

SYNGENTA AG  
Form 20-F  
February 16, 2012

As filed with the Securities and Exchange Commission on February 16, 2012

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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 20-F

REGISTRATION  
STATEMENT  
PURSUANT TO  
SECTION 12(b)  
OR (g) OF THE  
SECURITIES  
EXCHANGE  
ACT OF 1934

OR

ANNUAL  
REPORT  
PURSUANT  
TO SECTION  
13 OR 15(d)  
OF THE S  
ECURITIES  
EXCHANGE  
ACT OF 1934  
For the fiscal  
year ended  
December 31,  
2011

OR

TRANSITION  
REPORT  
PURSUANT  
TO SECTION  
13 OR 15(d)  
OF THE  
SECURITIES  
EXCHANGE  
ACT OF 1934

OR

SHELL

COMPANY  
REPORT  
PURSUANT  
TO SECTION  
13 OR 15(d)  
OF THE  
SECURITIES  
EXCHANGE  
ACT OF 1934

Commission file number: 1-15152

SYNGENTA AG

(Exact name of Registrant as specified in its charter)

Switzerland  
(Jurisdiction of incorporation or organization)  
Schwarzwaldallee 215, 4058 Basel, Switzerland  
(Address of principal executive offices)

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(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
American Depositary Shares, each representing one-fifth of a common share of Syngenta AG, nominal value CHF 0.10	New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

93,762,899 Common shares, nominal value CHF 0.10 each

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes     No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes     No

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Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes       No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes       No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act.

Large accelerated filer       Accelerated filer       Non-accelerated filer

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP       International Financial Reporting Standards as  Other   
issued by the International Accounting  
Standards Board

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes       No

## Introduction

### NATURE OF OPERATIONS

Syngenta AG (“Syngenta” or the “Company”) is a world-leading agribusiness that is involved in the discovery, development, manufacture and marketing of a range of products designed to improve crop yields and food quality. In addition, Syngenta is a leader in “Professional Products”, through the development of products for markets such as Lawn and Garden, Professional Pest Management, Vector Control and Public Health. Syngenta is headquartered in Basel, Switzerland and was formed by Novartis AG (“Novartis”) and AstraZeneca PLC (“AstraZeneca”) in November 2000 through an agreement to spin off and merge the Novartis crop protection and seeds businesses with the Zeneca agrochemicals business to create a dedicated agribusiness company whose shares were then the subject of a global offering (the “Transactions”).

The Transactions were completed on November 13, 2000 (the “Transaction Date”). In this annual report, for periods prior to November 13, 2000, the businesses contributed to Syngenta by Novartis are referred to as the “Novartis agribusiness” and the businesses contributed to Syngenta by AstraZeneca are referred to as the “Zeneca agrochemicals business”.

### FORWARD-LOOKING STATEMENTS

The statements contained in this annual report that are not historical facts, including, without limitation, statements regarding management’s expectations, targets or intentions, including for sales, earnings and earnings per share, constitute forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, and are based on the current expectations and estimates of Syngenta’s management. Investors are cautioned that such forward-looking statements involve risks and uncertainties, and that actual results may differ materially.

Syngenta identifies the forward-looking statements in this annual report by using the words “expect”, “would”, “will”, “potential”, “plans”, “prospects”, “anticipates”, “estimated”, “believes”, “intends”, “aiming”, “on track”, or similar expressions negative of these expressions. Syngenta cannot guarantee that any of the events or trends anticipated by the forward-looking statements will actually occur. Important factors that could cause actual results to differ materially from the results anticipated in the forward-looking statements include, among other things:

- the risk that research and development will not yield new products that achieve commercial success;
- the risks associated with increasing competition in the industry;
- the risk that the current global economic situation may have a material adverse effect on Syngenta’s results and financial position;
- the risk that customers will be unable to pay their debts to Syngenta due to economic conditions;
- the risk that Syngenta will not be able to obtain or maintain the necessary regulatory approvals for its business;
- the risks associated with potential changes in policies of governments and international organizations;
- the risks associated with exposure to liabilities resulting from environmental and health and safety laws;
- the risk that important patents and other intellectual property rights may be challenged or used by other parties;



- the risk that Syngenta may encounter problems when implementing significant organizational changes;
- the risk that the value of Syngenta’s intangible assets may become impaired;
- the risk of substantial product liability claims;
- the risk that consumer resistance to genetically modified crops and organisms may negatively impact sales;
- the risk that Syngenta’s crop protection business may be adversely affected by increased use of products derived from biotechnology;
- the risks associated with climatic variations;
- the risks associated with exposure to fluctuations in foreign currency exchange rates;
- the risks associated with entering into single-source supply arrangements;
- the risks associated with conducting operations in certain territories that have been identified by the US government as state sponsors of terrorism;
- the risks associated with natural disasters;
- the risk that Syngenta’s effective tax rate may increase;
- the risks that Syngenta now considers immaterial, but that in the future prove to become material; and
- other risks and uncertainties that are not known to Syngenta or are difficult to predict.

Some of these factors are discussed in more detail herein, including under Item 3 “Key Information”, Item 4 “Information on the Company”, and Item 5 “Operating and Financial Review and Prospects”. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein as anticipated, believed, estimated or expected. Syngenta does not intend or assume any obligation to update these forward-looking statements.

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## PART I

## ITEM 1 — IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

## ITEM 2 — OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

## ITEM 3 — KEY INFORMATION

## Financial Highlights

Syngenta has prepared the consolidated financial statements in US dollars and in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). The basis of preparation of the consolidated financial statements and the key accounting policies are discussed in Notes 1 and 2, respectively, to the consolidated financial statements in Item 18.

The selected financial highlights information presented below has been extracted from the consolidated financial statements of Syngenta. Investors should read the entire consolidated financial statements and not rely on the summarized information. The information includes the results of operations and the net assets of the Fischer group of companies from July 1, 2007, Zeraim Gedera Ltd. from September 1, 2007, SPS Argentina SA from November 10, 2008, Goldsmith Seeds, Inc. from November 19, 2008, Circle One Global Inc. from May 15, 2009, Goldsmith Seeds Europe B.V. from September 23, 2009, Pybas Vegetable Seed Co., Inc. from December 16, 2009, Synergene Seed & Technology, Inc. from December 23, 2009, Maribo Seed International ApS from September 30, 2010, Greenleaf Genetics LLC from November 8, 2010 and Agrosan S.A. from March 9, 2011. For further information about these and other acquisitions, see Note 3 to the consolidated financial statements in Item 18.

## Financial highlights

(US\$ million, except where otherwise stated)	Year ended December 31,				
	2011	2010	2009	2008	2007
Amounts in accordance with IFRS <sup>1</sup>					
Income statement data:					
Sales	13,268	11,641	10,992	11,624	9,240
Cost of goods sold	(6,737 )	(5,866 )	(5,572 )	(5,706 )	(4,669 )
Gross profit	6,531	5,775	5,420	5,918	4,571
Operating expenses	(4,480 )	(3,982 )	(3,601 )	(4,038 )	(3,070 )
Operating income	2,051	1,793	1,819	1,880	1,501
Income before taxes	1,901	1,677	1,694	1,714	1,456
Net income	1,600	1,402	1,411	1,399	1,135
Net income attributable to Syngenta AG shareholders	1,599	1,397	1,408	1,399	1,133
Number of shares— basic	91,892,275	92,687,903	93,154,537	93,916,415	95,973,958
Number of shares— diluted	92,383,611	93,225,303	93,760,196	94,696,762	97,143,368
Basic earnings per share	17.40	15.07	15.11	14.90	11.80
Diluted earnings per share	17.31	14.99	15.01	14.77	11.66
Cash dividends declared:					

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CHF per share	7.00	6.00	6.00	4.80	1.60
US\$ per share equivalent	7.64	5.61	5.27	4.76	1.32
Par value reduction:					
CHF per share	–	–	–	–	2.20
US\$ per share equivalent	–	–	–	–	1.78
Cash flow data:					
Cash flow from operating activities	1,871	1,707	1,419	1,466	1,168
Cash flow used for investing activities	(472 )	(450 )	(880 )	(608 )	(368 )
Cash flow from (used for) financing activities	(1,684 )	(844 )	170	(457 )	(781 )
Capital expenditure on tangible fixed assets	(479 )	(396 )	(652 )	(444 )	(317 )
Balance sheet data:					
Current assets less current liabilities	4,107	4,363	4,583	3,311	2,600
Total assets	17,241	17,285	16,129	14,089	12,819
Total non-current liabilities	(4,095 )	(4,483 )	(5,331 )	(4,489 )	(3,305 )
Total liabilities	(9,738 )	(9,836 )	(9,642 )	(8,798 )	(7,189 )
Share capital	(6 )	(6 )	(6 )	(6 )	(6 )
Total shareholders' equity	(7,494 )	(7,439 )	(6,473 )	(5,274 )	(5,611 )
Other supplementary income data:					
Diluted earnings per share from continuing operations, excluding restructuring and impairment 2	19.36	16.44	16.15	16.40	11.69

All activities were in respect of continuing operations.

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Notes

1 Syngenta has prepared the consolidated financial statements in US dollars and in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

The basis of preparation of the consolidated financial statements and the key accounting policies are discussed in Notes 1 and 2, respectively, to the consolidated financial statements.

2 Diluted earnings per share from continuing operations, excluding restructuring and impairment is a non-GAAP measure.

A non-GAAP measure is a numerical measure of financial performance, financial position or cash flow that either:

–includes, or is subject to adjustments that have the effect of including, amounts that are excluded in the most directly comparable measure calculated and presented under IFRS as issued by the IASB, or

–excludes, or is subject to adjustments that have the effect of excluding, amounts that are included in the most directly comparable measure calculated and presented under IFRS as issued by the IASB.

Restructuring represents the effect on reported performance of initiating and enabling business changes that are considered major and that, in the opinion of management, will have a material effect on the nature and focus of Syngenta's operations, and therefore require separate disclosure to provide a more thorough understanding of business performance. Restructuring includes the incremental costs of closing, restructuring or relocating existing operations, and gains or losses from related asset disposals. Restructuring also includes the effects of completing and integrating significant business combinations and divestments, including related transaction costs, gains and losses. Recurring costs of normal business operations and routine asset disposal gains and losses are excluded.

Impairment includes impairment losses associated with major restructuring as well as impairment losses and reversals of impairment losses resulting from major changes in the markets in which a reported segment operates. Further discussion on the reason for including disclosure of this and other non-GAAP measures is included in Appendix A at the end of the Operating and Financial Review in Item 5.

Restructuring and impairment charges for 2011, 2010 and 2009 are analyzed in Note 6 to the consolidated financial statements in Item 18. Restructuring and impairment for 2008 and 2007 mainly related to the operational efficiency program announced in 2004 representing the costs of closure of certain manufacturing and research and development sites and refocusing of other continuing sites and also to the operational efficiency program announced in 2007 to drive cost savings to offset increased expenditure in research and technology, marketing and product development in the growth areas of Seeds, Professional Products and emerging country markets. A detailed reconciliation of net income and earnings per share before restructuring and impairment to net income and earnings per share according to IFRS is presented in Appendix A at the end of the Operating and Financial Review in Item 5.

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### Risk Factors

Syngenta's business, financial condition or results of operations could suffer material adverse effects due to any of the following risks. Risks that are considered to be material are described below.

The resources Syngenta devotes to research and development may not result in commercially viable products

Syngenta's success depends in part on its ability to develop new products. Research and development in the agribusiness industry is expensive and prolonged, and entails considerable uncertainty. The process of developing a novel crop protection product, plant variety or trait typically takes about six to ten years from discovery through testing and registration to initial product launch, but this period varies considerably from product to product and country to country. Because of the complexities and uncertainties associated with chemical and biotechnological research, compounds or biotechnological products currently under development may neither survive the development process nor ultimately receive the requisite regulatory approvals needed to market such products. Even when such approvals are obtained, there can be no assurance that a new product will be commercially successful. In addition, research undertaken by competitors may lead to the launch of competing or improved products which may affect sales of Syngenta's new products.

Syngenta faces increasing competition in its industry

Syngenta currently faces significant competition in the markets in which it operates. In most segments of the market, the number of products available to the grower is steadily increasing as new products are introduced, although this trend can be partly offset by the withdrawal of some products because they are not re-registered or are subject to voluntary range reduction programs to reduce the range of products offered. At the same time, an increasing number of products are coming off patent and are thus available to generic manufacturers for production. As a result, Syngenta anticipates that it will continue to face significant competitive challenges.

The current global economic situation may have a material adverse effect on Syngenta's results and financial position

Commodity crop prices have historically been volatile and downturns in prices can indirectly affect Syngenta's results by adversely affecting the income and financial position of Syngenta's customers and of the users of Syngenta's products. This may result in reduced sales, competitive price pressure in Syngenta's markets and in slower collection of accounts receivable. These occurrences may negatively impact Syngenta's business, results of operations or cash flows. Because of the high proportion of costs which are fixed in nature, Syngenta may not be able to compensate fully for these effects in the short term through measures such as reducing expenses.

While Syngenta views its current credit facilities as adequate for its needs, further difficulties in the banking sector in the future or illiquidity in the credit markets may restrict Syngenta's ability to raise additional funds or increase the cost of such funding. A low availability of credit may also limit the amount of business Syngenta's customers and suppliers can transact with Syngenta, including customers and suppliers in the Eurozone, which is currently experiencing economic problems.

Significant declines in asset prices or changes to long-term assumptions may cause funding levels in Syngenta's externally funded defined benefit pension plans to fall below stipulated regulatory levels. This may require Syngenta to pay additional contributions to restore funding to required levels. Please see Notes 2 and 22 to the consolidated financial statements in Item 18 for further information about Syngenta's defined benefit pension plans and the assumptions used to measure the related pension liabilities.



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Syngenta's customers may be unable to pay their debts to Syngenta due to economic conditions

Normally Syngenta delivers its products against future payment. Syngenta's credit terms vary according to local market practice, with credit terms for customers typically ranging from 30 to 180 days, except for customers in emerging markets, where credit terms may range from cash on delivery to, in certain cases, 360 days. Syngenta's customers, particularly in developing economies and in economies experiencing an economic downturn, such as the Eurozone, may be exposed to business, political or financial conditions impacting their ability to pay their debts, which could adversely affect Syngenta's results. While Syngenta uses barter and other security arrangements to reduce customer credit exposure in some emerging markets, it may still be exposed to risk of material losses from its credit exposure in these markets.

Syngenta may not be able to obtain or maintain the necessary regulatory approvals for some of its products, which could restrict its ability to sell those products in some markets

Syngenta's products must receive regulatory approval before they can be marketed, but Syngenta may not be able to obtain such approvals. In most markets, including the United States and the European Union, crop protection products must be registered after being tested for safety, efficacy and environmental impact. In most of Syngenta's principal markets, after a period of time, Syngenta must also re-register its crop protection products and show that they meet all current standards, which may have become more stringent since the prior registration. For seeds products, in the European Union, a new plant variety will be registered only after it has been shown that it is distinct, uniform, stable, and better than existing varieties.

Regulatory standards and trial procedures are continuously changing. Responding to these changes and meeting existing and new requirements may be costly and burdensome. In addition, changing regulatory standards may affect Syngenta's ability to maintain its products on the market.

Changes in the agricultural policies of governments and international organizations may prove unfavorable

In subsidized markets such as the United States, the European Union and Japan, reduction of subsidies to growers may inhibit the growth of crop protection and seeds markets. In each of these areas there are various pressures to reduce subsidies. However, it is difficult to predict accurately whether, and if so, when such changes will occur. Syngenta expects that the policies of governments and international organizations will continue to affect the income available to growers to purchase crop protection and seeds products and, accordingly, the operating results of the agribusiness industry.

Syngenta is subject to stringent environmental, health and safety laws, regulations and standards, which can result in compliance costs and remediation efforts that may adversely affect its operational and financial position

Syngenta is subject to a broad range of increasingly stringent laws, regulations and standards in all of its operational jurisdictions. This results in significant compliance costs and can expose Syngenta to legal liability. These requirements are comprehensive and cover many activities including: air emissions, waste water discharges, the use and handling of hazardous materials, waste disposal practices, the clean-up of existing environmental contamination and the use of chemicals and genetically modified seeds by growers.

Environmental and health and safety laws, regulations and standards expose Syngenta to the risk of substantial costs and liabilities, including liabilities associated with assets that have been sold and activities that have been discontinued. In addition, many of Syngenta's manufacturing sites have a long history of industrial use. As is typical for businesses like Syngenta's, soil and groundwater contamination has occurred in the past at some sites, and may be identified at other sites in the future. Disposal of waste from its business at off-site locations also exposes Syngenta to

potential remediation costs. Consistent with past practice, Syngenta is continuing to investigate and remediate, or monitor soil and groundwater contamination at a number of these sites. Despite its efforts to comply with environmental laws, Syngenta may face remediation liabilities and legal proceedings concerning environmental matters.

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Based on information presently available, Syngenta has budgeted expenditures for environmental improvement projects and has established provisions for known environmental remediation liabilities that are probable and capable of estimation. However, it cannot predict environmental matters with certainty, and the budgeted amounts and established provisions may not be adequate for all purposes. In addition, the development or discovery of new facts, events, circumstances, changes in law or conditions, including future decisions to close plants which may trigger remediation liabilities, could result in increased costs and liabilities or prevent or restrict some of Syngenta's operations.

Efforts by Syngenta to protect its intellectual property rights or defend against claims asserting that Syngenta has infringed the intellectual property rights of others may be unsuccessful

Scientific and technological innovation is critical to the long-term success of Syngenta's businesses. However, third parties may challenge the measures that Syngenta takes to protect processes, compounds, organisms and methods of use through patents and other intellectual property rights and, as a result, Syngenta's products may not always have the full benefit of intellectual property rights. In addition, while Syngenta takes steps to prevent unauthorized access to and distribution of its intellectual property, it cannot assure that unauthorized parties do not obtain access to and use such property.

Third parties may also claim that Syngenta's products violate their intellectual property rights. Defending such claims, even those without merit, could be time-consuming and expensive. In addition, any such claim could also result in Syngenta having to enter into license arrangements, develop non-infringing products or engage in litigation that could be costly.

Legislation and jurisprudence on patent protection in major markets such as the United States and the European Union is evolving and changes in laws could affect Syngenta's ability to obtain or maintain patent protection for its products.

Problems encountered by Syngenta when implementing significant organizational changes could adversely affect the future performance of the Company

Syngenta expects to continue to engage in restructuring activities to reduce operating costs, increase sales, or both. In addition, Syngenta may acquire or dispose of significant businesses, which would necessitate restructuring its operations. Syngenta may fail to adequately implement such restructuring activities in the manner contemplated, which could cause the restructuring activities to fail to achieve the desired results. Even if Syngenta does implement the restructuring activities in the manner contemplated, they may not produce the desired results. Accordingly, such restructuring activities may not reduce operating costs or increase sales. Failure to adequately implement significant restructuring activities could have a material adverse affect on Syngenta's business and consequently impact its financial position, results of operations and cash flows.

The value of Syngenta's intangible assets, including goodwill arising from acquisitions, may become impaired

Syngenta has a significant amount of intangible assets, including goodwill, on its consolidated balance sheet and, if it continues to acquire businesses in the future, may record significant additional intangible assets and goodwill. As described in Note 2 to the consolidated financial statements in Item 18, Syngenta

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regularly tests its intangible assets for impairment. Upon completing its testing for 2011, which included subjecting the assumptions used in the testing to a sensitivity analysis, Syngenta recorded impairments of intangible assets totaling US\$24 million. Otherwise, Syngenta has concluded that no material intangible assets are impaired at December 31, 2011. However, unforeseen events that occur in the future, including there being a greater impact on Syngenta's business from economies experiencing an economic downturn than is currently anticipated, may result in actual future cash flows for Syngenta's businesses being different from those forecasted. As a consequence, Syngenta's intangible assets could become impaired and the resulting impairment losses could have a material adverse impact on Syngenta's financial position and results of operations.

Syngenta may be required to pay substantial damages as a result of product liability claims for which insurance coverage is not available

Product liability claims are a commercial risk for Syngenta, particularly as it is involved in the supply of chemical products which can be harmful to humans and the environment. Courts have levied substantial damages in the United States and elsewhere against a number of crop protection and seeds companies in past years based upon claims for injuries allegedly caused by the use of their products. While a global insurance program is in place, a substantial product liability claim that is not covered fully or at all by insurance could have a material adverse effect on Syngenta's operating results or financial condition.

Consumer and government resistance to genetically modified organisms may negatively affect Syngenta's public image and reduce sales

Syngenta is active in the field of genetically modified organisms in the seeds area and in biotechnology research and development in seeds and crop protection. However, the high public profile of biotechnology and lack of consumer acceptance of products to which Syngenta has devoted substantial resources could negatively affect its public image and results. The current resistance from consumer groups, particularly in Europe, to products based on genetically modified organisms, because of concerns over their effects on food safety and the environment, may spread to and influence the acceptance of products developed through biotechnology in other regions of the world, which could limit the commercial opportunities to exploit biotechnology. In addition, some government authorities have enacted, and others in the future might enact, regulations regarding genetically modified organisms which may delay and limit or even prohibit the development and sale of such products.

Syngenta's Crop Protection business may be adversely affected by increased use of products derived through biotechnology

In certain parts of the world, notably the European Union, the use by growers of many seed varieties that are genetically modified for pest resistance or herbicide tolerance has not been permitted by regulatory authorities. Current sentiment in Europe and in certain other agricultural areas is strongly against allowing further biotechnology to be introduced. However, should this sentiment change resulting in the adoption of products derived through biotechnology, Syngenta's Crop Protection business could be adversely impacted. This may not be offset, in whole or in part, by the opportunities presented to Syngenta's seeds and business development businesses, which are actively pursuing products and traits developed through biotechnology. Crop protection accounted for approximately 76 percent of sales in 2011, whereas seeds accounted for approximately 24 percent of sales. The areas of Syngenta's Crop Protection business most affected by existing use of genetically modified seeds are selective herbicides and insecticides for use on oilseed crops, corn and cotton.

Syngenta's results may be affected by climatic variations

The agribusiness industry is subject to seasonal and weather factors, which make its operations relatively unpredictable from period to period. The weather can affect the presence of disease and pests in the short term on a regional basis and, accordingly, can affect the demand for crop protection products and the mix of products used (positively or negatively). In Syngenta's seeds business, the weather can affect the quality, volume and costs of seeds produced for sale.

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Currency fluctuations may have a harmful impact on Syngenta's financial results or may increase its liabilities

Syngenta reports its results in US dollars; however a substantial portion of sales and product costs are denominated in currencies other than the US dollar. Fluctuations in the values of these currencies, especially in the US dollar against the Swiss franc, British pound, Euro and Brazilian real, can have a material impact on Syngenta's financial results. Fluctuations in the exchange rate against the US dollar of certain emerging market foreign currencies where hedging products are expensive or of limited availability may directly impact Syngenta's results through recognition of currency losses. If, in the context of the current Euro crisis, a member state of the Eurozone were to decide to abandon the Euro as its lawful currency and introduce a new national currency, Syngenta could incur losses upon the lawful conversion to the new national currency of amounts receivable from customers in the member state that were originally denominated in Euros.

Syngenta maintains a single supplier for some raw materials, which may affect its ability to obtain sufficient amounts of those materials

While Syngenta generally maintains multiple sources of supply and obtains supplies of raw materials from a number of countries, there are a limited number of instances where Syngenta has entered into single-source supply contracts or where Syngenta routinely makes spot purchases from a single supplier in respect of active ingredients, intermediates or raw materials for certain important products. These instances occur where there is sufficient commercial benefit and security of supply can be assured, or where there is no viable alternative source of supply. Such single supplier arrangements account for approximately 22 percent of Syngenta's purchases of active ingredients, intermediates and raw materials, as determined by cost. Syngenta's ability to obtain sufficient amounts of those materials may be adversely affected by the unforeseen loss of a supplier or from a supplier's inability to meet its supply obligations. The percentage of single supplier arrangements could increase in the future if consolidation were to occur among multiple supply sources.

Syngenta conducts business in most countries of the world, including in certain high-risk countries, some of which have been identified by the US government as state sponsors of terrorism

Syngenta conducts business in most countries of the world, some of which are subject to a high level of political or economic instability that could impact Syngenta's ability to continue to operate there. Acts of terror or war may impede Syngenta's ability to operate in particular countries or regions, and may impede the flow of goods and services between countries. In addition, Syngenta has minor operations in Cuba, Iran and the Sudan, which have been identified by the US government as state sponsors of terrorism. Syngenta's operations in these countries are quantitatively immaterial, and it is Syngenta's belief that supporting agriculture in these countries is beneficial to their wider population, for whom food is often in short supply. However, certain investors may choose not to hold investments in companies that have operations of any size in these countries and several US states have enacted, and others may in the future enact, legislation requiring public entities with investments in companies with operations in these countries to disclose this fact or in some cases to divest these investments. Any such divestment is not currently expected to have a material impact on the value of Syngenta shares.

Natural disasters could adversely affect Syngenta's business

Natural disasters could affect Syngenta's or its suppliers' manufacturing and production facilities, which could affect Syngenta's costs or ability to meet supply requirements. Natural disasters could also affect Syngenta's customers, which could affect Syngenta's sales or its ability to collect receivables due from customers. Syngenta's corporate headquarters and other facilities are located near an earthquake fault line in Basel, Switzerland. Additionally, other major facilities of Syngenta's Crop Protection and seeds businesses are located in earthquake zones around the globe. In the event of a major earthquake, Syngenta could experience loss of life, destruction of facilities and/or business interruptions which

could have a material adverse effect on its business.

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An increase in Syngenta's group tax rate could occur, which would adversely affect its financial results

The effective tax rate on Syngenta's earnings benefits from the fact that a portion of its earnings is taxed at more favorable rates in some jurisdictions outside Switzerland. Changes in tax laws or in their application with respect to matters such as transfer pricing, inter-Group dividends, controlled companies or a restriction in tax relief allowed on the interest on intra-Group debt, could increase Syngenta's effective tax rate and adversely affect its financial results. Syngenta has several open tax years in many jurisdictions, where tax calculations may be subject to adjustment. These matters are discussed in Notes 2 and 25 to the consolidated financial statements in Item 18.

Syngenta's share price may be volatile and subject to sudden and significant drops

The trading price of Syngenta shares and ADSs has been, and could in the future continue to be, subject to significant fluctuations in response to variations in Syngenta's financial performance, regulatory and business conditions in its industry, general economic trends and other factors, some of which are unrelated to the operating performance of Syngenta.

If you hold Syngenta ADSs it may be more difficult for you to exercise your rights

The rights of holders of Syngenta ADSs are governed by the deposit agreement between Syngenta and The Bank of New York Mellon. These rights are different from those of holders of Syngenta shares in several respects, including the receipt of information, the receipt of dividends or other distributions, the exercise of voting rights and attendance at shareholders' meetings. As a result, it may be more difficult for a holder of Syngenta ADSs to exercise those rights.

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ITEM 4 — INFORMATION ON THE COMPANY

History and Development of the Company

The Company

Syngenta AG, a Swiss Aktiengesellschaft, was formed on November 12, 1999 under the laws of Switzerland. Syngenta's business operations were created in 2000 by Novartis and AstraZeneca through an agreement to spin off and merge the Novartis agribusiness and the Zeneca agrochemicals business to create a dedicated agribusiness company whose shares were then the subject of a global offering. Both the Novartis and AstraZeneca agribusinesses had existed since the 1930's through a variety of legacy companies.

Syngenta is domiciled in and governed by the laws of Switzerland. It has its registered office and principal business office at Schwarzwaldallee 215, 4058 Basel, Switzerland. The telephone number of Syngenta is +41-61-323-1111.

Syngenta became a publicly listed company in 2000. At December 31, 2011, the company was listed on the SIX Swiss Exchange under the symbol SYNN and the New York Stock Exchange under the symbol SYT.

Investments and Divestments

Investments

On March 9, 2011, in order to further strengthen its market position in Paraguay, Syngenta purchased 100 percent of the shares of Agrosan S.A., an agricultural distributor, together with the trademarks related to its business, for US\$32 million of cash, US\$12 million of which is deferred.

In March 2010, Syngenta acquired a field station in Chile and the associated contract research business by making a cash payment for the related assets. The primary reason for the acquisition was to support development projects in Syngenta's seeds businesses.

In June and December 2010, respectively, Syngenta acquired the non-controlling interests in its Golden Harvest and Garst seed businesses in the USA. The total cash paid was US\$48 million.

In July 2010, Syngenta and Dow AgroSciences, a wholly owned subsidiary of The Dow Chemical Company, announced an exclusive supply and distribution agreement under which Syngenta assumed responsibility for the supply and distribution of Dow AgroSciences crop protection products in the Commonwealth of Independent States (CIS) region.

In September 2010, Syngenta acquired 100 percent of the shares of Maribo Seed International ApS ("Maribo") for a cash payment, plus contingent payments if certain sales targets are achieved. The transaction includes the seed production and sales activities of the Maribo sugar beet business as well as the Maribo brand name.

In November 2010, Syngenta acquired the 50 percent equity interest in Greenleaf Genetics LLC owned by Pioneer Hi-Bred International Inc. ("Pioneer") a subsidiary of E.I Du Pont de Nemours and Co. ("Du Pont"). This transaction dissolved a joint venture and terminated certain license agreements between Syngenta and Pioneer. The acquisition and related joint venture dissolution enables Syngenta and Pioneer to pursue independent licensing strategies for their respective proprietary corn and soybean genetics and biotechnology traits.



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During 2009, Syngenta completed five small acquisitions and three small divestitures, none of which were material either individually or in the aggregate. In addition, in August 2009, Syngenta acquired Monsanto's global hybrid sunflower seeds activities for a cash payment of US\$160 million, which included certain rights to receive services during the post-acquisition transition period.

In April 2009, Syngenta and Dow AgroSciences, a wholly owned subsidiary of The Dow Chemical Company, announced an agreement to cross license their respective corn traits for commercialization within their branded seed businesses. Syngenta received global non-exclusive licenses, with stacking rights, to Dow AgroSciences' Herculex®1 I Insect Protection for broad lepidopteran control and to Herculex®1 RW for corn rootworm control. Dow AgroSciences received global non-exclusive licenses with stacking rights to Syngenta's Agrisure® GT trait for glyphosate tolerance, and to its insect control traits Agrisure® CB/LL for corn borer and Agrisure® RW for corn rootworm. The licenses also include access to Syngenta's Agrisure® Viptera™ trait for broad lepidoptera and to a second generation trait for corn rootworm control.

Divestments

On April 13, 2011, Syngenta divested its Materials Protection business to Lanxess AG. There were no significant business or product divestments in 2010. In May 2009, Syngenta sold its 6.99 percent shareholding in Sakata Seeds Corp. for approximately US\$46 million.

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1 Herculex® is a registered trademark of Dow AgroSciences LLC

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Business Overview

Industry Overview

Syngenta is a world leading agribusiness operating in the Crop Protection and Seeds businesses. Crop Protection chemicals include herbicides, insecticides, fungicides and seed treatments to control weeds, insects and diseases in crops, and are essential inputs enabling growers around the world to improve agricultural productivity and food quality. Many of these products also have application in the professional products sector in areas such as public health, turf and ornamental markets. The Seeds business operates in the high value commercial sectors of field crops (including corn, oilseeds, cereals and sugar beet), vegetables and flowers.

Syngenta's Business

Syngenta's business is divided into three reporting segments: Crop Protection, Seeds and Business Development. These segments are described in greater detail below.

The following information, which appears in other parts of this Form 20-F, is incorporated herein by reference:

- Item 5 – Operating and Financial Review and Prospects – Results of Operations, the tabular information regarding sales information by product line and by region for the Crop Protection and Seeds segments.

Full year sales and operating income for the segments, as presented in Item 5 of this report, are seasonal and weighted towards the first half of the calendar year, which largely reflects the Northern Hemisphere planting and growing cycle.

References in this document to Syngenta's competitive position, identified by terms such as "world-leading", "leader", "leading", "largest", "broadest", or similar expressions are based where possible on Agriservice Industry information provided by a third party or on information published by major competitors and are supplemented by Syngenta internal estimates.

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### CROP PROTECTION

#### Products

Syngenta is active in herbicides, especially for corn, cereals, soybean and rice; fungicides mainly for corn, cereals, fruits, grapes, rice, soybean and vegetables; insecticides for fruits, vegetables and field crops; seed care, primarily in corn, soybean, cereals and cotton; and professional products, such as products for public health and products for turf and ornamentals. Herbicides are products that prevent or reduce weeds that compete with the crop for nutrients, light and water. Herbicides can be subdivided into (i) selective herbicides, which are crop-specific and control weeds without harming the crop and (ii) non-selective herbicides, which reduce or halt the growth of all vegetation with which they come in contact. Fungicides are products that prevent and cure fungal plant diseases that affect crop yield and quality. Insecticides are products that control chewing pests such as caterpillars and sucking pests such as aphids, which reduce crop yields and quality. Seed care products are insecticides and fungicides used to protect growth during the early stages. Professional products are herbicides, insecticides and fungicides used in markets beyond commercial agriculture, and include a broad range of premium growing media mixes for professional flower growers.

Syngenta's Crop Protection business has a broad product range, making it number one or two in all of its target segments, underpinned by strong worldwide market coverage. Syngenta focuses on all major crops – in particular, corn, cereals, soybean, fruits and vegetables, and applies its technologies to other crops, such as oilseeds, sugar beets, rice and cotton, sugar cane and to turf and ornamentals.

#### Key Marketed Products

##### Selective herbicides

Syngenta has a broad range of Selective herbicides that control grasses and broad-leaved weeds and are applicable to most crops, with a special emphasis on corn and cereals.

- Atrazine (AATREX®/GESAPRIM®) acts mainly against annual grasses and broad-leaved weeds. Although Atrazine was introduced in 1957 and has been off patent for a number of years, it remains an important product for broad-leaved weed control in corn.
- Clodinafop (TOPIK®/HORIZON®/ CELIO®/ DISCOVER®) is a grass herbicide which provides the broadest spectrum of annual grass control currently available in wheat. To further increase crop safety in cereals the active substance Clodinafop is mixed with the safener Cloquintocet, which selectively enhances the degradation of Clodinafop in wheat but not in the grass weeds.
- Fluazifop-P-Butyl (FUSILADE®) is one of the leading products for post-emergence control of grass weed. It is registered for use in over 60 crops with major outlets in cotton and soybeans in the United States and sugar beet and oilseed rape in Europe. The selective action of FUSILADE® allows growers to target applications when grass weeds appear, allowing cost-effective weed control.
- Mesotrione (CALLISTO® family) is a post-emergent herbicide with a very broad spectrum against key broad-leaved weeds in corn.
- Pinoxaden (AXIAL®) is an innovative post-emergent selective grassweed herbicide, for use in both wheat and barley. It offers the grower efficacy, selectivity and flexibility.
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S-metolachlor (DUAL GOLD®/ DUAL MAGNUM®) is a lower dose rate replacement for metolachlor. Its use has not only reduced the amount of product sprayed on fields, thus responding to the pesticide reduction goals established by many countries, but has also decreased the energy required to produce, transport and store the product, as well as decreasing total packaging material. S-metolachlor is well tolerated and can be safely used on more than 70 different crops.

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### Non-selective herbicides

Syngenta has a series of Non-selective herbicides, which reduce or halt the growth of all vegetation with which they come in contact.

- Glyphosate (TOUCHDOWN®), a non-selective herbicide with systemic activity, is a premium product in the market for glyphosate-based products. The product has been enhanced by the launch of the IQ® technology which positions the product at the top end of glyphosate performance. Differentiated from other herbicides of its class by its speed of action and tolerance of heavy rain, TOUCHDOWN® is registered in over 90 counties, including for use on herbicide tolerant corn and soybeans in the United States and Brazil.
- Diquat (REGLONE®), a non-selective contact herbicide, is mainly used as a desiccant to allow easier harvesting and reduce drying costs.
- Paraquat (GRAMOXONE®) is a non-selective contact herbicide first introduced in 1962. Paraquat is one of the world's largest selling herbicides. It has been a vital product in the development of minimum tillage cropping systems, the adoption of which continues to increase because of benefits such as the reduction of soil erosion.

### Fungicides

Syngenta has a broad range of Fungicides that prevent and cure fungal plant diseases that affect crop yield and quality.

- Azoxystrobin (AMISTAR®), a strobilurin fungicide introduced in 1997 and launched widely in 1998 and 1999, is the world's best selling proprietary fungicide and Syngenta's largest selling product. It is registered for use in approximately 100 countries and for approximately 120 crops. In Brazil, it is successfully being used to control Asian rust in soybeans in a mixture branded as PRIORI XTRA®. Mixtures of azoxystrobin with triazoles (cyproconazole or propiconazole) or chlorothalonil have been developed to tackle diseases in cereal crops, primarily in the yield intensive markets of Europe where growers and advisors value the strong rust control performance and yield enhancing properties of azoxystrobin. Mixtures are also used in corn & soybeans as part of a complete plant performance program where significant yield increases are achieved.
  - Chlorothalonil (BRAVO®), acquired in 1998, is a world-leading fungicide. With its multi-site mode of action, it is a good partner for AMISTAR® and is being increasingly integrated into disease control programs which use both products.
  - Cyproconazole (ALTO®) is a systemic fungicide with broad-spectrum activity, especially against rust and leaf spot in cereals, soybean, sugar beet and coffee. Pursuant to the commitments given to the European Commission upon the formation of Syngenta, Syngenta granted an exclusive license to manufacture, use and sell cyproconazole in the European Economic Area to Bayer, under Bayer's own trade name. Syngenta has re-commenced sales of cyproconazole under the ALTO® and other brand names.
  - Cyprodinil (UNIX®/STEREO®2/SWITCH®/CHORUS®) is a powerful fungicide for use on cereals. It is used to control eyespot, powdery mildew and leaf spot diseases. Because it has a specific mode of action, it is a particularly effective solution where resistance to other fungicides has developed. CHORUS® and SWITCH® are cyprodinil-based formulations which are used on pome fruit such as apples and pears or on grapes and vegetables, respectively.
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2 Pursuant to the commitments given to the European Commission, Syngenta granted an exclusive right to Makhteshim Agan Industries Ltd. to use and sell STEREO® formulation for use on cereals for the duration of its registration in Denmark, Finland and Sweden.

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- Difenconazole (SCORE®) is a systemic triazole fungicide with broad-spectrum activity against plant diseases, particularly leaf spots of pome fruit, vegetables, field crops and plantation crops. Long-lasting protective and strong curative activity make it well suited for threshold based plant disease management whereby the plant is treated only when the development of the disease has passed a certain point. Target crop pathosystems include cercospora, alternaria, septoria and other leaf spots, powdery mildews and scabs in wheat, bananas, sugar beets, peanuts, potatoes, pome fruits, grapes, rice and vegetables.
- Fluazinam<sup>3</sup> (SHIRLAN®) is a fungicide for control of potato blight.
- MEFENOXAM™<sup>4</sup> (RIDOMIL GOLD®/FOLIO GOLD®/SUBDUE®) is used for the control of seeds and soil-borne diseases caused by fungi such as pythium, phytophthora and downy mildews. It is used worldwide on a wide variety of crops, including field, vegetable, oil and fiber crops.
- Mandipropamid (REVUS®), launched in 2007 and currently registered in 62 countries, is used on fruit and vegetables to combat late blight and downy mildew.
- Propiconazole<sup>5</sup> (TILT®/ BANNER®) was introduced in 1980 and has developed into Syngenta's most successful foliar fungicide for broad spectrum disease control in cereals, bananas, rice, corn, peanuts, sugar beet, turf and other food and non-food crops. Propiconazole is systemic and provides a strong curative and protective activity against a wide range of plant pathogens including powdery mildews, rusts and other leaf spot pathogens of cereals, bananas, rice, corn, peanuts, sugar beet, and turf.
- Trinexapac-ethyl (MODDUS®) is a plant growth regulator. In cereals it reduces growth so that treated plants stay shorter and have stronger stems, enhancing their ability to withstand storms and remain upright until harvest. In sugarcane it is a yield enhancer and harvest management tool.

## Insecticides

Syngenta has a broad range of Insecticides that control chewing pests such as caterpillars and sucking pests such as aphids, which reduce crop yields and quality. These products can be either applied to the soil or sprayed onto the foliage.

- Abamectin (VERTIMEC® or AGRIMEC®/AGRI-MEK®) is produced by fermentation. This potent insecticide and acaricide is used at very low dose rates against mites, leafminers and some other insects in fruits, vegetables, cotton and ornamentals. Abamectin rapidly penetrates the plants and is a useful product for integrated pest management.
- Emamectin Benzoate (PROCLAIM® or AFFIRM®) provides control of caterpillars on vegetables, cotton and fruits, combining a unique mode of action with extremely low use rates and is compatible with integrated pest management. It has been launched in major markets such as Japan, Korea, the United States, Mexico, Australia and India and is under registration in a number of other countries.
- Lambda-cyhalothrin (KARATE®/ICON®) the world's leading agricultural pyrethroid brand, is one of Syngenta's largest selling insecticides. An innovative product branded KARATE® with ZEON® technology was launched in the United States in 1998, offering performance benefits and enhanced user and environmental safety.

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<sup>3</sup> Fluazinam is distributed, but not manufactured, by Syngenta.

4 In the United States Mefenoxam is a generic expression whereas in other countries MEFENOXAM™ is a trademark of Syngenta Participations AG to denominate the active ingredient Metalaxyl-M (ISO name).

5 Pursuant to the commitments given to the European Commission, Syngenta has agreed to grant an exclusive right to Makhteshim Agan Industries Ltd. to use and sell its TILT® 250EC and TILT® 6.25GL formulations for use on cereals in Denmark, Finland and Sweden for the duration of their registrations.

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- Lufenuron (MATCH®) is an insect growth regulator that controls caterpillars in corn, potatoes, cotton, vegetables and fruits. It is a leading insecticide in terms of sales in its chemical class.
- Thiamethoxam (ACTARA®) is highly active at low use rates against a broad spectrum of soil and sucking insects. It is highly systemic and well suited for application as a foliar spray, drench or drip irrigation. It is fast acting, works equally well under dry and wet conditions and has a favorable safety and environmental profile. Its mode of action differs from that of older products, which makes it effective against insect strains that have developed resistance to those products. It has been and continues to be developed on a broad range of crops, including vegetables, potatoes, cotton, soybeans, rice, pome fruits, stone fruits (such as peaches or plums) and tobacco.

### Seed care

The use of Seed care products is an effective, efficient, and targeted method to protect seedlings and young plants against diseases and insects during the period when they are most vulnerable. Syngenta's broad range of fungicides and insecticides allows it to provide a modern portfolio of safe and highly effective products. As seeds increase in value, seed protection becomes more important.

- Difenconazole (DIVIDEND®) is active against a broad range of diseases including bunts, smut and damping off on cereals, cotton, soybeans and oilseed rape. This product is highly systemic and provides a long lasting, high-level effect. It is safe for the seeds and seedlings and provides for a faster germination than other products in the market.
- MEFENOXAM™<sup>6</sup> (APRON® XL) is used for the control of seed and soil-borne diseases caused by fungi such as pythium, phytophthora and downy mildews. It is used worldwide on a wide variety of crops, including field crops, vegetables, oil and fiber crops. MEFENOXAM™ is also used as a mixing partner for seed protection at low use rates.
- Fludioxonil (MAXIM® or CELEST®) is a contact fungicide with residual activity. Derived from a natural compound, fludioxonil combines crop tolerance with low use rates. Its spectrum of targets includes seed and soil-borne diseases like damping off, bunt, smut and leaf stripe on cereals. Used alone or in mixtures with other active substances, it is also effective on corn, rice, cotton, potatoes and peas.
- Thiamethoxam (CRUISER®) is an insecticide with systemic activity in a wide range of crops including cereals, cotton, soybeans, canola, sugar beet, corn, sunflower and rice. Its properties are such that it provides a consistent performance under a wide range of growing conditions. Thiamethoxam acts against a wide range of early season sucking and chewing, leaf feeding and soil-dwelling insects like aphids, thrips, jassids, wireworms, flea beetles and leafminers.

### Professional products

Syngenta offers a range of specialized products for use in turf (golf courses and sports fields) and ornamentals (cut flowers, bedding plants, bulbs and nurseries) treatment, vegetation management (roads, railroads and rights-of-way) and for home and garden use.

- Prodiamine (BARRICADE®) is a leading pre-emergence grass and broad-leaved weed herbicide in turf.
- Azoxystrobin (HERITAGE®/ORTIVA®/AMISTAR®) is a leading fungicide for use on turf, primarily golf courses, and in ornamentals.

- Abamectin (VERTIMEC®) and thiamethoxam (ACTARA®) are leading ornamental insecticides.

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6 In the United States, mefenoxam is a generic expression whereas in other countries MEFENOXAM™ is a trademark of Syngenta Participations AG to denominate the active ingredient Metalaxyl-M (ISO name).

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- Trinexapac-ethyl (PRIMO MAXX®) is a plant growth regulator for turf that increases stress tolerance and decreases clippings.
- Growing Media. FAFARD® is a premium brand in the US growing media market specializing in custom mixes for producers of ornamental plants.

Syngenta also offers products for use in controlling insect pests in homes.

- Lambda-cyhalothrin (ICON®) is used in public health outlets for control of malaria and other tropical diseases and nuisance pests, such as house flies and cockroaches. It was the first pyrethroid to be approved for malaria control by the World Health Organization. In addition to being sprayed, it can be incorporated into bednets to offer added protection.

### Recently Launched Products (last 3 years)

#### Fungicides

- Isopyrazam (BONTIMA®, SEGURIS®), a new broad-spectrum cereal fungicide which complements Syngenta's existing product range and provides additional resistance management opportunities.

#### Insecticides

- Chlorantraniliprole mixtures (DURIVO®/AMPLIGO®/VIRTAKO®/VOLIAM FLEXI®/VOLIAM TARGO®). Chlorantraniliprole, licensed from Du Pont for sale in mixtures with Syngenta active ingredients, is a chemical of the bisamide class characterized by unique systemic properties and outstanding activity on all major lepidoptera pests.

#### Seed care

- AVICTA®, a seed treatment for the control of nematodes originally launched in the US in cotton in 2006, was launched there in corn in 2009 and successfully introduced in Latin America in corn and soybeans.
- Sedaxane (VIBRANCE™), a new fungicide used in seed treatment that complements Syngenta's existing product range.

#### Products in Late Stage Development

Syngenta has a rich pipeline of products under development, which extends beyond 2012 and involves projects covering all product lines. Products in late stage development include:

#### Selective herbicides

- Bicyclopyrone, a new broad-spectrum selective herbicide for use in corn and sugar cane that complements Syngenta's existing product range.

#### Fungicides

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Solatenol™, a new broad-spectrum fungicide active ingredient primarily for soybean rust that complements the existing range.

- SDHI (succinate dehydrogenase inhibitor) fungicide products are currently under development for the future ornamental portfolio.

#### Insecticides

- Cyantraniliprole, Syngenta is actively involved in development projects in bisamide chemistry. Syngenta acquired from Du Pont in 2008 the exclusive rights to use Cyantraniliprole in mixtures with

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Syngenta insect control products. Cyantraniliprole is a new broad spectrum insecticide for the control of lepidoptera and sucking pests. Cyantraniliprole is complementary to the Chlorantraniliprole insect control product that Syngenta sells in mixtures with its own leading insect control products.

- 361, new abamectin formulations.

## Production

The manufacture of crop protection products can be divided into three phases:

- manufacture of the active substance
- formulation of products from these active substances into a form which optimizes the efficacy and safety of the product in the field
- packaging of the products to closely align them with local customer needs

Syngenta's major production sites for active ingredients are located in Switzerland, the United States, the United Kingdom, China and India. While individual active substances are normally produced at one manufacturing site, formulations are produced and packaged at several different strategically located plants, close to the principal markets in which those products are sold. Syngenta operates major formulation and packing plants in Belgium, Brazil, China, France, India, South Korea, Switzerland, the United Kingdom and the United States.

Syngenta manages its supply chain globally and on a product-by-product basis, from raw materials through delivery to the customer, in order to maximize both cost and capital efficiency and responsiveness. Syngenta outsources the manufacture of a wide range of raw materials, from commodities through fine chemicals to dedicated intermediates and active ingredients. Sourcing decisions are based on a combination of logistical, geographical and commercial factors. Syngenta has a strategy of maintaining, when available, multiple sources of supply. Most purchases of supply chain materials are directly or indirectly influenced by commodity price volatility, due to price dependence on gas and oil. Total raw material spending was approximately 36 percent of Crop Protection sales in 2011.

## Marketing and Distribution

Syngenta has marketing organizations in all its major markets with dedicated sales forces that provide customer and technical service, product promotion and market support. Products are sold to the end user through independent distributors and dealers, most of which also handle other manufacturers' products. Syngenta's products normally are sold through a two-step or three-step distribution chain. In the two-step chain Syngenta sells its products to cooperatives or independent distributors, which then sell to the grower as the end user. In the three-step system, Syngenta sells to distributors or cooperative unions which act as wholesalers and sell the product to independent dealers or primary cooperatives before on-selling to growers. Syngenta also sells directly to large growers in some countries. Syngenta's marketing network enables it to launch its products quickly and effectively and to exploit its range of existing products. Syngenta focuses on key crop opportunities in each territory. In those countries where Syngenta does not have its own marketing organization, it markets and distributes through other distribution channels. Generally, the marketing and distribution system in a country does not vary by product.

Syngenta's marketing activities are directed towards the distributors, agricultural consultants and growers. They consist of a broad range of advertising and promotional tools, such as meetings with growers and distributors, field demonstrations, advertisements in specialized publications, direct marketing activities, or information via the Internet. Syngenta is also in constant contact with the food and feed chain to evaluate current and future needs and

expectations.

A key element of Syngenta's marketing is grower support and education. This is particularly important with respect to small growers in developing countries. For many years, Syngenta has held numerous

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courses around the world for growers as a result of which tens of thousands of people have been trained in the safe and sustainable use of crop protection products. Syngenta also trains agricultural extension workers and distributors so that they can further disseminate good practice and reach an even wider audience.

Products must obtain governmental regulatory approval prior to marketing. The regulatory framework for crop protection products is designed to ensure the protection of the consumer, the grower and the environment.

Most of Syngenta's principal markets have regular re-registration procedures for crop protection products. Within certain time periods a product's technical dossier is reviewed with the goal of ensuring that it adheres to all standards, which may have changed or been added to since the product was initially registered. The standards and requested trial protocols change over time. Re-registration of a product or compound may not be granted if the registration package fails to meet the then current requirements.

## Research and Development

Crop Protection research and development ("R&D") is dedicated to providing Syngenta with innovative new chemical solutions and intellectual property with the potential to create maximum business value and differentiation. This is done through maximizing Syngenta's chemical and biological expertise, its professional project and portfolio management and leveraging its global reach. New research areas are guided by the crop teams based on customer need, technology, regulatory requirements and political trends.

Syngenta has major research centers in Stein, Switzerland, Jealott's Hill, England and Goa, India, each of which is focused on identifying new active ingredients. Over 600 employees work on a research portfolio of herbicides, fungicides, insecticides and crop enhancing chemicals, with broad applicability as foliar, soil and seed treatments for agriculture and lawn and garden customers.

Syngenta is continuously improving its research process. State-of-the-art synthetic chemistry and high-speed automated synthesis are used in concert to effectively prepare the quantity and quality of compounds for both high throughput and highly targeted biological screening. A crucial feature is the structured design approach to chemistry, which ensures that the chemical entities possess properties most likely to relate to the desired product profile.

Once an active ingredient needs testing, the development team, supported by the global expertise of the trialing function, ensures that the work is efficiently and effectively completed to turn promising molecules into products which are safe to use, pass all registration requirements and meet customers' needs. Such development typically takes six to eight years. The active ingredient's efficacy and safety is assessed as early as possible in the development process and all data is compiled for registration and safe product use.

Syngenta tests compounds on target crops globally under different climatic conditions and in varying soils. In parallel, an industrial scale manufacturing process is identified and optimized, and appropriate formulations and packages are developed. The use of multidisciplinary research teams to refresh the existing product range is key to continued success in the face of competition, even after patent expiry.

Syngenta performs an extensive investigation of all safety aspects relating to its products. The human safety assessments address potential risks to both the users of the product and the consumers of food and feed, while in environmental safety Syngenta seeks assurance that the product will not adversely affect soil, water, air, flora or fauna.

In addition, Syngenta's current chemical products are improved by supporting the development of new mixtures, formulations and programs that bring new effects and opportunities to growers.



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In addition to its own research and development efforts, Syngenta has strengthened its business platform through targeted acquisitions, collaborations and the use of open innovation. It has currently over 400 ongoing R&D collaborations to complement in-house expertise to access new technologies, chemical libraries, biological screening and follow-up of leads.

The total spent on research and development in Crop Protection was US\$624 million in 2011, US\$555 million in 2010 and US\$508 million in 2009.

## Environment

Syngenta designed its environmental management program with the aim of ensuring that its products and their manufacture pose minimal risks to the environment and humans. The crop protection industry is subject to environmental risks in three main areas: manufacturing, distribution and use of product. Syngenta aims to minimize or eliminate environmental risks by using appropriate equipment, adopting best industry practice and providing grower training and education.

The entire chain of business activities, from research and development to end use, operates according to the principles of product stewardship. Syngenta is strongly committed to the responsible and ethical management of its products from invention through ultimate use. Syngenta employs environmental scientists around the world who study all aspects of a product's environmental behavior.

Specially designed transportation and storage containers are used for the distribution of hazardous products and efficient inventory control procedures minimize the creation of obsolete stocks.

Syngenta has developed a rigorous screening and development process in order to mitigate risks relating to the use of its products. All active substances and products must meet both Syngenta's internal standards and regulatory requirements.

Syngenta provides support to growers on a local level such as training in application techniques and assistance in calibrating spray equipment in order to promote safe handling of its products. Syngenta extends product stewardship long after sales in several ways, for example, by collecting and safely destroying outdated products, and providing returnable containers to reduce waste.

Crop protection products are subject to rigorous registration procedures, which are aimed at ensuring safe product usage in the field. In addition to complying with these regulatory requirements, Syngenta has adopted its own Health, Safety and Environment ("HSE") management system. This provides a clear framework of management processes applicable at all sites, whatever the regulatory requirements in the country in which the site is situated.

Syngenta maintains a register of sites to identify manufacturing and distribution sites and locations that may have been contaminated in the past. The register is the basis for the allocation of appropriate provisions and action programs regarding measures to be taken. A risk portfolio is prepared for each site and reviewed annually. The risk portfolio is also applied to third-party manufacturers in order to identify and exclude poorly performing companies.

See Notes 2 and 25 to Syngenta's consolidated financial statements in Item 18 for a further discussion of environmental matters.

## Intellectual Property

Syngenta protects its investment in research and development, manufacturing and marketing through patents, design rights and trademarks. In addition to patent protection for a specific active substance, patent protection may be obtained for processes of manufacture, formulations, assays, mixtures, and intermediates. These patent applications may be filed to cover continuing research throughout the life of a product and may remain in force after the expiry of a product's per se patents in order to provide ongoing protection. The territorial coverage of patent filings and the scope of protection obtained vary depending on the circumstances and the country concerned.

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Patents relating to gene-based crop protection and enhancement products may cover transgenic plants and seeds gene effects, genetic constructs and individual components thereof and enabling technology for producing transgenic plants and seeds.

Trademark protection may be obtained to cover a trademark for a specific active substance and there may be more than one trademark covering the same active substance. Other trademarks may cover formulations, mixtures, intermediates and a variety of ancillary services. The trademarks may remain in force after the expiry of a product's patents in order to provide ongoing protection. The territorial cover of trademark filings and the scope of protection obtained vary depending on the circumstances and the country concerned.

Syngenta enforces its intellectual property rights, including through litigation if necessary.

Competitive Environment

The leading companies in the crop protection industry are mainly dedicated agribusinesses or large chemical companies based in Western Europe and North America. Companies compete on the basis of strength and breadth of product range, product development and differentiation, geographical coverage, price and customer service. Market pressures and the need to achieve a high level of research and development capability, particularly with the advent of biotechnology, have led to consolidation in the industry. The top six such companies account for about 70 percent of the worldwide market. Syngenta's key competitors include BASF, Bayer, Dow, Du Pont and Monsanto. In many countries, generic producers of off-patent compounds are additional competitors to the research-based companies in the commodity segment of the market.

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### SEEDS

#### Products

Syngenta develops, produces and markets seeds and plants that have been developed using advanced genetics and related technologies. Syngenta sells seed products in all major territories.

Syngenta's seed portfolio is one of the broadest in the industry, offering over 200 product lines and over 6,800 varieties of Syngenta's own proprietary genetics. Syngenta has a significant market share in vegetables, flowers, corn, soybean, sugar beet and sunflower. Seed products are derived from a germplasm pool and trait portfolio and developed further utilizing sophisticated plant-breeding methods. Syngenta divides its products into field crops such as corn, soybean, rice, cereals, oilseeds and sugar beet, and horticultural crops, which consist of vegetables and flowers. Through Syngenta's enhanced corn breeding and trait conversion capabilities, 105 new products were brought into North America production in 2011 for customer use in the 2012 crop year. 24 of these products feature the Agrisure® Viptera™ 3111 trait stack, which provides breakthrough control of the broadest spectrum of above- and below-ground insects available. This year, growers also have access to hybrids with the Agrisure® Viptera™ 3220 trait stack for reduced refuge. This trait stack offers growers dual modes of action against above-ground corn pests—including corn borer and corn earworm—with a five percent structured Corn Belt refuge.

In August 2009, Syngenta acquired the global hybrid sunflower seeds business of Monsanto, strengthening its position in the key European and Latin American markets and enhancing its overall market leadership and product portfolio. In September 2010, Syngenta acquired the Maribo Seed sugar beet business from Nordic Sugar, a subsidiary of Nordzucker AG.

In November 2010, Syngenta acquired the 50 percent equity interest in Greenleaf Genetics LLC owned by Pioneer. This transaction dissolved a joint venture and terminated certain license agreements between Syngenta and Pioneer. The acquisition and related joint venture dissolution enables Syngenta and Pioneer to pursue independent licensing strategies for their respective proprietary corn and soybean genetics and biotechnology traits.

#### Key Marketed Products

##### Field Crops

- Corn (AGRISURE®, GARST®, GOLDEN HARVEST®, NK®) hybrids are sold by Syngenta via established distribution channels covering a full range of countries and maturities. In addition, hybrids and inbred lines are licensed to other seed companies in the US via Greenleaf Genetics LLC. Syngenta hybrids are characterized by their high yield potential, stability of performance, uniformity and vigor. Many of Syngenta's elite hybrids are offered as Agrisure® 3000GT and Agrisure® Viptera™ 3111 products which provide built-in insect protection against corn borers, corn rootworms and tolerance to glyphosate herbicide. Competitive hybrids in early maturities, some of them developed through marker assisted breeding, are sold for silage and grain markets.
- Sugar beet (HILLESÖG®, MARIBO®) seeds are bred to develop high yielding varieties with good stress and disease tolerance, high sugar content, low soil tare and improved juice purity.
- Oilseeds (NK®) include: sunflowers, soybeans and oilseed rape. Syngenta sunflower seed hybrids are bred for high yield as well as heat stress tolerance, disease resistance, herbicide tolerance and oil quality. Syngenta's soybean varieties combine high yield genetic superiority and herbicide tolerance, which give growers flexibility in their weed control. The company's oilseed rape varieties and hybrids offer good oil production and plant health.

- Cereals (NK®, AGRIPRO® COKER®, RESOURCE SEEDS INC., C.C. BENOIST®) wheat and barley varieties combine high yield, superior disease resistance and agronomic characteristics coupled with excellent grain quality for the milling, malting and animal feed industries.

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### Vegetables

- Vegetables brands include DULCINEA®, ROGERS®, S&G®, ZERAIM GEDERA® and DAEHNFELDT®. Syngenta offers a full range of vegetable seeds, including tomatoes, peppers, melons, watermelons, squash, cauliflower, cabbage, broccoli, lettuce, spinach, sweet corn, cucumbers, beans, peas, okra and oriental radish. Syngenta breeds varieties with high-yield potential that can resist and tolerate pests and diseases. Syngenta develops genetics that address the needs of consumers as well as processors and commercial fresh market growers. In 2009, Syngenta acquired two US based lettuce seed companies, Synergene Seed & Technology, Inc. and Pybas Vegetable Seed Co., Inc., which established lettuce sales in the North American market and broadened its lettuce development portfolio in Europe and Asia.

### Flowers

- Flowers brands include GOLDFISCH®, GOLDSMITH SEEDS, YODER® and SYNGENTA FLOWERS. Syngenta offers a full range of flower seeds, plugs and cuttings which it sells to professional growers of horticultural crops. Syngenta focuses on breeding a full range of innovative flower varieties, including popular bedding plants such as viola, begonia, New Guinea impatiens, pelargonium and petunia; pot plants, such as cyclamen and poinsettia; cuttings for, amongst others, the growing market of hanging baskets, such as impatiens and verbena; and a wide range of attractive perennials.

### Recently Launched Products (last 3 years)

The following recently launched products illustrate Syngenta's capability as a technology integrator and its commitment to the food chain and the ornamental industry:

### Field Crops

- In 2010, Syngenta's corn portfolio was further enhanced by the launch of Agrisure® Viptera™, which provides enhanced control of lepidopteran insect pests through a new and unique mode of action. In 2011, Syngenta received full cultivation approval in Argentina for Agrisure® Viptera™ and for triple stack corn, combining herbicide tolerance and insect resistance.
- A number of high yielding barley varieties have been launched with excellent disease resistance, very high yield and lower cost of production. These have included malting varieties suitable for both brewing and feed type.
- In wheat, a number of new products have been launched across the spring and winter wheat ranges with high yield, good disease tolerance and high bread making qualities.
- Sugar beet varieties with Roundup Ready®7 tolerance in the US8 feature high sugar content and multiple resistances across a number of geographies.

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7 Roundup Ready® is a registered trademark of Monsanto Technology LLC.

8 The US Department of Agriculture ("USDA") deregulation of sugar beet varieties with Roundup Ready®7 tolerance in the US is currently the object of third party plaintiff litigation against the US government and, as a result, was vacated in 2010. The USDA interim partial deregulation, which authorized continued planting, was challenged by third parties and is currently pending in the DC District Court. The same third parties also appealed the dismissal in September 2010 of their challenge to the USDA's approval of permits for steckling transplants (small sugar beet plants used to produce hybrid seed) to the Ninth Circuit Court of Appeals. Syngenta joined the DC District Court litigation in

support of full deregulation of Roundup Ready®7 sugar beet varieties in the US. For the 2011/2012 season, sugar beets with Roundup Ready®7 tolerance have been planted on over 90 percent of the US acres under special permits from the USDA.

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### Vegetables

In Vegetables, Syngenta continues to launch and test market new and attractive consumer products in the United States, Europe, Japan and other parts of the world. Some examples of recently launched products include:

- In Pepper, a new sweet, baby seedless pepper called Angello™ in Europe.
- In Squash, significant new products Prometheus in Europe and Spineless Perfection in US, which offer growers excellent high yield performing varieties with a broad spectrum disease resistance.
- In Watermelon, Fascination, a large fruit size seedless watermelon, is winning significant market share in the USA and El Ghali, a large fruit size seeded variety, is our first major product launch in North Africa.
- Sweet Corn: GSS2259P/Shinerock, a multi disease resistant processing sweet corn variety with high yield potential and a native herbicide tolerance, launched globally.

### Flowers

In Flowers, some examples of recently launched products include:

- Calliope® – New Geranium series with leading retail shelf life and garden performance. Includes the darkest Red color ever shown in Geraniums.
- Mammoth® – Pansy series from Goldsmith with very large flowers.
- Mira® – Energy-efficient Poinsettia variety that can be grown under lower production temperatures.
- Winfall® – Innovative mini Cyclamen for indoor and outdoor use in fall and winter.

### Products in Late Stage Development

Syngenta seeks to produce improved hybrid and varietal seeds to meet the agronomical conditions and demands of its customers and to work towards further improvement of traits advantageous to the grower, i.e., input traits, such as resistance to diseases and insects, and greater yield. Syngenta is also concentrating on developing products that are advantageous to the food and feed industry and to the consumer, i.e., output traits such as improved digestibility and protein utilization for crops used for animal feed, oilseeds that produce higher quantities or healthier oils. In vegetable seeds, Syngenta develops new products to provide consumers with consistent high quality, improved appearance, taste and texture. Powerful analytical science has been expanding the knowledge of taste, flavor and post-harvest shelf life. Combined with advanced breeding technology, this is accelerating the introduction of novel varieties.

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Below are examples of products in development:

### Field Crops

- Optimizing plants' water use could make a major contribution to saving vital resources, particularly for water-intensive crops such as corn. Syngenta is drawing on native corn genes as well as genes derived from arid-land plants to develop water optimization traits that Syngenta is testing across a wide range of moisture conditions in North and South America.
- Syngenta is working towards developing corn seeds across a variety of maturities with high yield, stress tolerance and improved agronomic characteristics.
- Developing the next generation corn rootworm control trait with a unique mode of action and high efficiency.
- Stacking multiple modes of action for the same target insects (trait pyramiding) to improve efficacy, combat insect resistance and provide refuge reduction in corn while increasing long term product sustainability.
- Creating Agrisure Viptera Artesian corn by combining water optimization technology, Agrisure® Artesian™, with Agrisure® Viptera™ insect control.
- Syngenta is expanding the product offering of the industry's first soybean aphid management system which combines genetics, a naturally occurring trait, and seed treatment products for a total integrated pest management approach. Rust-tolerant soybean varieties in pre-commercial trials will bring a new component to Syngenta's industry-leading solution for control of the critical soybean rust disease in South America. Syngenta continues to deliver a strong portfolio of soybean varieties with high yield, herbicide tolerance, cyst nematode resistance, and overall disease resistance.
- Healthy oil varieties in oilseeds, comprising higher heat stability of plant oils for frying.
- Sunflowers with high stable yields, integrating broomrape, herbicide and disease resistance.
- High yield Safecross™ hybrids with improved disease resistance and stress tolerance in winter oilseed rape.
- In wheat, Fusarium tolerance, high yield, improved and novel quality, new disease resistance and drought tolerance, "White" whole meal flour.
- In barley, next generation spring malting barley with improved enzyme characteristics and new winter barley hybrids combining high yield with improved production characteristics.
- Triticale development combines outstanding forage qualities for both the dairy and livestock industries.
- Sugar beet with second generation nematode tolerance for the European market and with broad spectrum disease and virus resistance in combination with Roundup Ready®7 tolerance for the North American market<sup>8</sup>.

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### Vegetables

- Focus on increased agronomic quality, fruit quality and shelf life improvements and better plant performance in combination with virus, fungal and insect resistances to provide increased grower performance reliability.
- Advancing abiotic stress tolerant traits for rootstocks for the high value tomato and pepper markets.
- Developing new fruit sizes in melons and watermelons tailored to shrinking family sizes in North America and Europe.
- Bringing forward new consumer traits for texture that improve the quality of fresh cut fruit.
- Vegetable R&D is advancing convenience traits for consumers.

### Production

Independent contract farmers grow and harvest Syngenta's seed throughout the world. After the harvest, the raw seed is cleaned, calibrated, treated and packaged in Syngenta or third party processing plants. The largest facilities are located in Argentina, Brazil, France, Hungary, India, Morocco, the Netherlands, Spain, Sweden, Thailand and the United States. For large seed products, seed production tends to occur as close to the intended markets as possible, in order to achieve cost effectiveness and match the seeds with the growing conditions that are optimal for the variety. This also eases logistics for seed products that require secure storage and timely delivery for the use season.

Due to Syngenta's global presence, it can engage in seed production year-round and mitigate weather related seed production risk. In addition, because its facilities are located in both the northern and southern hemispheres, Syngenta can shorten the time required to multiply seeds from breeding to commercial production. This enables it to produce marketable quantities more quickly than if it were dependent on only one growing season.

### Marketing and Distribution

Syngenta's Seed products are marketed throughout the world through well-known brands, some of which have been established for over 100 years. Flagship brands are NK®, Golden Harvest®, Garst®, HILLESÖG®, S&G®, Rogers®, Zeraim Gedera® and Fischer. The NK® brand is used for corn, soybean, sunflowers, oilseed rape, and several other specialty crops. Golden Harvest® and Garst® are predominantly used in North America for corn and soybean. Corn germplasm and traits are marketed via GreenLeaf Genetics LLC, a fully owned subsidiary since fourth quarter 2010. Proprietary corn traits are marketed under the Agrisure® trademark. The HILLESÖG® brand is used for sugar beet and appears in every major market in Europe, Japan and the United States. For vegetables in Europe, the Middle East, Africa and Asia, S&G® is a leading brand, while Daehnfeltd® targets emerging markets via different distribution channels. The Rogers® vegetable brand is well known in the Americas to growers and the food-processing industry. Through the acquisition of Zeraim in 2007, Syngenta gained access to its global brand Zeraim Gedera®. In 2008, the Syngenta Flowers brand was introduced as an umbrella brand representing the entirety of Syngenta's offer in flower seeds, cuttings and young plants. Syngenta Flowers uses the Goldfish® brand and the Goldsmith and Yoder® brands as portfolio brands. Syngenta's sales force markets the majority of Syngenta's brands, either to customers directly, in partnership with distributors, or through a network of dealers.

### Research and Development

Syngenta operates approximately 100 breeding and germplasm enhancement centers strategically located around the world, with over 3,000 permanent employees focusing on advancing the performance, stability and quality of seed

varieties for over 50 food, feed and flower crops.

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Seeds R&D is dedicated to creating new varieties of major field crops having improved quality and productivity, either alone or in combination with other technologies. The core strategic crops of focus are cereals (wheat, barley), corn, diverse field crops (sunflower, oilseed rape, sugar beet), rice, soybean, specialty crops (including fruits, trees, nuts, vines, potatoes, cotton, plantations), sugar cane and vegetables. This includes improving tolerance to pests and other environmental stresses as well as quality characteristics such as nutritional composition, consumer appeal and shelf life.

Syngenta expects that end users such as livestock feeders, grain processors, food processors and other partners in the food chain will continue to demand specific qualities in the crops they use as inputs. Working with state-of-the-art breeding techniques, Syngenta is building one of the most extensive germplasm libraries in the world. This diversity, combined with Syngenta's expertise, is expected to enable Seeds R&D to contribute significantly to Syngenta's growth.

Syngenta's biotechnology activities primarily take place at two sites. In Beijing, China, Syngenta focuses on early-stage evaluation of genetically modified traits, while at Research Triangle Park, NC, USA, Syngenta works on both research and development of key native and genetically modified traits. These two main sites, supported by smaller laboratories around the world, work together to significantly progress Syngenta's biotechnology capability.

Biofuels are an important market for corn and sugar cane growers. Approval of ENOGEN® in the US, Syngenta's corn amylase trait and first approved corn output trait worldwide, allows corn to be more easily digested during the biofuel preparation process. PLENE® is Syngenta's solution which is revolutionizing how sugarcane is grown and provides growers with quality and yield benefits. Both solutions provide reduced carbon footprint benefits.

In addition to general research and development agreements with other companies and academic institutions around the world, Syngenta has entered into a number of targeted alliances with other enterprises in order to further broaden its germplasm and trait base with the goal of creating more valuable products. None of these alliances are currently material to Syngenta's business, and it is difficult to predict which of these alliances is most likely to produce a successful product in the future. In most cases, royalties are payable upon commercial exploitation.

Total research and development spending in Seeds was US\$423 million in 2011, US\$410 million in 2010 and US\$364 million in 2009.

## Competitive Environment

The main competitive factor in the seeds industry remains the quality of genetics and the increasing importance of traits. Historically, competition in the seeds industry has been fragmented, with small producers competing in local markets. With the emergence of biotechnology, the seeds industry became research intensive. Technological advances requiring higher research and development spending have forced new alliances and led to industry consolidation creating greater competition in product development, marketing and pricing. This environment favors companies that have a biotechnological platform and a broad genetic range. At present, Syngenta's main competitors in the seeds business are: Monsanto, Pioneer, Vilmorin, KWS, Bayer, Dow, Ball, Sakata and Takii.

## Intellectual Property

Syngenta maintains the ownership, and controls the use, of its seeds (inbreds and varieties) and genomic-related products and processes by means of intellectual property rights, including, but not limited to, the use of patents, trademarks, licenses, trade secrets, plant variety protection certificates and contractual language placed on packaging. The level of protection varies from country to country according to local laws.



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Syngenta licenses certain of its intellectual property rights to third parties and also holds licenses from other parties relating to certain of Syngenta's products and processes.

Regulatory Approval

Governmental regulatory authorities perform a variety of risk assessments on genetically modified (GM) seed products to ensure the safety of the resulting plants and the food and feed derived from them. Syngenta must obtain regulatory approvals for both cultivation and for import of products thereof into key countries. Cultivation countries for Syngenta's GM seed currently include the US, Canada, Brazil, Argentina and the Philippines. Key import countries are defined based on the product and cultivation market and may include Japan, one of the largest importers of commodity crops. "Stacked" products developed through breeding to contain multiple GM traits are also subject to regulation in certain countries. Approvals in some countries are time limited and must be renewed on a periodic basis to ensure that each product adheres to current regulatory standards. Some countries also require safety monitoring and insect resistance management after product commercialization. Additionally, registration of new plant varieties, whether transgenic or not, is required in most countries, with the notable exception of the US.

Government regulations and the politics that influence them vary widely among jurisdictions and change often. Obtaining necessary regulatory approvals is time consuming and costly; there can be no guarantee of approval timelines, and data requirements for approval continue to increase.

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### BUSINESS DEVELOPMENT

From improved food to biofuels, biotechnology holds enormous promise for humanity. Biotechnology has had a significant impact on agriculture, however, the products introduced to date only hint at the benefits that are possible for growers and consumers alike. With its strong research capabilities, intellectual property and leadership across multiple areas of agribusiness, Syngenta believes it is well positioned to realize the potential of this science.

The Business Development segment is built around a core of independent business teams with responsibilities for specific markets. The mission of Business Development is to capitalize upon Syngenta's considerable strengths and marshal the resources needed to take Syngenta to the forefront of commercial biotechnology.

Business Development directs early stage research and technology expenditures as well as expenditures for development and marketing activities to create new business opportunities. This focus allows Syngenta to identify the best new ideas in biotechnology.

#### Products in Development

Syngenta expects future income to arise from new product development, licensing and other partnership arrangements. To drive near term success, Business Development has put emphasis on the acceleration of new agronomic traits, also investing significantly in a new US genetics research facility, and the commercialization of close-to-market projects that are aligned with the strengths of the Syngenta Crop Protection and Seeds businesses.

Syngenta achieved approval of its proprietary ENOGEN® corn amylase, which improves the productivity of ethanol plants, from both the US Food and Drug Administration and the USDA, as well as from regulatory authorities in Japan, Canada, New Zealand, Mexico and the Philippines. Development in plant testing continued in 2011.

Syngenta also continued to focus on further developments in breeding and transformation activities, especially on corn and sugar cane in Latin America, with the long term strategy of enhancing the product portfolio offered to farmers and introducing new genetically modified varieties.

#### Production

Business Development is producing corn amylase via contracts with growers under a USDA permit.

#### Research and Development

Syngenta's primary center for agricultural genomics and biotechnology research is in Research Triangle Park in the United States. This research facility has recently been complemented with the move to a new permanent biotechnology research facility in Beijing, China that performs early stage evaluation of genetically modified traits. In-house work is complemented and strengthened through numerous alliances and collaborations.

The following are key capabilities in developing transgenic crops:

- Ability to find useful genes: Syngenta is capitalizing on its pioneering work in mapping the rice genome and also accessing external sources through its collaborations with various university laboratories around the world.
- Plant transformation: This is the process of introducing new genes into the existing genetic constitution of plants. Pioneering work in this area is done in Syngenta's research center in Research Triangle Park in the United States.



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- Use of marker genes: There has been significant public and regulatory debate over the use of microbial antibiotic resistance as a marker technology. Syngenta has developed and patented an alternative sugar based system trademarked “Positech™” that is widely used by researchers.
- Trait expression: This is the process of regulating genes to achieve various levels of expression in different tissues. This is achieved through specialized promoter DNA sequences.

All biotechnology products are subject to intense regulatory scrutiny and Syngenta conducts extensive studies to ensure products are safe for both consumers and the environment. An extensive Syngenta network of regulatory specialists around the world ensures continued dialogue and compliance with the authorities regarding regulatory dossier submissions, insect resistance management programs and participation in further development of the biotech regulatory framework.

Total research and development spend for Business Development was US\$80 million in 2011, US\$67 million in 2010 and US\$80 million in 2009.

Syngenta’s Business Development segment has entered into a number of targeted alliances with other enterprises in order to broaden further Syngenta’s research and development scope. None of these alliances are currently material to Syngenta’s business, and it is difficult to predict which of these alliances is most likely to produce a successful product in the future. In most cases, royalties are payable upon commercial exploitation.

The list below is a sample of the alliances in which Syngenta’s Business Development segment is currently engaged:

- Queensland University of Technology – Biofuels, with concentration on development of sugar cane transformation and gene expression tools.
- Proteus S.A. – Biofuels, focusing on discovery and evolution of proprietary enzymes in the processing of biofuels.
- Chromatin, Inc. – Gene stacking, exclusive use of their unique gene stacking technology in sugarcane.
- Institute for Genetics and Developmental Biology, Beijing, China – Yield, drought trait gene discovery.

## Principal Markets

The market environment for products enhanced through biotechnology is complex. In the Americas, Australia and Asia, benefits such as better protection from pests and improved farming efficiency have been realized and the technology widely accepted. Although there has been progress recently in the European market, consumer opinion is mixed and the regulatory framework remains stalled.

## Competitive Environment

In addition to Syngenta, the major investors in biotechnology are the other main crop protection and seed companies: Monsanto, Pioneer, Bayer, BASF and Dow. The majority of the transgenic products commercialized to date are traits that improve performance and farming efficiency in major world crops such as corn, soybean, cotton and canola (input traits). As a result, companies having access to germplasm as a platform for trait commercialization have a key competitive advantage. In the future, Syngenta expects that increased emphasis will be placed on developing products that provide benefits to food and feed processors, fuel production, retail trade and consumers (output traits). One future competitive advantage is expected to be the ability to develop partnerships to allow delivery of biotechnology traits to the target market sectors. In the future, Syngenta’s move into new markets may result in other companies

becoming competitors including, for example, major companies such as DSM, Novozymes and Danisco.

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Intellectual Property

Intellectual property laws protect products developed through biotechnology in the countries in which they are made and marketed. Syngenta takes advantage of the full spectrum of intellectual property laws, including utility patents, plant variety protection certificates, plant breeders' rights, plant patents, trade secrets, and trademarks. The level and type of protection varies from country to country according to local laws and international agreements. Syngenta has one of the broadest patent and trademark portfolios in the industry. In addition to income from development and commercialization of transgenic products, income is generated from licensing arrangements. Syngenta respects the intellectual property rights of others and will defend its intellectual property rights as necessary.

Government Regulation

The field-testing, production, import, marketing and use of Syngenta's products are subject to extensive regulation and numerous government approvals. Registration and re-registration procedures apply in all major markets.

Products must obtain governmental regulatory approval prior to marketing. The regulatory framework for such products is designed to ensure the protection of the consumer, the grower and the environment. Examples of the regulatory bodies governing the science include the US Environmental Protection Agency and the US Food and Drug Administration.

Regulatory bodies can require ongoing review of products derived from biotechnology based upon many factors including the need for insect resistance management. Even after approval, products can be reviewed with the goal of ensuring that they continue to adhere to all standards, which may have changed or been added to since the product was initially approved. This type of ongoing review applies in most major markets.

Government regulations, regulatory systems, and the politics that influence them vary widely among jurisdictions. Obtaining necessary regulatory approval is time consuming and costly, and there can be no guarantee of the timing or success in obtaining approvals.

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### Integrated Crop Strategy

Syngenta announced in February 2011 its new strategy to integrate its commercial operations across Crop Protection and Seeds on a global crop basis and to develop fully integrated product and service offers. Syngenta regards itself as uniquely positioned to address the increasing complexity of the challenges facing farmers. Under this strategy, Syngenta is building on the combined strength of its Crop Protection and Seeds businesses to develop an expanded crop-based product pipeline and local go-to-market strategies. R&D in Crop Protection and Seeds is being re-organized so that it can work more closely together to generate crop-specific combined genetic and chemical solutions for growers.

Integration activities commenced in 2011, with full integration of global commercial operations for Crop Protection and Seeds expected to be complete by mid-2012. The integration of commercial operations includes the creation of a new business model consisting of 19 territories with a strategic crop focus. The territories will be grouped under the four geographic regions against which Syngenta currently reports. In addition, crop teams have been appointed for each of eight global crops: cereals (wheat, barley), corn, diverse field crops (sunflower, oilseed rape, sugar beet), rice, soybean, specialty crops (high-value crops where Syngenta has a Crop Protection but no current Seeds offer, e.g. fruits, trees, nuts, vines, potatoes, cotton, plantations), sugar cane and vegetables. These crop teams will work alongside territory and regional management to develop and maximize an integrated product and services offer by crop.

As a result of the integration of the commercial teams and product offer, Syngenta will combine Crop Protection and Seeds, excluding the lawn and garden business included therein, on an integrated basis segmented by region. The components of Syngenta's lawn & garden business in the Crop Protection or Seeds segments will be combined into a new Lawn & Garden segment. These new segments will reflect the organizational and management structure of Syngenta that is in the process of being implemented. Reporting under this new segment structure is expected to begin by mid-2012 when the integration is completed. Syngenta is also in the process of modifying its information gathering and reporting systems to provide financial and other data under the new segment structure.

### Recently Launched Integrated Products

PLENE® is a revolutionary technology for sugar cane in Brazil, combining chemistry, plant genetics and mechanical technology to provide an integrated cane planting solution.

TEGRA™ is a solution for rice growers in Asia, consisting of high quality seeds coated with seed treatment and a new system to mechanically transplant seedlings and thereby reduce labor input.

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## Organizational Structure

The following are the significant legal entities in the Syngenta group of companies (the “Group”). Please refer to Note 2, “Accounting Policies”, to the consolidated financial statements in Item 18 for the appropriate consolidation method applied to each type of entity.

Country	Percentage owned by Syngenta	Local Currency	Share capital in local currency	Function of company
<b>Argentina</b>				
Syngenta Agro S.A.	100	% ARS	918,269,877	Sales/Production
<b>Bermuda</b>				
Syngenta Reinsurance Ltd.	100	% USD	120,000	Insurance
<b>Brazil</b>				
Syngenta Proteção de Cultivos Ltda.	100	% BRL	1,172,924,609	Sales/Production/Research
<b>Canada</b>				
Syngenta Crop Protection Canada, Inc.	100	% CAD	–	Sales/Research
<b>France</b>				
Syngenta Seeds S.A.S.	100	% EUR	50,745,240	Sales/Production/Development
Syngenta Agro S.A.S.	100	% EUR	22,543,903	Sales
<b>Germany</b>				
Syngenta Agro GmbH	100	% EUR	2,100,000	Sales
<b>Italy</b>				
Syngenta Crop Protection S.p.A.	100	% EUR	5,200,000	Sales/Production/Development
<b>Japan</b>				
Syngenta Japan K.K.	100	% JPY	–	Sales/Production/Research
<b>Liechtenstein</b>				
Syntonia Insurance AG	100	% USD	14,500,000	Insurance
<b>Mexico</b>				
Syngenta Agro, S.A. de C.V.	100	% MXN		