

SYNGENTA AG  
Form 20-F  
February 14, 2013

As filed with the Securities and Exchange Commission on February 14, 2013

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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  
SECURITIES  
EXCHANGE ACT OF 1934
- For the fiscal year ended December 31, 2012
- 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)

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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.

93,126,149 Common shares, nominal value CHF 0.10 each

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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

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 issued  
by the International Accounting Standards Board                       Other

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

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### Introduction

### NATURE OF OPERATIONS

Syngenta AG (“Syngenta” or the “Company”) is a world leading agribusiness operating in the Crop Protection and Seeds business, which is involved in the discovery, development, manufacture and marketing of a range of products designed to improve crop yields and food quality, and in the Lawn and Garden business, which provides professional growers and consumers with flowers, turf and landscape products.

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;



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- 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 risk of significant breaches of data security or disruptions of information technology systems;
- 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 as issued by the International Accounting Standards Board (IFRS). Financial figures are presented in millions of dollars (\$m) except where otherwise stated. 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 in accordance with IFRS 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 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, Agrosan S.A. from March 9, 2011, Pasteuria Bioscience Inc. from November 8, 2012, Sunfield Seeds Inc. from November 29, 2012 and Devgen N.V. from December 12, 2012. For further information about these and other acquisitions, see Note 3 to the consolidated financial statements in Item 18.

## Financial highlights

(\$m, except where otherwise stated)	Year ended December 31,				
	2012	2011	2010	2009	2008
Amounts in accordance with IFRS					
Income statement data:					
Sales	14,202	13,268	11,641	10,992	11,624
Cost of goods sold	(7,218)	(6,786)	(5,900)	(5,572)	(5,706)
Gross profit	6,984	6,482	5,741	5,420	5,918
Operating expenses	(4,692)	(4,431)	(3,948)	(3,601)	(4,038)
Operating income	2,292	2,051	1,793	1,819	1,880
Income before taxes	2,152	1,901	1,677	1,694	1,714
Net income	1,875	1,600	1,402	1,411	1,399
Net income attributable to Syngenta AG shareholders	1,872	1,599	1,397	1,408	1,399
Number of shares – basic	91,644,190	91,892,275	92,687,903	93,154,537	93,916,415
Number of shares – diluted	92,132,922	92,383,611	93,225,303	93,760,196	94,696,762
Basic earnings per share (\$)	20.43	17.40	15.07	15.11	14.90
Diluted earnings per share (\$)	20.32	17.31	14.99	15.01	14.77



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Cash dividends declared:					
CHF per share	8.00	7.00	6.00	6.00	4.80
\$ per share equivalent	8.82	7.64	5.61	5.27	4.76
Cash flow data:					
Cash flow from operating activities	1,359	1,871	1,707	1,419	1,466
Cash flow used for investing activities	(1,218)	(472)	(450)	(880)	(608)
Cash flow from (used for) financing activities	(232)	(1,684)	(844)	170	(457)
Capital expenditure on tangible fixed assets	(508)	(479)	(396)	(652)	(444)

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Balance sheet data:					
Current assets less current liabilities	4,537	4,107	4,363	4,583	3,311
Total assets	19,401	17,241	17,285	16,129	14,089
Total non-current liabilities	(4,218)	(4,095)	(4,483)	(5,331)	(4,489)
Total liabilities	(10,645)	(9,738)	(9,836)	(9,642)	(8,798)
Share capital	(6)	(6)	(6)	(6)	(6)
Total shareholders' equity	(8,745)	(7,494)	(7,439)	(6,473)	(5,274)
Other supplementary income data:					
Diluted earnings per share from continuing operations,	22.30				
excluding restructuring and impairment (\$)	2	19.36	16.44	16.15	16.40

All activities were in respect of continuing operations.

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Notes

1 Financial highlights for 2011 and 2010 are after the effect of reclassifying certain expenses in connection with changes in Syngenta's management structure, as described further in Note 2 to the consolidated financial statements in Item 18. As the organizational changes resulting from the creation of Syngenta Business Services were implemented in 2010, no reclassifications related to those organizational changes have been made for 2009 and 2008. These reclassifications had no impact on consolidated operating income or on consolidated income before taxes.

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 and Prospects in Item 5.

Restructuring and impairment charges for 2012 and 2011 are analyzed in Note 6 to the consolidated financial statements in Item 18. Restructuring and impairment for 2010, 2009 and 2008 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 further phase of 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 and Prospects in Item 5.

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### Risk Factors

Syngenta's business, financial condition, results of operations or cash flows 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.

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. See Item 5 for

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information regarding the amount of receivables Syngenta has with customers in the five main distressed Eurozone countries (Greece, Italy, Ireland, Spain and Portugal). 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. A current example is a proposal from the European Commission to restrict the use of neonicotinoid insecticides on certain crops due to the alleged impact of these products on bee populations. If a restriction is imposed, it will impact on sales of Syngenta's Thiamethoxam products, particularly when formulated as the seed treatment, CRUISER®. Directly impacted sales of CRUISER® in corn, sunflower and oilseed rape crops in European Union markets are less than \$100 million.

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 markets for products used in agriculture. 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 products used in agriculture 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.

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,

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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 effect 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 regularly tests its intangible assets for impairment. Upon completing its testing for 2012, which included subjecting the assumptions used in the testing to a sensitivity analysis, Syngenta recorded impairments of intangible assets totaling \$13 million. Otherwise, Syngenta has concluded that no material intangible assets are impaired at December 31, 2012. 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

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damages in the United States and elsewhere against a number of companies in the agribusiness industry 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.

Sales of products used for crop protection 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 by growers of products derived through biotechnology, Syngenta's sales of products used for crop protection could be adversely impacted. This may not be offset, in whole or in part, by the opportunity for Syngenta to increase its sales of seeds having traits developed through biotechnology. Sales of products used for crop protection accounted for approximately 75 percent of Syngenta's total sales in 2012, whereas seeds accounted for approximately 25 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) as well as the quality, volume and costs of seeds produced for sale.

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.

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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 16 percent of Syngenta's purchases of active ingredients, intermediates and raw materials used in Crop Protection products, 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 business 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.

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.



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Significant breaches of data security or disruptions of information technology systems could adversely affect Syngenta's business

Syngenta's business is increasingly dependent on critical, complex and interdependent information technology systems, including Internet-based systems, to support business processes as well as internal and external communications. The size and complexity of Syngenta's computer systems make them potentially vulnerable to data security breaches, whether by employees or others, which may result in unauthorized persons getting access to sensitive data. Such data security breaches could lead to the loss of trade secrets or other intellectual property. In addition, Syngenta's systems are potentially vulnerable to breakdown, malicious intrusion and computer viruses, which could disrupt production, order processing and shipping, cash receipts and disbursement processes, accounting and reporting processes, or other key business processes. A loss of trade secrets or other intellectual property, or systems-related disruption could have a material adverse effect on Syngenta's business, financial position, results of operations or cash flows.

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, 2012, 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

Information on acquisitions, divestments and other significant transactions completed by Syngenta during each of the years ended December 31, 2012, 2011 and 2010 is included in Item 5 and in Note 3 to the consolidated financial statements in Item 18.

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BUSINESS OVERVIEW

Industry Overview

Syngenta is a world leading agribusiness operating in the Crop Protection, Seeds and Lawn and Garden markets. 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. In Seeds, Syngenta operates in the high value commercial sectors of field crops (including corn, oilseeds, cereals and sugar beet) and vegetables. The Lawn and Garden business provides professional growers and consumers with flowers, turf and landscape products.

Syngenta's Business

Syngenta's business is divided into five reporting segments: the four geographic regions, Europe, Africa and Middle East (EAME), North America (NA), Latin America (LATAM) and Asia Pacific (APAC), comprising the integrated Crop Protection and Seeds business; and the global Lawn and Garden business. These segments reflect the organizational and management structure that was implemented in connection with Syngenta's new strategy, announced in 2011, to integrate its commercial operations across Crop Protection and Seeds using a new business model with a strategic crop focus. The commercial integration was completed by mid-2012 and Syngenta adopted the new segment reporting of sales and profitability starting with the publication of its first half 2012 results. 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 and operating income for the integrated Crop Protection and Seeds business and for each of the four geographic segments therein;
    - sales by product line for the integrated Crop Protection and Seeds business; and
    - sales and operating income for the global Lawn and Garden business.

Full year sales and operating income for the segments, as presented in Item 5 of this report, are seasonal. Results for the EAME, NA and global Lawn and Garden segments are weighted towards the first half of the calendar year, which largely reflects the Northern Hemisphere planting and growing cycle. Results for the LATAM segment are weighted towards the second half of the calendar year, which largely reflects the Southern Hemisphere planting and growing cycle. Results for the APAC segment are weighted slightly towards the first half of the calendar year.

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 global agrochemical and biotechnology industry information provided by a third party or on information published by major competitors and are supplemented by Syngenta internal estimates.

Integrated Business

Based on the combined strength of its Crop Protection and Seeds businesses, Syngenta regards itself as uniquely positioned to address the increasingly complex challenges facing farmers, through the development of fully integrated offers on a crop basis. The integrated business is structured into 19 territories grouped under the four geographic



regions (EAME, NA, LATAM and APAC). Under this integrated business, Syngenta is developing an expanded crop-based product pipeline and increasing its reach into new markets with new products, solutions and local go-to-market strategies.

Crop teams for each of eight strategic global crops work alongside territory and regional management to develop and maximize integrated product and service offers. The eight global crops comprise cereals (wheat, barley), corn, diverse field crops (sunflower, oilseed rape, sugar beet), rice, soybean, specialty crops (high-value crops, e.g. fruits, trees, nuts, vines, potatoes, cotton, plantations), sugar cane and vegetables.

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### Description of Products

#### Integrated Business

The development of integrated offers involves combining Syngenta's Crop Protection and Seeds products, and in some instances combining Syngenta's products with third party products and services, to provide growers with innovative ways to improve crop yields and quality. These offers include integrated crop management programs providing growers with innovative ways to improve crop yields and quality using existing and newly developed crop protection solutions, taking genetics and application protocols into consideration.

#### Crop Protection

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; and seed care, primarily in corn, soybean, cereals and cotton. 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. Syngenta is also investing in bio pesticide solutions, which complement traditional Crop Protection chemistry.

Syngenta has a broad range of Crop Protection products, making it number one or two in all of its target sectors, underpinned by strong worldwide market coverage. Approximately 94 percent of Syngenta's annual sales of Crop Protection products come from products marketed in all four region segments.

#### Seeds

Syngenta 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 divides its seeds products into field crops, such as corn, soybean, rice, cereals, oilseeds and sugar beet, and vegetables. Syngenta has a significant market share in vegetables, 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. In addition to income from development and commercialization of transgenic products, income is generated from licensing arrangements.

#### Key Marketed Products

##### Crop Protection

###### 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.

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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. Atrazine is marketed in NA, LATAM, APAC and in Africa and the Middle East.

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- 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. Clodinafop is marketed in all regions.
- 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. Fluazifop-P-Butyl is marketed in all regions.
- Mesotrione (CALLISTO® family) is a post-emergent herbicide with a very broad spectrum against key broad-leaved weeds in corn. Mesotrione is marketed in all regions.
- 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. Pinoxaden is marketed in all regions.
- 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. S-metolachlor is marketed in all regions.
- Fomesafen (FLEX®) provides post-emergence control and quick eradication of a wide range of broadleaf weeds to protect yields in soybeans, dry beans and other legume crops.

### 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. Glyphosate is marketed in all regions.
- Diquat (REGLONE®), a non-selective contact herbicide, is mainly used as a desiccant to allow easier harvesting and reduce drying costs. Diquat is marketed in all regions.
- 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. Paraquat is marketed in NA, LATAM, APAC and in Africa and the Middle East.

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### 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. Azoxystrobin is marketed in all regions.
- 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. Chlorothalonil is marketed in all regions.
- 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 to Bayer an exclusive license to manufacture, use and sell cyproconazole in the European Economic Area under Bayer's own trade name. Syngenta also sells cyproconazole under the ALTO® and other brand names. Cyproconazole is marketed in all regions.
- Cyprodinil (UNIX®/STEREO®1/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. Cyprodinil is marketed in all regions.
- 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. Difenconazole is marketed in all regions.
- Fluazinam<sup>2</sup> (SHIRLAN®) is a fungicide for control of potato blight. Fluazinam is marketed in EAME, NA and LATAM.
- MEFENOXAM<sup>TM3</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. MEFENOXAM<sup>TM</sup> is marketed in all regions.

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1 Pursuant to the commitments given to the European Commission, Syngenta granted an exclusive right to Maktteshim Agan Industries Ltd. to use and sell STEREO® formulation for use on cereals for the duration of its registration in Denmark, Finland and Sweden.

2 Fluazinam is distributed, but not manufactured, by Syngenta.

3 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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- Mandipropamid (REVUS®), launched in 2007 and currently registered in 62 countries, is used on fruit and vegetables to combat late blight and downy mildew. Mandipropamid is marketed in all regions.
- Propiconazole4 (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. Propiconazole is marketed in all regions.
- 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. Trinexapac-ethyl is marketed in all regions.

## 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. Abamectin is marketed in all regions.
- 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. Emamectin Benzoate is marketed in all regions.
- 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. Lambda-cyhalothrin is marketed in all regions.
- 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. Lufenuron is marketed in EAME, LATAM and APAC.
- 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. Thiamethoxam is marketed in all regions.

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4 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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- Tefluthrin (FORCE®) is a premium corn granular insecticide that provides broad-spectrum soil insect control and residue activity. Tefluthrin is marketed in all regions.
- Chlorantraniliprole mixtures (DURIVO®/AMPLIGO®/VIRTAKO®/VOLIAM FLEXI®/VOLIAM TARGO®). Chlorantraniliprole, licensed from DuPont 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. Chlorantraniliprole mixtures are marketed in all regions.

### 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.

- Difenoconazole (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. Difenoconazole is marketed in all regions.
- MEFENOXAM™5 (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. MEFENOXAM™ is marketed in all regions.
- 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. Fludioxonil is marketed in all regions.
- 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. Thiamethoxam is marketed in all regions.

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5 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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### Seeds

#### 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. Different varieties of corn seeds are marketed in all regions.
- Sugar beet (HILLESHÖG®, 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. The major markets for sugar beet seeds are in Europe and NA.
- 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. Soybean seed varieties are sold primarily in NA and LATAM, and the major markets for sunflower seeds are in Europe and Argentina.
- 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. Cereals are sold mainly in Europe and NA.

#### 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. Different varieties of vegetable seeds are marketed in in all regions.

#### Recently Launched Products (last 3 years)

#### Integrated Business

- PLENE® is a revolutionary solution for sugar cane in Brazil, combining chemistry, plant genetics and mechanical technology to provide an integrated cane planting solution.
- TEGRA® is a service offer for rice growers comprising mechanically transplanted certified seedlings and agronomy support for the first 60 days, thereby reducing labor input and maximizing crop yield potential.



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- NUCOFFEE® is Syngenta's innovative business model operating in Brazil that is transforming the coffee value chain by bringing together growers, cooperatives and roasters. Built around Syngenta's market leading crop protection, quality and barter programs, the NUCOFFEE® platform helps Brazilian coffee farmers increase their profitability, with higher yields and higher prices for their coffee crop.
- PLENUS® is a ready to plant soybean seed combining high quality germplasm and novel professional seed treatment containing a long life inoculant, offering simplicity and crop safety to the grower.

## Crop Protection

### Fungicides

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

### Seed care

- Abamectin (AVICTA®) is 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. AVICTA® is marketed in NA, LATAM and Africa and the Middle East.
- Sedaxane (VIBRANCE®) is a new fungicide used in seed treatment that complements Syngenta's existing product range. Sedaxane is marketed in EAME, NA and LATAM.

### Seeds

### Field Crops

- In corn, Syngenta in 2011 received full cultivation approval in Argentina for AGRISURE VIPTERA® and for triple stack corn, combining herbicide tolerance and insect resistance.
- Through Syngenta's enhanced corn breeding and trait conversion capabilities, seventy new corn hybrids were brought into NA production in 2012 for customer use in the 2013 crop year. Twenty seven of these products contain genetics that are new to the market.
  - oSix of the new hybrids feature AGRISURE ARTESIAN® technology, a native trait developed using proprietary technology and containing multiple genes identified and selected from the corn genome itself, which helps plants use water more efficiently at every growth stage to provide season-long drought tolerance.
  - oAlso introduced are hybrids containing the AGRISURE VIPTERA® 3220 E-Z REFUGE™ trait stack, which offers dual modes of action to control corn borer and above-ground lepidopteran pests, and the AGRISURE® 3122 E-Z REFUGE™ trait stack intended for use in areas where both corn rootworm and lepidopteran pest management are primary concerns. Both products received EPA registration in July 2012.
- Enogen is a corn seed incorporating a corn amylase trait and is the first genetically modified output trait in corn for the ethanol industry. By enabling expression of an optimized alpha-amylase enzyme directly in corn, dry grind ethanol production can be improved in a way that can be easily integrated into existing infrastructure.



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- 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. These new barley seeds are marketed in Europe.
- 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. These new wheat seeds are marketed in Europe.
- Sugar beet varieties with Roundup Ready®<sup>6</sup> tolerance in the US<sup>7</sup> feature high sugar content and multiple resistances across a number of geographies. These new sugar beet seeds are marketed in the US.

## 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 Syngenta's first major product launch in North Africa.
- In Sweet Corn, GSS2259P/Shinerock, a multi disease resistant processing sweet corn variety with high yield potential and a native herbicide tolerance, launched globally.

## Products in Late Stage Development

### Integrated Business

- GROMORE™ are simple agronomic practices and crop care programs, by crop phase and suitable for all rice growing systems, designed to deliver immediate yield benefits.
- Water + Intelligent Irrigated Platform designed to deliver improved revenue potential by conveniently integrating crop inputs, agronomic expertise and technology.
- INTEGRA program to unlock the full yield potential of soybeans through a complete technology offer coupled with agronomic advice and risk management, providing confidence and an excellent return on investment to the grower.

### Crop Protection

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:

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<sup>6</sup> Roundup Ready® is a registered trademark of Monsanto Technology LLC.

<sup>7</sup> The US Department of Agriculture ("USDA") partial deregulation of sugar beet varieties with Roundup Ready®<sup>6</sup> tolerance ("RRSB") in the US was the object of third party plaintiffs' litigation against the US government throughout

2012. The USDA ultimately granted RRSB full non-regulated status on July 20, 2012. The third party litigation over the partial deregulation continued after the USDA fully deregulated RRSB and the cases were ultimately dismissed at the end of 2012; however, the plaintiffs could still appeal the dismissal.

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### Selective herbicides

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

### Fungicides

- Solatenol™ is a new broad-spectrum SDHI (succinate dehydrogenase inhibitor) fungicide active ingredient primarily for soybean rust that complements the existing range.
- Other SDHI fungicide products are currently under development for a variety of crops.

### Insecticides

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

### Seeds

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.

Below are examples of products in development:

### Field Crops

- Syngenta continues to work towards developing corn seeds across a variety of maturities with high yield, stress tolerance and improved agronomic characteristics, including developing the next generation corn rootworm control trait with a unique mode of action and high efficiency, and 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.
- 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.

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- 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®6 tolerance for the North American market<sup>7</sup>.

## 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.

## 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.

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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 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 agribusiness products is designed to ensure the protection of the consumer, the grower and the environment.

Syngenta's products are marketed throughout the world through brands, many of which are well-known by growers and some of which have been established for over 100 years. Brand names for Syngenta's key products are listed above in "Integrated Business - Key Marketed Products". 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.

## Production and Supply

In connection with Syngenta's new strategy to integrate its commercial operations across Crop Protection and Seeds using a new business model with a strategic crop focus, Syngenta has combined its Crop Protection and Seeds Production and Supply functions. The combined functions play an integral role in delivering Syngenta's strategy in a sustainable manner by assuring business delivery, facilitating delivery of integrated crop solutions, supporting growth plans, reducing costs and promoting efficient use of capital.

Through the effective procurement, production and distribution of products, Syngenta's Production and Supply function ensures that it meets its commitments to customers around the world. Production and Supply supports Syngenta's growth plans (particularly in developing markets) and accelerates the building of expertise for scalability and efficiency.

The manufacture of chemical crop protection products and the production of seeds for sale to growers involve different processes.

Active ingredients used for Crop Protection products are manufactured at a relatively limited number of sites located in Switzerland, the United States, the United Kingdom, China and India. Syngenta also operates a number of chemical formulation and packing sites strategically located 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 Crop Protection 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



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materials are directly or indirectly influenced by commodity price volatility, due to price dependence on gas and oil. Total raw material spending was approximately 35 percent of Crop Protection sales in 2012.

Seeds for sale by Syngenta to growers are grown (multiplied) and harvested by independent contract farmers throughout the world. After the harvest, the raw seed is cleaned, calibrated, treated and packaged in Syngenta or third party processing plants, which are also located as close to the intended markets as possible so as 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 season. The largest facilities are located in Argentina, Brazil, France, Hungary, India, Morocco, the Netherlands, Spain, Sweden, Thailand and the United States.

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.

### Research and Development

In connection with Syngenta's new strategy to integrate its commercial operations across Crop Protection and Seeds using a new business model with a strategic crop focus, the Research and Development (R&D) function has been organized to continue to develop quality crop protection and seeds products, while enabling the development of crop-focused solutions which integrate Syngenta's technologies. R&D focuses on taking a more holistic approach to help customers grow their specific crop using the best technology to address their needs, be it a single technology, a combination of technologies or technologies and services.

An open and collaborative culture is essential to ensure the fostering of interaction and innovation, both within the R&D organization and across Syngenta, and with collaborators and partners. Underpinning Syngenta's core Seeds R&D and Crop Protection R&D structure are global competency platforms that include biotechnology, regulatory and product safety, as well as a global trialing capability. Through these platforms, Syngenta R&D can effectively and efficiently share knowledge, capabilities and resources to innovate across crops and regions, resulting in faster and more efficient development and registration of new products.

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.

To complement in-house expertise and bring in novel technologies, Syngenta actively seeks value-adding partnerships and collaborations to bring exciting new offers to growers. It currently has over 500 R&D collaborations with universities, research institutes and commercial organizations around the world.

The total spent on research and development for the integrated Crop Protection and Seeds businesses was \$1,195 million in 2012, US\$1,135 million in 2011 and US\$1,024 million in 2010.

### Crop Protection R&D

Crop Protection R&D provides Syngenta with innovative new chemical solutions and intellectual property with the potential to be combined with other technologies and create maximum business value and differentiation. New research areas are guided by the crop teams based on customer need, technology, regulatory requirements and socio-political trends.



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Syngenta has major Crop Protection research centers focused on identifying new active ingredients in Stein, Switzerland, Jealott's Hill, United Kingdom and Goa, India. In total, over 2,000 employees work on the research and development of a 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 is ready for 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 that 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. 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. Refreshing the existing product range is key to continued success in the face of competition, even after patent expiry.

### Seeds R&D

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. This includes improving tolerance to pests and other environmental stresses as well as quality characteristics such as nutritional composition, consumer appeal and shelf life.

Over 3,000 Syngenta permanent employees focus on advancing the performance, stability and quality of seed varieties, not only for the eight strategic crops, but also for over 50 food and feed crops in total.

Syngenta's biotechnology activities primarily take place at two sites: Research Triangle Park, NC, USA, for both research and development of key native and genetically modified traits, and Syngenta Biotechnology China, Beijing for early-stage evaluation of biotechnology traits. Activities at these two sites are supported by smaller laboratories around the world. In addition, Syngenta operates approximately 100 breeding and germplasm enhancement centers strategically located around the world.

Syngenta expects that end users such as livestock producers, grain processors, food processors and other partners in the food chain will continue to demand specific qualities in the crops they use as inputs. Syngenta has therefore built up and continues to develop one of the most extensive germplasm libraries in the world.

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.





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Syngenta develops plants with desirable characteristics using both native traits breeding approaches, resulting in either conventional inbred lines or hybrids, and genetic engineering.

Conventional plant breeding involves crossing carefully chosen parent plants, then selecting the best plants from the resulting offspring to be grown on for further selection. Once the best lines have been selected, they are purified to create 'inbred' lines, in which every plant has the same characteristics, and the process of multiplying seeds begins.

For many crop varieties, including corn, rice, barley, sunflowers, oilseed rape, rice and many vegetables, Syngenta produces hybrid seeds, which means that the seed supplied to the grower is the result of the first cross between selected parents; these seeds are unique in expressing 'hybrid vigor', which enables improved yield, performance stability and better quality.

For certain crops, Syngenta also develops transgenic plants where one or more genes of interest have been introduced to a plant via recombinant DNA technology instead of the plant acquiring them through conventional breeding.

Modern technologies such as marker-assisted selection, production of doubled haploids (genetically pure plant lines that offer a quick route to new gene combinations for specific, desirable improvements) for accelerated breeding and crop modeling allow breeders to develop new varieties much more rapidly and accurately than in the past. However this is still a lengthy process; today it can take five to seven years from first cross to market, and even longer if there is the need for a government approved market authorization.

Biofuels are an important market for corn and sugar cane growers. Syngenta is involved in research and development on crops that make biofuel production more efficient and sustainable. In particular, Syngenta supports current biofuels development to get to the next phase of efficient transformation of plant material into transportation fuel.

## Intellectual Property

Syngenta protects its investments in R&D, manufacturing and marketing through patents, design rights, trademarks, trade secrets, plant variety protection certificates, plant breeders' rights and contractual language placed on packaging. 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 and enforces its intellectual property rights, including through litigation if necessary.

In addition to patent protection for a specific active substance or for seeds (inbreds and varieties) and genomic-related products, 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.

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 or seed variety and there may be more than one trademark covering the same active substance or seed variety. 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.



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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. Syngenta respects the intellectual property rights of others.

Competitive Environment

Syngenta's key competitors are dedicated agribusinesses or large chemical companies based in Western Europe and North America and comprise BASF, Bayer, Dow, DuPont and its Pioneer subsidiary, and Monsanto. Syngenta and these top companies account for about 65 percent of the worldwide market for crop protection and seeds products.

Companies in the crop protection business 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. In many countries, generic producers of off-patent crop protection compounds are additional competitors to the research-based companies in the commodity segment of the market.

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. 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 a broad genetic range of germplasm as a platform for trait commercialization have a key competitive advantage. In addition to Monsanto, Pioneer, Bayer and Dow, other significant competitors in the seeds business are: Vilmorin, KWS, Ball, Sakata and Takii.

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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### Lawn and Garden

Lawn and Garden leverages Syngenta's agricultural technology into the adjacent markets of Flowers, home and garden, and Turf and landscape. These markets are largely consumer-driven, and Syngenta estimates to have consistently gained share by offering innovative products and solutions. Syngenta Lawn and Garden is a global business and sells products within these markets in all major territories.

Flowers, home and garden products include both flower genetics and pesticides and are sold into three market segments: Flowers, where Syngenta supplies seeds, cuttings and young plants to distributors, growers and retailers serving the pot and bedding plant category; Ornamental controls (pesticides for cut flower production, bedding plants and bulbs), where sales are made primarily through distributors and directly to some large growers; and Home and garden pesticides for use by consumers, mostly sold in bulk to wholesale companies for repackaging and sale to retailers.

Syngenta Flowers, as an integral part of Flowers home & garden, has a heritage dating back over 140 years. The combination of flowers genetic and chemical controls in a separate entity facilitates cross-category collaboration and innovation.

As the global leader in seeds and cuttings, Syngenta Flowers offers the widest range of pot and bedding plants in the industry. Syngenta combines its deep experience in top quality genetics and ornamental controls to support distributors, growers, retailers and consumers as a complete partner. Syngenta is furthermore a world leader in chemical and biological crop protection solutions for a broad range of ornamentals in pot and bedding plants, bulbs and cut flowers.

Turf and landscape provides pesticides products in four markets: Turf (primarily golf courses), sold through specialized distributors, dealers and professional applicators; Pest management, sold primarily through distributors and directly to some large customers; Vector control (control of disease spreading insects and pests), where sales are made to governments or NGOs, with some sales through distributors; and Vegetation management (trees, forestry and aquatics), where the primary customers are distributors or local governments.

In the turf market specifically, Syngenta provides disease, insect and weed control and turf grass growth regulators to clients including professional golf superintendents, green keepers, sports turf managers and professional lawn care operators working on recreational sites and residential and commercial landscapes.

### Key Marketed Products

Lawn and Garden offers a range of specialized products for use in the flower genetics, ornamentals, consumer lawn and garden and Turf and landscape markets.

Flower genetics brands include GOLDFISCH®, GOLDSMITH SEEDS, YODER® and SYNGENTA FLOWERS. Products include a full range of flower seeds, cuttings and young plants which it sells to professional flower growers. 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.

Flower ornamental, home and garden and turf and landscape brands include:

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Thiamethoxam (ACTARA®) is a pesticide highly active at low use rates against a broad spectrum of soil and sucking insects. For more information on this product, see Key Marketed Products for Syngenta's Integrated Business above.

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- 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.
- Trinexapac-Ethyl (PRIMO MAXX®) is a herbicide on turf that prohibits vertical growth.

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

Syngenta introduces over 100 new and improved flower varieties and series every year. Some of the more unique introductions during the year were:

- DUVET® – petunia grandiflora – compact petunia series with advantages for grower and consumer in terms of ease of transport and better garden performance
- PICOBELLA CASCADE – Petunia milliflora – mini flower petunia with trailing habits and long flowering and good basket performance
- CARTWHEEL® – Gerbera jamesonii – first pot gerbera with double colors in various shades
- ELEPHANT™ – Gerbera jamesonii – totally unique gerbera with huge flowers held high on sturdy, thick stems above robust, beefy plants
- TUMBLER® – Impatiens walleriana – first trailing impatiens with good basket performance
- SNOWRIDGE – Cyclamen persicum – mini cyclamen with two colors; good performance indoor and outdoor
- FLEUR EN VOGUE® – Cyclamen persicum – standard cyclamen with new flower form totally unique to the market
- WONDERFALL™ – Viola wittrockiana – first big flower, trailing pansy in 6 colors, all with long flowering performance in the garden
- LANAI® TWISTER – Verbena hybrid – unique two color pattern verbena

Recently launched products for use in Ornamentals treatment are:

- SUNJET® – (Isopyrazam) new generation fungicide especially designed for professional ornamental growers for controlling Powdery Mildew
-

MICORA® – mandipropamid – control of diseases caused by Downy Mildew and Phytophthora in greenhouse and outdoor ornamentals

Recently launched products for use in Turf and landscape treatment are:

- BRISKWAY™ – Fungicide (azoxystrobin and difenoconazole) – broad-spectrum fungicide for prevention and control of certain diseases in golf course turfgrasses only

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- CARAVAN™ G – Insecticide and fungicide (azoxystrobin and thiamethoxam) – systemic control of both insect pests and diseases with one product applied to turf grasses on residential lawns, commercial grounds (office and shopping complexes, airports), parks, playgrounds, golf courses, and athletic fields
- QUALIBRA® – Wetting agent – combines the best attributes of both the traditional penetrant and polymer type products, into one easy-to-use solution
- TALON® Soft – Rodenticide (brodifacoum) – palatable and easy to use paste bait single feed rodenticide

## Products in Late Stage Development

Syngenta Flowers has a rich pipeline of products under development, which extends beyond 2012 and involves projects covering all product lines.

Syngenta's pipeline of products under development that have potential application in Turf & landscape, Ornamentals and Home and garden also have application in its Integrated Business. For further information on this pipeline, see Key Marketed Products for Syngenta's Integrated Business above.

## Production

Syngenta Flowers uses its own seed production facilities in Guatemala, Turkey and the Netherlands to produce, clean, pellet, coat and package seed. In addition, independent contract growers in Indonesia and Chile are used to supplement capacity and capability.

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 was dependent on only one growing season.

Syngenta Flowers sources vegetative cuttings from its own cutting production facilities in Kenya, Ethiopia and Guatemala, and from contract growers, notably in Mexico.

Syngenta's crop protection production process and facilities are leveraged to produce and source the range of Turf and landscape, Ornamentals and Home and garden chemical products marketed by Lawn and Garden. For a description of the manufacturing process for these products, see Production for Syngenta's Integrated Business above.

## Marketing and Distribution

Syngenta Flowers seed and vegetative products are marketed throughout the world through well-known brands, some of which have been established for over 100 years. 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 GOLDFISCH® 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. In addition, Syngenta Flowers distributes and brokers its products and product forms through FloriPro Services in Europe. The product range of Flower seeds covers 200 seeds series in 70 classes, while the vegetative range covers 120 series in 81 crops.

Lawn and Garden has marketing organizations in all its major markets with dedicated sales forces that provide customer and technical service, product promotion and market support. This dedicated sales force, marketing and



distribution organization generates approximately 70 percent of Lawn and Garden's annual revenue from sales of the chemical product lines. In addition, in markets where the crop protection

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market is not segmented into professional turf and landscape, ornamental or home and garden markets, the Syngenta integrated business organization is used to market Lawn and Garden products to customers.

The Turf & landscape business of Syngenta operates a business-to-business model supplying chemical controls to professional customers. 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 independent distributors, which then sell to the grower as the end user. In the three-step chain, Syngenta sells to distributors, which act as wholesalers and sell the product to independent dealers or primary cooperatives, which then sell to growers and retailers. 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. 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 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.

## Research and Development

Flowers genetics research and development is dedicated to creating new varieties of major flower genetics having improved quality and productivity, either alone or in combination with other technologies. Syngenta's research and innovation provide the grower and retail markets with a choice of new genetics, shapes and colors of continuously improved longevity, stress tolerance and drought & disease resistance. Syngenta has major Flowers research centers in Enkhuizen, Holland and Gilroy, CA, United States, each of which is focused on identifying new or improved varieties of genetics with unique traits.

Research and development to provide Syngenta with innovative new chemical solutions and intellectual property for its Turf and landscape, Ornamentals, and Home and garden business is conducted at research centers used for crop protection product research and development in its Integrated Business. For further information, see Research and Development for Syngenta's Integrated Business above.

The total spent on research and development in Lawn and Garden was \$58 million in 2012, \$56 million in 2011 and \$57 million in 2010.

## Intellectual Property

Syngenta Flowers 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. Syngenta Flowers 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.

Syngenta's Turf and landscape, Ornamentals, and Home and garden products are derived from the same products produced for crop protection in its Integrated Business. For further information regarding how Syngenta protects its intellectual property related to these products, see Intellectual Property for Syngenta's Integrated Business above.



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Competitive Environment

The main competitive factor in the flowers industry remains the quality of genetics and the increasing importance of unique traits to enhance growers ability to produce as well as improving garden performance for consumers. Historically, and still to a large degree, flowers competition in the seeds industry has been fragmented, with small producers competing in local markets. The traditional grower market has evolved into a mass market of commodity products distinguished by low differentiation and overcapacity increasingly supplying a rapidly consolidating and competitive retail sector. The market opportunities are in increasing presence along value chain towards retail and delivering to the consumer unique, higher quality plants with improved garden performance. At present, Syngenta Flowers' main competitors in the seeds business are Ball, Sakata, Fides and Dummen.

The home and garden chemical controls market is impacted by the shift of business through mega retail channels and crowded shelf space. Syngenta's main competitors in this market include Bayer and regional private labels.

The key competitors in the turf and landscape markets are the leading agribusiness companies based in Western Europe and North America supplying crop protection chemicals which are generally specifically branded and tailored to these specialized markets. These companies compete primarily on the basis of product innovation and portfolio breadth. Additional competition comes from generic manufacturers in the off-patent segments. Increasingly, customer service, integrated programs and more holistic solution offers are being introduced to address broader unmet customers' needs and further differentiate the major innovation companies from generics. Syngenta's main competitors in these markets are Bayer, BASF and Dow.

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### Government regulations

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, the US Department of Agriculture 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.

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.

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, regulatory systems, and the politics that influence them vary widely among jurisdictions and change often. Obtaining necessary regulatory approvals is time consuming and costly, and data requirements for approvals continue to increase. There can be no guarantee of the timing or success in obtaining approvals.

### 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.



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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.

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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	1,256,444,877	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 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>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	157,580,000	Sales/Production/Development
<b>Netherlands</b>				
Syngenta Seeds B.V.	100%	EUR	488,721	Holding/Sales/Production/Research
Syngenta Finance N.V.	100%	EUR	45,000	Finance
Syngenta Treasury N.V.	100%	EUR	90,001	Holding/Finance
<b>Panama</b>				
Syngenta S.A.	100%	USD	10,000	Sales
<b>Russian Federation</b>				
OOO Syngenta	100%	RUB	895,619,000	Sales
<b>Singapore</b>				
Syngenta Asia Pacific Pte. Ltd.	100%	SGD	1,588,023,595	Holding/Sales
<b>Switzerland</b>				
Syngenta Supply AG	100%	CHF	250,000	Sales
Syngenta Crop Protection AG1	100%	CHF	257,000	Holding/Sales/Production/Research
Syngenta Agro AG	100%	CHF	2,100,000	Sales/Production/Research
Syngenta Finance AG1	100%	CHF	10,000,000	Finance
Syngenta Participations AG1	100%	CHF	25,000,020	Holding
<b>United Kingdom</b>				
Syngenta Limited	100%	GBP	85,000,000	Holding/Production/Research
<b>Uruguay</b>				
Syngenta Agro Uruguay SA	100%	UYU	180,000,000	Sales



USA

Syngenta Crop Protection, LLC	100%	USD	100	Sales/Production/Research
Syngenta Seeds, Inc.	100%	USD	–	Sales/Production/Research
Syngenta Corporation	100%	USD	100	Holding/Finance

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1

Direct holding of Syngenta AG.

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## Property, Plants and Equipment

Syngenta's principal executive offices are located in Basel, Switzerland. Syngenta's businesses operate through a number of offices, research facilities and production sites. The following is a summary of Syngenta's principal properties:

Locations	Freehold/ Leasehold	Approx. area (thou. sq. ft.)	Principal use
Rosental, Basel, Switzerland	Freehold	300	Headquarters, global functions
Monthey, Switzerland	Freehold	10,400	Production
Stein, Switzerland	Freehold	4,000	Research
Dielsdorf, Switzerland	Freehold	1,000	Administration, marketing
Kaisten, Switzerland	Freehold	100 1	Production
Münchwilen, Switzerland	Freehold	600	Production
Seneffe, Belgium	Freehold	2,500	Production
Aigues-Vives, France	Freehold	1,500 2	Production
Nérac, France	Freehold	600	Production
St Pierre, France	Freehold	1,500	Production
Saint-Sauveur, France	Freehold	200	Research, production
Sarrians, France	Freehold	3,200	Research
Bad Salzuflen, Germany	Leasehold	34,400	Research, production
Hillscheid, Germany	Freehold	1,200	Administration, research
Mezotur, Hungary	Freehold	1,300	Production
Enkhuizen, The Netherlands	Freehold	3,500	Administration, research, marketing, production
Landskrona, Sweden	Freehold	8,700	Research, production and marketing
Jealott's Hill, Berkshire, UK	Freehold	28,300	Research
Huddersfield, West Yorkshire, UK	Freehold	10,800	Production
Grangemouth, Falkirk, UK	Freehold	900	Production
Greensboro, North Carolina, USA	Freehold	3,000	US headquarters, research
Minnetonka, Minnesota, USA	Freehold	100	Administration
St. Gabriel, Louisiana, USA	Freehold	54,700	Production
Greens Bayou, Texas, USA	Freehold	10,900 3	Production
Research Triangle Park, North Carolina, USA	Freehold	3,400	Research
Gilroy, California, USA	Freehold	4,200	Production, research
Lone Tree, Iowa, USA	Freehold	1,300	Production
Omaha, Nebraska, USA	Freehold	1,800	Production
Phillips, Nebraska, USA	Freehold	2,600 4	Production
Waterloo, Nebraska, USA	Freehold	1,700 5	Production
Pasco, Washington, USA	Freehold	1,700	Production
Clinton, Illinois, USA	Freehold	34,900	Research
Stanton, Minnesota, USA	Freehold	18,000	Research
Slater, Iowa, USA	Freehold	13,700	Research
Venado Tuerto, Argentina	Freehold	1,000	Production
Formosa, Brazil	Freehold	2,200	Production
Itápolis, Brazil	Freehold	500	Production
Ituiutaba, Brazil	Freehold	2,200	Production
Matão, Brazil	Freehold	500	Production

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Paulinia, Brazil	Freehold	6,900	Production
Unberlandia, Brazil	Freehold	27,000	Research
Amatitlan, Guatemala	Freehold	3,100	Production
Jalapa, Guatemala	Freehold	4,400	Production, research
Kapok, Guatemala	Freehold	2,000	Production, research
San Jose Pinula, Guatemala	Freehold	1,700	Production
Nantong, China	Leasehold	1,500	Production
Beijing, China	Leasehold	300	Research
Goa, India	Freehold	8,700	Production, research
Iksan, South Korea	Freehold	800	Production
Koka, Ethiopia	Leasehold	9,700	Production
Pollen, Kenya	Leasehold	4,800	Production
Thika, Kenya	Leasehold	3,000	Production

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1 Surface area of building/factory that Syngenta owns; land (143 thousand square feet) is owned by a third party

2 Only approximately 900 thousand square feet are currently used and developed

3 Only approximately 5,900 thousand square feet are currently used and developed

4 Only approximately 800 thousand square feet are currently used and developed

5 Only approximately 1,200 thousand square feet are currently used and developed

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Please also see “Business Overview” above for a description of the products produced at the various properties listed above.

Syngenta is investing approximately \$60 million in its corn seed production facility in Nebraska to meet increasing demand as well to as replace older production facilities that are costlier to maintain and operate. Construction began in 2012 and, when completed in 2013 is expected to increase capacity by 50 percent in the summer of 2013.

In order to meet growing demand for corn in Brazil, an approximately \$80 million project has commenced at Syngenta’s Formosa site in Brazil to expand production capacity from 400 thousand bags to 1,600 thousand bags.

Syngenta announced a \$50 million investment to build a new processing plant for corn and sunflower seeds in Argentina. The plant, located in the country’s central region, will supply Argentina and other key markets globally. Syngenta is also expanding facilities at seed production farms and continues to invest in seed development at its network of field stations. These projects are expected to be completed in mid-2013 with total investment of approximately \$100 million.

Syngenta has signed a letter of intent to invest up to \$85 million in the construction of a hybrid seed and crop protection production facility in Russia. Subject to obtaining the necessary local permits and approvals, Syngenta expects to commence production of hybrid seed in 2015 and of crop protection products in 2016.

Syngenta is investing approximately \$70 million to construct a new greenhouse facility adjacent to its existing research campus in Research Triangle Park, North Carolina, USA, which will become operational in 2013. Syngenta is exploring further investments to expand capacity and upgrade the laboratory and other facilities on the site. Research at the expanded site will focus on traits that can better tolerate climate variability, combat plant stresses such as drought, and enhance crop productivity and plant performance. In addition to the current focus on corn and soybean, research will be expanded to incorporate other crops such as cereals, rice, vegetables and sugar cane.

Syngenta is refurbishing and modernizing its Basel headquarters under a program that will run over the period through 2015 and is estimated to cost approximately \$200 million.

ITEM 4A — UNRESOLVED STAFF COMMENTS

None.

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ITEM 5 — OPERATING AND FINANCIAL REVIEW AND PROSPECTS

Introduction

The following discussion includes forward-looking statements subject to risks and uncertainty. See “Cautionary statement regarding forward-looking statements” at the end of this document. This discussion also includes non-GAAP financial data in addition to GAAP results. See Appendix A to this section and Note 2 to the financial highlights in Item 3 for a reconciliation of this data and explanation of the reasons for presenting such data.

Constant exchange rates

Approximately 58 percent of Syngenta’s sales and 68 percent of Syngenta’s costs in 2012 were denominated in currencies other than US dollars. Therefore, Syngenta’s results for the period covered by the review were significantly impacted by movements in exchange rates. Sales in 2012 were 7 percent higher than 2011 on a reported basis, but were 10 percent higher when calculated at constant rates of exchange. The Company therefore provides analysis of results calculated at constant exchange rates (CER) and also actual results to allow an assessment of performance before and after taking account of currency fluctuations. To present CER information, current period results for entities reporting in currencies other than US dollars are converted into US dollars at the prior period’s exchange rates, rather than the exchange rates for this year. An example of this calculation is included in Appendix A of this section.

Overview

Syngenta is a world leading agribusiness operating in the Crop Protection, Seeds and Lawn and Garden markets. 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. In Seeds, Syngenta operates in the high value commercial sectors of field crops (including corn, oilseeds, cereals and sugar beet) and vegetables. The Lawn and Garden business provides professional growers and consumers with flowers, turf and landscape products.

Syngenta’s results are affected, both positively and negatively, by, among other factors: general economic conditions; weather conditions, which can influence the demand for certain products over the course of a season; commodity crop prices and exchange rate fluctuations. Government measures, such as subsidies or rules regulating the use of agricultural products, genetically modified seeds, or areas allowed to be planted with certain crops, also can have an impact on Syngenta’s industry. Syngenta’s results are also affected by the growing importance of biotechnology to agriculture and the use of genetically modified crops. In future years, climate change may have both positive and negative impacts on Syngenta’s results. Climate change may make growing certain crops more or less viable in different geographic areas, but is not likely to reduce overall demand for food and feed. Syngenta currently sells and is developing products to improve the water productivity of plants and increase tolerance to drought and heat. Legislation may be enacted in the future that limits carbon dioxide emissions in the manufacture of Syngenta’s products or increases the costs associated with such emissions. Syngenta works actively to make its production operations more energy efficient and to reduce the rate of carbon dioxide emissions per unit of operating income.

Syngenta operates globally to capitalize on its technology and marketing base. Syngenta’s largest markets are Europe, Africa and the Middle East, and North America<sup>1</sup>, which each represent approximately 30 percent of consolidated sales in 2012 (2011: 32 percent and 28 percent, respectively). Both sales and operating profit in these markets are seasonal and are weighted towards the first half of the calendar year, which largely reflects the northern hemisphere planting and growing cycle. Latin

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<sup>1</sup> Comprising the USA and Canada.



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America, with its main selling season in the second half of the year due to its location in the southern hemisphere, represents approximately 26 percent of consolidated sales in 2012 (2011: 25 percent).

Syngenta's most significant manufacturing and research and development sites are located in Switzerland, the United Kingdom (UK), the United States of America (USA or US), China and India. Syngenta's primary center for agricultural genomics and biotechnology research is in the USA, complemented by a biotechnology research facility in Beijing, China.

References in this document to market share estimates are based where possible on global agrochemical and biotechnology industry information provided by a third party or on information published by major competitors and are supplemented by Syngenta marketing staff estimates.

The consolidated financial statements in Item 18 are presented in US dollars, as this is the major currency in which revenues are denominated. However, significant, but differing proportions of Syngenta's revenues, costs, assets and liabilities are denominated in currencies other than US dollars. Approximately 16 percent of sales in 2012 were denominated in Euros, while a significant proportion of costs for research and development, administration, general overhead and manufacturing were denominated in Swiss francs and British pounds sterling (approximately 21 percent in total). Sales in Swiss francs and British pounds sterling together made up approximately 3 percent of total sales. Marketing and distribution costs are more closely linked to the currency split of the sales. As a result, operating profit in US dollars can be significantly affected by movements in exchange rates, in particular movements of the Swiss franc, British pound sterling and the Euro, relative to the US dollar, and the relative impact on operating profit may differ from that on sales. The effects of currency fluctuations within any one year have been reduced by risk management strategies such as hedging. For further information on these strategies please refer to Notes 27 and 29 of the consolidated financial statements in Item 18.

The consolidated financial statements in Item 18 are based upon Syngenta's accounting policies and, where necessary, the results of management estimations. Syngenta believes that the critical accounting policies and estimations underpinning the financial statements are in the areas of (i) royalty and license income, (ii) impairment, (iii) acquisition accounting, (iv) adjustments to revenue and trade receivables, (v) environmental provisions, (vi) defined benefit post-employment benefits, including pension asset ceiling, (vii) deferred tax assets, (viii) uncertain tax positions and (ix) foreign currency translation of intercompany funding. These policies are described in more detail in Note 2 to the consolidated financial statements in Item 18.

## Summary of results

Net income in 2012 was 17 percent higher than 2011 mainly due to continued strong sales volume growth partially offset by the adverse impact of currency movements. Sales in 2012 were 7 percent higher, 10 percent at constant exchange rates, with 7 percent growth in sales volumes and an additional 3 percent from higher local currency sales prices. Sales volumes growth included 2 percent from recognition of guaranteed minimum royalties under a license with E.I DuPont de Nemours and Co. ("DuPont"). Sales price increases were achieved in both Crop Protection and Seeds products and in all regions. The higher sales, combined with cost savings from the integration of operations across Crop Protection and Seeds more than offset the impact of higher raw material costs and a net pre-tax \$80 million charge to settle the Holiday Shores / City of Greenville litigation relating to the herbicide atrazine. Steps were taken to simplify and improve operating margins in the Lawn and Garden business, with the divestment of the Fafard growing media and Syngenta Horticultural Services businesses and the acquisition of the DuPont professional products business, which together reduced reported segment sales in the year by approximately 5 percent, but contributed to an improvement in operating income margin, excluding charges for restructuring and impairment. Exchange rate impacts reduced overall operating income by approximately \$218 million, including losses on related hedges in 2012 compared with significant gains in 2011. This impact was largely as forecast in the Future Prospects

section of Item 5 in Syngenta's 2011 annual report on Form 20-F.

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Cash flow from operating activities before change in net working capital increased by \$297 million, but with increased inventories to support 2013 sales growth and higher receivables from the sales growth in the second half of 2012, overall cash flow from operating activities was \$512 million lower than 2011. Despite this, cash flow from operating activities was sufficient to fund an increased level of cash used for investing activities, which included acquisitions of \$654 million and increased capital expenditure. The acquisitions are described in more detail below. In the context of the higher profit and continued strong balance sheet, and subject to shareholder approval, the Company proposes to increase the dividend to CHF 9.50 per share from CHF 8.00 per share paid in 2012.

Integrated sales of Crop Protection and Seeds products increased by 8 percent, 11 percent at constant exchange rates. Crop Protection product sales increased by 7 percent, 9 percent at constant exchange rates, with 6 percent higher sales volumes and an additional 3 percent increase from local currency sales prices. Seeds sales increased by 14 percent, 16 percent at constant exchange rates, with 5 percent higher local currency sales prices, 7 percent from the higher royalties described above and 4 percent from other sales volume increases.

The strongest sales growth rates were in North America and Latin America, with North America 20 percent higher, 21 percent at constant exchange rates and Latin America 12 percent higher, 13 percent at constant exchange rates. The higher royalties increased North American sales by 6 percent. Markets in these regions benefitted from the continued strength of key crop commodity prices, which supported farmer profitability and the markets grew despite drought conditions during the growing season in both regions. Sales in Europe, Africa and Middle East were flat, but grew by 6 percent at constant exchange rates, with a 3 percent increase each from volumes and local currency prices. Growth was strong in Eastern Europe and France and offset lower sales in Italy and Iberia, where markets were hit by the weak economic background. Sales in Asia Pacific were 3 percent lower, flat at constant exchange rates mainly due to range rationalization to remove older products and difficult weather conditions in Australia.

Lawn and Garden sales were 8 percent lower than 2011, 6 percent at constant exchange rates, mainly from the divestments noted above. Otherwise, sales were broadly flat, with low consumer spending and cautious retailer behavior still depressing many markets.

Gross profit margin improved by approximately 0.3 percentage points in 2012. Higher sales prices and cost savings were offset by adverse product mix and increased product costs, mainly from higher oil and commodity chemical products in Crop Protection and the impact of higher seed commodity prices and drought-related lower yields in Seeds.

Marketing and distribution expenses increased by 1 percent, 6 percent at constant exchange rates, with higher sales volume, increased expenditures in emerging markets, where cost inflation also is higher, and additional expenditure on resources and projects to drive future market share growth partially offset by savings generated by the restructuring program described below, a lower level of employee incentives than 2011 and reduced charges to receivables provisions. The ratio of marketing and distribution expenses to sales improved by 1.0 percentage points to 17.0 percent and, at constant exchange rates, by 0.7 percentage points to 17.3 percent.

Research and development expense was 5 percent higher, 9 percent at constant exchange rates, and is broadly at the planned level of approximately 9 percent of sales.

General and administrative includes restructuring and impairment, the components of which are described under the Restructuring and impairment heading within this section, and increased by 20 percent over 2011. General and administrative excluding restructuring and impairment increased by 23 percent including foreign exchange hedging losses of \$61 million compared with gains of \$177 million



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in 2011. Excluding currency effects, these costs decreased by 5 percent as lower employee incentives and savings from the restructuring programs described below more than offset higher information systems costs and emerging market inflation. The \$80 million charge relating to settling the Holiday Shores / City of Greenville litigation was broadly offset by a reduction in the actuarial liability for US Healthcare arrangements following a plan change and gains on Syngenta's initial investment in Pasteuria following the acquisition of the remainder of that company.

Restructuring and impairment expenses excluding those reported in Cost of goods sold were \$27 million higher than 2011. 2012 included losses on the sales of the Fafard and Syngenta Horticultural Services businesses totaling \$25 million, while 2011 included a \$76 million gain on the sale of the Materials Protection business. Otherwise, restructuring and impairment was \$74 million lower than 2011, with second year charges on the program to integrate the commercial operations of Crop Protection and Seeds lower than the initial year and with the operational efficiency program nearing completion.

Financial expense, net was \$18 million lower than 2011 and the tax rate further reduced to approximately 13 percent, 15 percent excluding taxes relating to restructuring and impairment and divestment gains and losses.

Together, these factors resulted in net income attributable to Syngenta AG shareholders and diluted earnings per share each increasing by 17 percent over 2011.

Comparing 2011 with 2010, net income in 2011 was 14 percent higher than 2010 mainly due to strong sales volume growth in all regions and across both Crop Protection and Seeds products, together with a broadly maintained operating income margin.

Sales in 2011 were 14 percent higher than 2010, 12 percent at constant exchange rates, with 11 percent growth in sales volumes and an additional 1 percent increase from higher local currency sales prices. Gross profit margin decreased by 0.4 percentage points due to the adverse impact on Cost of goods sold of higher Crop Protection product costs from the stronger Swiss franc. At constant exchange rates, gross profit margin was approximately 0.7 percentage points higher in 2011 than 2010, with increases in margins for both Crop Protection and Seeds products. Marketing and distribution expenses increased by 14 percent, 11 percent at constant exchange rates, due to the higher sales volume, increased expenditures in emerging markets, increased charges for potential bad debts and higher accrued employee incentives, which together more than offset savings generated by the restructure program described below. Research and development expense was 9 percent higher, 4 percent at constant exchange rates, and was approximately 9 percent of sales in each year. General and administrative increased by 10 percent and included higher exchange rate hedging gains of \$177 million in 2011 compared with \$30 million in 2010, partly offset by increased charges for restructuring and impairment. Excluding currency effects and restructuring and impairment, General and administrative increased by 7 percent mainly due to higher information systems and litigation costs and increased accrued employee incentives. Restructuring and impairment expenses, excluding those reported in Cost of goods sold, were \$72 million higher due to the first year costs of the program announced in February 2011 to integrate the commercial operations of Crop Protection and Seeds. Restructuring and impairment was reported net of the gain on divestment of the Materials Protection business, which was reported within non-regional. Including the above mentioned higher net favorable result from exchange rate hedging, the overall impact of exchange rate movements on operating income compared with 2010 was an adverse \$91 million. Net financial expense was \$24 million higher than 2010 mainly due to higher net foreign currency losses. The tax rate remained broadly flat at around 16 percent.

Cash flow from operating activities in 2011 reached \$1,871 million, \$164 million higher than 2010 from higher operating income and a lower ratio of trade working capital (trade accounts receivable plus inventories less trade payables) to sales.



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Acquisitions, divestments and other significant transactions

2012

On June 11, 2012, Syngenta divested the Fafard peat unit of its Lawn and Garden business to Sun Gro Horticulture Canada Ltd.

On September 21, 2012, Syngenta announced a takeover offer for Devgen N.V. (“Devgen”), a company listed on the Euronext stock exchange. On December 12, 2012, it was announced that on closing of the initial acceptance period, shares and warrants representing 94.11 percent of Devgen’s total issued share capital had been tendered in acceptance of the offer, which was consequently declared unconditional. Syngenta has offered to acquire all outstanding shares and warrants issued by Devgen for Euros (“EUR”) 16 cash per share, representing a total consideration of around EUR 403 million (equivalent to \$530 million). At December 31, 2012, Syngenta had paid EUR 375 million (\$493 million) for the tendered shares and warrants.

As required by Belgian financial market regulations, Syngenta’s takeover offer was re-opened until January 18, 2013, and on January 25, 2013, it was announced that, upon closing of the reopening, 98.32 percent of the total number of shares in Devgen have been tendered. Payment for the shares tendered took place on January 30, 2013. As Syngenta has now acquired more than 95 percent of the shares in Devgen, it will proceed with a simplified squeeze-out in order to acquire by operation of law the remaining shares and warrants. The squeeze-out will take place from February 6, 2013 until February 26, 2013 and will be settled on March 8, 2013. Upon settlement of the squeeze-out, all Devgen shares will have been acquired by Syngenta and will be automatically delisted from NYSE Euronext Brussels.

Devgen is a global leader in hybrid rice and RNAi technology. The acquisition will enable Syngenta to combine its leading crop protection portfolio with Devgen’s best-in-class rice hybrids and broad germplasm diversity. Devgen also brings proven expertise in RNAi-based insect control, for which the two companies signed a global license and research agreement to develop spray applications in May 2012.

On October 1, 2012, Syngenta acquired from DuPont its professional products insecticide business, a leading supplier for the professional turf, ornamentals and home pest control markets, for a cash consideration of \$128 million, including related inventories. The acquisition expands the range of products which Syngenta offers to golf course and lawn care professionals and to ornamental growers, and also strengthens its portfolio for the control of home pests. The acquisition includes the pest control brands Advion® and Acelepryn® and other intellectual property, transfer of certain employees, and exclusive supply and licensing agreements through which Syngenta will access the related active ingredients and formulated products from DuPont.

On October 26, 2012, Syngenta acquired an exclusive, worldwide commercial license to the Taegro® technology for agricultural applications, including the rights to all enhancements and future mixtures discovered by Syngenta, from Novozymes Biologicals Holdings A/S. Taegro® is a microbial bio fungicide of the strain *Bacillus subtilis* currently registered in the US and in process of being registered worldwide. *Bacillus subtilis* controls a broad spectrum of diseases in many crops and is particularly suitable in Vegetable and Speciality crops, where combination programs with conventional fungicides work well.

On November 8, 2012, Syngenta acquired control of Pasteuria Bioscience, Inc. (“Pasteuria”), a US-based biotechnology company. Syngenta now owns 100 percent of Pasteuria. Prior to taking control, Syngenta had held a 37 percent equity interest in Pasteuria indirectly through a venture capital fund which Syngenta consolidates in its financial statements. Since 2011, Syngenta and Pasteuria had been working in an exclusive global technology partnership to develop and commercialize biological products to control plant-parasitic nematodes, using the naturally occurring soil bacteria *Pasteuria* spp. The acquisition will facilitate the introduction of key products to complement Syngenta’s existing

chemical nematicide range and to support integrated solutions across a broad variety of crops such as soybean, corn, cereals, sugarbeet and vegetables.

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On November 13, 2012, Syngenta divested its US Flowers distribution and brokerage business, Syngenta Horticultural Services (SHS) to Griffin Greenhouse Supplies, Inc. (“Griffin”). Griffin also signed a long-term agreement to distribute and broker Syngenta Flowers genetics throughout the USA.

On November 29, 2012, Syngenta acquired 100 percent of the shares of Sunfield Seeds Inc., a US-based provider of sunflower seeds production and processing services, for cash consideration. The acquisition represents an important step in the implementation of Syngenta’s sunflower strategy by strengthening supply chain capabilities to enable future growth.

2011

Effective January 1, 2011, Syngenta granted Pioneer Hi-Bred International Inc. (“Pioneer”), a subsidiary of DuPont, a non-exclusive, global license to its corn rootworm trait MIR604 (Agrisure®) for corn seed. The trait provides protection from below-ground coleopteran insects, including corn rootworm, a major corn pest in the United States and around the world.

In March 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 \$32 million of cash, \$10 million of which is deferred.

In April, 2011, Syngenta divested its Materials Protection business to Lanxess AG.

2010

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 \$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, on September 1, 2010, assumed responsibility for the supply and distribution of Dow AgroSciences crop protection products in the Commonwealth of Independent States (CIS).

In September 2010, Syngenta acquired 100 percent of the shares of Maribo Seed International ApS (“Maribo Seed”) for a cash payment, plus contingent payments if certain sales targets are achieved. The transaction included 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 which Syngenta did not already own. This transaction dissolved a joint venture between Syngenta and Pioneer and terminated certain license agreements between Syngenta and Pioneer. The acquisition and related joint venture dissolution has enabled Syngenta and Pioneer to pursue independent licensing strategies for their respective proprietary corn and soybean genetics and biotechnology traits.

Acquisitions and divestments are described in Note 3 to the consolidated financial statements in Item 18.





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Operational efficiency restructuring and integrated crop strategy programs

In 2004, Syngenta announced the operational efficiency cost saving program to realize further cost savings after completion of the integration of the former Novartis and Zeneca businesses and in response to low underlying growth in the Crop Protection markets seen at the time. In 2007, Syngenta began a further phase of the operational efficiency restructuring program to drive cost savings to offset increased expenditures in research and technology, marketing and product development in the growth areas of Seeds, professional products and emerging country markets, targeting savings in both cost of goods sold and other operating expenses. The costs of these programs are together estimated at around \$1,050 million in cash and up to \$380 million in non-cash charges. The programs are now largely complete, but the rollout of standardized processes and shared back-office services is continuing in 2013. Final costs are now expected to be charged in 2013, with some minor cash outflows in 2014. Cash spent under the programs in 2012 and 2011 totaled \$79 million and \$111 million, respectively. Cumulative spending on the programs to the end of 2012 totaled \$985 million.

In 2011, Syngenta announced a program to integrate global commercial operations for Crop Protection and Seeds. This will enable operational synergies from the commercial integration, additional cost savings from procurement and supply chain efficiencies and the presentation of an integrated product offer to grower customers. It is estimated that cash costs of approximately \$400 million will be incurred over the period to 2014 to complete the program. During 2012, costs of \$102 million were charged under the program (2011: \$149 million). Cash spent was \$122 million (2011: \$88 million). Cumulative costs incurred for the program through December 31, 2012 total \$251 million and cumulative spending totals \$210 million.

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Results of operations  
2012 compared with 2011

Sales commentary

Syngenta's consolidated sales for 2012 were \$14,202 million, compared with \$13,268 million in 2011, a 7 percent increase year on year. At constant exchange rates sales grew by 10 percent. The analysis by segment is as follows:

(\$m, except change %)

Segment	2012	2011	Change				Actual %
			Volume %	Local price %	CER %	Currency %	
Europe, Africa and Middle East	3,974	3,982	3%	3%	6%	-6%	0%
North America	3,931	3,273	15%	6%	21%	-1%	20%
Latin America	3,713	3,305	11%	2%	13%	-1%	12%
Asia Pacific	1,827	1,887	-1%	1%	0%	-3%	-3%
Total	13,445	12,447	8%	3%	11%	-3%	8%
Lawn and Garden	757	821	-6%	0%	-6%	-2%	-8%
Group Sales	14,202	13,268	7%	3%	10%	-3%	7%

#### Europe, Africa and Middle East

Reported sales were flat but increased by 6 percent at constant exchange rates as volume and local currency sales prices each increased by 3 percent. Growth was broad-based with the strongest contributions coming from the CIS and South East Europe, where commercial integration across Crop Protection and Seeds is driving gains in scale and in customer recognition of Syngenta's portfolio. Sales in southern Europe were lower due to dry weather and the economic downturn.

Sales of Crop Protection products in the region declined by 2 percent, but increased by 5 percent at constant exchange rates as volume increased by 3 percent and local currency sales prices increased by 2 percent. In addition to strong growth in the CIS and South East Europe, France sales performed strongly, benefitting from volume growth in fungicides.

Seeds sales in the region increased by 4 percent, 10 percent at constant exchange rates as volumes increased by 4 percent and local currency prices increased by 6 percent. The volume increase was driven by the substitution of corn and sunflower for lost winter cereal crops from the harsh winter in Eastern Europe in early 2012.

#### North America

Sales increased by 20 percent as volume and local currency price increased by 15 percent and 6 percent, respectively, partially offset by a 1 percent unfavorable currency effect.

Crop Protection sales increased by 19 percent, 20 percent at constant exchange rates, as a warm winter and an early planting season favored the use of herbicides and insecticides, with further momentum coming from the ongoing success of Syngenta's weed and insect resistance programs. This more than offset a reduction in third quarter fungicide applications due to the summer drought. Sales volumes were higher across all product lines with the largest volume increases in corn herbicides, driven by increased acreage and commodity prices.

Seeds sales, both as reported and at constant exchange rates, increased by 22 percent with a volume increase of 16 percent and a price increase of 6 percent. The volume increase included additional corn trait royalty income of

approximately \$200 million as well as underlying corn seeds sales growth from the expansion of Syngenta's technology. Sales growth in sunflower and cereals more than offset the impact of withdrawal from the sorghum business.

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Latin America

Sales increased by 12 percent as volume increased by 11 percent and sales prices by 2 percent, partially offset by a 1 percent unfavorable currency effect.

Crop Protection sales increased by 12 percent, 13 percent at constant exchange rates, with a volume increase of 11 percent and a price increase of 2 percent. Sales in the first quarter were impacted negatively by severe drought in the region, but recovered strongly as high commodity prices, especially in soybeans, led to increased acreage and higher usage of modern crop protection products. The drive to increase sugar cane productivity in the region also contributed to strong growth in herbicide sales.

Seeds sales increased by 17 percent, 18 percent at constant exchange rates with volume increasing by 17 percent and local currency prices increasing by 1 percent mainly due to increased corn and soybean sales from increased acreage and a strong second season in Brazil, and as well from estimated market share gains.

Asia Pacific

Sales decreased by 3 percent due to currency effects, as a 1 percent increase in local currency sales prices was offset by a 1 percent decrease in volume.

Crop Protection sales decreased by 5 percent, 2 percent at constant exchange rates, with a 3 percent decrease in volume due to product phase outs in 2012 resulting from range rationalization in India and Japan and the non-renewal of the GRAMOXONE® registration in South Korea, partially offset by a 1 percent increase in local currency sales prices. The volume decrease was partially offset by strong growth in China from the roll-out of DURIVO® insecticides and increased sales of CRUISER®, and in South East Asia, fungicides and herbicides. Sales in Australia decreased due to flooding early in the year followed by exceptionally hot and dry conditions in the second half of the year.

Seeds sales increased by 10 percent, 16 percent at constant exchange rates, with volume increasing by 12 percent and local currency prices increasing by 4 percent mainly due to increased corn sales in South East Asia.

Syngenta estimates that, excluding the impact of the range rationalizations and the registration withdrawal, integrated sales at constant exchange rates increased by 5 percent.

Lawn and Garden: major brands ICON®, GOLDFISCH®, GOLDSMITH SEEDS, YODER®, SYNGENTA FLOWERS

Lawn and Garden sales decreased by 8 percent, 6 percent due to lower volume mainly resulting from the divestment in June 2012 of the Fafard growing media business, and 2 percent due to currency effects. Local currency sales prices were flat. In October 2012, Syngenta acquired the DuPont Professional Products insecticide business and in November 2012 divested the Syngenta Horticultural Services business. Excluding the acquisition and divestments, sales decreased by 1 percent at constant exchange rates from continued low consumer spending and cautious retailer behavior.

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Sales by product line are set out below:

(\$m, except change %)

Product line	2012	2011	Change				Actual %
			Volume %	Local price %	CER %	Currency %	
Selective herbicides	2,939	2,617	10%	5%	15%	-3%	12%
Non-selective herbicides	1,246	1,117	12%	2%	14%	-2%	12%
Fungicides	3,044	2,998	2%	2%	4%	-2%	2%
Insecticides	1,841	1,790	4%	2%	6%	-3%	3%
Seed care	1,107	1,018	10%	2%	12%	-3%	9%
Other Crop Protection	141	137	-2%	7%	5%	-3%	2%
Total Crop Protection	10,318	9,677	6%	3%	9%	-2%	7%
Corn and soybean	1,836	1,471	20%	6%	26%	-1%	25%
Diverse field crops	719	676	3%	8%	11%	-5%	6%
Vegetables	682	703	-1%	2%	1%	-4%	-3%
Total Seeds	3,237	2,850	11%	5%	16%	-2%	14%
Elimination*	(110)	(80)	n/a	n/a	n/a	n/a	n/a
Total	13,445	12,447	8%	3%	11%	-3%	8%
Lawn and Garden	757	821	-6%	0%	-6%	-2%	-8%
Group Sales	14,202	13,268	7%	3%	10%	-3%	7%

\* Crop Protection sales to Seeds

### Crop Protection

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.

Selective herbicides: major brands AXIAL®, CALLISTO® family, DUAL®/BICEP® MAGNUM, FUSILADE®MAX, TOPIK®

Sales increased by 12 percent, 15 percent at constant exchange rates, as volume grew by 10 percent and local currency sales prices increased by 5 percent. Sales of AXIAL® increased by more than 20 percent and, at constant exchange rates, grew by double digit percentages in all regions. The largest contribution came from Canada, where increased acreage coincided with low channel inventories at the start of the year. In corn, sales of the CALLISTO® product family and DUAL®/BICEP grew strongly in the USA driven by their success in managing resistant weeds as well as high corn prices. Sales of both products on sugar cane more than doubled in Brazil, where they form part of integrated agronomic protocols marketed by Syngenta.

Non-selective herbicides: major brands GRAMOXONE®, TOUCHDOWN®

Sales increased by 12 percent, 14 percent at constant exchange rates, mainly due to higher sales volume for TOUCHDOWN®, notably in the Americas reflecting a high level of demand on corn and soybean and a shortage of generic supply. GRAMOXONE® showed good growth in Latin America and the USA, where it

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was used as an alternative to glyphosate in areas of weed resistance, but sales in the developed markets of Asia Pacific were lower, partly due to the non-renewal of the registration in South Korea.

Fungicides: major brands ALTO®, AMISTAR®, BRAVO®, REVUS®, RIDOMIL GOLD®, SCORE®, TILT®, UNIX®

Sales increased by 2 percent and were 4 percent higher at constant exchange rates, with volume growth of 2 percent and a 2 percent increase in local currency sales prices. Growth occurred despite the serious droughts in Latin America in the first quarter and in the USA over the summer. AMISTAR® sales volumes continued to grow, driven by product offers comprising multiple mixtures and formulations adapted by crop and geography; local currency sales price increases continue to be achieved. Sales of REVUS® for vegetables, vines and potatoes were up by 16 percent, 25 percent at constant exchange rates, in Europe, its main market. In November, the European Union granted full approval for isopyrazam, which will represent a major step forward in the control of a wide variety of damaging fungal diseases.

Insecticides: major brands ACTARA®, DURIVO®, FORCE®, KARATE®, PROCLAIM®, VERTIMEC®

Sales increased by 3 percent, 6 percent at constant exchange rates with 4 percent volume growth and a 2 percent local currency sales price increase. Growth was particularly strong in North America and Latin America, especially in the USA, where a mild winter and the serious drought throughout the corn belt created heavy early insect pressure. This more than offset reduced sales in Asia Pacific from the range rationalization, which reduced global Insecticide sales volumes by an estimated 4 percent. Grower awareness of corn rootworm resistance and of the benefits of soil-based insecticides increased, with North American sales of FORCE® more than doubling as a result. Growth in Latin America was driven by modern technology adoption, with the strongest contributions coming from ACTARA® and DURIVO®.

Seed care: major brands AVICTA®, CRUISER®, DIVIDEND®, CELEST/MAXIM®, VIBRANCETM

Sales increased by 9 percent, 12 percent at constant exchange rates with 10 percent volume growth and a 2 percent local currency sales price increase. Growth was led by CRUISER® and CELEST/MAXIM®, which showed particularly strong performance in the emerging markets, where sales were up by over 20 percent as a result of ongoing technology adoption. In Latin America the nematicide AVICTA® also showed strong growth. VIBRANCETM, a new compound which delivers enhanced root health as well as controlling a wide range of diseases, was successfully launched in North America.

Seeds

Corn and soybean: major brands AGRISURE®, GARST®, GOLDEN HARVEST®, NK®

Sales increased by 25 percent, 26 percent at constant exchange rates with 20 percent volume growth and a 6 percent sales price increase. Double digit growth occurred in all regions driven by corn worldwide and by soybean in Latin America. North American sales volume was augmented by additional corn trait royalty income of approximately \$200 million; excluding this amount, global corn sales increased by approximately 15 percent. In Latin America corn growth was driven by the expansion of the second season in Brazil, where new trait combinations were launched. Increases in soybean acreage for the 2012/13 season have been accompanied by strong demand and the integrated PLENUS® offer grew strongly in Argentina where it now accounts for around three quarters of the portfolio.





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Diverse field crops: major brands NK® oilseeds, HILLESÖG® sugar beet

Sales increased by 6 percent, 11 percent at constant exchange rates with 3 percent volume growth and an 8 percent sales price increase. The sales price increase was driven by sunflower, which experienced high demand for conventional and high oleic hybrids in Eastern Europe. In North America, sales growth in sunflower and cereals more than offset the impact of withdrawal from the sorghum business. Sales of wheat and hybrid barley grew significantly in major Western European countries.

Vegetables: major brands DULCINEA®, ROGERS®, S&G®

Sales decreased by 3 percent, but increased by 1 percent at constant exchange rates with a 2 percent increase in local currency sales prices offsetting a 1 percent decrease in volume. Volume growth in Latin America, which resulted from the good performance of Zeraim products in Mexico, partially offset sales declines in Asia Pacific and Europe due to the difficult economic environment. Demand improved in the fourth quarter.

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## Operating income

Variances in the tables below reflect the profit impact of changes year on year. For example, an increase of sales or a decrease in costs is a positive variance and a decrease in sales or increase in costs is a negative variance.

Group Operating Income	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup> Actual	
	2012	2011	2012	2011	2012	2011	% CER	%
(\$m, except change %)								
Sales	14,202	13,268	–	–	14,202	13,268	7%	10%
Cost of goods sold	(7,218)	(6,786)	(7)	(14)	(7,211)	(6,772)	-6%	-9%
Gross profit	6,984	6,482	(7)	(14)	6,991	6,496	8%	11%
as a percentage of sales	49%	49%			49%	49%		
Marketing and distribution	(2,418)	(2,387)	–	–	(2,418)	(2,387)	-1%	-6%
Research and development	(1,253)	(1,191)	–	–	(1,253)	(1,191)	-5%	-9%
General and administrative	(1,021)	(853)	(258)	(231)	(763)	(622)	-23%	5%
Operating income	2,292	2,051	(265)	(245)	2,557	2,296	11%	21%
as a percentage of sales	16%	15%			18%	17%		

## Operating Income/(loss)

(\$m)	2012	2011	Change %
Europe, Africa and Middle East	1,275	1,237	3%
North America	1,342	932	44%
Latin America	970	850	14%
Asia Pacific	493	552	-11%
Non-regional	(1,828)	(1,539)	-19%
Total	2,252	2,032	11%
Lawn and Garden	40	19	104%
Group	2,292	2,051	12%

The two tables above do not represent income statements prepared under IFRS. Please refer to the information reported in the consolidated financial statements in Item 18.

<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

## Overall Group operating income

Operating income increased by 12 percent to \$2,292 million mainly due to strong sales growth particularly in North America and Latin America. The growth in operating income was reduced by adverse exchange rate impacts of approximately \$218 million, including hedging gains realized in 2011 that could not be repeated in 2012. The ratio of operating income to sales improved by approximately 0.7 percentage points, with a higher gross profit margin including increased royalty income in North America, and a lower ratio of operating costs below gross profit to sales.

Currency movements reduced sales by 3 percent; at constant exchange rates, sales grew by 10 percent with sales volumes 7 percent higher from increases in all regions except Asia Pacific, which declined slightly, and overall local currency sales prices 3 percent higher. Volume growth was increased by approximately 2 percent by the recognition of guaranteed minimum royalties under a license agreement with DuPont. Gross profit margin increased by 0.3 percentage points, with the above mentioned royalties and local currency sales price increases offset by adverse product mix and commodity costs. Marketing and distribution costs increased by 1 percent, 6 percent at constant exchange rates, with increased

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expenditures both to support the 2012 sales growth and to drive long-term market share gain. Research and development expense increased by 5 percent, 9 percent at constant exchange rates with increased expenditures on biological assessment of new products and to progress the Crop Protection product pipeline. Research and development expense was approximately 9 percent of sales and is expected to remain broadly at this percentage in 2013.

General and administrative excluding restructuring and impairment was 23 percent higher than in 2011. General and administrative is reported net of the result of currency hedging programs, which in 2012 was a net loss of \$61 million compared with a net gain of \$177 million in 2011. At constant exchange rates, General and administrative excluding restructuring and impairment was 5 percent below 2011, with an \$80 million charge for the settlement of the Holiday Shores / City of Greenville litigation offset by a lower level of employee incentives, an actuarial gain following changes to US post-retirement healthcare provisions of approximately \$50 million and a gain related to the Pasteuria acquisition described in Note 3 to the consolidated financial statements in Item 18. Restructuring and impairment, including the portion recorded in Cost of goods sold, is described in Note 6 to the consolidated financial statements in Item 18 and increased by \$20 million in 2012 to \$265 million, with lower restructuring charges but a 2012 loss on the disposals of the Fafard growing media business and Syngenta Horticultural Services flowers distribution business compared with a gain in 2011 on the sale of the Materials Protection business.

Excluding the impact of hedging, the adverse impact on sales of a weaker Euro and many emerging market currencies versus the US dollar in 2012 was broadly offset by a favorable currency impact on costs, which additionally included a weaker Swiss franc. However, taken together with the \$238 million adverse variance in the net hedging result from the hedging program for forecast foreign currency transactions (“EBITDA program”), the overall impact of exchange rate movements on operating income compared with 2011 was an adverse \$218 million.

## Operating income by segment

Europe, Africa and Middle East (\$m, except change %)	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2012	2011	2012	2011	2012	2011	Actual %	CER %
Sales	3,974	3,982	–	–	3,974	3,982	0%	6%
Cost of goods sold	(1,864)	(1,806)	(5)	(8)	(1,859)	(1,798)	-3%	-6%
Gross profit	2,110	2,176	(5)	(8)	2,115	2,184	-3%	7%
as a percentage of sales	53%	55%			53%	55%		
Marketing and distribution	(664)	(685)	–	–	(664)	(685)	3%	-3%
General and administrative	(171)	(254)	(25)	(88)	(146)	(166)	12%	10%
Operating income	1,275	1,237	(30)	(96)	1,305	1,333	-2%	11%
as a percentage of sales	32%	31%			33%	33%		

This table does not represent an income statement prepared under IFRS. Please refer to the segmental information reported in Note 4 to the consolidated financial statements in Item 18.

<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

Reported sales in Europe, Africa and Middle East were flat with 2011, but increased by 6 percent at constant exchange rates from 3 percent growth each in sales volume and local currency sales prices. Growth was broad based across the region except for Iberia and Italy, which were impacted by the adverse economic climate in those geographies. See the Sales commentary section above for further information on sales in the region. Gross profit margin declined by 2

percentage points but was broadly flat at constant exchange rates with the benefit of the 3 percent increase in local currency sales prices offset by adverse mix and higher product costs.

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Marketing and distribution costs declined by 3 percent but increased 3 percent at constant exchange rates in line with sales volume growth in a generally low inflation environment. An increase in receivables provisions and increased marketing support for future sales growth was offset by savings from the integration across former Crop Protection and Seeds commercial teams.

General and administrative costs excluding restructuring and impairment were 12 percent lower, 10 percent at constant exchange rates with savings from the above described integration and lower employee incentives. Restructuring and impairment charges were \$25 million in 2012 compared with \$88 million in 2011, which included the first year of the integrated crop strategy restructuring across the region.

Operating income as a percentage of sales improved by 1 percentage point to 32 percent. Excluding the impact of restructuring and impairment, operating income margin was flat, but it was 1 percentage point higher at constant exchange rates, with the combined growth of Marketing and distribution and non-restructuring General and administrative costs at a lower rate than sales. Overall, weaker European currencies compared with the US dollar reduced operating income excluding restructuring and impairment by approximately \$170 million.

North America	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2012	2011	2012	2011	2012	2011	%	CER %
(\$m, except change %)								
Sales	3,931	3,273	–	–	3,931	3,273	20%	21%
Cost of goods sold	(1,807)	(1,648)	(2)	(6)	(1,805)	(1,642)	-10%	-10%
Gross profit	2,124	1,625	(2)	(6)	2,126	1,631	30%	31%
as a percentage of sales	54%	50%			54%	50%		
Marketing and distribution	(602)	(554)	–	–	(602)	(554)	-9%	-9%
General and administrative	(180)	(139)	(27)	(25)	(153)	(114)	-35%	-35%
Operating income	1,342	932	(29)	(31)	1,371	963	42%	43%
as a percentage of sales	34%	28%			35%	29%		

This table does not represent an income statement prepared under IFRS. Please refer to the segmental information reported in Note 4 to the consolidated financial statements in Item 18.

<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

Reported sales increased by 20 percent, 21 percent at constant exchange rates, with 15 percent from increased volumes and 6 percent from higher local currency sales prices. The sales volume increase includes approximately \$200 million higher royalties from the recognition of minimum royalties under a license agreement with DuPont; volume growth excluding the higher royalty is 8 percent. See the Sales commentary section above for further information on sales in the region. Gross profit margin increased by 4 percentage points, including the impact of the higher royalties. Otherwise, higher sales prices were partly offset by some adverse mix in Crop Protection products and increased Seeds product costs due to higher crop commodity prices and low 2011 corn yields, both of which drive costs with contract seed growers.

Marketing and distribution costs increased by 9 percent, partly due to the increased sales volumes and partly to invest in additional commercial resources to drive future sales growth.

General and administrative costs excluding restructuring and impairment increased by 35 percent, or \$39 million. In 2012 these costs included \$80 million related to the settlement of the Holiday Shores / City of Greenville litigation offset by a part of the actuarial gains from changes to post-retirement healthcare plans described above.

Restructuring and impairment charges related mainly to the integration of the Crop Protection and Seeds operations initiated in 2011.

Operating income as a percentage of sales increased by 6 percentage points including the impact of the higher royalties and the litigation settlement.

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Latin America	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2012	2011	2012	2011	2012	2011	%	CER %
(\$m, except change %)								
Sales	3,713	3,305	–	–	3,713	3,305	12%	13%
Cost of goods sold	(2,057)	(1,813)	–	–	(2,057)	(1,813)	-13%	-16%
Gross profit	1,656	1,492	–	–	1,656	1,492	11%	9%
as a percentage of sales	45%	45%	–	–	45%	45%		
Marketing and distribution	(546)	(542)	–	–	(546)	(542)	-1%	-9%
General and administrative	(140)	(100)	(37)	(23)	(103)	(77)	-34%	-6%
Operating income	970	850	(37)	(23)	1,007	873	15%	10%
as a percentage of sales	26%	26%			27%	26%		

This table does not represent an income statement prepared under IFRS. Please refer to the segmental information reported in Note 4 to the consolidated financial statements in Item 18.

<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

Sales increased by 12 percent, 13 percent at constant exchange rates with 11 percent from higher volumes and an additional 2 percent from increased prices. See the Sales commentary section above for further information on sales in the region. Gross profit margin was flat at 45 percent, but at constant exchange rates and excluding restructuring and impairment was approximately 1 percentage point lower, with the sales price increase offset by increased cost of seed production.

Marketing and distribution costs were 1 percent higher than 2011, but at constant exchange rates were up 9 percent, with increased costs from the higher sales volume, salary inflation, increased distribution costs and further expenditure to drive future sales growth partially offset by lower charges to receivables provisions in a market environment where farming remains profitable.

General and administrative expenses excluding restructuring and impairment were 34 percent higher, but at constant exchange rates were 6 percent higher. Brazil operates a forecast currency transaction hedging program under a framework agreed with Syngenta's Group Treasury Department, the results of which are reported in General and administrative. In 2012, hedging losses of \$4 million were realized under the program compared with a gain of \$17 million in 2011. Expenses at constant exchange rates increased due to higher salary related costs, other cost inflation and additional costs to support regional sales growth.

Restructuring and impairment charges relate to the integration of the Crop and Seeds organizations across the region and to a program to implement standardized business services to centralize and partly outsource back office activities.

Asia Pacific	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2012	2011	2012	2011	2012	2011	%	CER %
(\$m, except change %)								
Sales	1,827	1,887	–	–	1,827	1,887	-3%	0%
Cost of goods sold	(973)	(984)	–	–	(973)	(984)	1%	-1%



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Gross profit	854	903	–	–	854	903	-5%	0%
as a percentage of sales	47%	48%			47%	48%		
Marketing and distribution	(303)	(290)	–	–	(303)	(290)	-5%	-7%
General and administrative	(58)	(61)	(12)	(13)	(46)	(48)	4%	3%
Operating income	493	552	(12)	(13)	505	565	-11%	-4%
as a percentage of sales	27%	29%			28%	30%		

This table does not represent an income statement prepared under IFRS. Please refer to the segmental information reported in Note 4 to the consolidated financial statements in Item 18.

1 Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

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Reported sales in Asia Pacific declined by 3 percent, but were flat at constant exchange rates, with a recovery in corn sales after the overstocked market in South East Asia in 2011 offset by range rationalization in Crop Protection products and a challenging market in vegetable seeds. See the Sales commentary section above for further information on sales in the region. Gross profit margin was 1 percentage point lower and slightly below 2011 at constant exchange rates.

Marketing and distribution costs increased by 5 percent, 7 percent at constant exchange rates from inflation and a minor increase in charges to receivables provisions.

General and administrative expenses were 4 percent lower, 3 percent at constant exchange rates, with inflation offset by savings from the integration of former Crop Protection and Seeds organizations across the region that was initiated in 2011 and by a legal settlement in 2012 at lower cost than had been reserved.

Restructuring and impairment charges relate mainly to the integration of the Crop Protection and Seeds operations and were at a similar level in 2012 to 2011.

Non-regional

Income and expense transactions in the integrated business have been attributed to the geographic regions based on the market destination to which they relate, rather than on the region in which they originated. Some costs of the integrated organization do not relate to a geographic destination and are reported as non-regional. These include global marketing teams, research and development and corporate headquarter functions. In addition, regional gross profit performance is based on standard product costs, with variances to the standard reported as non-regional in order to align the reported results with organizational responsibility. Non-regional also includes results of centrally managed currency and commodity hedging programs.

Non-regional costs increased by \$289 million, or 19 percent from 2011, to \$1,828 million mainly due to hedging losses of \$56 million having been incurred in 2012, whereas hedging gains of \$165 million were realized in 2011. Also contributing to the increase is the 5 percent growth, 9 percent at constant exchange rates, in research and development expense attributable to higher expenditures on biological assessment of new products and to progress the Crop Protection product pipeline. Restructuring and impairment charges within non-regional increased from \$29 million in 2011 to \$119 million in 2012 largely from the inclusion in 2011 of the gain on the divestment of the Materials Protection business. Other non-regional General and administrative was lower due to the inclusion of the portion of the actuarial gains from the change to post-retirement healthcare plans in the US related to those plan participants who work in non-regional roles and also due to lower employee incentives.

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Lawn and Garden	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2012	2011	2012	2011	2012	2011	%	CER %
(\$m, except change %)								
Sales	757	821	–	–	757	821	-8%	-6%
Cost of goods sold	(368)	(404)	–	–	(368)	(404)	9%	8%
Gross profit	389	417	–	–	389	417	-7%	-3%
as a percentage of sales	51%	51%			51%	51%		
Marketing and distribution	(208)	(227)	–	–	(208)	(227)	8%	6%
Research and development	(58)	(56)	–	–	(58)	(56)	-5%	-7%
General and administrative	(83)	(115)	(38)	(53)	(45)	(62)	28%	22%
Operating income	40	19	(38)	(53)	78	72	8%	12%
as a percentage of sales	5%	2%			10%	9%		

This table does not represent an income statement prepared under IFRS. Please refer to the segmental information reported in Note 4 to the consolidated financial statements in Item 18.

<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

Lawn and Garden sales declined by 8 percent, 6 percent at constant exchange rates. The Fafard growing media business and Syngenta Horticultural Services flowers distribution and brokerage business were divested during the year, reducing sales volumes by approximately 6 percent, and the acquisition of the DuPont professional products business increased sales by approximately 1 percent. Excluding the acquisitions and divestments, sales at constant exchange rates were approximately 1 percent lower. See the Sales commentary section above for further information on sales in the segment. Gross profit margin remained flat at 51 percent, but at constant exchange rates was 1 percentage point higher as the divested business had generated lower gross margin than the ongoing and acquired businesses.

Marketing and distribution costs were 8 percent lower, 6 percent at constant exchange rates from the Fafard divestment late in the first half of the year.

General and administrative costs excluding restructuring and impairment were 28 percent lower, 22 percent at constant exchange rates, due again, in part, to the Fafard divestment and to lower cross-charges from global support functions.

Restructuring and impairment in 2011 included an impairment of the Fafard business and in 2012 included a further loss on divesting the business, together with a loss on the divestment of the Syngenta Horticultural Services flowers distribution and brokerage business.

Reported operating income as a percentage of sales improved from 2 percent in 2011 to 5 percent in 2012 due to the higher restructuring and impairment charges in 2011. Excluding restructuring and impairment, operating income margin improved by 1 percent to 10 percent following the divestment of the relatively low margin Fafard business.

#### Defined benefit pensions

Defined benefit pension expense was \$81 million in 2012 compared with \$76 million in 2011. The expense increased because the effect of reductions in assumed expected rates of return on pension plan assets exceeded the effect of

reductions in the discount rates used to calculate the interest cost. In 2013, Syngenta expects pension service cost to increase compared with 2012 because discount rates were lower at the end of 2012 than at the end of 2011. In 2013, Syngenta will also adopt IAS 19 (revised June 2011), which replaces the separate expected return on asset and interest cost components of defined benefit pension expense with a single interest income/(expense) which is calculated by applying the discount rate to the net recognized pension asset/(liability). Syngenta expects this and other accounting changes introduced by the revised IAS 19 to increase its 2013 pension expense by approximately \$40 million. Note 2 to the consolidated financial statements in Item 18 describes in greater detail how the revised IAS 19 will impact Syngenta. Overall, Syngenta expects to charge defined benefit pension

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expense of approximately \$130 million to its income statement in 2013, based on its pension plan rules at January 1, 2013. 2012 defined benefit pension expense in accordance with IAS 19 (revised) would have been approximately \$116 million.

Employer contributions to defined benefit pension plans were \$83 million in 2012 compared with \$205 million in 2011. Syngenta made no accelerated contribution payments to its pension plans in 2012 (2011: accelerated contribution payments of \$125 million). Syngenta currently expects its pension contributions to be approximately \$60 million higher in 2013 than in 2012 because of the revised contribution schedule agreed with the UK pension plan trustee following the 2012 statutory valuation of that plan, and because a significant part of the benefit from prior years' accelerated contribution payments has now been utilized.

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## Restructuring and impairment

Restructuring and impairment charges for the years ended December 31, 2012 and 2011, broken down into the main restructuring initiatives, consist of the following:

(\$m)	2012	2011
Operational efficiency programs:		
Cash costs	55	98
Non-cash impairment costs	2	3
Integrated crop strategy programs:		
Cash costs	102	149
Acquisition and related integration costs:		
Cash costs	18	14
Non-cash items		
Reversal of inventory step-ups	7	14
Reacquired rights	14	14
Divestment (gains)/losses	25	(76)
Bargain purchase gains	–	(10)
Other non-cash restructuring and impairment:		
Non-current asset impairment	42	39
Total restructuring and impairment <sup>1</sup>	265	245

1 \$7 million (2011: \$14 million) is included within Cost of goods sold, \$25 million (2011: \$(76) million) as Divestment losses/(gains) and \$233 million (2011: \$307 million) as Restructuring.

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.

The incidence of these business changes may be periodic and the effect on reported performance of initiating them will vary from period to period. Because each such business change is different in nature and scope, there will be little continuity in the detailed composition and size of the reported amounts which affect performance in successive periods. Separate disclosure of these amounts facilitates the understanding of performance including and excluding items affecting comparability. Syngenta's definition of restructuring and impairment may not be comparable to similarly titled line items in financial statements of other companies.



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2012

Operational efficiency programs

During 2012, costs of \$44 million were incurred as the projects to standardize and consolidate global back office operations drew near to completion. \$3 million of costs were incurred for restructuring in the corporate headquarters, \$4 million of costs were charged for restructuring at sales and distribution sites in France, Switzerland and the UK, and a further \$4 million of other operational efficiency cash costs included charges for project management, standard process design and outsourcing of information systems. Impairment costs related to the sites in France and the UK.

Integrated crop strategy programs

Cash costs of \$35 million were incurred for the continuing integration of commercial operations of sales and marketing teams in the regions. \$58 million was charged to the regions for support function projects, including \$15 million for severance and pension costs, \$21 million for information system infrastructure projects and \$22 million for other charges including consultancy and advisory services, re-training of employees and project management. \$5 million of costs were incurred relating to restructuring the organization of the global Research and Development function and \$4 million of costs related to legal entity restructuring.

Acquisition and related integration costs

Included in acquisition and related integration costs are \$6 million related to the acquisitions described above and \$6 million of charges incurred for integrating previous acquisitions. The remaining charges related to divestments and incomplete transactions.

Reversal of inventory step-up related to the acquisitions of Maribo Seeds, the Pybas and Synergene lettuce companies and the purchase of the Greenleaf controlling interest. As part of the Greenleaf acquisition, Syngenta reacquired exclusive licensing rights that it had previously granted to Greenleaf. In accordance with IFRS, the reacquired rights have been recognized as an intangible asset and are being amortised over the remaining term of the original license contract of 3 years. This is a significantly shorter period than the expected economic life of the intellectual property rights underlying the license, which were generated internally within Syngenta. The resulting acceleration of amortization results in a 2012 charge of \$14 million. Syngenta views this significant amortization charge as an accounting effect of integrating Greenleaf into Syngenta.

Divestment losses were incurred on the divestments of the Fafard peat unit and the Syngenta Horticultural Services business as described above.

Other non-cash restructuring and impairment

Non-current asset impairments include \$21 million for production plant machinery in Brazil, \$12 million for the impairment of a product right and trademark where technical and commercial success has now become less probable and \$5 million for the write-down of land in the USA that was acquired as part of a business combination.

2011

Operational efficiency programs

During 2011, cash costs under the Operational Efficiency restructuring programs included \$59 million for the continuing standardization and consolidation of global back office operations and \$12 million for further outsourcing



of information systems. Further operational efficiency cash costs consisted of \$6 million of onerous contract charges in the UK, \$5 million relating to the reorganization of a site in Switzerland, \$4 million of restructuring costs in the Seeds portion of the European business and \$12 million for various other restructuring projects. Impairment costs related mainly to the closure of a site in Germany.

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### Integrated crop strategy programs

During 2011, cash costs for launching and initiating the implementation of the global integrated crop strategy included \$143 million for integration of commercial operations of sales and marketing teams and \$6 million for support function projects. These charges consisted of \$76 million for severance and pension payments and \$73 million of other project-related costs, including those for developing and supporting the strategic transition; process re-design; consultancy and advisory services; retention, relocation, and re-training of employees; and project management.

### Acquisition and related integration costs

Acquisition and related integration cash costs related mainly to the Agrosan, Maribo Seeds and Greenleaf acquisitions. Reversal of inventory step-ups related to the acquisitions of Agrosan, Maribo Seeds and the Pybas and Synergene lettuce companies.

Amortization of reacquired rights related to exclusive licensing rights that Syngenta had previously granted to Greenleaf, which were reacquired as part of the Greenleaf acquisition.

Divestment gains of \$76 million included the gain on the disposal of Syngenta's Materials Protection business to Lanxess AG, gains on the disposal of certain assets acquired as part of Monsanto's sunflower business in 2009, as agreed with the European Commission in connection with their approval of that acquisition, and the gain arising on revaluing Syngenta's 50 percent equity interest in Greenleaf to fair value at the date it acquired the remaining 50 percent interest from Pioneer. Bargain purchase gains were recognized on completion of the acquisition accounting for the Maribo Seeds and Greenleaf acquisitions.

### Other non-cash restructuring and impairment

Other non-cash restructuring and impairment costs consisted of the impairment of an available-for-sale financial asset and a write-down of assets within the Fafard peat business in Lawn and Garden.

### Financial expense, net

Financial expense, net decreased to \$147 million in 2012 from \$165 million in 2011. Net currency losses increased in 2012, with increased cost of forward cover for committed foreign currency transaction exposures, but were offset by lower net interest expense. In 2012, net interest expense included a gain of \$47 million realized on termination of certain fair value hedging relationships, which had ceased to be effective hedges due to increased market liquidity risk.

### Taxes

The Swiss statutory tax rate applicable to Syngenta decreased by 1 percent in 2012 to 22 percent. Syngenta's effective tax rate in 2012 was 13 percent, 3 percent lower than the 16 percent effective tax rate in 2011. Income taxed at different rates reduced the effective tax rate by 11 percent in 2012 (5 percent in 2011), with a higher weighting in 2012 of income subject to a lower tax rate, including within Switzerland where certain intellectual property income is subject to a reduced rate. Non-recognition of deferred tax assets increased the tax rate by 2 percent compared with 2011, following an increase in deferred tax assets in certain countries where sufficient future profits to utilize the assets are not sufficiently assured.

The tax rate on restructuring and impairment was 31 percent in 2012, compared with 22 percent in 2011 due to the different mix of gains and losses included in the net charge over the period and the varying tax treatments applied in

different countries. 2012 included the loss on divestment of the North American based Fafard business and 2011 included the gain on divestment of the Materials Protection business. Future rates applicable to restructuring and impairment will be dependent on the nature and size of the charges and may vary from year to year.

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Net income for the period and other supplementary income data

Net income attributable to Syngenta shareholders in 2012 was \$1,872 million, 17 percent higher than the 2011 amount of \$1,599 million primarily due to increased sales and related gross profit.

After related taxation, restructuring and impairment charges in 2012 were \$182 million compared with \$190 million in 2011.

Results of operations  
2011 compared with 2010

Sales commentary

Syngenta's consolidated sales for 2011 were \$13,268 million, compared with \$11,641 million in 2010, a 14 percent increase year on year. At constant exchange rates sales grew by 12 percent. The analysis by segment is as follows:

Segment	(\$m, except change %)		Volume %	Local price %	Change		
	2011	2010			CER %	%	Actual %
Europe, Africa and Middle East	3,982	3,423	11%	1%	12%	4%	16%
North America	3,273	2,969	10%	-1%	9%	1%	10%
Latin America	3,305	2,763	15%	5%	20%	0%	20%
Asia Pacific	1,887	1,707	5%	1%	6%	5%	11%
Total	12,447	10,862	11%	1%	12%	2%	14%
Lawn and Garden	821	779	3%	-1%	2%	3%	5%
Group Sales	13,268	11,641	11%	1%	12%	2%	14%

Europe, Africa and Middle East

Sales increased by 16 percent as volume increased by 11 percent, currency movements increased sales by a further 4 percent and local currency sales prices were increased by 1 percent.

Sales of Crop Protection products in the region increased by 15 percent as volume increased by 9 percent, currency movements added a further 5 percent and local currency sales prices were increased by 1 percent. The Crop Protection volume increase was wide spread across the region led by the CIS, which grew by over 50 percent reflecting the recovery of the CIS markets and full integration of the Dow AgroSciences portfolio, and South East Europe. The region also benefited from the continued success of new Crop Protection product launches, including AXIAL® in France and Iberia, and the expansion of CRUISER® in France and the CIS. Dry weather conditions early in the year resulted in a shift from cereal to corn acreage driving increased demand for the insecticides ACTARA® and KARATE®, and as well for CALLISTO®.

Seeds sales in the region increased by 21 percent mainly due to strong volume growth in Diverse field crops and increased corn acreage. Local currency sales prices were increased by 3 percent, with increases in all product lines. Currency movements increased reported sales in the region by 3 percent.



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North America

Sales volume increased by 10 percent, while a 1 percent favorable currency effect offset a 1 percent decrease in local currency prices.

Crop Protection product sales in the region were 11 percent higher as volume growth of 13 percent and a favorable 1 percent currency effect partially were offset by a 3 percent decrease in prices. Sales volume was higher across all product lines, particularly in Fungicides and Insecticides. Selective herbicides experienced substantial volume growth driven by CALLISTO® and FLEX®. AMISTAR® sales were up almost 50 percent reflecting increased fungicide application rates and expanded use for crop enhancement benefits. Sales of the AVICTA® nematocide Seed care product almost doubled following an expansion in use on cotton and the approval for extended application on soybeans. Sales prices decreased 3 percent from 2010 to 2011 as decreases in the first half of the year caused by high channel inventories at the start of the year partially were offset by improved pricing in the second half.

Seeds sales in the region grew by 9 percent as increased volume in Corn and soybean more than offset a volume decline in Vegetables.

Latin America

Sales increased by 20 percent as volume increased by 15 percent and sales prices were increased by 5 percent.

Double digit Crop Protection volume growth continued in the region, supplemented by price increases. Despite challenging weather conditions towards the end of the fourth quarter, overall sales grew by 18 percent, 17 percent at constant exchange rates, as volume increased by 13 percent and prices were increased by 4 percent. Growth was driven by continued favorable market sentiment, government support for agriculture and recognition by growers of Syngenta's strong product portfolio. Higher insecticide sales were driven by the continued success of DURIVO®, which was approved for use on fruit, vegetables and soybean, and of ACTARA®, linked to the replacement of organophosphates. There was strong growth also in Seed care as growers continued to recognize the benefits derived from using this technology to increase yields. Sales of the Non-selective herbicide TOUCHDOWN® were also higher due to increased glyphosate tolerant crop acreage.

Seeds sales in the region grew by 34 percent led by Corn and soybean, which showed strong volume and price growth as customers adopted Syngenta's corn and soybean technology and in sunflower within Diverse field crops in Argentina.

Asia Pacific

Sales increased by 11 percent as volume increased by 5 percent, currency movements increased sales by a further 5 percent and local currency sales prices were increased by 1 percent.

Crop Protection sales growth was broad-based across all product lines as growers in the region accelerated the adoption of technology. Sales increased by 13 percent, 9 percent at constant exchange rates, as volume grew by 8 percent and local currency prices were increased by 1 percent. Sales in China were up 11 percent at constant exchange rates reflecting the successful launch of DURIVO® as well as significantly expanded Seed care adoption rates and increased AMISTAR® volume. Sales growth was particularly strong in South East Asia due to continued government support to growers, high rice prices and favorable weather conditions.

Seeds sales in the region were flat as increases in Vegetables in South Asia and China were offset by lower Corn and soybean sales in an over-supplied market in South East Asia.



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Lawn and Garden major brands ICON®, GOLDFISCH®, GOLDSMITH SEEDS, YODER® , HERITAGE®, FAFARD®

Sales of Professional products increased by 9 percent, 5 percent at constant exchange rates, as the launch of a new early order program and new product introductions in North America drove volume growth in golf and landscape. Growth in pest management was a result of increased pest pressure in Asia Pacific and Latin America. Local currency sales prices decreased by 3 percent.

Flowers sales were flat as 3 percent growth from favorable currency movements was offset by a 2 percent volume decline and a 1 percent decrease in prices. The continued challenging economic environment impacted sales, most notably in the second half. Asia showed moderate growth driven by Japan.

Sales by product line are set out below:

Product Line	2011	2010	Volume %	Change		Actual %
				Local price %	CER %	
Selective herbicides	2,617	2,308	11%	0%	11%	13%
Non-selective herbicides	1,117	987	9%	1%	10%	13%
Fungicides	2,998	2,662	8%	2%	10%	13%
Insecticides	1,790	1,475	17%	2%	19%	21%
Seed care	1,018	838	17%	1%	18%	21%
Other Crop Protection	137	177	-19%	-6%	-25%	-22%
<b>Total Crop Protection</b>	<b>9,677</b>	<b>8,447</b>	<b>11%</b>	<b>1%</b>	<b>12%</b>	<b>15%</b>
Corn and soybean	1,471	1,292	10%	3%	13%	14%
Diverse field crops	676	524	23%	3%	26%	29%
Vegetables	703	663	0%	4%	4%	6%
<b>Total Seeds</b>	<b>2,850</b>	<b>2,479</b>	<b>11%</b>	<b>3%</b>	<b>14%</b>	<b>15%</b>
Elimination *	(80)	(64)	n/a	n/a	n/a	n/a
<b>Total</b>	<b>12,447</b>	<b>10,862</b>	<b>11%</b>	<b>1%</b>	<b>12%</b>	<b>14%</b>
Lawn and Garden	821	779	3%	-1%	2%	5%
<b>Group Sales</b>	<b>13,268</b>	<b>11,641</b>	<b>11%</b>	<b>1%</b>	<b>12%</b>	<b>14%</b>

\* Crop Protection sales to Seeds

#### Crop Protection

Selective herbicides: major brands AXIAL®, CALLISTO® family, DUAL®/BICEP® MAGNUM, FUSILADE®MAX, TOPIK®

Sales increased by 13 percent, 11 percent at constant exchange rates, due to volume growth, with local currency sales prices being flat. AXIAL® grew significantly in Europe with successful new launches in France and Iberia, and the CALLISTO® family of products grew on increased European corn acreage and strong demand in the USA prompted by a favorable corn price and the need to control glyphosate resistant weeds.





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Non-selective herbicides: major brands GRAMOXONE®, TOUCHDOWN®

Sales increased by 13 percent mainly due to higher volumes for TOUCHDOWN®, which showed particularly strong growth in Latin America due to increased acreage of glyphosate tolerant crops. Currency effects added 3 percent and local currency prices were increased by 1 percent. GRAMOXONE® volumes also increased during the year, most notably in North America where sales in the south benefited from growers' concerns about glyphosate resistance.

Fungicides: major brands ALTO®, AMISTAR®, BRAVO®, REVUS®, RIDOMIL GOLD®, SCORE®, TILT®, UNIX®

Sales growth of 13 percent was driven by AMISTAR®, which grew by 14 percent during 2011, 12 percent at constant exchange rates, mostly attributable to higher volumes. The main growth area was in the USA where AMISTAR® sales grew by more than 50 percent reflecting increased application rates and the recognition of crop enhancement benefits. AMISTAR® sales also grew strongly in Asia Pacific due to the continued success of local marketing programs and increased adoption levels in rice.

Insecticides: major brands ACTARA®, DURIVO®, FORCE®, KARATE®, PROCLAIM®, VERTIMEC®

Sales increased by 21 percent, 19 percent at constant exchange rates, led once again by the broad spectrum insecticide ACTARA®, which grew by 26 percent, 24 percent at constant exchange rates, primarily driven by use on corn and soybean in Brazil as well as by the replacement of older chemistry. Sales of the recently introduced product DURIVO® grew by 86 percent to over \$150 million largely driven by Brazil and Asia Pacific. Insecticides sales grew in all regions, with the largest contribution coming from Latin America, where sales in Brazil were up by more than 40 percent.

Seed care: major brands AVICTA®, CRUISER®, DIVIDEND®, MAXIM®, VIBRANCE®

Seed Care sales grew by 21 percent, 18 percent at constant exchange rates, to over \$1 billion with continued strong growth in emerging markets where adoption of the technology is increasing. Sales volume increased by 17 percent and sales prices were increased by 1 percent. Expanded registrations in major markets as well as increased adoption in oilseeds resulted in sales of CRUISER® in Europe growing by more than 50 percent. Sales of AVICTA® nematicide increased largely driven by a launch on soybean and increased use on cotton in the USA, and the launch on both corn and soybean in Brazil where sales more than tripled.

Seeds

Corn and soybean: major brands AGRISURE®, GARST®, GOLDEN HARVEST®, NK®

Sales grew strongly in Latin America, the USA and the CIS, resulting in an overall increase of 14 percent, 13 percent at constant exchange rates. Volume grew by 10 percent and local currency prices were increased by 3 percent. Latin America sales increased by 38 percent in a rapidly expanding market, mostly due to higher volumes reflecting the advancement of Syngenta's portfolio, the rapid adoption rate of AGRISURE® VIPTERATM and the benefits of Syngenta's integrated sales force. In the USA, sales growth was double digit mainly due to increased volume driven by continued improvement in corn germplasm and trait performance. Increased corn acreage in Europe resulted in volume growth. Sales declined in Asia Pacific as strong volume growth in South Asia was offset by over-supply in the market in South East Asia.

Diverse field crops: major brands NK® oilseeds, HILLESHÖG® sugar beet

Sales increased by 29 percent on strong underlying volume growth supplemented by increased sales prices and favorable currency movements. Growth was particularly strong in emerging markets, where volumes increased by more than 30 percent. Syngenta estimates that it gained market share in sunflower

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in Russia, Ukraine and Argentina as these countries shift towards high value genetics. Sugar beet sales continued to grow reflecting the successful integration of the Maribo acquisition, which increased Diverse field crops sales by 9 percent. Oilseed rape sales decreased due to lower acreage in Europe resulting from adverse weather conditions.

Vegetables: major brands DULCINEA®, ROGERS®, S&G®, Zeraim Gedera®

Sales grew by 6 percent as prices were increased by 4 percent and currency movements contributed 2 percent. Sales volume was flat as growth in emerging markets, driven primarily by demand for peppers and tomatoes, was offset by declines in developed markets, particularly North America. Sales in Europe, Africa and Middle East grew 10 percent, 6 percent at constant exchange rates, with a strong first half in Europe resulting from favorable weather conditions that partially was offset by a decline in the second half largely caused by the deteriorating economic situation. In the USA, adverse weather conditions and high opening inventories in the processed sector resulted in lower sales volume.

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## Operating income

Variances in the tables below reflect the profit impact of changes year on year. For example, an increase of sales or a decrease in costs is a positive variance and a decrease in sales or increase in costs is a negative variance.

Group Operating Income	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2011	2010	2011	2010	2011	2010	Actual %	CER %
\$m, except change %	2011	2010	2011	2010	2011	2010	Actual %	CER %
Sales	13,268	11,641	0	0	13,268	11,641	14%	12%
Cost of goods sold	(6,786)	(5,900)	(14)	(18)	(6,772)	(5,882)	-15%	-10%
Gross profit	6,482	5,741	(14)	(18)	6,496	5,759	13%	13%
as a percentage of sales	49%	49%			49%	49%		
Marketing and distribution	(2,387)	(2,095)	0	0	(2,387)	(2,095)	-14%	-11%
Research and development	(1,191)	(1,081)	0	0	(1,191)	(1,081)	-10%	-5%
General and administrative	(853)	(772)	(231)	(159)	(622)	(613)	-1%	-7%
Operating Income	2,051	1,793	(245)	(177)	2,296	1,970	16%	21%
as a percentage of sales	15%	15%			17%	17%		

Operating Income/(loss) (\$m)	2011	2010	Actual %
Europe, Africa and Middle East	1,237	1,015	22%
North America	932	728	28%
Latin America	850	723	18%
Asia Pacific	552	487	13%
Non-Regional	(1,539)	(1,210)	-27%
Total	2,032	1,743	17%
Lawn and Garden	19	50	-62%
Group	2,051	1,793	14%

The two tables above do not represent income statements prepared under IFRS. Please refer to the information reported in the consolidated financial statements in Item 18.

<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

## Overall Group Operating Income

Operating income increased by 14 percent to \$2,051 million mainly due to strong sales growth in all regions. The ratio of operating income to sales was broadly flat with 2010, but at constant exchange rates was approximately 1 percent higher due to an improved gross profit margin and a lower growth in Research and development costs than in sales. This was partly offset by increased charges for restructuring related to the new integrated crop strategy programs.

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Currency movements increased sales by 2 percent; at constant exchange rates, sales grew by 12 percent with sales volumes 11 percent higher from increases in all regions, and overall local currency sales prices 1 percent higher. Gross profit margin remained at 49 percent. Marketing and distribution costs increased by 14 percent, 11 percent at constant exchange rates, with increased expenditures in emerging markets, particularly Latin America, higher variable costs from the 11 percent higher sales volumes, some increase in charges to bad debt provisions compared with 2010 and increased employee incentive costs, together more than offsetting first-year savings from the program to integrate Crop Protection and Seeds commercial operations. Research and development expense increased by 10 percent, 5 percent at constant exchange rates mainly due to higher expenditures in progressing the Crop Protection product pipeline.

General and administrative was 10 percent higher than in 2010 and excluding Restructuring and impairment was 1 percent higher. General and administrative is reported net of the result of currency hedging programs, which in 2011 was a net gain of \$177 million, \$147 million more than in 2010. At constant exchange rates, general and administrative excluding restructuring and impairment was 7 percent higher with increased information system costs and amortization, higher litigation costs and employee incentive costs more than offsetting savings from the ongoing restructuring programs. Restructuring and impairment, including the portion recorded in cost of goods sold, is described in Note 6 to the consolidated financial statements in Item 18 and increased by \$67 million in 2011 to \$245 million mainly due to costs incurred on the restructuring program announced in February 2011 to integrate the commercial operations of Crop Protection and Seeds.

Excluding the impact of hedging, the favorable impact on sales of a weaker average US dollar in 2011 was more than offset by the adverse impact on costs, particularly from the stronger Swiss franc. Taken together with the \$147 million higher net favorable result from the hedging program for forecast foreign currency transactions (“EBITDA program”), the overall impact of exchange rate movements on operating income compared with 2010 was an adverse \$91 million.

## Operating income by segment:

Europe, Africa and Middle East	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
\$m, except change %	2011	2010	2011	2010	2011	2010	Actual %	CER %
Sales	3,982	3,423	0	0	3,982	3,423	16%	12%
Cost of goods sold	(1,806)	(1,568)	(8)	0	(1,798)	(1,568)	-15%	-6%
Gross profit	2,176	1,855	(8)	0	2,184	1,855	18%	17%
as a percentage of sales	55%	54%			55%	54%		
Marketing and distribution	(685)	(623)	0	0	(685)	(623)	-10%	-4%
General and administrative	(254)	(217)	(88)	(64)	(166)	(153)	-8%	1%
Operating Income	1,237	1,015	(96)	(64)	1,333	1,079	24%	27%
as a percentage of sales	31%	30%			33%	32%		

This table does not represent an income statement prepared under IFRS. Please refer to the segmental information reported in Note 4 to the consolidated financial statements in Item 18.

<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.



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Sales in Europe, Africa and Middle East increased by 16 percent, 12 percent at constant exchange rates driven by double digit sales volume increases in both Crop Protection and Seeds products. See the Sales commentary section above for further information on sales in the region. Gross profit margin increased by 1 percentage point and, excluding restructuring and impairment, was approximately 2 percentage points higher at constant exchange rates, including favorable product mix.

Marketing and distribution costs were 10 percent higher, an increase of 4 percent at constant exchange rates with a further 6 percent from stronger currencies, particularly the Euro, relative to the US dollar. Cost growth was below sales growth due to a generally low inflation environment and reflecting initial cost savings from the integration of the Crop and Seeds businesses in the region.

General and administrative costs were 17 percent higher mainly due to higher restructuring and impairment charges from the integrated crop strategy programs, where implementation began in 2011, and currency effects. Excluding restructuring and impairment and currency effects, general and administrative costs were broadly flat.

Operating income as a percentage of sales improved by 1 percentage point to 31 percent, but at constant exchange rates and excluding the impact of restructuring and impairment was approximately 4 percentage points higher due to the favorable product mix and operational leverage in the marketing, distribution and administrative costs. While sales benefited from the stronger Euro, this was more than offset by the adverse currency movement impact on costs including that of the stronger Swiss franc, resulting in lower growth in the reported operating margin.



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North America	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2011	2010	2011	2010	2011	2010	Actual %	CER %
\$m, except change %								
Sales	3,273	2,969	0	0	3,273	2,969	10%	9%
Cost of goods sold	(1,648)	(1,571)	(6)	(3)	(1,642)	(1,568)	-5%	-2%
Gross profit	1,625	1,398	(6)	(3)	1,631	1,401	16%	18%
as a percentage of sales	50%	47%			50%	47%		
Marketing and distribution	(554)	(548)	0	0	(554)	(548)	-1%	0%
General and administrative	(139)	(122)	(25)	(1)	(114)	(121)	6%	6%
Operating Income	932	728	(31)	(4)	963	732	31%	35%
as a percentage of sales	28%	25%			29%	25%		

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<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

Sales in North America were 10 percent higher in 2011 than 2010, an increase of 9 percent at constant exchange rates from volume growth in both Crop Protection and Seeds products. See the Sales commentary section above for further information on sales in the region. Gross profit margin improved by 3 percentage points to 50 percent and was approximately 4 percentage points higher at constant exchange rates, with a lower margin in Crop Protection products from the sales price decline more than offset by an increase in Seeds margins, particularly in Corn & soybean.

Marketing and distribution was broadly flat with the 2010 level despite the double digit sales volume growth, with early cost savings from the integration of Crop Protection and Seeds commercial operations offsetting increased volume related distribution costs.

General and administrative increased by 14 percent due to the \$24 million increase in restructuring and impairment, which in 2011 included initial costs for the integration of commercial activities across Crop Protection and Seeds and in 2010 were reported net of gains of \$19 million from the derecognition of the investment in the Greenleaf joint venture. Excluding restructuring and impairment, General and administrative decreased by 6 percent due to a better outcome in a product liability settlement than had been reserved.

Operating income margin increased by 3 percentage points to 28 percent in 2011 from the higher gross profit margin and increased operational leverage in the marketing, distribution and administrative areas following the high sales volume growth.

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Latin America	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2011	2010	2011	2010	2011	2010	Actual %	CER %
\$m, except change %	2011	2010	2011	2010	2011	2010	Actual %	CER %
Sales	3,305	2,763	0	0	3,305	2,763	20%	20%
Cost of goods sold	(1,813)	(1,578)	0	(4)	(1,813)	(1,574)	-15%	-12%
Gross profit	1,492	1,185	0	(4)	1,492	1,189	25%	29%
as a percentage of sales	45%	43%			45%	43%		
Marketing and distribution	(542)	(378)	0	0	(542)	(378)	-43%	-43%
General and administrative	(100)	(84)	(23)	(12)	(77)	(72)	-6%	-6%
Operating Income	850	723	(23)	(16)	873	739	18%	25%
as a percentage of sales	26%	26%			26%	27%		

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<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

Sales increased by 20 percent, with 15 percent from increased volumes and 5 percent from higher sales prices. See the Sales commentary section above for further information on sales in the region. Gross profit margin improved by 2 percentage points, benefiting from the sales price increases in Crop Protection products while in Seeds, the higher selling prices in Corn & soybean were largely offset by the higher product costs due to the higher prices of commodity corn and soybean, which determine the payments to contract growers.

Marketing and distribution costs increased by 43 percent mainly due to increased variable distribution costs, higher charges for doubtful receivables and increased salary and project costs to resource future sales growth.

General and administrative increased by 19 percent mainly due to increased restructuring and impairment charges from the integration of commercial activities across Crop Protection and Seeds. Excluding restructuring and impairment, General and administrative increased by 6 percent including impacts of salary and other cost inflation.

Operating income margin remained at 26 percent as the effect of the improved gross profit margin was offset by the increase in Marketing and distribution costs.

Asia Pacific	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2011	2010	2011	2010	2011	2010	Actual %	CER %
\$m, except change %	2011	2010	2011	2010	2011	2010	Actual %	CER %
Sales	1,887	1,707	0	0	1,887	1,707	11%	6%
Cost of goods sold	(984)	(909)	0	0	(984)	(909)	-8%	-3%
Gross profit	903	798	0	0	903	798	13%	10%
as a percentage of sales	48%	47%			48%	47%		
Marketing and distribution	(290)	(267)	0	0	(290)	(267)	-9%	-4%
General and administrative	(61)	(44)	(13)	(5)	(48)	(39)	-23%	-19%
Operating Income	552	487	(13)	(5)	565	492	15%	13%
as a percentage of sales	29%	29%			30%	29%		

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1 Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

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Sales increased by 11 percent, 6 percent at constant exchange rates, largely due to higher sales volumes. See the Sales commentary section above for further information regarding sales in the region. Gross profit margin improved by 1 percentage point to 48 percent, with a favorable shift in sales mix in Crop Protection products from increased sales of Fungicides and Seed care.

Marketing and distribution costs increased by 9 percent, 4 percent at constant exchange rates, with increased distribution costs from the higher sales volumes and expanded selling costs to support future growth.

Increased General and administrative partly reflected a litigation settlement in 2010 at lower cost than had been reserved prior to 2010 as well as higher restructuring and impairment charges from the program to integrate commercial activities across Crop Protection and Seeds.

2011 operating income margin was flat at the 2010 level of 29 percent, but was 1 percentage point higher excluding restructuring and impairment due to the improved gross profit margin

Non-regional

Non-regional costs increased by \$329 million, or 27 percent from 2010, to \$1,539 million. Research and development costs increased by 11 percent to \$1,135 million, an increase of approximately 5 percent at constant exchange rates. As noted in the review of 2012 compared with 2011, regional gross profit performance is based on standard product costs, with variances to the standard reported as non-regional in order to align the reported results with organizational responsibility. In 2011, variances totaled an adverse \$131 million compared with net favorable variances of \$116 million in 2010, leading to a \$247 million increase in costs attributed to non-regional. General and administrative decreased by \$47 million to \$184 million, due to lower restructuring and impairment, which in 2011 is net of the gain on the divestment of the Materials Protection business, and increased foreign currency hedging gains in 2011.

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Lawn and Garden	Total as reported under IFRS		Restructuring and impairment		Before restructuring and impairment <sup>1</sup>		Change before restructuring and impairment <sup>1</sup>	
	2011	2010	2011	2010	2011	2010	Actual %	CER %
\$m, except change %								
Sales	821	779	0	0	821	779	5%	2%
Cost of goods sold	(404)	(390)	0	(11)	(404)	(379)	-7%	-3%
Gross profit	417	389	0	(11)	417	400	4%	1%
as a percentage of sales	51%	50%			51%	51%		
Marketing and distribution	(227)	(208)	0	0	(227)	(208)	-9%	-5%
Research and development	(56)	(57)	0	0	(56)	(57)	3%	4%
General and administrative	(115)	(74)	(53)	(20)	(62)	(54)	-14%	2%
Operating Income	19	50	(53)	(31)	72	81	-10%	-5%
as a percentage of sales	2%	6%			9%	10%		

This table does not represent an income statement prepared under IFRS. Please refer to the segmental information reported in Note 4 to the consolidated financial statements in Item 18.

<sup>1</sup> Amounts before restructuring and impairment are non-GAAP measures. Please refer to Appendix A of the Operating and Financial Review for a more detailed description.

Sales increased by 5 percent, 2 percent at constant exchange rates, with growth in golf and landscape sales offsetting a decline in Flowers. See the Sales commentary section above for further information on Lawn and Garden sales. Gross profit margin was 1 percentage point higher due to the reversal of acquisition inventory step up reported within restructuring and impairment in 2010; excluding restructuring and impairment, gross profit margin remained at the 2010 level.

Marketing and distribution increased by 9 percent, 5 percent at constant exchange rates, due to general inflation and higher marketing expenditures to support market share growth. General and administrative excluding restructuring and impairment increased by 14 percent due to currency effects. General and administrative as reported was further increased by the 2011 impairment charge of \$38 million relating to the Fafard business, which was subsequently divested in 2012.

Operating income margin decreased to 2 percent in 2011 from 6 percent in 2010 mainly due to the impairment relating to the Fafard business. Excluding restructuring and impairment, operating income margin was 1 percentage point lower than 2010 mainly due to the higher 2011 Marketing and distribution and General and administrative costs.

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## Defined benefit pensions

Defined benefit pension expense was \$76 million in 2011 compared with \$77 million in 2010. Employer contributions to defined benefit pension plans, excluding contributions related to restructuring, decreased to \$198 million in 2011 from \$337 million in 2010, mainly due to accelerated payments of \$125 million of employer contributions in 2011 compared with accelerated payments of \$200 million in 2010.

## Restructuring and impairment

Restructuring and impairment charges for the years ended December 31, 2011 and 2010, broken down into the main restructuring initiatives, consist of the following:

(\$m)	2011	2010
<b>Operational efficiency programs:</b>		
Cash costs	98	101
Non-cash impairment costs	3	17
<b>Integrated crop strategy programs:</b>		
Cash costs	149	14
<b>Acquisition and related integration costs:</b>		
Cash costs	14	19
Non-cash items		
Reversal of inventory step-ups	14	18
Reacquired rights	14	–
Divestment gains	(76	)