Asian and African developing economies where expectations about sustainable sourcing are relatively low. As of 2017, Europe and the United States accounted for an estimated 7% of global consumption of palm oil (Index Mundi, 2018).

However, due to the urgency of sustainability issues in the industry, many companies have accelerated their commitment to standards-compliant palm oil in recent years, with such companies as AAK, KLK, McDonald's, PepsiCo, Starbuck's, Sainsbury and Unilever pledging to achieve 100% sourcing of RSPO- certified palm oil. Moreover, RSPO has facilitated many national initiatives in European countries, including Austria, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland and United Kingdom, to source 100% of their palm oil from RSPO-certified sources by 2020 (RSPO, 2017).

At least 12% of the world's oil palm area is certified by at least one standard

Three of the voluntary standards covered in this report – **organic**, **RA** and **RSPO** – certify palm oil production. Combined, they certified a minimum of 2,465,000 hectares and a maximum of almost 2,527,000 hectares in 2015 (average 2,496,000 hectares).[26] In terms of the proportion of the VSS-certified area of the global oil palm area, the minimum represents 11.7%, the maximum, 12% and the average, 11.8%. Based on the minimum area, the certified oil palm area dropped by 2.6% between 2013 and 2016. **RSPO** has the largest VSS-certified oil palm area, 3.2 million hectares, and organic the largest area growth; it trebled between 2013 and 2016 (2013 is the first year for which data for all three standards are available).

In 2016, **organic** oil palm represented 0.05% of the global oil palm area, with an estimated harvested area of 11,515 hectares.[27] FiBL estimates that almost 132,310 metric tons of oil palm were produced in 2016, which is about 0.04% of global production. **Organic** oil palm was produced in nine countries, with the biggest areas in Mexico (6,900 hectares) and Ghana (1,550 hectares). The **organic** oil palm area trebled between 2013 and 2016.

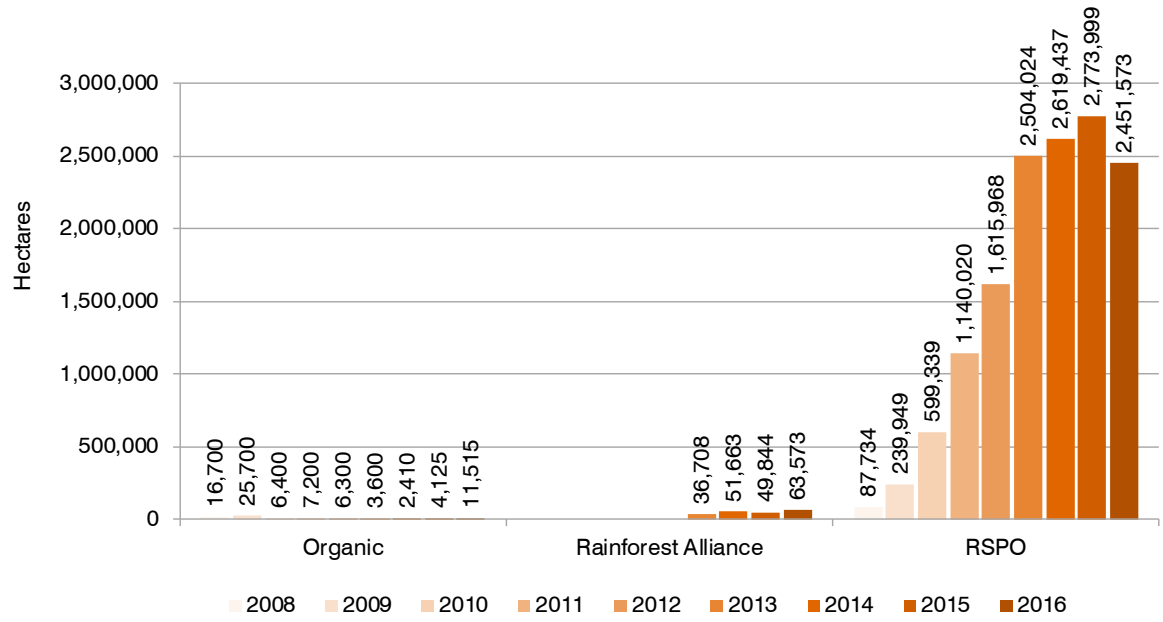
Almost 64,000 hectares of oil palm worldwide were **RA**-certified in 2016, and nearly 1.3 million metric tons were produced. In 2016, four countries were producing **RA** oil palm: Guatemala (over 33,700 hectares), Colombia (almost 13,300 hectares), Honduras (almost 10,500 hectares) and Indonesia (over 6,000 hectares). The **RA** oil palm area increased by almost 30% between 2013 and 2016; 2013 is the first year for which data are available.

RSPO certified almost 3.2 million hectares (2.5 million hectares cultivated) of oil palm in 2016, or about 12% of the global oil palm area. Some 11.7 million metric tons of **RSPO** palm oil were produced that year. **RSPO** was active in at least 16 countries; the largest areas were in Indonesia (1.3 million hectares), Malaysia (almost 733,800 hectares) and Papua New Guinea (more than 139,000 hectares). Together, these countries accounted for close to 90% of the total **RSPO** palm oil area. Between 2013 and 2016, that area decreased by almost 2%.

For tables of VSS-compliant oil palm production, see the appendix with data tables by country.

26. Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area provides an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.
27. In total, 12,128 hectares of organic oil palm were certified in 2016 (including in-conversion areas), representing 0.1% of the global oil palm area (Willer/Lernoud, 2018).

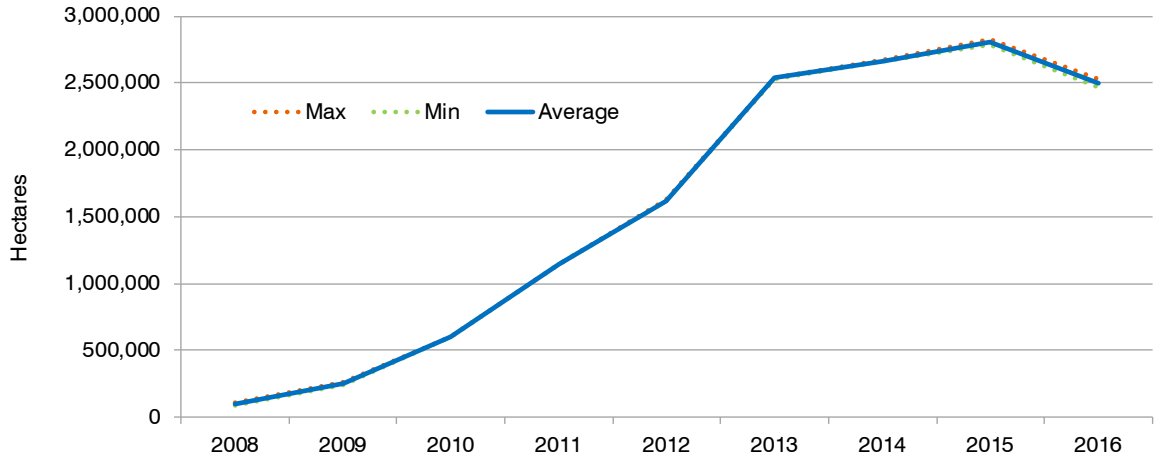
Figure 141: Oil palm: Production area by standard, 2008–2016



Note: The organic area is the area harvested as estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance, the area cultivated is shown.

Source: FiBL, 2018; Rainforest Alliance, 2018; Roundtable on Sustainable Palm Oil (RSPO), 2018.

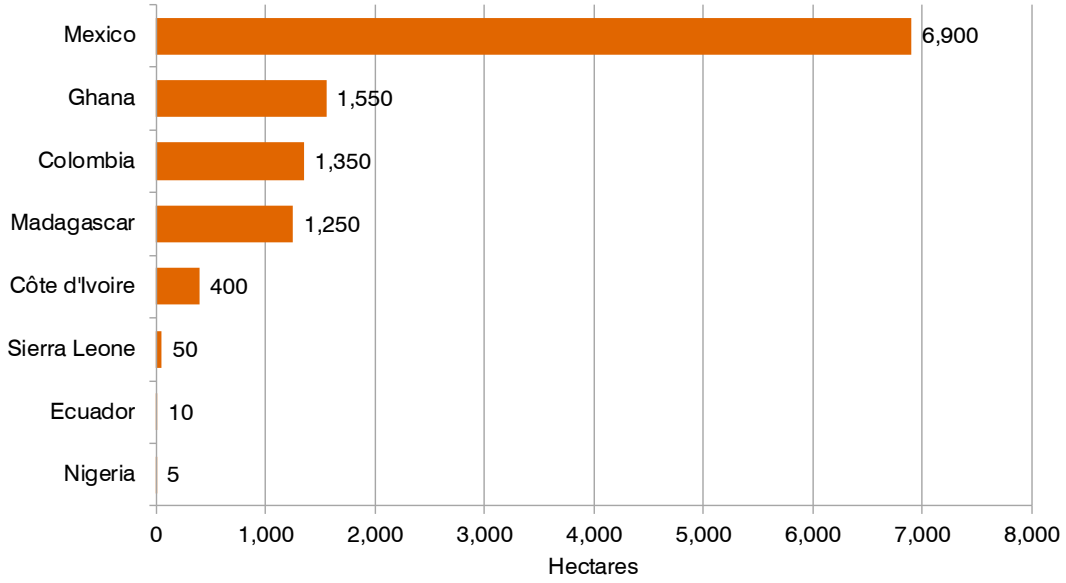
Figure 142: Oil palm: Average production area, 2008–2016



Note: For Rainforest Alliance, data have been available since 2013. Due to the dominance of RSPO, multiple certifications do not play a major role.

Source: FiBL-IISD-ITC survey, 2018. VSS: organic, Rainforest Alliance and Roundtable on Sustainable Palm Oil (RSPO).

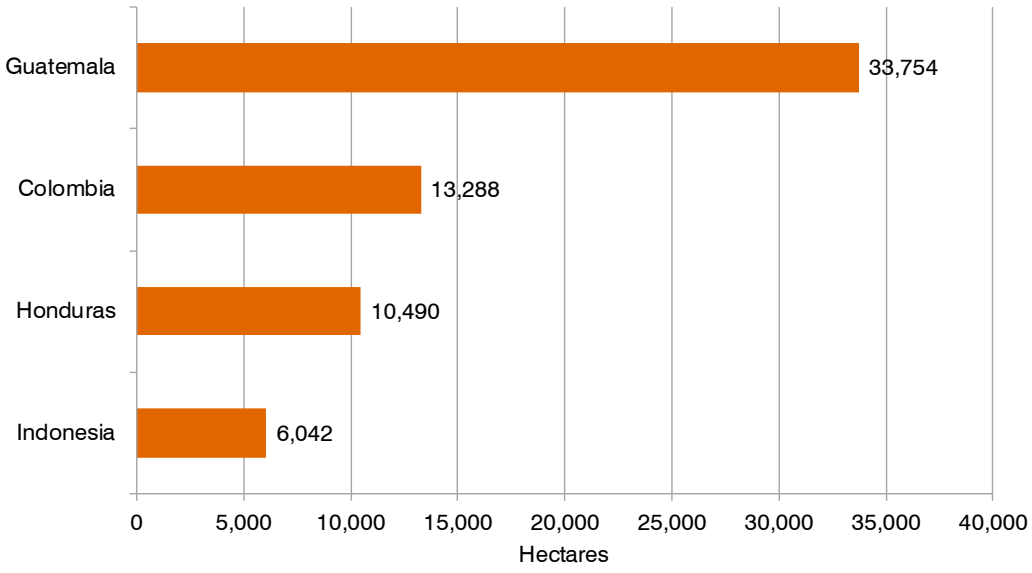
Figure 143: Oil palm: Organic – Top countries by area, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

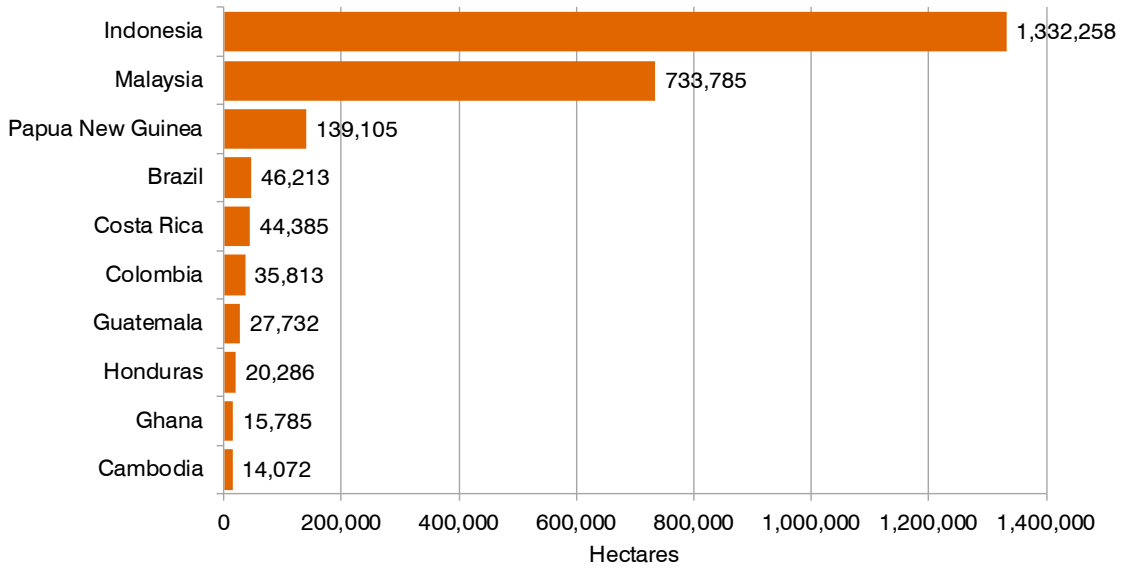
Source: FiBL, 2018. Based on national data sources and data from certifiers.

Figure 144: Oil palm: Rainforest Alliance – Top countries by area, 2016



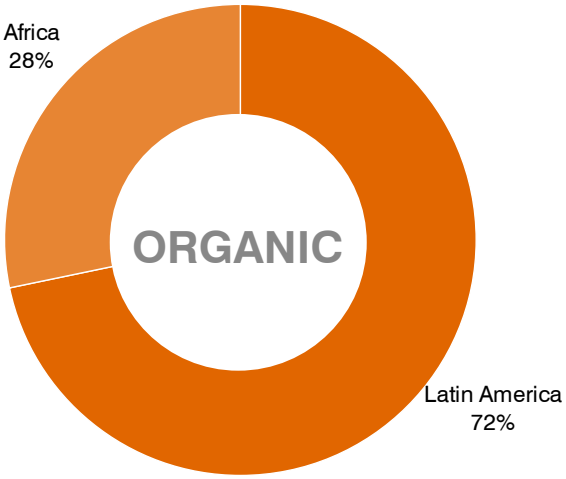
Source: Rainforest Alliance, 2018.

Figure 145: Oil palm: Roundtable on Sustainable Palm Oil – Top 10 countries by area, 2016



Source: Roundtable on Sustainable Palm Oil (RSPO), 2018.

Figure 146: Oil palm: Organic-certified area by region, 2016



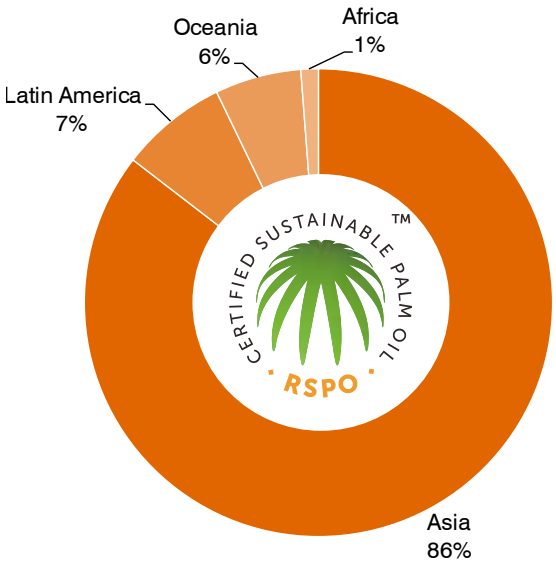
Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

Source: FiBL, 2018.

Figure 147: Oil palm: Rainforest Alliance-certified area by region, 2016

Source: Rainforest Alliance, 2018.

Figure 148: Oil palm: Roundtable on Sustainable Palm Oil-certified area by region, 2016



Source: Roundtable on Sustainable Palm Oil (RSPO), 2018.

SOY

70% of soybeans are produced for animal feed

As of 2016, the top five cotton-producing countries (China, India, United States, Pakistan, Brazil) accounted for 75% of world seed cotton production and 70% of the total harvested area for this crop (FAOSTAT, 2018). China and India produce 16 million and 14 million tons respectively, or 47% of global production (FAOSTAT, 2018). However, China's yield is three times that of India: China's 16 million tons are produced on just 3.4 million hectares, whereas India's 14 million tons come from 10.5 million hectares (FAOSTAT, 2018).

Although China's yield increased 20% over the past five years, cotton yields have been falling in the other major producing countries. As a result, world cotton production has declined from 80 million tons in 2011 to 65 million tons in 2016 (FAOSTAT, 2018). Factors such as adverse weather conditions, lower global demand, high global stock levels and fierce competition from synthetic fibres have contributed to this decline (OECD-FAO, 2016). Cotton is also one of the world's most pesticide- and water-intensive crops.

Cotton production and area harvested are expected to be stable over the next five years as the large stock levels accumulated between 2010 and 2014 are gradually sold on the market, keeping the price of cotton relatively low (OECD-FAO, 2016). The major importers of cotton (Bangladesh, Viet Nam, China, Indonesia, Turkey) account for 67% of world import volume (USDA, 2018). However, the current trend of trading cotton yarn and fabrics instead of raw cotton will continue to dampen trade, which is expected to reach 8.7 million tons by 2025, representing a modest 7% increase from the period 2013–2015 (OECD-FAO, 2016).

While VSS have been present in the cotton market since the 1980s as organic cotton, increasing demand for social and economic accountability has led to the adoption of several additional voluntary standards over the past decade, notably Fairtrade International, CmiA and BCI. All allow synthetic fertilizers and pesticides, with the exception of organic, and BCI allows genetically modified (GM) seeds as well (BCI, 2017). As with most other agricultural sectors, growth in compliance has been driven by industry commitments, with 100% commitments expected by 2020 or earlier from such companies as Adidas, H&M, Ikea and Nike (Adidas, 2018; H&M, 2016; Nike, 2016).

Certified soybeans are grown on 2.1% of the global soybean area

Three of the standards covered in this report – **Organic**, **ProTerra Foundation** and **RTRS** – certify soybean production. Combined, they certified a minimum of 2.6 million hectares and a maximum of almost 3.5 million hectares in 2016 (average 3 million hectares).[28] In terms of the proportion of the VSS-certified area of the global soybean area, the minimum represents 2.1%, the maximum, 2.8% and the average, 2.5%. Based on

28. Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area provides an estimate of the possible VSS area for a given commodity. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

the minimum area, the certified soybean area increased by almost 50% between 2011 and 2016. **ProTerra Foundation** has the largest VSS-certified soybean area, 1.9 million hectares; the highest growth – a sevenfold increase from 2011 to 2016 – was noted for **RTRS**.

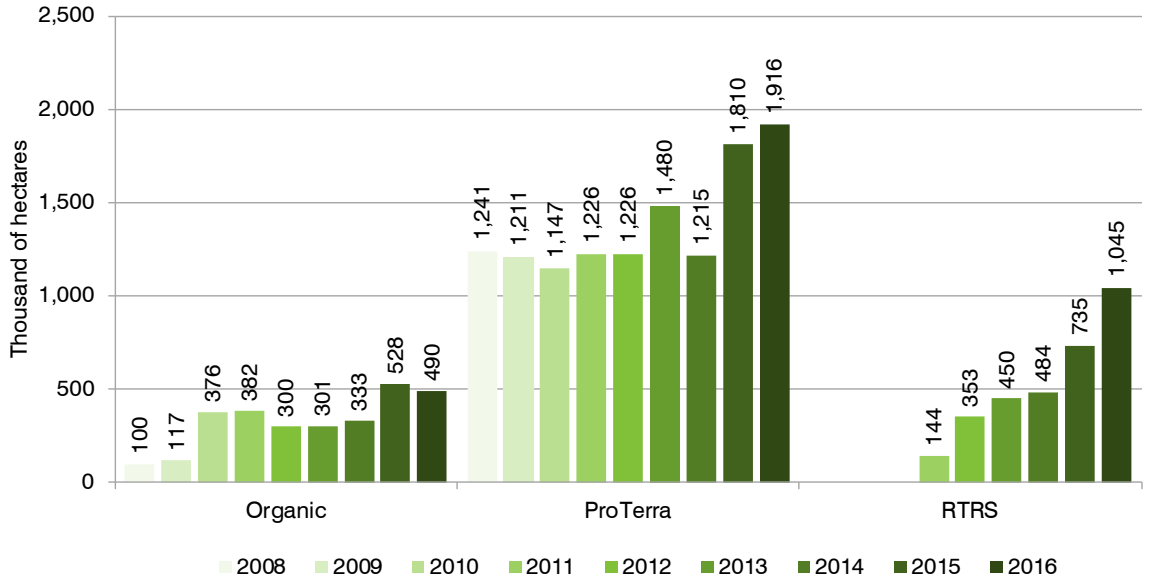
Organic soybeans represented 0.4% of the global soybean area; the harvested area was almost 490,000 hectares.[29] FiBL estimates that nearly 0.8 million metric tons of soybeans were produced in 2016. The largest **organic** soybean area in 2016 was in China (more than 192,000 hectares), followed by India (117,000 hectares), the United States (45,400 hectares) and the Russian Federation (28,400 hectares). In total, these countries' areas accounted for 78% of the total **organic** soybean area. Between 2011 and 2016, that area increased by more than 28%. However, between 2015 and 2016 it dropped by 7%, mainly due to a drop in the area reported by China.

More than 1.9 million hectares of soybean were **ProTerra Foundation**-certified in 2016, representing 1.6% of the global soybean area and 1.2% of global soybean production. Almost 3.9 million metric tons were produced. Seven countries produced **ProTerra** soybeans in 2016: Brazil (almost 1.8 million hectares), Italy (50,000 hectares) and the Russian Federation (28,000 hectares) had the largest areas. Between 2011 and 2016, the **ProTerra** soybean area increased by almost 56%, and by nearly 6% between 2015 and 2016 alone.

RTRS certified more than 1 million hectares of soybeans in 2016, or 0.9% of the global soybean area. In 2016, almost 3.3 million metric tons of soybeans were produced (1% of global soybean production volume). **RTRS** was active in eight countries; the largest areas were in Brazil (more than 690,000 hectares) and Argentina (223,770 hectares). These two countries accounted for almost 88% of the total RTRS area. Between 2011 and 2016, the **RTRS** soybean area increased almost sevenfold, and by 42% between 2015 and 2016 alone.

For tables of VSS-compliant soybean production, see the appendix with data tables by country.

Figure 149: Soybean: Production area by standard, 2008–2016

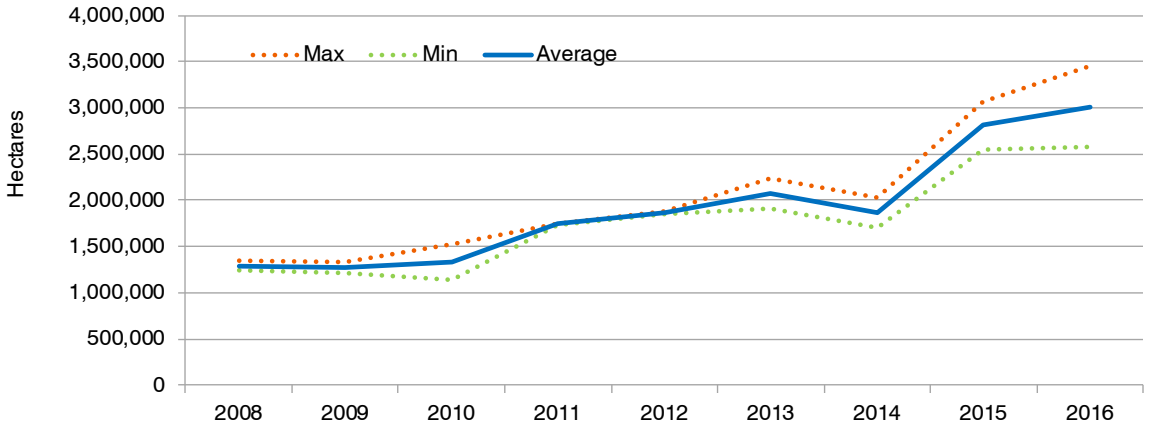


Note: The organic area is the area harvested as estimated by FiBL, assuming that 90% of the fully converted area is actually harvested.

Source: FiBL, 2018; ProTerra Foundation, 2018; Round Table on Responsible Soy (RTRS), 2018.

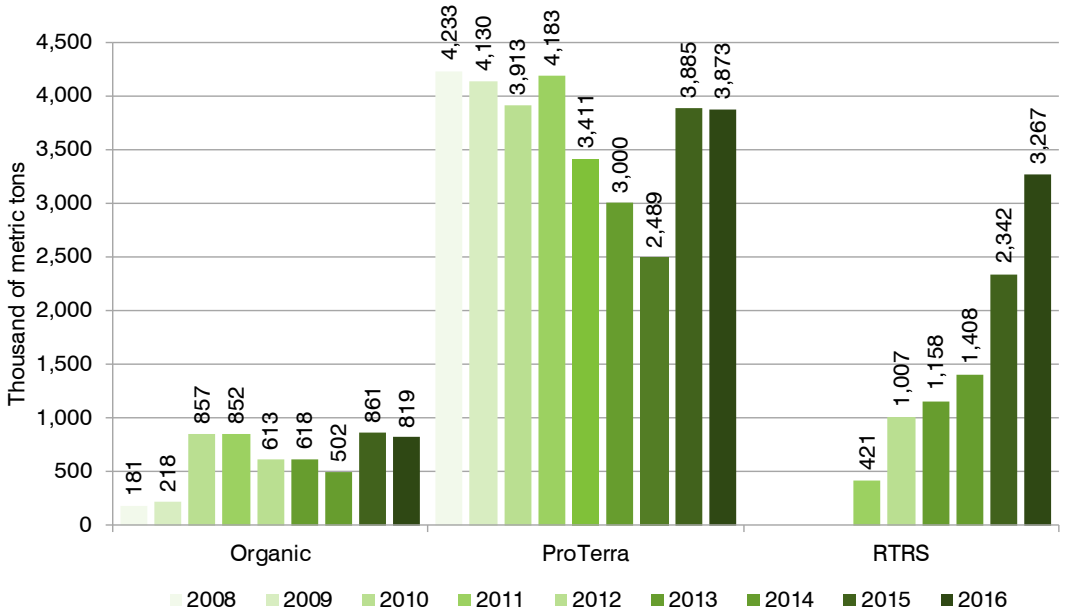
29. In total, 560,457 hectares of organic soybeans were certified in 2016 (including in-conversion areas), representing 0.5% of the global soybean area (Willer/Lernoud, 2018).

Figure 150: Soybean: Average production area, 2008–2016



Source: FiBL-IISD-ITC survey, 2018. VSS: organic, ProTerra Foundation and Round Table on Responsible Soy (RTRS).

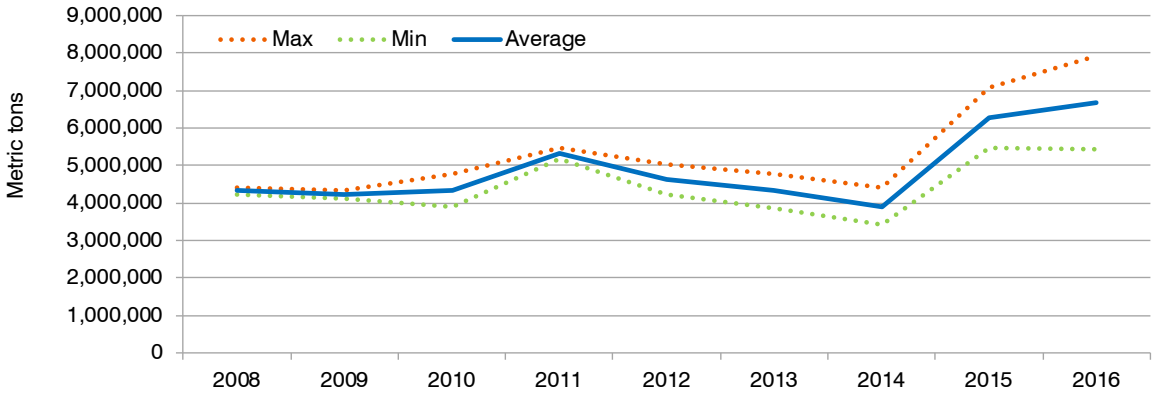
Figure 151: Soybean: Production volume by standard, 2008–2016



Note: The organic production volume was estimated by FiBL based on estimated yields, as data are not available for most of the countries.

Source: FiBL, 2018; ProTerra Foundation, 2018; Round Table on Responsible Soy (RTRS), 2018.

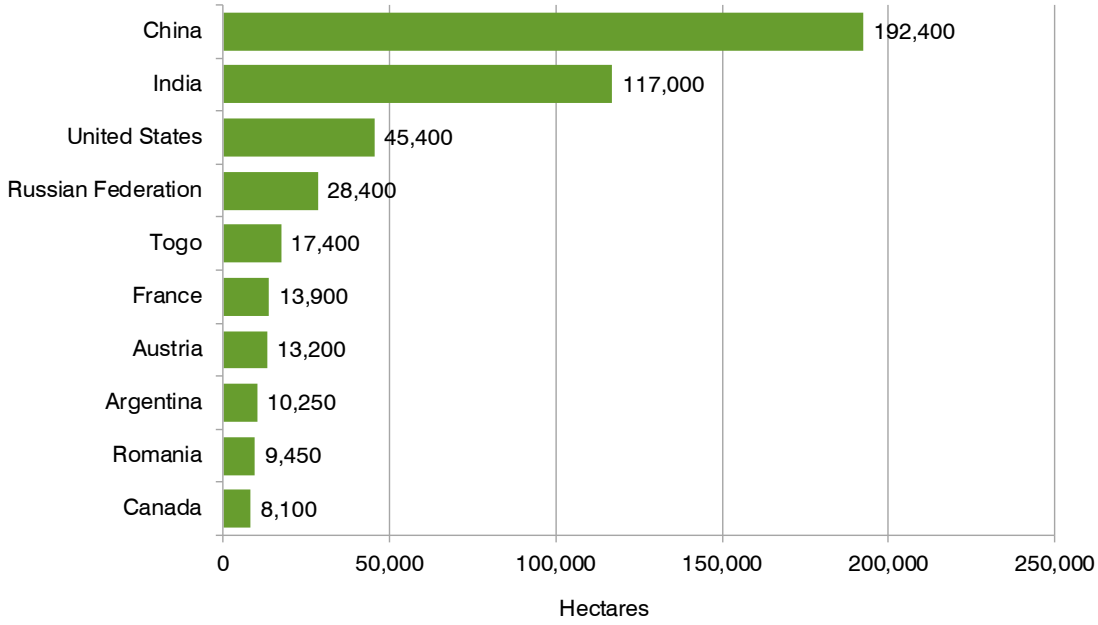
Figure 152: Soybean: Average production volume, 2008–2016



Note: Production volume data for ProTerra Foundation have been available since 2013.

Source: FiBL-IISD-ITC survey, 2018. VSS: organic, ProTerra Foundation and Round Table on Responsible Soy (RTRS).

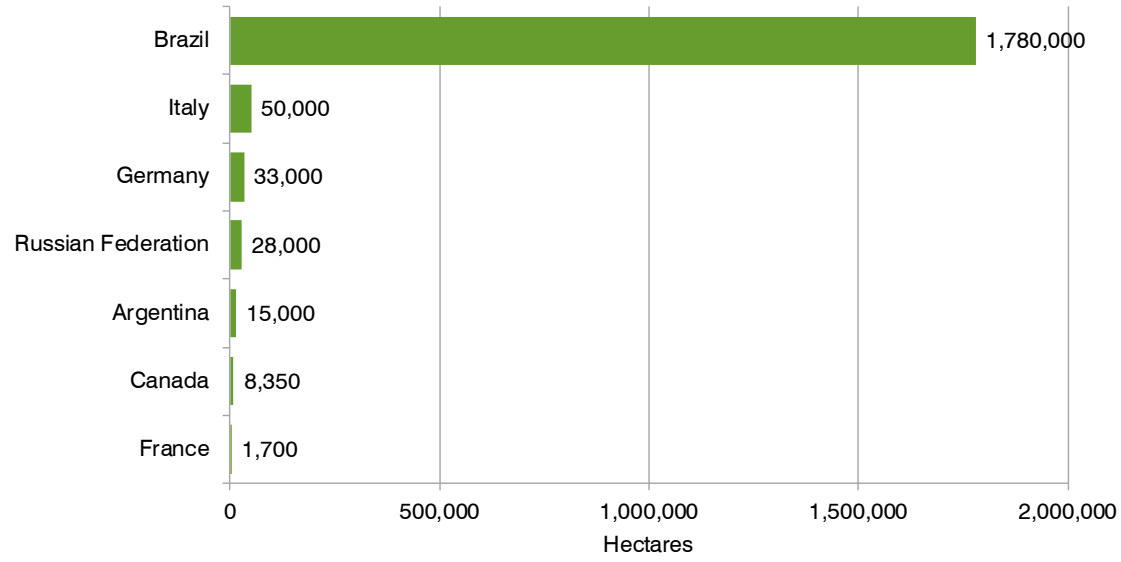
Figure 153: Soybean: Organic – Top 10 countries by area, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

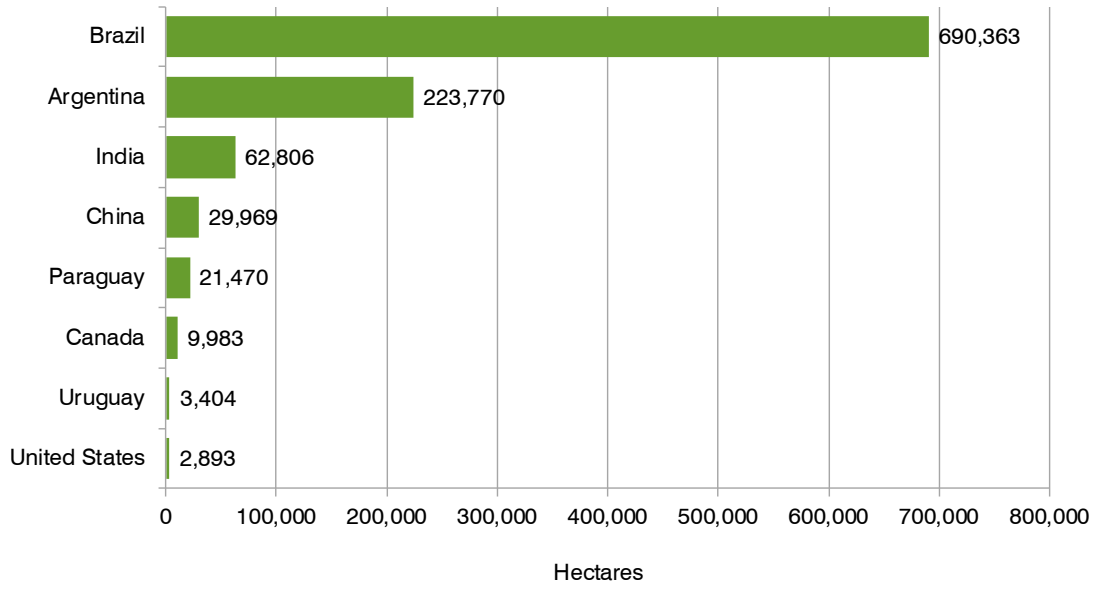
Source: FiBL, 2018. Based on national data sources and data from certifiers.

Figure 154: Soybean: ProTerra – Top countries by area, 2016



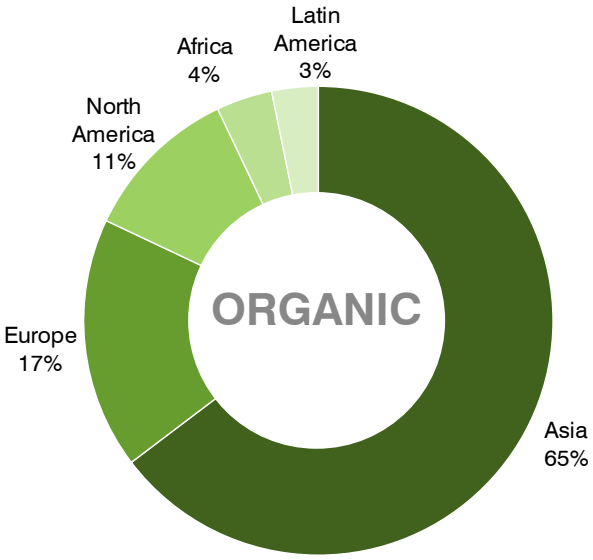
Source: ProTerra Foundation, 2018.

Figure 155: Soybean: Round Table on Responsible Soy – Top countries by area, 2016



Source: Round Table on Responsible Soy (RTRS), 2018.

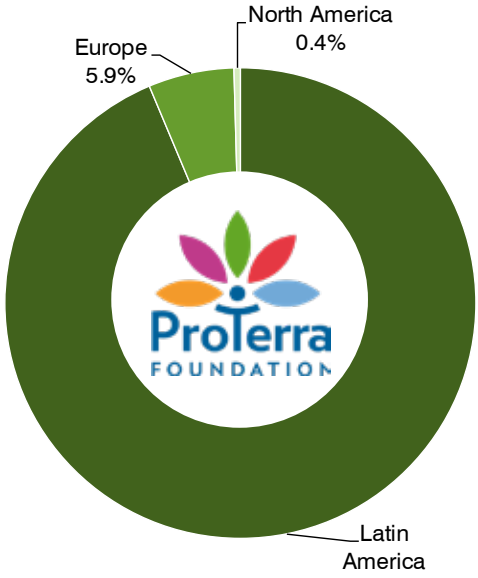
Figure 156: Soybean: Organic-certified area by region, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

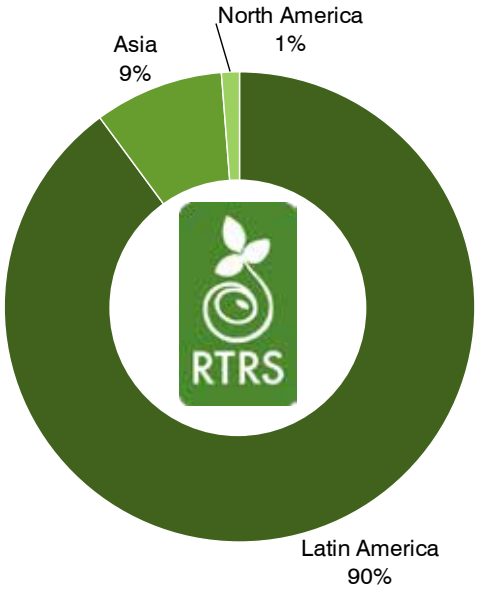
Source: FiBL, 2018.

Figure 157: Soybean: ProTerra-certified area by region, 2016



Source: ProTerra Foundation, 2018.

Figure 158: Soybean: RTRS-certified area by region, 2016



Source: Round Table on Responsible Soy (RTRS), 2018.

SUGARCANE

National policies and commitments from major buyers drive compliance with standards

As of 2016, the top five sugarcane-producing countries (Brazil, India, China, Thailand, and Pakistan) accounted for 74% of production and 72% of the total harvested area for this crop (FAOSTAT, 2018). Over the past five years (2011–2016), production and land area harvested have grown 4%, a rate that is roughly in line with the global increase in demand for sugar combined with the levelling of demand for sugarcane in ethanol production. Over the past decade, approximately 174 million tons of sugarcane were destined for ethanol production (OECD-FAO, 2017).

Annual global sugarcane production is forecast to increase by an estimated 12 million tons in 2017–2018, for a record total of 168 million tons, driven by increases in yield, plantation area and ethanol policies (USDA, 2017). Globally, the share of global sugarcane production destined for ethanol production is expected to continue to grow, from 20.7% in 2015 to 22.3% in 2025, driven by ethanol policies in countries like India (OECD-FAO, 2016). Over the next decade, sugarcane will continue to be the main crop for sugar production, with the share of sugar produced from sugar beet expected to decline from 14% to 12.9% during the period 2017–2026 (OECD-FAO, 2017).

National policies promoting sustainable biofuel feedstock and commitments from major downstream buyers, including Coca-Cola, Ferrero Group, General Mills, PepsiCo and Unilever, are the main drivers of compliance with VSS. Bonsucro, based on the mainstream roundtable model, enabled standards-compliant sugarcane to become one of the fastest-growing markets in recent years.

The ProTerra standard has been used for verification of good agricultural practices in the sugarcane sector since 2006 and is now being used for certification as well. In 2012, Rainforest Alliance became the latest international standard to enter the sugarcane market, also with an eye on mainstream markets.

Three standards certify production of sugarcane, the world's largest source of sugar

Three of the voluntary standards covered in this report – **Bonsucro**, **Fairtrade International** and **organic** – certify sugarcane production. Combined, they certified a minimum of 1.05 million hectares and a maximum of 1.1 million hectares in 2016 (average 1.08 million hectares).[30] In terms of the proportion of the VSS-certified area of the global sugarcane area, the minimum represents 3.9%, the maximum, 4.1% and the average, 4.0%. Based on the minimum area, the certified sugarcane area increased by almost 27% between 2011 and 2016; however, it decreased by 8% from 2015 to 2016. **Bonsucro** has the largest VSS-certified sugarcane area, almost 0.9 million hectares; the largest growth was noted for **Fairtrade International**, whose area grew by 82% between 2011 and 2016.

Bonsucro certified over 860,000 hectares of sugarcane in 2016, or almost 3.2% of the global sugarcane area. In 2016, the standard registered almost 53 million metric tons of sugarcane, representing 2.8% of the global sugarcane production volume. Its largest areas were in Brazil (almost 793,000 hectares) and Australia (nearly 40,000 hectares); together, they accounted for 97% of **Bonsucro´s** total sugarcane area. Between 2011 and 2016, that area increased by almost 21%. Between 2015 and 2016, however, it fell by 5% following the decrease reported in 2015.

Fairtrade International sugarcane represented 0.6% of the global sugarcane area, or almost 153,000 hectares. Some 0.7 million metric tons of **Fairtrade International** cane sugar were registered in 2016. **Fairtrade International** certifies sugarcane only in developing countries; the largest areas in 2016 were in Paraguay (almost 16,000 hectares), India (nearly 8,000 hectares) and Costa Rica (over 6,000 hectares). Together, these three countries accounted for almost 20% of the total **Fairtrade International** sugarcane area. That area increased by 82% between 2011 and 2016; between 2015 and 2016, however, a drop of 18% was reported.

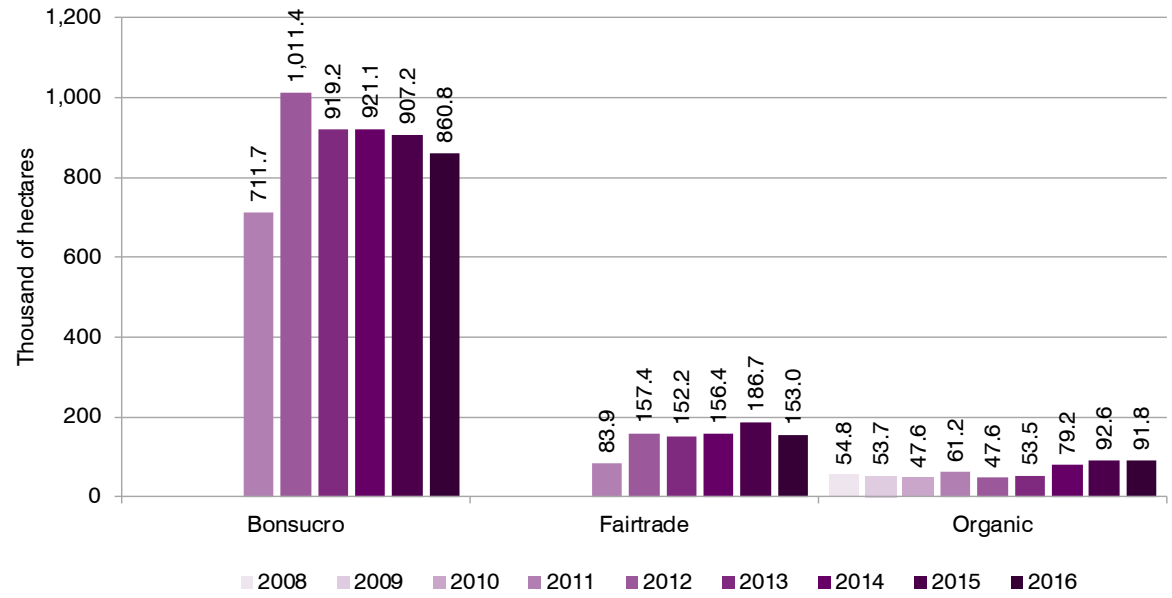
Almost 92,000 hectares of sugarcane worldwide were certified **organic** in 2016 (estimated harvested area).[31] This represents 0.3% of the global sugarcane area and an estimated 0.3% of the global sugarcane production volume (4.9 million metric tons). The largest **organic** sugarcane areas were in Paraguay (43,600 hectares), Argentina (12,550 hectares) and Brazil (11,400 hectares). Together, these countries accounted for 72% of the total **organic** sugarcane area. Between 2011 and 2016, that area increased by over 50%. However, between 2015 and 2016 a drop of almost 1% was reported.

For tables of VSS-compliant sugarcane production, see the appendix with data tables by country.

30. Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area provides an estimate of the possible VSS area for a given product. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.

31. In total, 82,983 hectares of organic sugarcane were certified in 2016 (including in-conversion areas), representing 0.3% of the global sugarcane area (Willer/Lernoud, 2018).

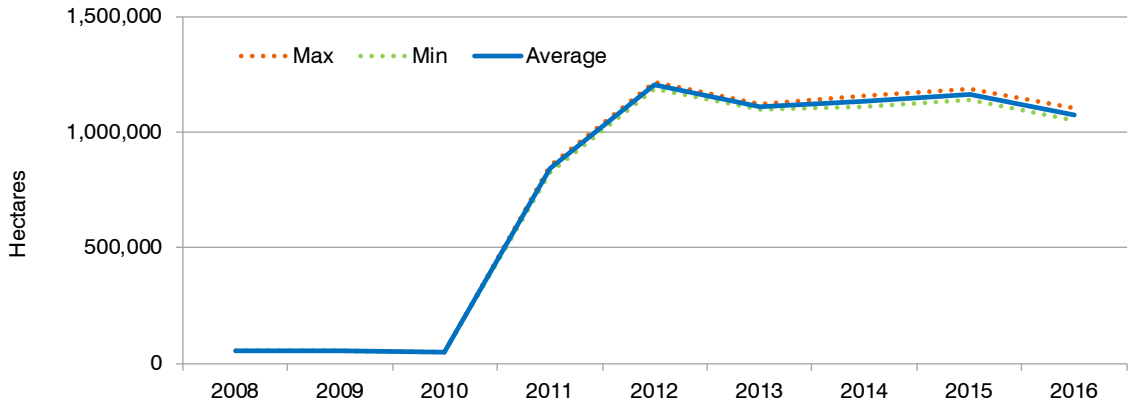
Figure 159: Sugarcane: Production area by standard, 2008–2016



Note: The organic area is the area harvested as estimated by FiBL, assuming that 90% of the fully converted area is actually harvested.

Source: Bonsucro, 2018; Fairtrade International, 2018; FiBL, 2018.

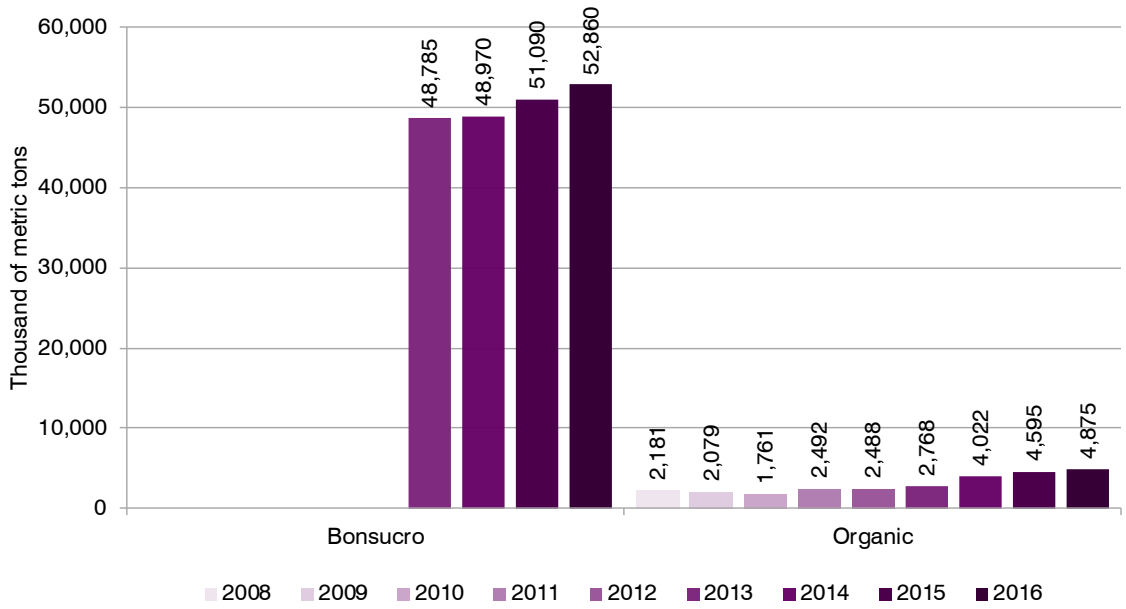
Figure 160: Sugarcane: Average production area, 2008–2016



Note: Data for Bonsucro have been available since 2011.

Source: FiBL-IISD-ITC survey, 2018. VSS: Bonsucro, Fairtrade International and organic.

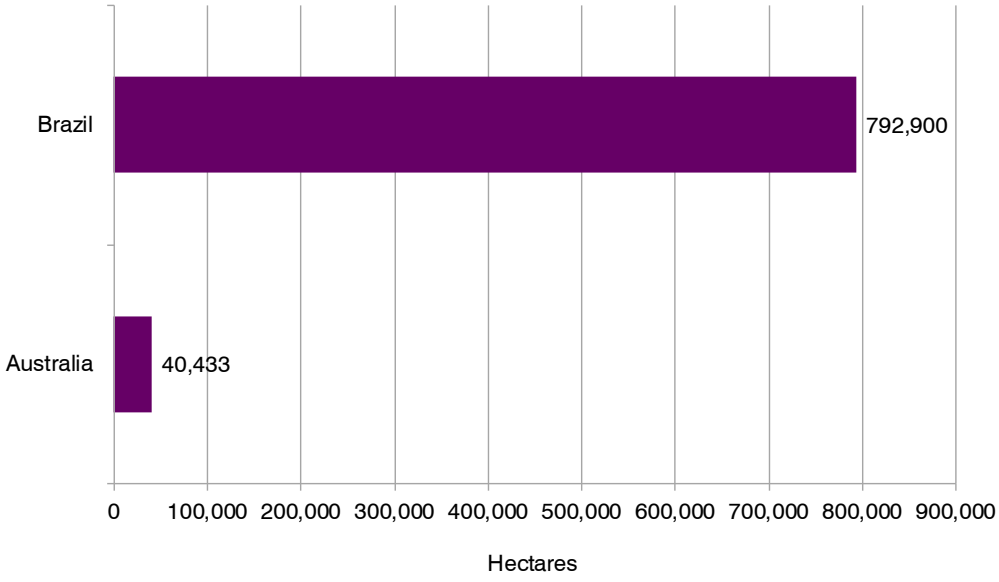
Figure 161: Sugarcane: Production volume by standard, 2008–2016



Note: The organic production volume was estimated by FiBL based on estimated yields, as data are not yet available for most of the countries.

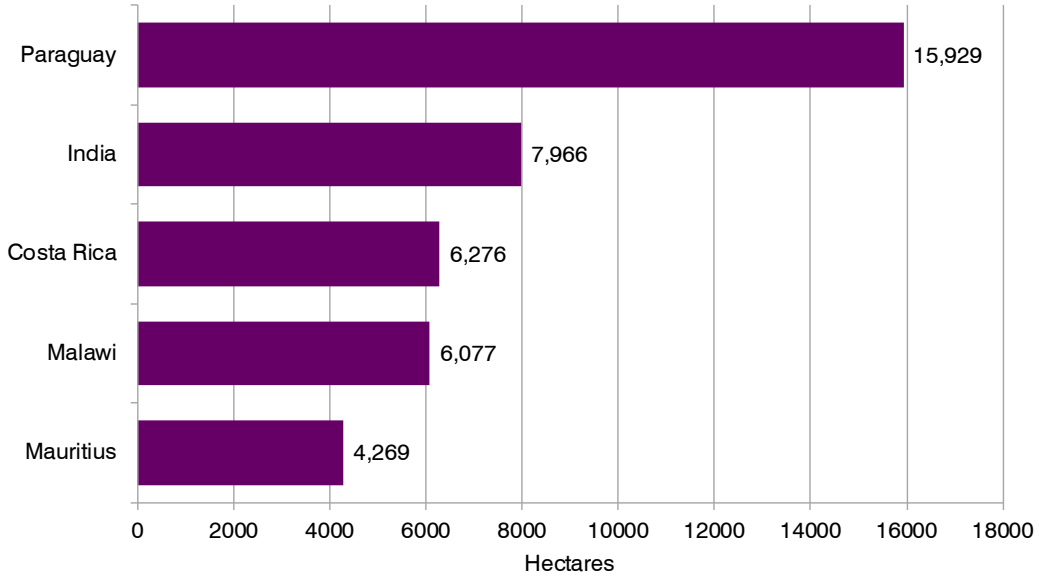
Source: Bonsucro, 2018; FiBL, 2018.

Figure 162: Sugarcane: Bonsucro – Top countries by area, 2016



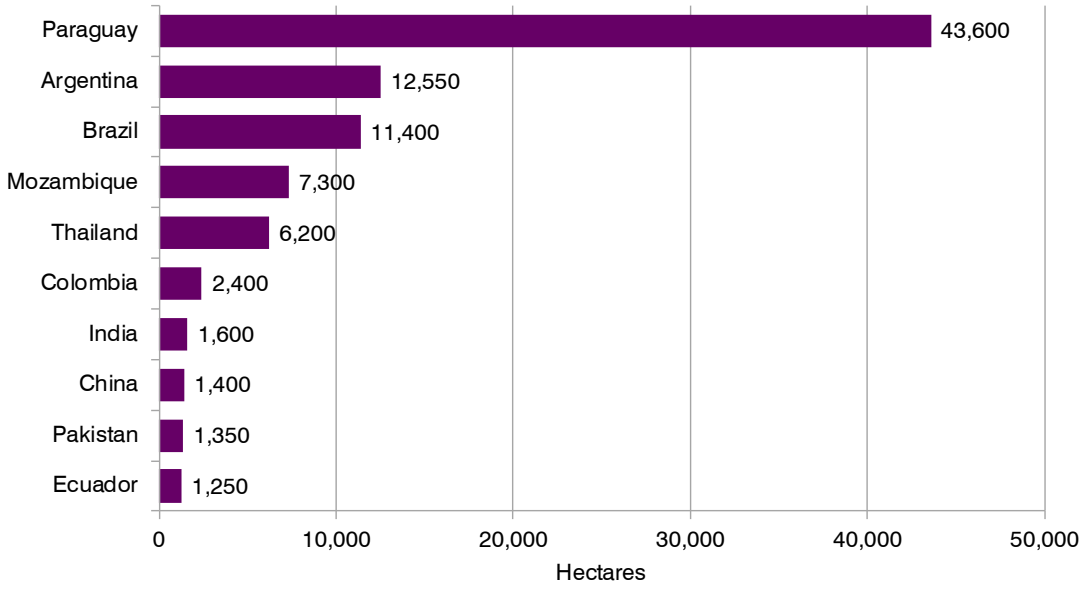
Source: Bonsucro, 2018.

Figure 163: Sugarcane: Fairtrade International – Top countries by area, 2016



Source: Fairtrade International, 2018.

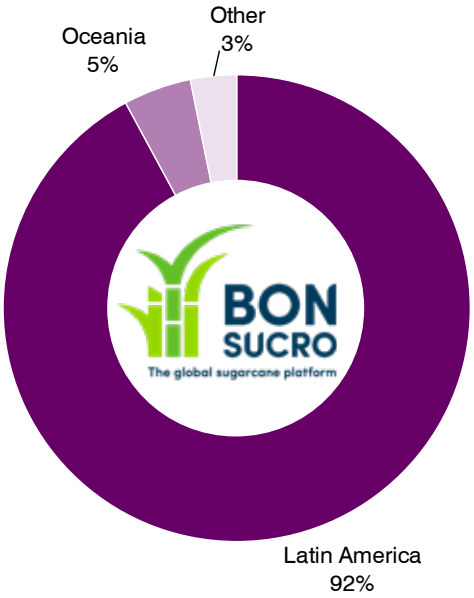
Figure 164: Sugarcane: Organic – Top 10 countries by area, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

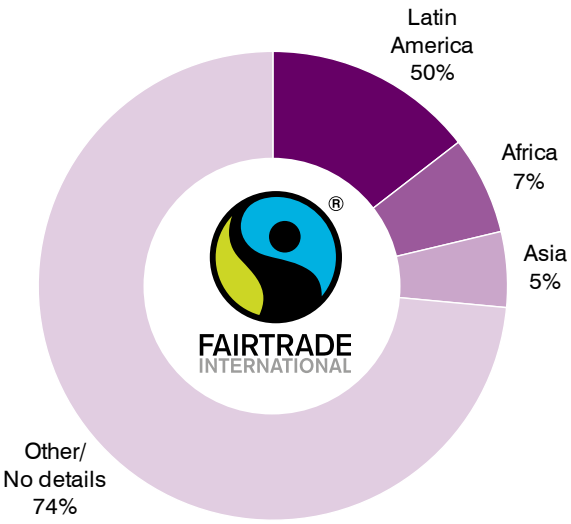
Source: FiBL, 2018. Based on national data sources and data from certifiers.

Figure 165: Sugarcane: Bonsucro-certified area by region, 2016



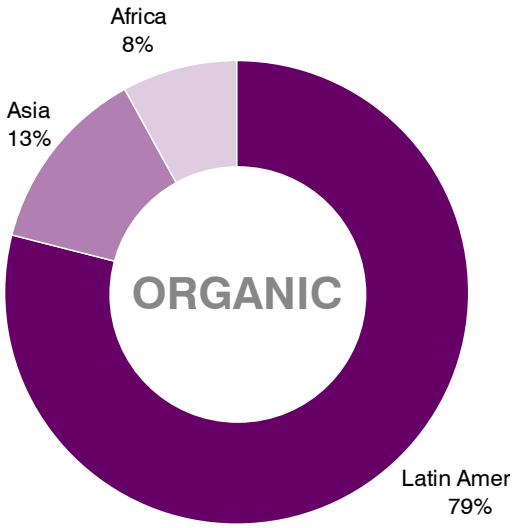
Source: Bonsucro, 2018

Figure 166: Sugarcane: Fairtrade-certified area by region, 2016



Source: Fairtrade International, 2018

Figure 167: Sugarcane: Organic-certified area by region, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

Source: FiBL, 2018.

TEA

Climate change threatens tea yields

As of 2016, the top five tea-producing countries (China, India, Kenya, Sri Lanka and Turkey) account for 80% of global production and 82% of the total harvested area for this crop (FAOSTAT, 2018). Over the past five years (2011–2016), these countries have expanded their production by 29% (1 million tons) and their harvested area by 22%, indicating an improvement in yield per hectare. The total harvested area for tea production is currently 4.1 million hectares, globally.

Since tea production requires specific conditions characteristic of mountainous tropical and subtropical climates, it is limited to a few areas that are currently threatened by climate change, which is expected to disturb future growing conditions with a consequent effect on yields (Chang and Brattlof, 2015).

Nonetheless, global demand for tea keeps expanding, most notably driven by China and India, whose total tea consumption rose from 1.7 million tons in 2006–2008 to 2.6 million tons in 2013, a 58% increase (Chang, 2015). In this context, black and green tea production is expected to continue to grow over the medium term (2013–2023), with projected annual growth rates of 2.9% and 8.2%, respectively (Chang, 2015).

The tea industry is vertically and horizontally integrated, with a relatively small number of companies controlling the entire supply chain (Wal, 2008). In the United Kingdom, two companies, Tetley (owned by Tata Tea Limited) and PG Tips (owned by Unilever), account for over half of the market share. In the United States, four companies, including Lipton (owned by Unilever), account for half of the market share. These companies have been driving the uptake of standards-compliant tea. Unilever and Tetley have committed to 100% compliant sourcing by 2020 and 2016, respectively (Tetley, 2014, Unilever, 2016). By 2015, Lipton, a Unilever brand, reached 100% compliant sourcing, enabling Unilever to achieve a 66% rate of total sourcing in compliance (Unilever, 2016).

13.2% of the global tea area is VSS-certified

Four of the voluntary standards covered in this report – **Fairtrade International**, **organic**, **RA** and **UTZ** – certify tea production. Combined, they certified a minimum of more than 542,000 hectares and a maximum of almost 745,000 hectares in 2016 (average 643,000 hectares).[32] In terms of the proportion of the VSS-certified area of the global tea area, the minimum represents 13.2%, the maximum, 18.1%, and the average, 15.7%. Based on the minimum area, the certified tea area more than doubled (+117%) between 2011 and 2016. **RA** has the largest VSS-certified tea area, almost 470,000 hectares, and also the largest growth of area, which increased fourfold between 2011 and 2016.

Fairtrade International certified more than 126,000 hectares of tea in 2016, or 3.1% of the global tea area. In 2016, almost 254,000 metric tons of its tea were reported (4.3% of the global tea production volume). Kenya reported the largest **Fairtrade International** tea area (almost 57,000 hectares), followed by Uganda (nearly 21,000 hectares) and India (almost 18,000 hectares). Together, these countries accounted for almost 80% of the total **Fairtrade International** tea area. That area increased by 51% between 2011 and 2016 and by 3% between 2015 and 2016 alone.

Organic tea represented 2% of the global tea area, more than 81,000 hectares.[33] FiBL estimates that close to 88,000 metric tons of **organic** tea were produced in 2016, which constitutes 1.5% of the global tea production volume. In 2016, the largest **organic** harvested areas were in China (47,000 hectares) and India (more than 14,000 hectares). Together, these two countries accounted for almost 75% of the **organic** tea area. Between 2011 and 2016, that area increased by 19%, and by almost 9% between 2015 and 2016 alone.

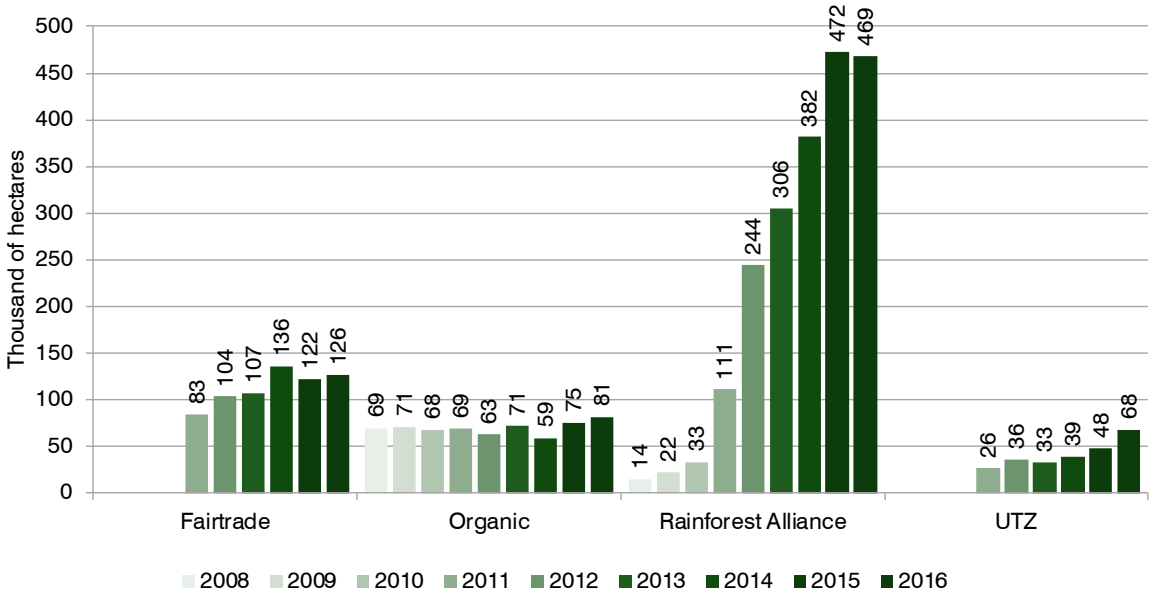
Almost 469,000 hectares of tea were **RA**-certified worldwide in 2016, representing 11.4% of the global tea area. More than 1 million metric tons of **RA** tea were reported. The country with the biggest **RA** tea area was Kenya (almost 187,000 hectares), followed by India (more than 108,000 hectares) and Sri Lanka (almost 32,000 hectares). Together, these countries accounted for 70% of the total **RA** tea area. That area increased more than fourfold between 2011 and 2016, but dropped by almost 1% between 2015 and 2016.

UTZ certified almost 68,000 hectares of tea in 2016, or close to 1.7% of the global tea area. An estimated 120,000 metric tons of tea were produced, representing 2% of the global tea production volume. The largest **UTZ** tea areas were in India (over 33,000 hectares) and Kenya (11,300 hectares), accounting for nearly 66% of the total **UTZ** tea area. Between 2011 and 2016, the **UTZ**-certified area almost trebled, and grew by nearly 42% between 2015 and 2016 alone.

For tables of VSS-compliant tea production, see the appendix with data tables by country.

32. Multiple certification: Many of the areas certified by VSS are multiple-certified. An average between the maximum and minimum area provides an estimate of the possible VSS area for a given product. The maximum would be the sum of the total area/production provided by the individual VSS in the country, and the minimum would be the area of the VSS with the largest area in the country.
33. In total, 107,910 hectares of organic tea were certified in 2016 (including in-conversion areas), representing 2.5% of the global tea area (Willer/Lernoud, 2018)

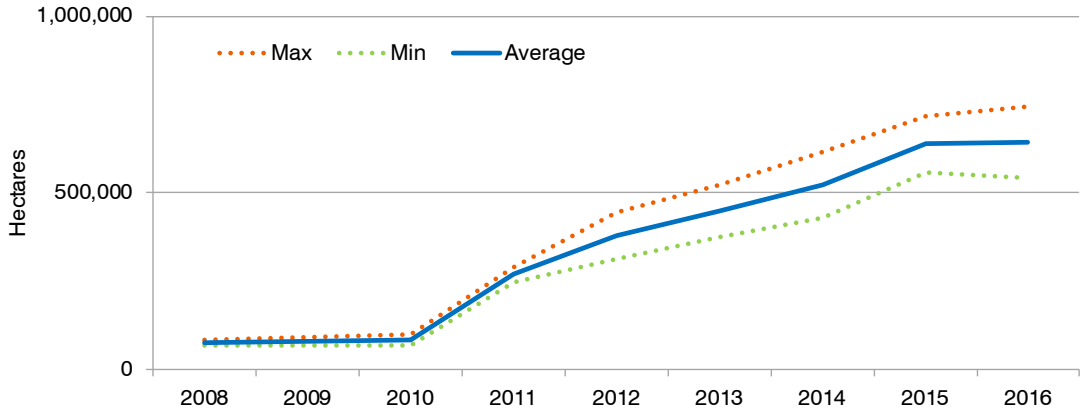
Figure 168: Tea: Production area by standard, 2008–2016



Note: The organic area is the area harvested as estimated by FiBL, assuming that 90% of the fully converted area is actually harvested. For the Rainforest Alliance, the area cultivated is shown.

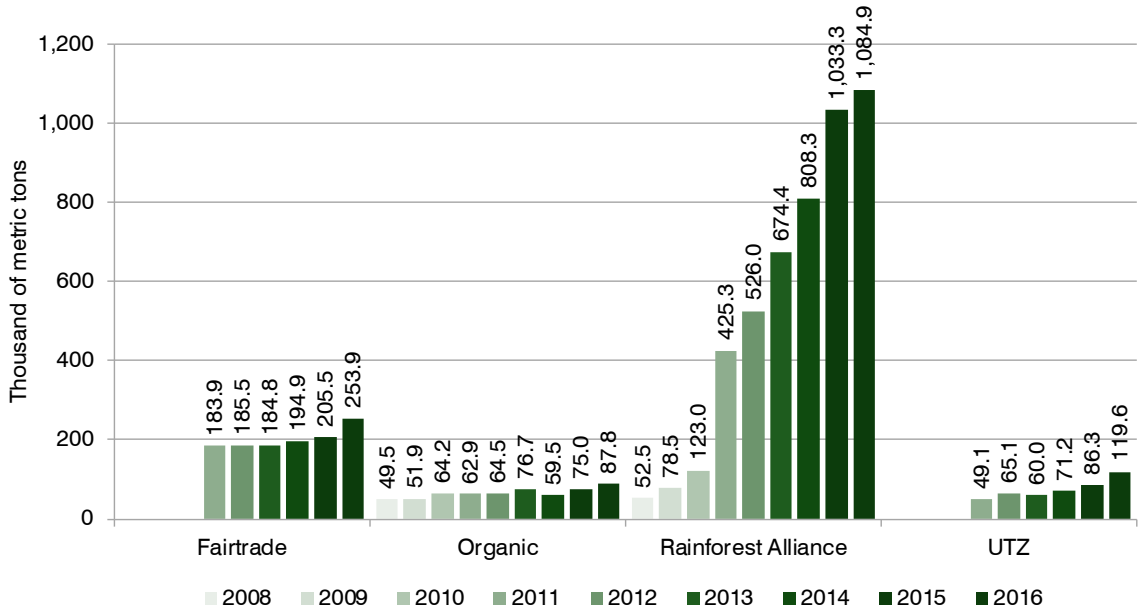
Source: Fairtrade International, 2018; FiBL, 2018; Rainforest Alliance, 2018; UTZ, 2018.

Figure 169: Tea: Average production area, 2008–2018



Source: FiBL-IISD-ITC survey, 2018. VSS: Fairtrade International, organic, Rainforest Alliance and UTZ.

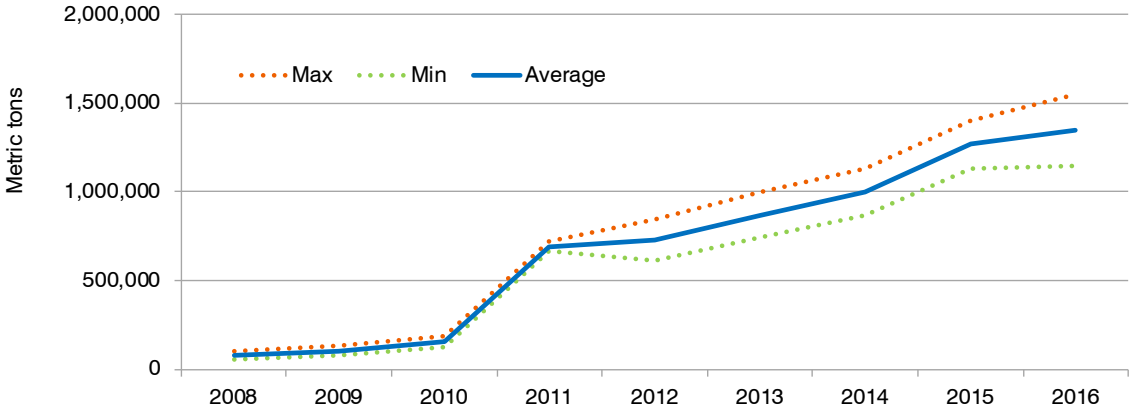
Figure 170: Tea: Production volume by standard, 2008–2016



Note: The organic production volume was estimated by FiBL based on estimated yields, as data are not available for most of the countries. UTZ defines certified volume as the estimated production potential.

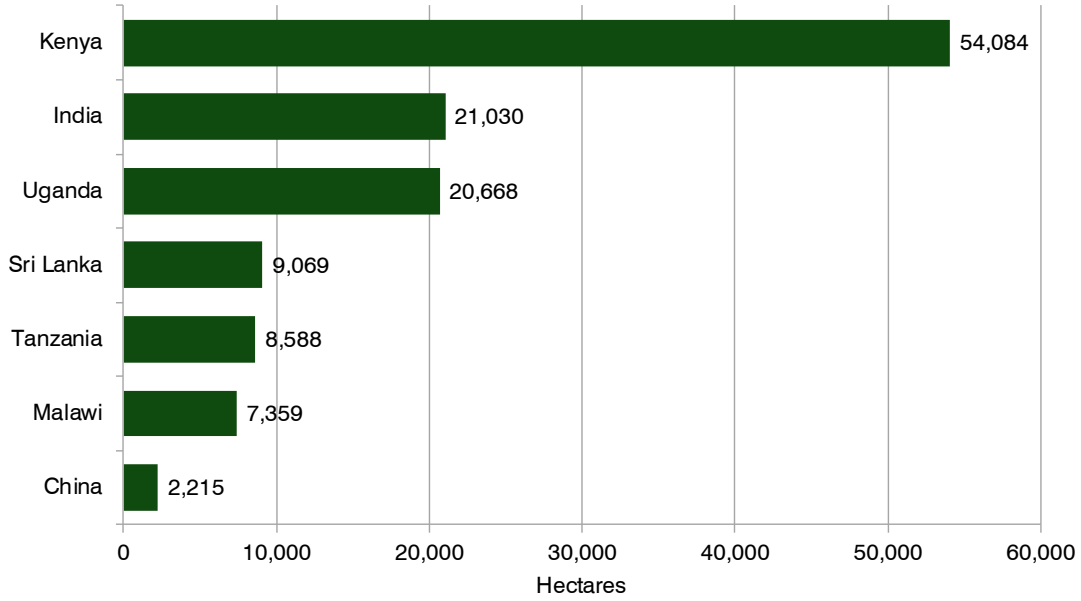
Source: Fairtrade International, 2018; FiBL, 2018; Rainforest Alliance, 2018; UTZ, 2018.

Figure 171: Tea: Average production volume, 2008–2016



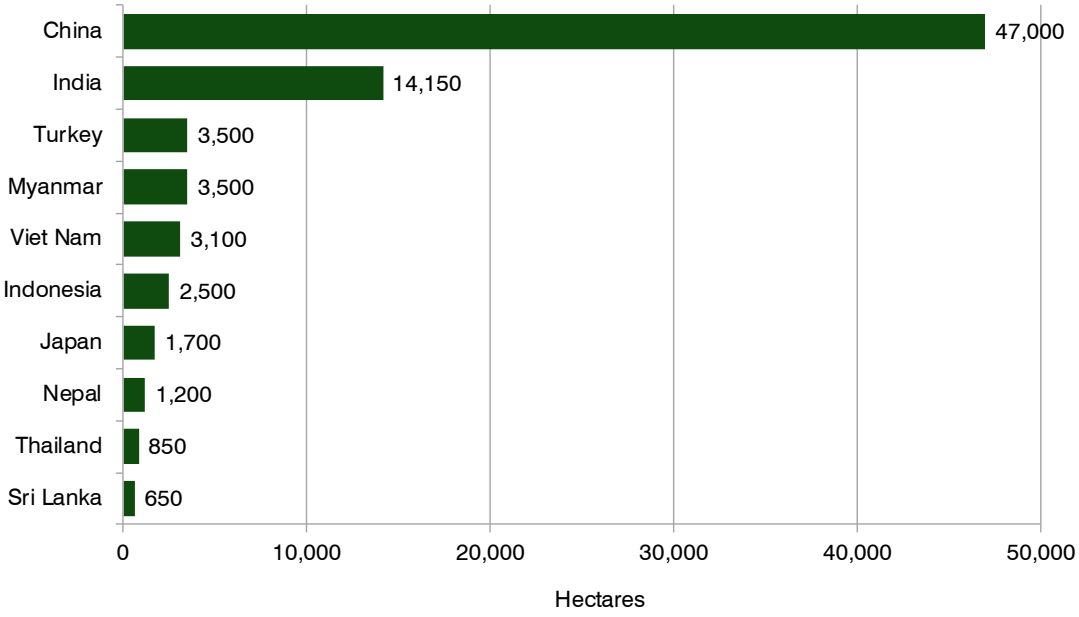
Source: FiBL-IISD-ITC survey, 2018. VSS: Fairtrade International, organic, Rainforest Alliance and UTZ.

Figure 172: Tea: Fairtrade International – Top countries by area, 2016



Source: Fairtrade International, 2018.

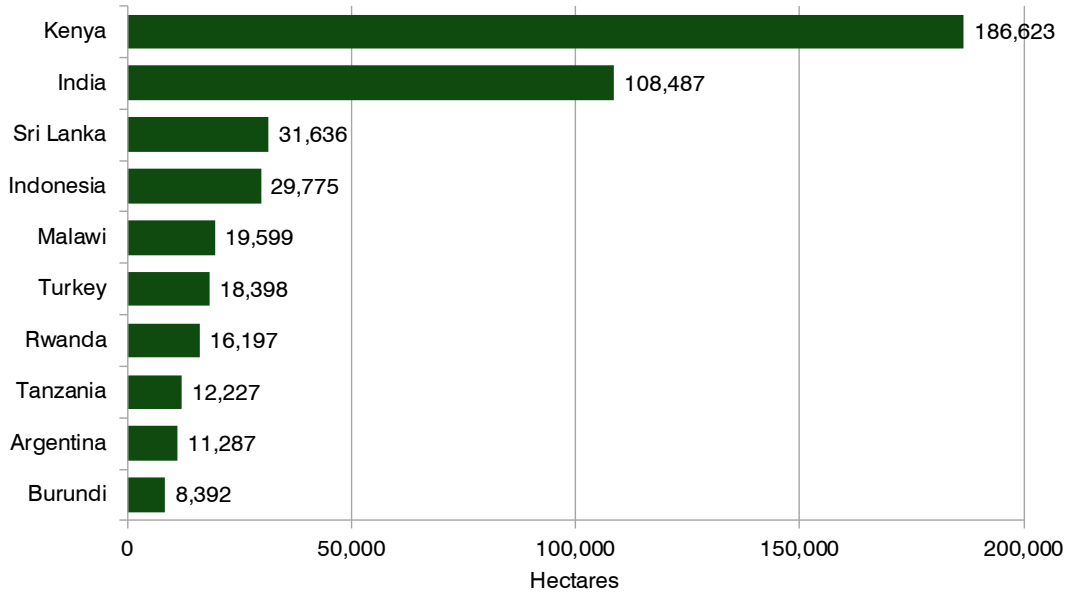
Figure 173: Tea: Organic – Top 10 countries by area, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

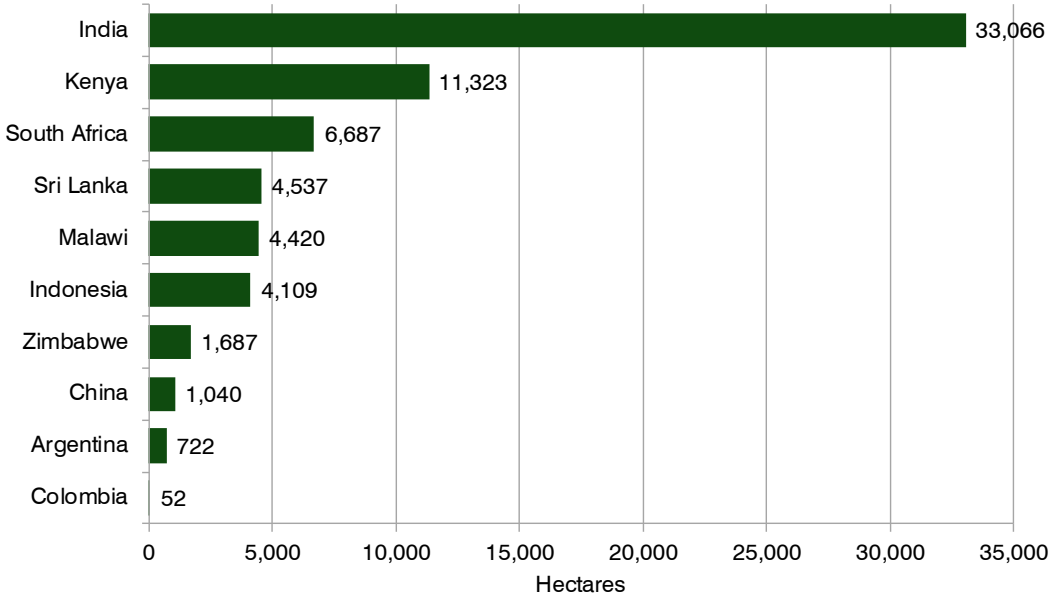
Source: FiBL, 2018. Based on national data sources and data from certifiers.

Figure 174: Tea: Rainforest Alliance – Top 10 countries by area, 2016



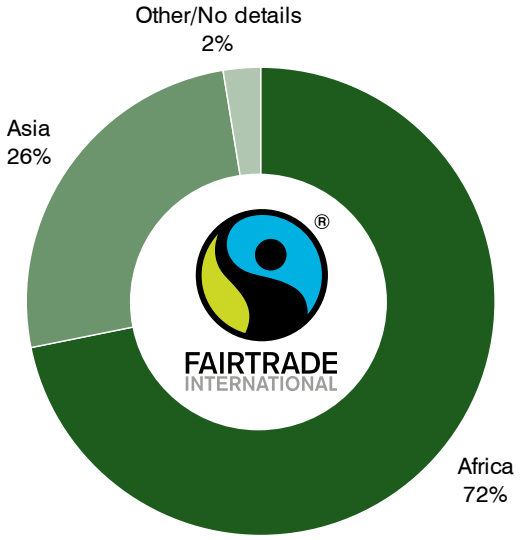
Source: Rainforest Alliance, 2018.

Figure 175: Tea: UTZ – Top 10 countries by area, 2016



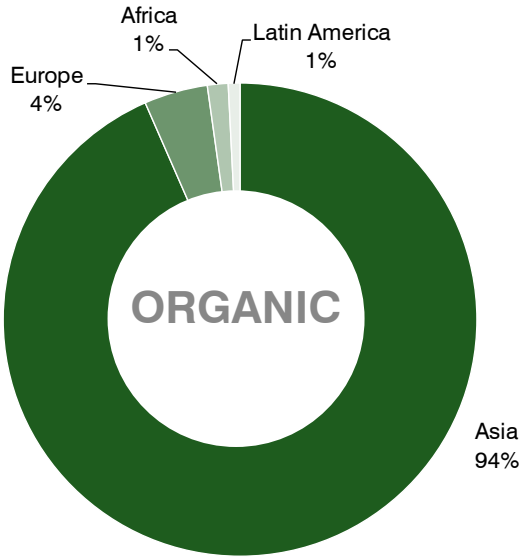
Source: UTZ, 2018.

Figure 176: Tea: Fairtrade-certified area by region, 2016



Source: Fairtrade International, 2018.

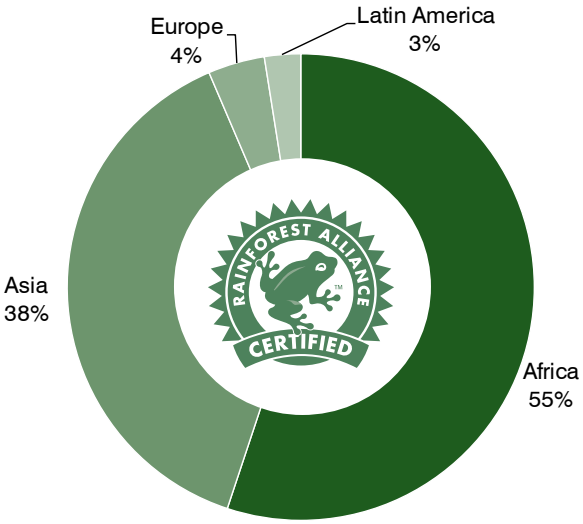
Figure 177: Tea: Organic-certified area by region, 2016



Note: The organic area harvested was estimated by FiBL based on the assumption that 90% of the fully converted area is actually harvested.

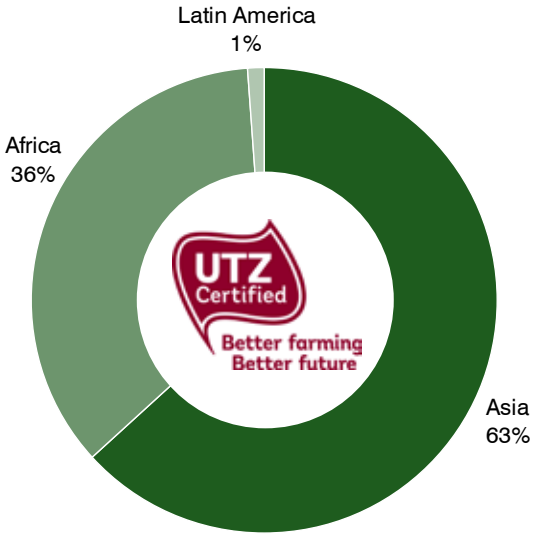
Source: FiBL, 2018.

Figure 178: Tea: Rainforest Alliance-certified area by region, 2016



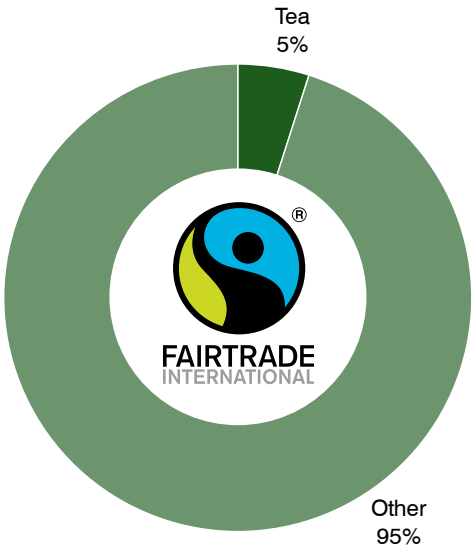
Source: Rainforest Alliance, 2018.

Figure 179: Tea: UTZ-certified area by region, 2016



Source: UTZ, 2018.

Figure 180: Tea: Share of Fairtrade area, 2015

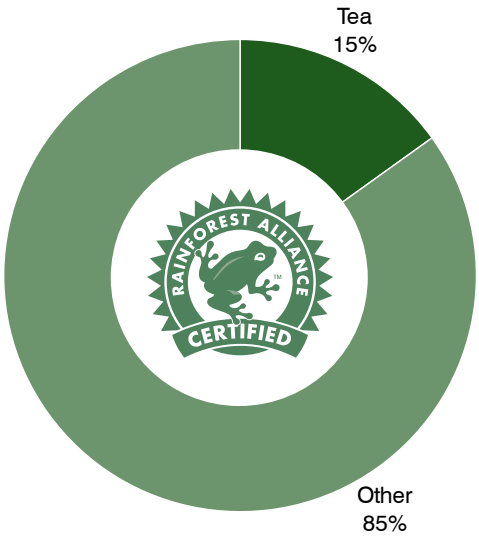


Source: Fairtrade International, 2017.

Figure 181: Tea: Share of organic area, 2016

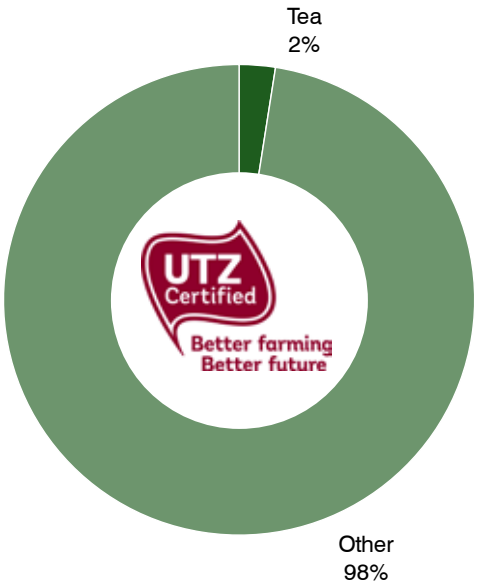
Source: FiBL, 2018.

Figure 182: Tea: Share of Rainforest Alliance area, 2016



Source: Rainforest Alliance, 2016.

Figure 183: Tea: Share of UTZ area, 2016



Source: UTZ, 2018.

FORESTRY

About half of the world's forests have already been removed

Forests cover 31% of Earth's land area, account for the employment of nearly 14 million people and contribute to revenues equivalent to 1% of the global gross domestic product (GDP) (FAO, 2016). Additionally, close to 1.6 billion people – more than 25% of the world's population – rely on forest resources for their livelihoods (FAO, 2015). Trade in forest products was valued at over $227 billion in 2016, half of which was accounted for by pulp and paper products (FAO, 2016).

The top five exporters of forest products (United States, Canada, Germany, China and Sweden) account for 40% of the value of global exports (FAOSTAT, 2018). The top five importers (China, United States, Germany, Japan, United Kingdom) account for 43% of global imports, with China alone representing 16% (FAOSTAT, 2018). About half of the world's forests have already been removed, and the annual rate of deforestation [34] is currently estimated at 3 million hectares (MacDicken et al., 2015). Sustainable forestry practices could, however, help reduce the pressures being felt by the world's forests and their communities.

International policy initiatives and trade laws have been a major factor in encouraging the uptake of sustainability standards and traceability more generally. Most notably, the negotiations on the forest principles at the 1992 United Nations Conference on Environment and Development provided a framework from which the major international forest management strategies were developed. These include the FSC and PEFC standards as well as the 2008 amendment to the United States Lacey Act and the European Union's Forest Law Enforcement, Governance and Trade Action Plan (FLEGT) and Timber Regulation (in 2013), which prohibit the trade of illegally harvested timber (Potts et al., 2014). Forest management standards played an important role in supporting the implementation of such international norms and treaties (Overdevest and Zeitlin, 2014). Major multinationals, including Ikea, Home Depot and Lowes, have made substantial commitments to standards-compliant forestry products (Potts et al., 2014).

34. Deforestation, in other words: Changing the land use from forest to something else is driven by different activities, including land clearing to make space for crops and livestock, mining, roads and dams, in addition to logging.

Canada has the world's largest managed forest area

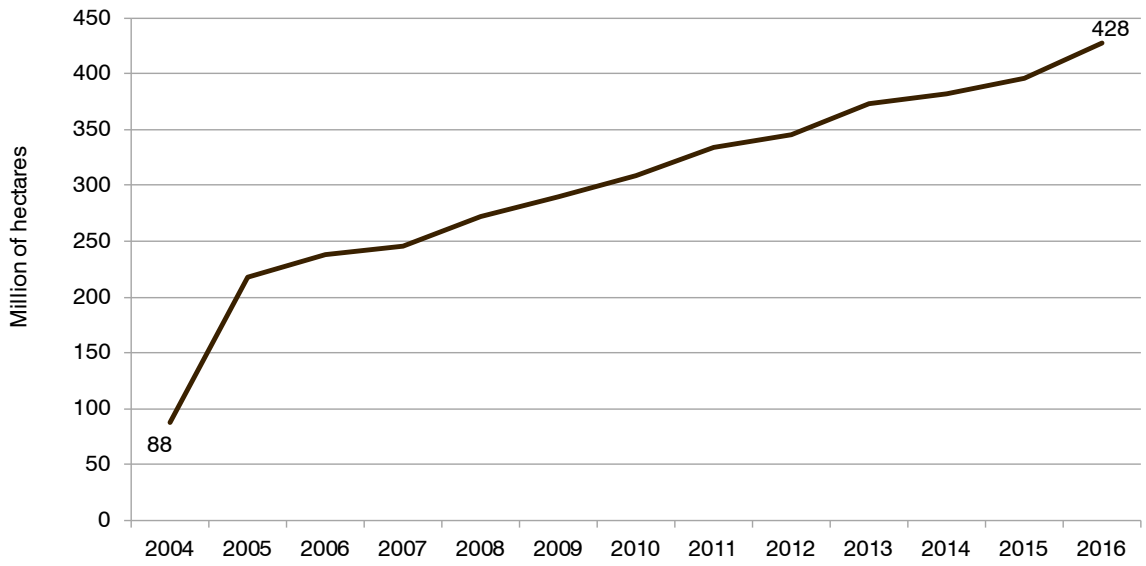
There are almost 4 billion hectares of forest worldwide (FAOSTAT, 2018). The two most important sustainable forestry standards are FSC (196 million hectares) and PEFC (301 million hectares). Together, they accounted for 428 million hectares in 2016, or almost 11% of the global total forest area (including non-productive forest areas).[35]

Most of the managed certified forest area was in North America (46%), followed by Europe (38%). Canada had the largest area of managed forest area (almost 158 million hectares), followed by the Russian Federation (nearly 47 million hectares) and the United States (almost 40 million hectares).

In 2017, FSC and PEFC agreed to jointly collect and publish data about double certification on a country level in response to requests from stakeholders. According to their findings, in 2018, a total of 431.4 million hectares were certified worldwide, representing a growth of 3.7 million hectares compared with 2016. Of this area, 16.5% was FSC- and PEFC-certified. Double certification exists in 31 countries.

For tables of VSS-compliant forestry, see the appendix with data tables by country.

Figure 184: Forestry: Certified area, 2004–2016

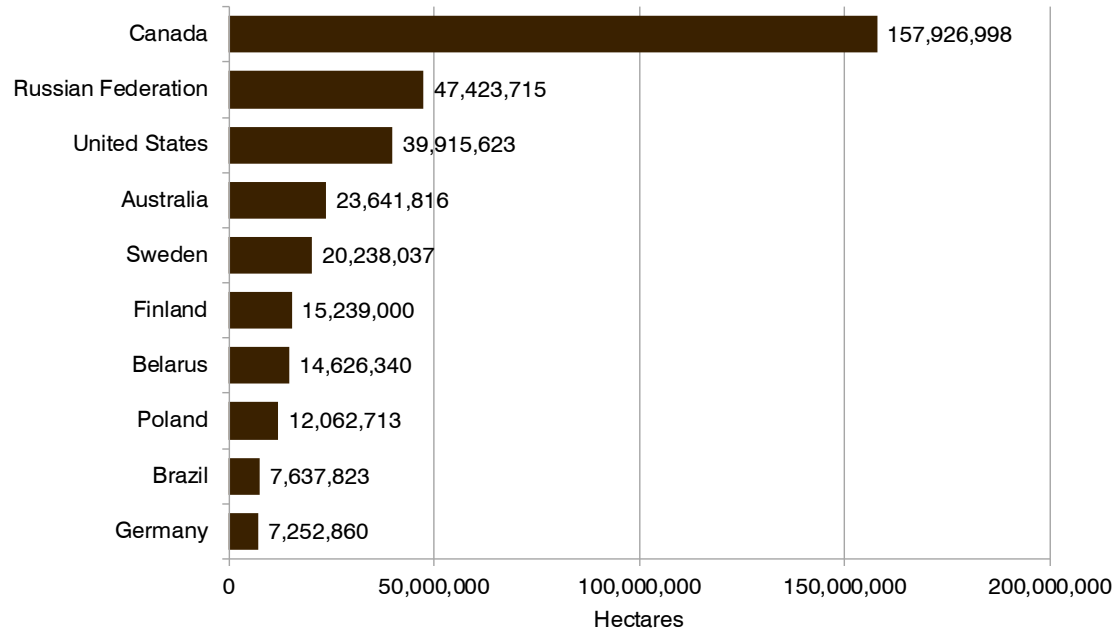


Note: The totals were adjusted for multiple certification, assuming that 15% is double-certified, based on FSC and PEFC assumptions.

Source: Forest Stewardship Council (FSC), 2004–2017; Programme for the Endorsement of Forest Certification (PEFC), 2004–2017.

35. Multiple certification was taken into account assuming that 15% of the certified area is double-certified.

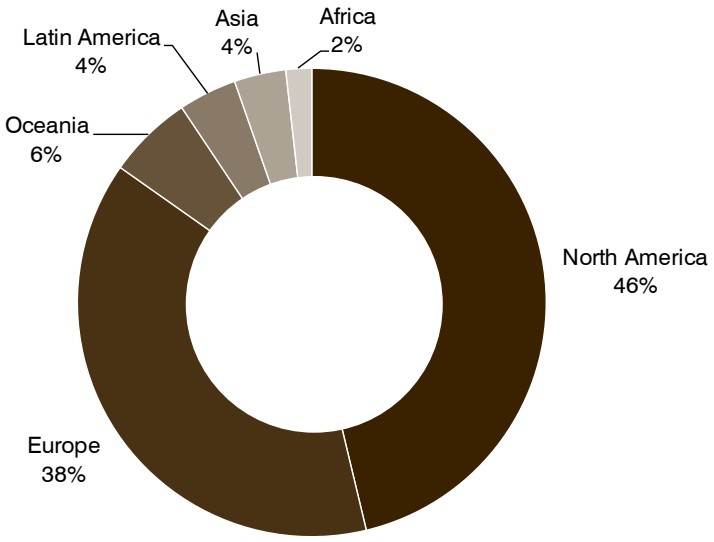
Figure 185: Forestry: Top 10 countries by area, 2016



Note: The totals were adjusted for multiple certification, assuming that 15% is double-certified, based on FSC and PEFC assumptions.

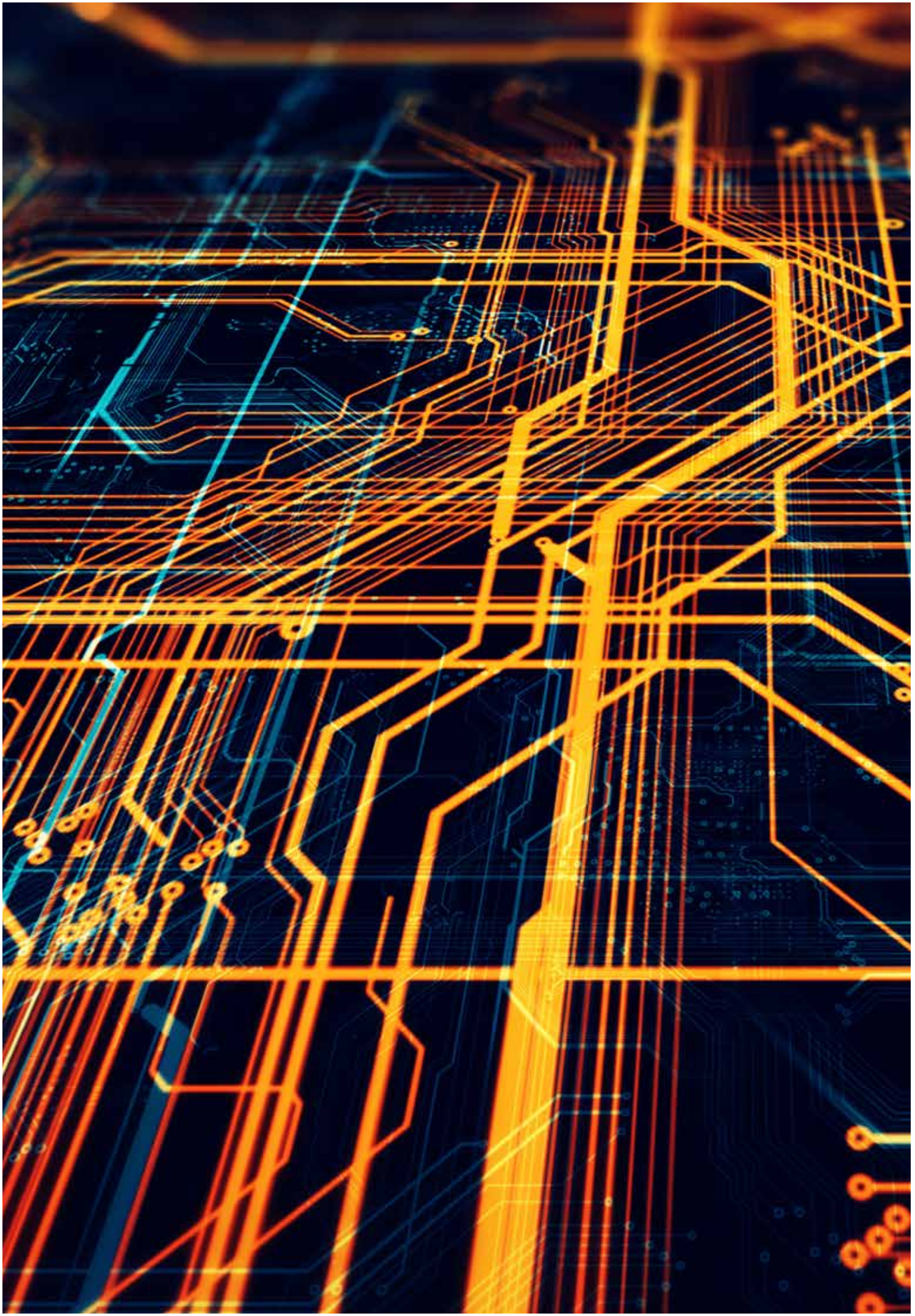
Source: Forest Stewardship Council (FSC), 2004–2017; Programme for the Endorsement of Forest Certification (PEFC), 2017

Figure 186: Forestry: Certified area by region, 2016



Note: The totals were adjusted for multiple certification, assuming that 15% is double-certified, based on FSC and PEFC assumptions.

Source: Forest Stewardship Council (FSC), 2004–2017; Programme for the Endorsement of Forest Certification (PEFC), 2017.



CHAPTER 4

METHODOLOGY AND DATA SOURCES

METHODOLOGY

The data presented in this report were obtained either directly from the standard-setting organizations or indirectly from published annual reports and other literature. For organic agriculture, data were gathered from private-sector organizations, governments and certification bodies as part of the annual survey of FiBL on organic agriculture worldwide (Willer/Lernoud, 2018). The data collection process, voluntary sustainability standards, indicators and commodities covered, as well as the quality checks carried out, are described below.

In October 2017, FiBL and IISD sent a standardized questionnaire to all the standards organizations. All of them returned data, but not consistently across all the indicators requested and not on all the commodities for 2016.

Focus on commodities

The focus was on the same crops as those presented in previous editions of The State of Sustainable Markets (Lernoud et al., 2017): bananas, cocoa, coffee, cotton, oil palm, soy, sugarcane and tea, as well as forestry. The standards organizations were also asked to provide data on additional crops covered by their standard and on the total certified area.

STANDARDS[36]

The following voluntary standards were analysed:

- 4C (previously 4C Association)
- Better Cotton Initiative (BCI)
- Bonsucro
- Cotton made in Africa (CmiA)
- Fairtrade International
- Forest Stewardship Council (FSC)
- GLOBALG.A.P.
- IFOAM – Organics International[37]
- Programme for the Endorsement of Forest Certification (PEFC)
- ProTerra Foundation
- Rainforest Alliance (RA)
- Roundtable on Sustainable Palm Oil (RSPO)
- Round Table on Responsible Soy (RTRS)
- UTZ.

36. For more information on the standards, see the ITC Standards Map website, www.sustainabilitymap.org.

37. Not all production considered organic is actually compliant with IFOAM norms. IFOAM – Organic International is nevertheless the leading global reference for defining organic standards. Market data on organic production and trade include all recognized organic production regardless of whether the production complies with IFOAM criteria per se.

Focus on commodities

The standards organizations surveyed for this report were asked to provide data on the indicators below:

Indicator	Definition	Unit of measure
Area		
Area	Area certified (fully converted plus under conversion)	Hectares
Area cultivated	Area that was cultivated	Hectares
Harvested area	Area actually harvested	Hectares
Production		
Production value	Value of production volume that is VSS-compliant, even if not sold as compliant at the first point of sale	$ million
Production volume	Production volume that is VSS-compliant, even if not sold as compliant at the first point of sale	Metric tons
Production volume sold under a VSS label	Volume of VSS-compliant product that is sold as compliant at the first point of sale (e.g. from cooperative to trader)	Metric tons
Operators		
Certificate holder	Total number of current valid certificates and in process	No.
Processor	Operator who preserves and/or processes agricultural or forestry products (including slaughtering and butchering) and aquaculture products. Packaging and labelling as VSS-compliant is also considered as processing.	No.
Producer	Production unit operated under a single management for the purpose of producing agricultural products (including processing, packaging and initial labelling of own crop and livestock products on the farm). This includes the producers organized under a group, resource manager, community or cooperative certificate, and/or those producing, collecting or gathering for a supply chain covered by a standard.	No.
Domestic Sales		
Domestic sales value	Domestic sales in $ million	$ million
Domestic sales volume	Domestic sales in metric tons	Metric tons
International Trade		
Export value	Value of VSS-compliant product that is exported	$ million
Export volume	Volume of VSS-compliant product that is exported	Metric tons
Import value	Value of VSS-compliant product that is imported	$ million
Import volume	Volume of VSS-compliant product that is imported	Metric tons
Multiple Certifications		
Multiple certification – Area harvested	Percentage of VSS-compliant area harvested that is compliant under more than one VSS certification	%

This publication focuses on those indicators for which data were provided by all VSS: area, area harvested, production volume, producers/operators.

Quality checks

The data received from the standards were validated using the following quality checks:

- Area and production data were compared with the data from the previous year as provided by the standards organizations themselves in previous surveys (Lernoud et al., 2015 and 2017) or as available in the IISD database (data as published by Potts et al., 2014).
- Area and production data were compared with the total area and production as provided by the Food and Agriculture Organization of the United Nations (FAO).
- Yields provided by FAO were compared with the VSS yields calculated on the basis of the area and production data provided by the standards.

Pivot tables were used to analyse the data, which enabled the identification of data anomalies. The standards organizations were asked to provide explanations for suspicious data, which resulted either in plausible explanations or in data revisions.

For most countries and territories, the Standard Country and Area Classifications as defined by the United Nations Statistics Division were applied.[38] Where the designation "country" appears in this report, it covers countries or areas. To calculate the share of the total VSS-certified area and commodity area, per country and worldwide, total country and world data were taken from the FAOSTAT database.[39]

Data year

Data collected and reported as crop year spanning two consecutive years were relabelled as, and attributed to, the latter of the two years. For instance, data reported in 2015/2016 were labelled as 2016 in the report to allow for consistency in data handling. Because there are inconsistencies across the VSS in terms of how they report their data, this assumption was necessary to allow comparisons across the standards.

Multiple certification

Reporting a global total of certain commodities remains difficult, as many producers are certified by more than one VSS, and there are not enough reliable data on the share of multiple certification. Considering this, FiBL, IISD and the International Trade Centre (ITC) decided that the best approach was to provide a range that encompasses the minimum and the maximum amounts possible, along with the average of the two at the country level.

To calculate the maximum, the total area and production volume of all standards in the country were determined. For the minimum, the standard with the largest area or largest production volume in the country was used as the reference. An average of the maximum and minimum was then calculated. These figures must be treated with caution, however, as they are simply estimates that indicate a trend.

The survey asked for the extent of multiple certification by country and for the VSS in question. Only two standards provided data on multiple certification, which made it impossible to calculate the actual share of multiple-certified. FiBL, IISD and ITC agreed to implement the method explained above in order to be able to report a development trend for each of the selected commodities in this report. Nevertheless, the three organizations remain committed to providing more accurate global figures in subsequent publications as data on multiple certification become available. FiBL and ISEAL Alliance are currently working to improve the availability of data on multiple certification from ISEAL members.

Data publication and revisions

Data going back to 2008 have been stored in the ITC Trade for Sustainable Development (T4SD) database and are available in the 'Trends' module of the Sustainability Map portal, www.sustainabilitymap.org/trends. Data revisions and corrections will be communicated at http://www.vss.fibl.org/de/vss-report/data-revisions.html.

38. For the composition of macrogeographical (continental) regions, geographical subregions, and selected economic and other groupings, see the United Nations Statistics Division (UNSTAT) homepage at http://unstats.un.org/unsd/methods/m49/m49regin.htm.
39. FAOSTAT, Data Archives, the FAO Homepage, FAO, Rome, at faostat.org > Inputs > Land at http://faostat3.fao.org/download/E/*/E.

KEY ISSUES AND SUGGESTIONS IN DATA COLLECTION

In a context where access to sustainable markets tends to be concentrated in more developed economies, policymakers, producers and businesses need better quality and transparent information to facilitate strategic planning. Areas where such data are both deeply needed and feasible include the following:

- **Prices and markets:** Pricing, particularly at the producer level, is extremely variable and poorly documented. Better pricing information could help producers make the right investments at the right time and/or determine the appropriate timing for bringing goods to market.
- **Trade data:** Trade statistics are a critical reference point in the development of international trade policy and trade-dependent industrial policy. The absence of trade data on certified products renders the relevant standards (and the practices they embody) effectively invisible within the policy-planning context. As a result, the global community misses out on critical opportunities to proactively promote better practices through more strategic planning and policies related to certified products and their effectiveness.
- **Consumption data:** A better understanding of the distribution of consumption, and of consumer demographics, could facilitate public planning for expanding the market presence of products employing preferred practices. However, retail-level data are typically held closely by companies, thereby limiting the potential of complementary public or development policy to match consumer preferences appropriately. Global retail data are currently available only for organic and Fairtrade products.

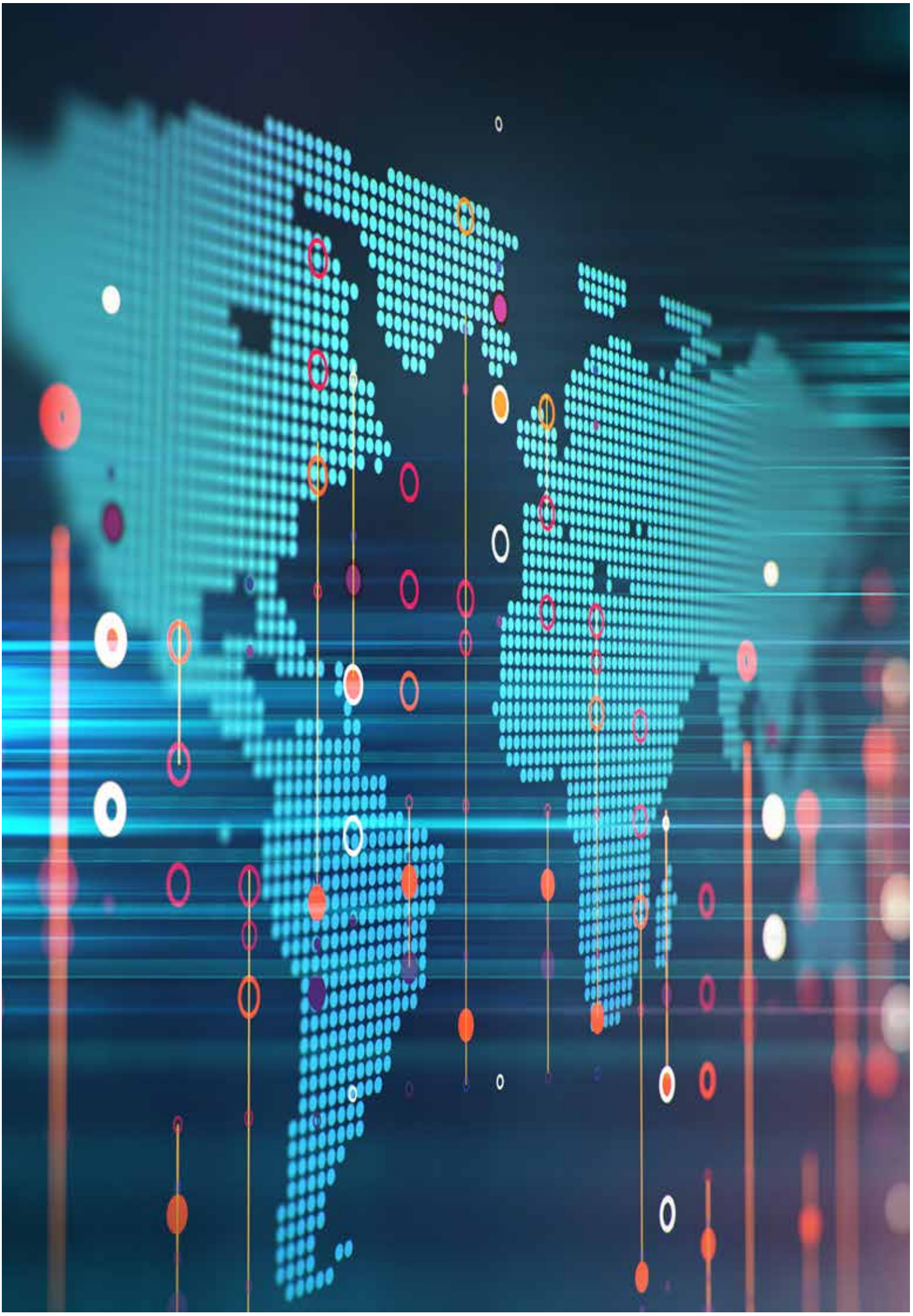
Better data on these and other parameters are unlikely to become available without real political and financial commitment. A shortlist of some of the more promising avenues for action would include:

- **Expansion of reporting and transparency requirements for certified producers:** Adoption of a coordinated approach to the specification and collection of data related to key parameters among standard-setters would be a major step towards computing accurate regional and global production levels.
- **Expansion of Harmonized System (HS) coding system to include HS codes for certified goods:** The International Convention on the Harmonized System (HS), which establishes a harmonized nomenclature for products so that trade statistics can be gathered and compiled at the global level, currently offers no means for differentiating between certified and uncertified products. As a result, national trade statistics remain unavailable for certified products. The elaboration of certification-specific HS codes could rely on internationally agreed norms of good practice as a basis for determining where such codes are warranted and where they are not. The elaboration of HS codes for certified products would substantially enhance market and trade data on such products.
- **Expanded corporate reporting:** Retail data are typically held closely by individual companies and are therefore often inaccessible to the public or policymakers. Standards initiatives, Governments and/or companies themselves could establish rules (tied to licensing, sales or voluntary precompetitive agreements) requiring companies to make certain data available on an anonymous basis for use in statistical analyses.
- **National statistics on sustainable consumption:** Countries could use their national statistics bureaus to conduct surveys enabling a deeper understanding of consumer preferences related to sustainable consumption. Harmonizing survey methods and mapping national consumer preferences onto actual sales could provide an important reference point for market actors seeking to leverage consumer preferences for their respective green growth strategies.

DATA SOURCES

- **4C**: For 2008–2012, 4C data as quoted by Potts et al., 2014. For 2013–2015, data were provided by Juan Carlos Isaza, Standards Manager, George Watane, Global Coffee Platform (GCP) (www.globalcoffeeplatform.org), Bonn, Germany. For 2016 onwards, data were provided by Gustavo Bacchi, Coffee Assurance Services, Bonn, Germany (www.cas-veri.com).
- **Better Cotton Initiative**: For 2008–2012, BCI data as quoted by Potts et al., 2014. For 2013–2016, data were provided by Kendra Pasztor, Monitoring and Evaluation Manager, and Shannon Avison, Data Analyst, BCI, Geneva, Switzerland, www.bettercotton.org.
- **Bonsucro**: For 2008–2012, Bonsucro data as quoted by Potts et al., 2014. For 2013–2016, data were provided by Nicolas Viart, Head of Sustainability, and Nahuel Tuñon, Insights Analyst, Bonsucro, London, United Kingdom, www.bonsucro.com.
- **Cotton made in Africa**: For 2008–2011, CmiA data as quoted by Potts et al., 2014. For 2012–2015, data were provided by Maria-Verena Spohler-Kouoh, Project Manager, CmiA, Hamburg, Germany, www.cottonmadeinafrica.org.
- **Fairtrade International**: For 2011–2016, data were provided by Daniel Castro, Data Operations Manager, Fairtrade International, Bonn, Germany, www.fairtrade.net. Market data based on Fairtrade International Annual Reports 2005–2016, available at https://www.fairtrade.net/about-fairtrade/annual-reports.html. Fairtrade data have been revised, and the figures reported here might differ from previous Fairtrade International reports.
- **Forest Stewardship Council International**: Data were provided by Marion Karmann, Monitoring and Evaluation Program Manager, and Rob Ukkerman, FSC International, Bonn, Germany. FSC Annual Reports 2004–2017, www.fsc.org.
- **GLOBALG.A.P.**: Data were provided by Claudia Meifert, Data Mining and Statistic Support, GLOBALG.A.P, Cologne, Germany. Data from 2012–2016.
- **Organic**: FiBL surveys among national data providers and certifiers. Based on the data on the certified area, FiBL estimates the area harvested and the production volume. For full list of original data sources, see www.organic-world.net/yearbook.

  Contact: Julia Lernoud and Helga Willer, FiBL, Frick, Switzerland, julia.lernoud@fibl.org and helga.willer@fibl.org. The organic cotton data were provided by Liesl Truscott and Evonne Tan, Textile Exchange, United Kingdom, http://farmhub.textileexchange.org/.
- **Programme for the Endorsement of Forest Certification**: Data were provided by Thorsten Arndt, PEFC International, Geneva, Switzerland, www.pefc.org ; PEFC annual reports from 2005–2016.
- **ProTerra Foundation**: For 2008–2012, ProTerra Foundation data as quoted by Potts et al., 2014. For 2013–2016, data were provided by Augusto Freire, President, ProTerra Foundation, Brasilia, Brazil, www.proterrafoundation.org.
- **Rainforest Alliance**: For 2008–2012, RA data as quoted by Potts et al., 2014. For 2013 and 2014, data were provided by Joseph Cameron Booth, Assistant Market Transformation, Rainforest Alliance, London, United Kingdom, www.rainforest-alliance.org. For 2015 and 2016, data were provided by Andrea Valenzuela, Associate Certification Program, Landscapes & Livelihoods, Rainforest Alliance, San José, Costa Rica.
- **Roundtable on Sustainable Palm Oil**: For 2008–2012, RSPO data as quoted by Potts et al., 2014. For 2013–2016, data were provided by Jan Van Driel, RSPO Head of Certification, Roundtable on Sustainable Palm Oil, Kuala Lumpur, Malaysia, www.rspo.org.
- **Round Table on Responsible Soy**: For 2008–2012, RTRS data as quoted by Potts et al., 2014. For 2013–2016, data were provided by Daniel Kazimierski and Laura Villegas, Communications Officer, Round Table on Responsible Soy, Ciudad Autónoma de Buenos Aires, Argentina, www.responsiblesoy.org.
- **UTZ**: For 2008–2012, UTZ data as quoted by Potts et al., 2014. For 2013–2015, data were provided by Elisa Trepp, Data Analyst, and Anne Dullemeijer, Data Analyst, UTZ, Amsterdam, Netherlands, www.utz.org.



APPENDIX I

GEOGRAPHIC OVERVIEW BY PRODUCT AND STANDARD

BANANAS

Table 16: Bananas: Fairtrade International 2016

Country	Area [ha]	Share of total banana area [%]	Production volume [MT]	Producers [no.]
Colombia	5,414	6.4%	190,579	385
Dominican Republic	12,588	46.9%	229,330	1,959
Ecuador	5,210	2.9%	73,252	708
Peru	6,797	69.0%	155,515	6,935
Other world	6,477	-	182,275	720
World	**36,487**	**0.7%**	**830,951**	**10,707**

***Note*:** The totals include data from other countries.

***Source*:** Fairtrade International, 2018.

Table 17: Bananas: GLOBALG.A.P. 2016

Country or economy	Area [ha]	Share of total banana area [%]	Producers [no.]
Brazil	1'967	0.4	15
Cameroon	-	-	3
Colombia	42'548	50.3	579
Costa Rica	26'240	61.9	82
Côte d'Ivoire	22	0.3	9
Dominican Republic	15'668	58.4	1'373
Ecuador	69'145	38.3	981
Egypt	-	-	2
France	23	-	9
Ghana	-	-	3
Guadeloupe (France)	21	0.8	7
Guatemala	22'260	28.5	18
Honduras	10'483	42.9	21
India	n.a.	n.a.	1
Indonesia	-	-	1
Kenya	-	-	1
Lebanon	-	-	3
Martinique (France)	3'327	56.8	72
Mexico	4'404	5.6	22
Nicaragua	-	-	4
Panama	-	-	2
Peru	6'216	63.1	5'323
Philippines	20	0.004	6
Puerto Rico	-	-	1
Saint Lucia	12	3.4	248
Saint Vincent/Grenadines	4	0.1	29
South Africa	6'111	116.4	19
Spain	18	0.2	349
Sri Lanka	5	-	30

Country or economy	Area [ha]	Share of total banana area [%]	Producers [no.]
Suriname	-	-	1
Swaziland	-	-	2
Thailand	-	-	4
Turkey	7	0.1	5
United Arab Emirates	-	-	2
United Kingdom	8	-	20
Other world	47'012	-	
World	**252'602**	**4.6**	**9'247**

***Note*:** n.a means data not available. The totals include data from other countries. *For countries with fewer than five producers, or fewer than two certificate holders, data are not published due to data confidentiality rules.

***Source*:** GLOBALG.A.P., 2018.

Table 18: Bananas: Organic 2016

Country	Estimated area harvested [ha]	Share of total banana area [%]	Estimated production volume [MT]
Argentina	5	0.1%	100
Cameroon	15	0.02%	250
China	50	0.01%	1,500
Colombia	900	1.1%	20,650
Costa Rica	2,700	6.4%	153,400
Côte d'Ivoire	50	0.7%	2,150
Dominican Republic	20,350	75.8%	409,450
Ecuador	13,200	7.3%	154,440
Ghana	50	0.6%	550
Grenada	5	0.6%	15
Guatemala	35	0.04%	1,600
Indonesia	35	0.03%	1,650
Israel	20	0.8%	1,000
Kenya	300	0.5%	6,100
Mexico	3,100	4.0%	89,650
Peru	4,900	49.7%	170,700
Philippines	5,500	1.2%	70,200
Puerto Rico	5	0.3%	250
Senegal	250	16.9%	6,050
Turkey	15	0.2%	700
World	**51,485**	**0.9%**	**1,090,405**

***Note*:** The totals include data from other countries.

***Source*:** FiBL, 2018. Estimates based on national data sources and data from certifiers.

Table 19: Bananas: Rainforest Alliance 2016

Country	Area [ha]	Production volume [MT]	Producers [no.]
Belize	2,419	55,326	13
Brazil	361	20,884	18
Cameroon	1,648	82,596	8
Colombia	38,043	1,715,534	355
Costa Rica	29,230	1,481,048	105
Côte d'Ivoire	3,421	171,045	8
Dominican Republic	959	21,362	82
Ecuador	20,321	948,150	198
Guatemala	26,414	1,907,757	93
Honduras	8,515	442,101	15
Malawi	239	4,555	2
Mexico	679	39,914	3
Nicaragua	1,708	92,719	9
Panama	5,520	227,626	26
Peru	15	816	605
Philippines	5,188	142,413	36
World	**144,680**	**7,353,847**	**1,576**

***Source*:** Rainforest Alliance, 2018.

COCOA

Table 20: Cocoa: Fairtrade International 2016

Country	Area [ha]	Share of total cocoa area [%]	Production [MT]	Producers [no.]
Côte d'Ivoire	308,112	10.8%	160,815	56,576
Dominican Republic	71,183	41.2%	19,304	14,124
Ecuador	9,087	2.0%	2,574	2,828
Ghana	245,746	14.6%	67,976	114,326
Peru	37,670	30.0%	35,067	14,053
Other world	50,262	-	6,181	24,672
World	**722,060**	**7.1%**	**291,917**	**226,579**

Source: Fairtrade International, 2018.

Table 21: Cocoa: Organic 2016

Country	Estimated area harvested [ha]	Share of total cocoa area [%]	Estimated production volume [MT]
Belize	350	36.9%	30
Bolivia	4,000	38.9%	1,650
Brazil	7,100	1.0%	1,850
Colombia	350	0.2%	100
Congo, D.R.	30,600	-	5,800
Costa Rica	1,500	37.5%	250
Côte d'Ivoire	100	0.004%	35
Dominican Republic	153,200	88.6%	100,000
Ecuador	12,650	2.8%	3,450
Ghana	4,700	0.3%	1,700
Grenada	50	4.0%	20
Haiti	4,650	17.2%	1,600
Honduras	700	37.1%	200
Indonesia	2,700	0.2%	750
Madagascar	3,100	23.5%	1,850
Mexico	800	1.4%	250
Nicaragua	1,500	16.1%	850
Nigeria	450	0.1%	90
Panama	12,600	-	1,600
Papua New Guinea	650	0.6%	250
Peru	23,050	18.4%	13,850
Sao Tome and Principe	6,400	24.8%	700
Sierra Leone	20,300	50.0%	7,350
Tanzania	19,750	-	9,850
Togo	1,750	3.2%	1,150
Uganda	7,100	12.2%	2,050
World	**320,100**	**3.1%**	**157,275**

Note: The totals include data from other countries.

Source: FiBL, 2018. Estimates based on national data sources and data from certifiers.

Table 22: Cocoa: Rainforest Alliance 2016

Country	Area [ha]	Production volume [MT]	Producers [no.]
Brazil	574	251	19
Cameroon	2,353	1,702	831
Costa Rica	120	120	1
Côte d'Ivoire	472,172	300,480	174
Dominican Republic	23,981	20,406	5,067
Ecuador	19,439	24,912	2,584
Ghana	128,391	86,267	47,548
India	997	168	828
Indonesia	21,547	20,953	14,794
Nicaragua	70	18	4
Nigeria	7,021	2,863	3,328
Papua New Guinea	3,922	2,003	7,465
Peru	3,320	5,204	1,284
Tanzania	7,981	8,045	23,311
World	**692,228**	**473,480**	**206,426**

Source: Rainforest Alliance, 2018.

Table 23: Cocoa: UTZ 2016

Country	Area harvested [ha]	Share of total cocoa area [%]	Estimated production volume [MT]	Producers [no.]
Cameroon	71,590	9.9%	35,526	17,482
Colombia	1,928	1.2%	1,016	405
Côte d'Ivoire	1,143,736	40.1%	661,876	267,757
Dominican Republic	30,302	17.5%	22,056	4,576
Ecuador	53,356	11.7%	59,626	6,897
Ghana	401,487	23.8%	181,365	124,224
Indonesia	76,064	4.5%	58,018	51,090
Nicaragua	1,701	18.3%	621	916
Nigeria	142,999	17.1%	72,955	52,663
Peru	45,083	35.9%	47,871	12,130
Sierra Leone	60,773	-	13,430	22,941
Tanzania	8,969	75.8%	5,458	14,603
Viet Nam	1,391	-	1,931	1,439
Other world	46,676	-	21,661	37,286
World	**2,096,939**	**20.6%**	**1,188,166**	**614,508**

Source: UTZ, 2018.

**Others include DR of Congo, Liberia, Mexico, Panama, Togo and Uganda.*

COFFEE

Table 24: Coffee: 4C 2016

Country	Area [ha]	Share of total coffee area [%]	Production volume [MT]	Producers [no.]
Brazil	737,430	37.0%	1,385,272	28,980
Burundi	4,766	29.8%	4,243	49,649
Cameroon	4,903	4.7%	4,251	2,922
China	21,275	51.2%	47,630	3,194
Colombia	354,217	40.9%	358,444	130,597
Côte d'Ivoire	59,660	5.6%	36,732	23,808
El Salvador	18,339	13.1%	1,156	162
Ethiopia	11,655	1.7%	6,333	6
Guatemala	5,276	1.9%	4,590	534
Honduras	79,374	20.7%	120,708	15,210
India	8,586	2.2%	10,318	661
Indonesia	150,013	12.2%	86,138	51,475
Kenya	13,225	11.6%	9,130	61,919
Lao P.D.R.	1,452	1.9%	1,554	326
Mexico	51,360	8.0%	42,891	17,256
Nicaragua	12,340	10.3%	12,285	238
Papua New Guinea	6,398	11.8%	4,344	8,086
Peru	48,854	12.7%	48,940	12,364
Philippines	13,192	11.5%	3,854	8,563
Rwanda	2,736	7.8%	2,428	14,204
Tanzania	12,361	5.6%	2,832	14,777
Thailand	15,774	35.4%	14,259	4,050
Uganda	27,397	7.1%	8,946	26,811
Viet Nam	150,177	25.1%	522,530	89,217
Other Africa	921	-	789	2,183
Other Latin America	15,144	-	23,407	2,030
World	**1,826,825**	**16.6%**	**2,764,002**	**569,222**

***Source*:** Coffee Assurance Services, 2018.

Table 25: Coffee: Fairtrade International 2015

Country	Area [ha]	Share of total coffee area [%]	Production volume [MT]	Producers [no.]
Bolivia	8,057	26.8%	2,577	2,298
Brazil	65,547	3.1%	87,484	9,571
Colombia	213,382	26.8%	164,676	66,497
Costa Rica	28,794	30.7%	30,653	9,656
Côte d'Ivoire	10,802	4.9%	50	n.a.
Congo, D.R.	n.a.	-	n.a.	14,020
El Salvador	n.a.	-	n.a.	896
Ethiopia	207,975	40.0%	18,025	145,963
Guatemala	24,512	9.8%	12,677	13,969

Country	Area [ha]	Share of total coffee area [%]	Production volume [MT]	Producers [no.]
Honduras	19,019	6.9%	22,242	6,215
India	4,482	1.2%	6,610	21,488
Indonesia	27,712	2.2%	20,344	26,399
Kenya	50,626	46.0%	23,943	171,650
Mexico	117,608	16.8%	30,042	36,974
Nicaragua	59,431	55.0%	29,592	27,508
Papua New Guinea	3,485	5.0%	1,272	2,835
Peru	159,953	40.0%	87,473	45,710
Rwanda	4,540	10.1%	2,670	12,162
Tanzania	167,072	71.7%	4,447	141,799
Uganda	64,369	20.6%	4,755	44,692
Viet Nam	1,137	0.2%	4,730	652
Other African countries	18,694	-	1,747	9,028
Other Asian countries	27,334	-	3,769	23,491
Other Latin American countries	12,675	-	1,123	10,838
World	**1,297,206**	**13.5%**	**560,902**	**844,311**

***Note*:** n.a means data not available. The 2016 data were not available at the time of publication.

***Source*:** Fairtrade International, 2017.

Table 26: Coffee: Organic 2016

Country	Estimated area harvested [ha]	Share of total coffee area [%]	Estimated production volume [MT]
Bolivia	9,700	41.6%	7,150
Brazil	12,000	0.6%	14,050
Cameroon	50	0.05%	15
Cape Verde	500	-	90
Colombia	7,950	0.9%	5,450
Congo, D.R.	22,600	29.7%	7,100
Costa Rica	650	0.8%	550
Dominican Republic	9,400	11.9%	1,350
Ecuador	2,750	9.2%	350
El Salvador	1,200	0.9%	250
Ethiopia	159,850	22.8%	85,650
Fiji	300	-	150
Guatemala	6,950	2.5%	4,800
Honduras	21,150	5.5%	16,000
India	2,000	0.5%	1,350
Indonesia	81,750	6.7%	42,550
Jamaica	2	0.03%	2
Kenya	1,150	1.0%	450
Lao P.D.R.	1,250	1.6%	1,750
Madagascar	650	0.8%	350
Malawi	50	1.2%	85
Mexico	231,000	35.8%	54'300
Myanmar	30	0.2%	15

Country	Estimated area harvested [ha]	Share of total coffee area [%]	Estimated production volume [MT]
Nepal	800	30.6%	150
Nicaragua	10,450	8.7%	7,950
Panama	850	5.0%	400
Papua New Guinea	14,100	25.9%	12,200
Peru	99,050	25.8%	57,300
Philippines	250	0.2%	150
Rwanda	200	0.6%	90
Sao Tome and Principe	250	25.0%	15
Sierra Leone	29,250	-	74,750
Tanzania	79,250	35.8%	18,700
Thailand	1,250	2.8%	750
Timor-Leste	28,000	52.6%	5,600
Uganda	59,000	15.4%	25,050
United States	100	2.7%	100
World	**881,982**	**8.0%**	**447,012**

***Source*:** FiBL, 2018. Estimates based on national data sources and data from certifiers.

Table 27: Coffee: Rainforest Alliance 2016

Country	Area cultivated [ha]	Production volume [MT]	Producers [no.]
Brazil	76,343	165,114	74
China	326	700	4
Colombia	39,598	66,566	9,674
Costa Rica	22,196	29,308	24
Ecuador	82	87	120
El Salvador	18,494	11,129	544
Ethiopia	40,900	15,166	18,270
Guatemala	23,074	28,017	2,408
Honduras	11,389	28,065	1,444
India	20,164	19,241	3,147
Indonesia	11,752	11,540	9,892
Jamaica	67	35	3
Kenya	14,899	16,406	60,182
Lao P.D.R.	1,576	250	5
Malawi	617	818	2
Mexico	10,346	8,691	1,623
Nicaragua	10,366	16,428	148
Panama	222	328	2
Papua New Guinea	1,553	939	4,302
Peru	35,149	37,494	9,924
Rwanda	5,555	3,897	30,010
Sri Lanka	2	-	2
Tanzania	23,649	7,328	37,886
Uganda	9,362	9,469	27,589
Viet Nam	8,032	30,731	5,587
Zambia	1,553	885	1
World	**387,265**	**508,632**	**222,850**

***Source*:** Rainforest Alliance, 2018.

Table 28: Coffee: UTZ 2016

Country	Area harvested [ha]	Share of total coffee area [%]	Estimated production volume [MT]	Producers [no.]
Brazil	134,838	6.8%	300,745	991
Colombia	44,605	5.2%	74,564	6,485
Costa Rica	1,034	1.2%	1,368	35
Dominican Republic	1,681	2.1%	730	3
Ethiopia	22,677	3.2%	13,488	3,628
Guatemala	8,119	3.0%	12,243	1,931
Honduras	50,801	13.3%	82,469	8,173
India	37,207	9.4%	39,320	1,021
Indonesia	15,074	1.2%	9,585	5,805
Kenya	7,780	6.8%	6,201	3,496
Mexico	27,155	4.2%	13,564	9,722
Nicaragua	28,166	23.5%	36,047	2,112
Peru	80,589	21.0%	75,551	21,207
Tanzania	5,218	2.4%	2,850	3,977
Uganda	24,173	6.3%	15,593	49,236
Viet Nam	50,598	8.5%	172,620	32,275
Other world*	27,623	-	13,164	76,327
World	**567,336**	**5.2%**	**870,102**	**226,424**

***Source*:** UTZ, 2018.

** Others include Burundi, China, DR of Congo, El Salvador, Laos P. D. R., Panama, Papua New Guinea, Rwanda and Zambia.*

COTTON

Table 29: Cotton: Better Cotton Initiative 2016

Country	Seed cotton area [ha]	Seed cotton share of total seed cotton area [%]	Seed cotton producers participating in Better Cotton projects [no.]	Cotton lint production volume [MT]
Australia	62,000	22.1%	76	138,000
Brazil	607,000	60.9%	250	1,050,000
China	401,000	11.9%	62,115	932,000
India	501,000	4.8%	445,065	325,000
Israel	8,000	95.9%	84	14,000
Kazakhstan	2,000	1.8%	43	1,000
Madagascar	7,000	47.3%	4,915	1,000
Mali	n.a.	-	53,272	n.a.
Mozambique	59,000	58.4%	100,038	9,000
Pakistan	359,000	14.4%	128,393	316,000
Senegal	n.a.	-	5,036	n.a.
South Africa	7,000	-	1,618	4,000
Tajikistan	13,000	8.0%	1,051	13,000
Turkey	16,000	3.8%	374	30,000
United States	85,000	2.2%	127	109,000
World	**2,127,000**	**7.0%**	**802,457**	**2,942,000**

***Note*:** n.a means data not available.

***Source*:** Better Cotton Initiative (BCI), 2017.

Table 30: Cotton: Fairtrade International 2016

Country	Area [ha]	Share of total seed cotton area [%]	Production volume [MT]	Producers [no.]
India	n.a	-	37,638	35,282
Senegal	n.a	-	1,920	3,801
Other world	n.a	-	2,786	8,385
World	**n.a**	**3.9%**	**42,344**	**47,468**

***Note*:** n.a means data not available.

***Source*:** Fairtrade International, 2018. Data on the Fairtrade certified cotton area were not available at the time of publication.

Table 31: Cotton: Organic 2016

Country	Seed cotton Area [ha]	Seed cotton Share of total seed cotton area [%]	Seed cotton Production volume [MT]	Seed cotton Producers [no.]	Cotton lint Production volume [MT]
Benin	2,507	0.6%	972	2,237	407
Brazil	680	0.1%	48	232	17
Burkina Faso	4,928	0.7%	1,170	8,382	469
China	9,653	0.3%	34,803	3,043	14,817
Egypt	581	1.1%	2,622	584	1,023
India	189,364	1.8%	176,544	192,148	60,184
Israel	100	1.2%	44	1	14
Kyrgyzstan	5,616	33.9%	20,508	119	7,981
Mali	1,970	0.3%	326	1,213	136
Pakistan	1,056	0.04%	1,110	2	366
Peru	337	1.9%	824	141	312
Senegal	66	0.3%	2	169	1
Tajikistan	7,013	4.3%	18,049	1,121	6,620
Tanzania	64,084	20.0%	8,233	4,244	3,229
Thailand	76	0.4%	8	66	3
Turkey	3,733	0.9%	18,942	185	7,577
Uganda	2,428	3.5%	750	6,000	300
United States	8,369	0.2%	12,927	60	4,524
World	**302,562**	**1.0%**	**297,882**	**219,947**	**107,980**

***Source*:** Textile Exchange, 2018.

OIL PALM

Table 32: Oil palm: Organic 2016

Country	Estimated area harvested [ha]	Share of total oil palm area [%]	Estimated production volume [MT]
Colombia	1,350	0.4%	19,300
Côte d'Ivoire	400	0.1%	2,550
Ecuador	10	0.004%	100
Ghana	1,550	0.4%	10,850
Madagascar	1,250	68.9%	10,200
Mexico	6,900	11.8%	88,900
Nigeria	5	0.0002%	10
Sierra Leone	50	0.2%	400
World	**11,515**	**0.1%**	**132,310**

***Source*:** FiBL, 2018. Estimates based on national data sources and data from certifiers

Table 33: Oil palm: Rainforest Alliance 2016

Country	Area cultivated [ha]	Production volume [MT]	Producers [no.]
Colombia	13,288	127,085	7
Guatemala	33,754	850,782	76
Honduras	10,490	216,189	31
Indonesia	6,042	103,370	1
World	**63,573**	**1,297,426**	**119**

***Source*:** Rainforest Alliance, 2018.

Table 34: Oil palm: Roundtable on Sustainable Palm Oil 2016

Country	Oil palm cultivated area [ha]	Oil palm share of total oil palm area [%]	Oil palm production volume [MT]*	Palm oil production volume [MT]
Brazil	46,213	32.5%	790,000	137,915
Cambodia	14,072	-	154,338	30,096
Colombia	35,813	10.8%	684,086	140,093
Costa Rica	44,385	61.3%	778,247	191,984
Côte d'Ivoire	7,414	2.8%	66,130	5,000
Ecuador	5,878	2.2%	80,786	10,512
Gabon	5,145	-	77,622	18,629
Ghana	15,785	4.5%	209,562	44,429
Guatemala	27,732	19.4%	777,404	133,687
Honduras	20,286	12.7%	359,933	83,689
Indonesia	1,332,258	14.3%	28,142,512	6,521,589
Madagascar	1,087	60.0%	6,336	1,220
Malaysia	733,785	14.7%	16,632,182	3,663,529
Papua New Guinea	139,105	-	2,780,257	631,587
Solomon Islands	6,198	37.4%	132,296	30,759
Thailand	5,247	0.8%	96,772	19,838
Other world	11,171	-	230,941	46,362
World	**2,451,573**	**11.6%**	**51,999,404**	**11,710,919**

***Note*:** Fresh Fruit Bunches (FFB) volume in metric tons. The totals include data from other countries.

***Source*:** Roundtable on Sustainable Palm Oil (RSPO), 2018.

SOY

Table 35: Soybeans: Organic 2016

Country	Estimated area harvested [ha]	Share of total soybean area [%]	Estimated production volume [MT]
Argentina	10,250	0.1%	21,650
Austria	13,200	26.5%	28,300
Benin	150	0.1%	150
Brazil	5,400	0.02%	14,200
Bulgaria	450	3.2%	400
Burkina Faso	1,150	7.2%	1,450
Canada	8,100	0.4%	15,100
China	192,400	2.9%	346,700
Côte d'Ivoire	15	6.5%	15
Croatia	1,400	1.8%	3,050
Czech Republic	250	2.4%	650
Egypt	20	0.2%	50
France	13,900	10.2%	24,200
Germany	3,150	21.0%	8,600
Greece	40	3.3%	100
Hungary	900	1.3%	1,400
India	117,000	1.0%	142,500
Italy	5,250	1.8%	17,750
Japan	800	0.5%	1,450
Kazakhstan	6,550	6.2%	14,250
Lithuania	600	-	-
Mali	100	0.5%	45
Mexico	10	0.004%	15
Moldova	350	1.0%	300
Netherlands	5	-	
Poland	700	9.3%	1,350
Romania	9,450	7.6%	13,900
Russian Federation	28,400	1.3%	42,000
Serbia	450	0.2%	1,000
Slovakia	250	0.7%	450
Slovenia	25	1.0%	50
Spain	1	0.1%	2
Switzerland	350	19.8%	600
Togo	17,400	-	5,350
Turkey	200	0.5%	850
Ukraine	5,650	0.3%	-
United States	45,400	0.1%	111,250
Zambia	50	0.04%	10
World	**489,766**	**0.4%**	**819,137**

***Source*:** FiBL, 2018. Estimates based on national data sources and data from certifiers.

Table 36: Soybeans: ProTerra Foundation 2016

Country	Area [ha]	Share of total soybean area [%]	Production volume [MT]	Producers [no.]
Argentina	15,000	0.1%	45,000	20
Brazil	1,780,000	5.4%	3,470,000	319
Canada	8,350	0.4%	20	10
France	1,700	1.2%	5,000	10
Germany*	33,000	-	100,000	450
Italy	50,000	17.4%	150,000	500
Russian Federation	28,000	1.3%	83,000	40
World	**1,916,050**	**1.6%**	**3,873,000**	**1,349**

***Note*:** The data from Germany include values from Austria, Czech Republic, Hungary, Serbia, Slovakia and Ukraine.

***Source*:** ProTerra Foundation, 2018.

Table 37: Soybeans: Round Table on Responsible Soy 2016

Country	Area [ha]	Share of total soybean area [%]	Production volume [MT]	Producers [no.]
Brazil	690,363	2.1%	2,191,157	143
Argentina	223,770	1.1%	813,616	48
India	62,806	0.5%	82,499	32,400
China	29,969	0.5%	62,932	8
Paraguay	21,470	0.6%	64,115	3
Canada	9,983	0.5%	30,154	33
Uruguay	3,404	0.3%	7,764	2
United States	2,893	0.01%	14,324	9
World	**1,044,658**	**0.9%**	**3,266,561**	**32,646**

***Source*:** Round Table on Responsible Soy (RTRS), 2018.

SUGARCANE

Table 38: Sugarcane: Bonsucro 2016

Country	Area [ha]	Share of total sugarcane area [%]	Cane sugar: Production volume [MT]	Producers [no.]
Australia	40,433	9.0%	335,330	7
Brazil	792,900	7.8%	2,910,000	42
Other world	27,438	-	121,560	
World	**860,771**	**3.2%**	**3,366,890**	**49**

***Source*:** Bonsucro, 2018. The totals include data from other countries.

Table 39: Sugarcane: Fairtrade International 2016

Country	Area [ha]	Share of total sugarcane area [%]	Cane sugar: Production volume [MT]	Producers [no.]
Costa Rica	6,276	9.1%	68,264	10,134
India	7,966	0.2%	92,870	4,611
Malawi	6,077	22.4%	55,848	2,380
Mauritius	4,269	8.3%	22,702	4,435
Other world	112,474	-	384,383	29,792
Paraguay	15,929	13.3%	77,454	2,711
World	**152,991**	**0.6%**	**701,521**	**54,063**

***Note*:** n.a means data not available.

***Source*:** Fairtrade International, 2018.

Table 40: Sugarcane: Organic 2016

Country	Estimated area harvested [ha]	Share of total soybean area [%]	Estimated production volume [MT]
Argentina	12,550	3.8%	665,650
Brazil	11,400	0.1%	687,100
China	1,400	0.1%	82,300
Colombia	2,400	0.6%	170,300
Costa Rica	400	0.6%	19,300
Cuba	1,150	0.3%	49,100
Ecuador	1,250	1.2%	82,750
French Polynesia	5	12.5%	350
Guatemala	200	0.1%	20,650
India	1,600	0.03%	90,800
Lao P.D.R.	700	1.9%	31,250
Madagascar	150	0.2%	4,800
Mexico	800	0.1%	48,700
Mozambique	7,300	17.3%	381,150
Pakistan	1,350	0.1%	62,500
Paraguay	43,600	36.3%	2,437,250
Philippines	850	0.2%	37,100
South Africa	30	0.01%	1,450
Thailand	6,200	0.5%	-
Viet Nam	50	0.02%	2,550
World	**91,785**	**0.3%**	**4'875'050**

***Source*:** FiBL, 2018. Estimates based on national data sources and data from certifiers.

TEA

Table 41: Tea: Fairtrade International 2016

Country	Area [ha]	Share of total tea area [%]	Production volume [MT]	Producers [no.]
China	2,215	0.1%	3,397	2,599
India	21,030	3.6%	37,270	956
Kenya	54,084	24.8%	149,969	196,625
Malawi	7,359	41.2%	9,203	16,260
Sri Lanka	9,069	3.9%	13,459	4,972
Tanzania	8,588	45.5%	12,817	15,699
Uganda	20,668	70.2%	16,006	16,714
Other world	3,247	-	11,749	5,175
World	**126,259**	**3.1%**	**253,870**	**259,000**

***Source*:** Fairtrade International, 2018.

Table 42: Tea: Organic 2016

Country	Estimated area harvested [ha]	Share of total tea area [%]	Estimated production volume [MT]
Argentina	50	0.1%	70
Azerbaijan	5	0.8%	10
Bangladesh	500	0.8%	550
Bolivia	150	51.4%	400
China	47,000	2.1%	50,650
Georgia	10	0.4%	10
Guatemala	400	33.7%	200
India	14,150	2.4%	11,000
Indonesia	2,500	2.1%	3,050
Iran	150	0.7%	350
Japan	1,700	3.9%	1,900
Kenya	500	0.2%	650
Lao P.D.R.	350	8.3%	350
Malaysia	25	0.9%	60
Mexico	50	-%	
Myanmar	3,500	4.1%	1,700
Nepal	1,200	5.8%	1,400
Russian Federation	35	6.5%	30
Rwanda	400	2.3%	600
Sri Lanka	650	0.3%	600
Taiwan	350	3.0%	250
Tanzania	250	1.3%	300
Thailand	850	10.4%	3,250
Turkey	3,500	4.6%	6,700
Viet Nam	3,100	2.6%	3,750
World	**81,375**	**2.0%**	**87,830**

***Source*:** FiBL, 2018. Estimates based on national data sources and data from certifiers.

Table 43: Tea: Rainforest Alliance 2016

Country	Area cultivated [ha]	Production volume [MT]	Producers [no.]
Argentina	11,287	51,869	453
Bangladesh	395	470	1
Burundi	8,392	10,930	50,478
China	5,957	11,246	4,034
Ecuador	435	3,900	1
Ethiopia	2,116	6,771	2
India	108,487	202,836	4,516
Indonesia	29,775	62,457	2,485
Japan	181	645	98
Kenya	186,623	469,446	658,079
Malawi	19,599	49,127	15,705
Nepal	414	380	869
Rwanda	16,197	26,292	28,938
Sri Lanka	31,636	51,320	132
Taiwan	95	307	5
Tanzania	12,227	27,040	15,909
Turkey	18,398	62,787	28,263
Uganda	6,051	19,375	261
Viet Nam	3,369	11,478	2,018
Zimbabwe	6,997	16,236	1,061
World	**468,631**	**1,084,910**	**813,308**

Source: Rainforest Alliance, 2018

Table 44: Tea: UTZ 2016

Country	Area harvested [ha]	Share of total tea area [%]	Estimated production volume [MT]	Producers [no.]
China	1,040	0.05%	2,960	449
India	33,066	5.6%	54,548	2,795
Indonesia	4,109	3.5%	7,652	5
Kenya	11,323	5.2%	27,758	8,559
Malawi	4,420	24.7%	11,468	127
South Africa	6,687	-	1,561	7
Sri Lanka	4,537	2.0%	6,666	279
Other world*	2,499	-	7,028	79
World	**67,679**	**1.7%**	**119,642**	**12,300**

Source: UTZ, 2018.

** Others include Argentina, Colombia, Japan, Viet Nam and Zimbabwe.*

FORESTRY

Table 45: Forestry: Forest Stewardship Council 2016

Country	Area [ha]	Share of total country forest area [%]	Forest management certificate holders [no.]
Argentina	467,933	1.7%	12
Australia	1,234,904	1.0%	14
Austria	587	0.02%	2
Belarus	8,497,225	-	55
Belgium	1,654	0.2%	1
Belize	197,122	14.4%	2
Bolivia	981,862	1.8%	8
Bosnia and Herzegovina	1,532,625	70.1%	5
Brazil	6,264,561	1.3%	118
Bulgaria	1,079,030	28.2%	18
Cambodia	7,896	0.1%	1
Cameroon	940,945	5.0%	4
Canada	54,682,907	15.8%	68
Chile	2,311,825	13.0%	21
China	852,520	-	76
Colombia	142,886	0.2%	10
Congo, D.R.	2,625,003	1.7%	4
Costa Rica	45,163	1.6%	16
Croatia	2,039,223	-	3
Czech Republic	52,629	-	5
Denmark	213,976	35.0%	5
Dominican Republic	365	0.02%	1
Ecuador	31,718	0.3%	2
Estonia	1,370,289	61.4%	7
Fiji	85,385	8.4%	1
Finland	1,357,012	6.1%	7
France	33,987	0.2%	6
Gabon	2,033,627	8.8%	3
Germany	1,146,324	10.0%	57
Ghana	3,367	0.04%	1
Guatemala	500,263	14.1%	10
Guyana	371,680	2.2%	1
Honduras	17,815	0.4%	1
Hungary	304,354	14.7%	6
India	508,216	0.7%	8
Indonesia	2,846,184	3.1%	33
Ireland	446,647	59.2%	2
Italy	43,271	0.5%	15
Japan	396,341	1.6%	34
Lao P.D.R.	317	0.002%	1
Latvia	1,010,491	30.1%	13
Lithuania	1,089,532	50.0%	43

Country	Area [ha]	Share of total country forest area [%]	Forest management certificate holders [no.]
Luxembourg	21,446	24.7%	3
Malaysia	676,150	3.0%	12
Mexico	823,042	1.2%	69
Mozambique	50,753	0.1%	2
Namibia	211,861	3.1%	4
Netherlands	170,407	45.3%	4
New Zealand	1,270,598	12.5%	21
Nicaragua	21,783	0.7%	7
Norway	445,626	3.7%	5
Panama	22,077	0.5%	8
Papua New Guinea	37,575	0.1%	3
Paraguay	27,603	0.2%	3
Peru	482,745	0.7%	8
Poland	6,939,230	73.5%	18
Portugal	373,717	11.7%	23
Republic of Korea	391,269	6.3%	8
Romania	2,596,947	37.9%	21
Russian Federation	43,753,261	5.4%	150
Serbia	1,001,347	36.8%	3
Slovakia	146,271	7.5%	8
Slovenia	260,291	20.9%	2
Solomon Islands	40,446	1.9%	2
South Africa	1,394,388	15.1%	20
Spain	1,763,053	9.6%	28
Sri Lanka	17,880	0.9%	3
Suriname	362,740	2.4%	4
Swaziland	124,185	21.2%	4
Sweden	12,259,756	43.7%	24
Switzerland	611,683	48.8%	8
Taiwan	1,437	-	3
Tanzania	172,052	-	3
Thailand	61,830	0.4%	17
Turkey	2,365,753	20.2%	8
Uganda	39,934	1.9%	3
Ukraine	2,880,029	29.8%	50
United Kingdom	1,633,904	52.0%	37
United States	13,706,892	4.4%	111
Uruguay	980,711	53.2%	24
Venezuela	155,839	0.3%	2
Viet Nam	218,883	1.5%	29
World	**196,285,055**	**4.9%**	**1,462**

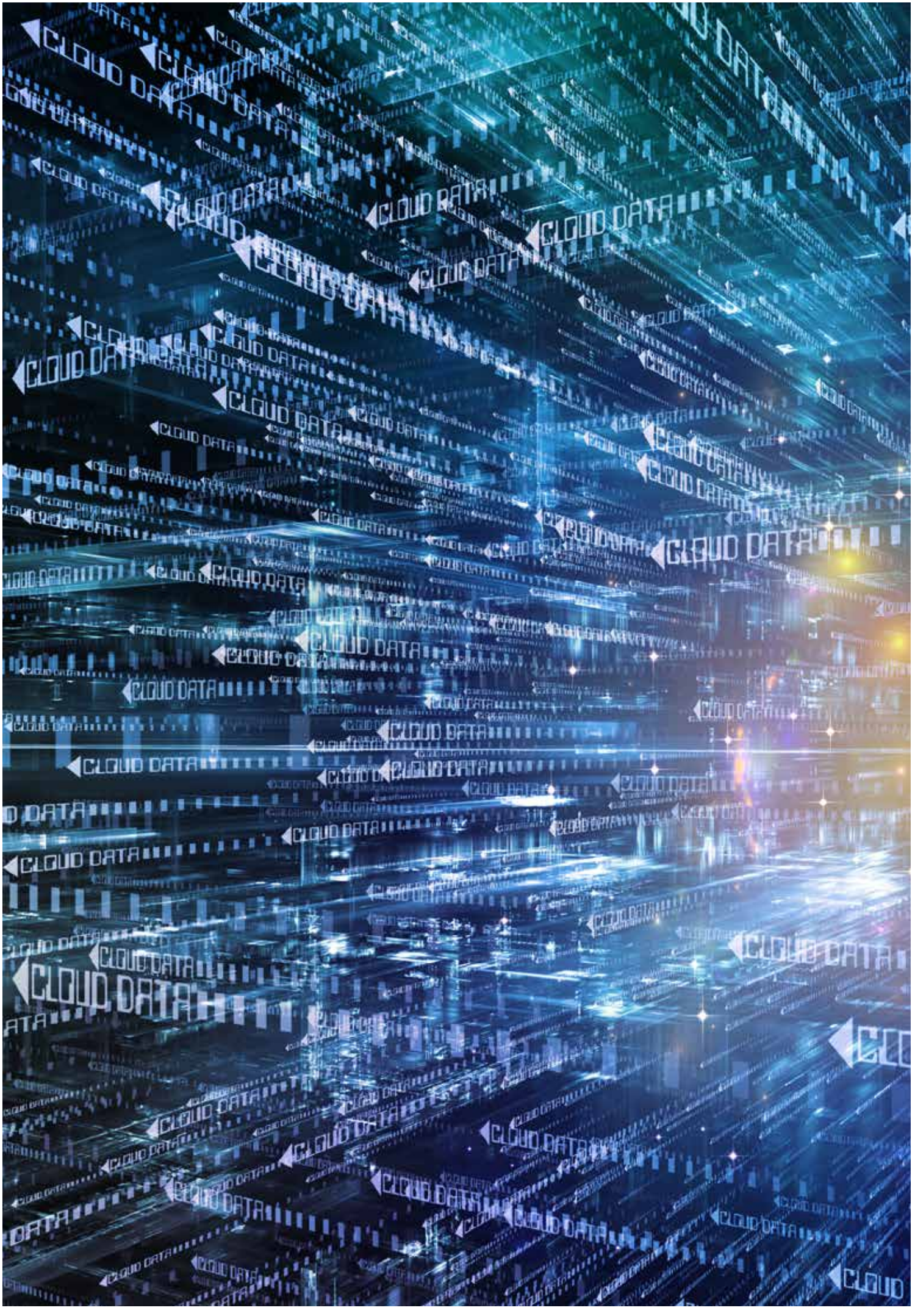
***Source*:** Forestry Forest Stewardship Council (FSC), 2018.

Table 46: Forestry: Programme for the Endorsement of Forest Certification 2016

Country	Area [ha]	Share of total country forest area [%]	Certificate holders [no.]
Argentina	22,524	0.1%	18
Australia	26,578,998	21.3%	8
Austria	2,983,873	77.1%	181
Belarus	8,710,234	-	65
Belgium	299,500	43.8%	6
Bolivia	-	-	8
Bosnia and Herzegovina	-	-	353
Brazil	2,721,113	0.6%	95
Bulgaria	-	-	5
Canada	131,113,561	37.8	196
Chile	1,908,549	10.8%	0
China	5,835,980	-	1
Colombia	-	-	1
Croatia	-	-	1
Czech Republic	1,780,258	-	225
Denmark	256,700	41.9%	711
Dominican Republic	-	-	454
Egypt	-	-	27
Estonia	1,174,151	52.6%	17
Finland	16,571,224	-	294
France	8,206,117	48.3%	6
Germany	7,386,453	64.7%	188
Greece	-	-	74
Hungary	-	-	1
India	-	-	1
Indonesia	1,846,064	2.0%	64
Ireland	376,108	49.9%	41
Israel	-	-	1
Italy	811,040	8.7%	13
Japan	23,728	0.1%	9
Latvia	1,683,604	50.2%	2,021
Lebanon	-	-	9
Lithuania	-	-	2
Luxembourg	33,756	38.9%	1
Macao	-	-	163
Malaysia	4,034,697	18.2%	5
Mexico	-	-	3
Monaco	-	-	21
Morocco	-	-	17
Netherlands	-	-	2
New Zealand	-	-	27
Norway	7,380,750	60.9%	63
Oman	-	-	69
Papua New Guinea	-	-	41
Paraguay	-	-	4

Country	Area [ha]	Share of total country forest area [%]	Certificate holders [no.]
Peru	-	-	835
Philippines	-	-	1
Poland	7,252,197	-	287
Republic of Korea	-	-	212
Romania	-	-	51
Russian Federation	12,039,345	1.5%	1
Saudi Arabia	-	-	9
Singapore	-	-	12
Slovakia	1,245,921	64.2%	1
Slovenia	45,351	3.6%	43
South Africa	-	-	1
Spain	1,967,418	10.7%	1
Sri Lanka	-	-	24
Sweden	11,549,700	41.1%	2
Switzerland	208,949	16.7%	204
Taiwan	-	-	1
Thailand	-	-	25
Tunisia	-	-	1,180
Turkey	-	-	270
Ukraine	-	-	3
United Arab Emirates	-	-	5
United Kingdom	1,410,288	44.9%	1,689
United States	33,252,664	10.7%	465
Uruguay	601,909	32.6%	24
Viet Nam	-	-	10,858
World	**301,569,608**	**7.5%**	**9**

***Source*:** Programme for the Endorsement of Forest Certification (PEFC), 2018.


CLOUD DATA

APPENDIX II

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