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CONTENTS

LEAD ARTICLE

BAYER CROPSCIENCE TO EXPAND IN LATIN AMERICA	2
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EUROPEAN NEWS AND MARKETS

MEPS CALL FOR REMOVAL OF ALL ENDOCRINE DISRUPTING CHEMICALS	4
EFSA TEST FOR PESTICIDE RESIDUES IN FOOD	4
NON CHEMICAL WEED CONTROL	5
UK PUBLISHES NATIONAL ACTION PLAN	5
ROTHAMSTED RESEARCH TO CONDUCT MORE GM WHEAT TRIALS	5
MAJORS RESPOND TO FAILED PROPOSAL TO BAN NEONICOTINOIDS	6

AMERICAN NEWS AND MARKETS

SYNGENTA TO LAUNCH NEW NEMATICIDE IN 2014	7
MAKHTESHIM AGAN RULED NOT TO HAVE INFRINGED BASF PATENT	7
BASF'S SOYBEAN HERBICIDE RECEIVES APPROVAL	7
EPA APPROVES MAKHTESHIM AGAN INSECTICIDE	7
BASF AND MONSANTO TEAM UP IN CANADA	8
DUPONT PIONEER INVESTS IN SEED PRODUCTION PLANTS	8

OTHER NEWS AND MARKETS

NUFARM LOSES ROUNDUP	9
SINOCEM TAKES ON MONSANTO'S GLYPHOSATE FOR AUSTRALIA	9
GERMANS COMPLETES FURTHER TRIALS ON SUGAR BEET WITH HARPIN	9
BAYER AND NATURE SOURCE GENETICS EXPAND COOPERATION	10
MONSANTO COMPLETES APPROVALS FOR NEW SOYBEAN TECHNOLOGY	10
ROUNDUP READY CANOLA ON THE INCREASE IN AUSTRALIA	10
STARPHARMA AND MAKHTESHIM AGAN IN PRIOSTAR COLLABORATION	11
ISAGRO SALES UP 2.8% IN 2012	11
MAKHTESHIM AGAN'S REVENUES RISE 5.3%	12

CONFERENCES AND FEATURES

UK MINISTER STEPS UP COMMITMENT TO AGRICULTURE	13
THE FUTURE OF AGRICULTURE	14
CROPWORLD GLOBAL 2013	15
REGISTRATION OF AGROCHEMICALS IN EUROPE	15

BOOK DISCOUNTS

LEAD ARTICLE

BAYER CROPSCIENCE TO EXPAND IN LATIN AMERICA

Bayer CropScience has announced its aim to expand its business in Latin America with two new initiatives targeted at extending its soybean business in Brazil. Bayer CropScience CEO Liam Condon underlined the company's strong commitment to the farming community and the company's employee base in the region during a recent visit there. "Latin America is a strategic region for us, and we are positioning ourselves for strong growth in this market. We expect a positive development and further expansion in 2013."

Last year, Bayer CropScience recorded sales of more than €2.1 billion in the Latin America/Africa/Middle East region, an increase of about 15% compared to the previous year. The company says growth was particularly strong in Brazil and Argentina where it posted a sales increase of about 20%. Brazil is the second largest individual market worldwide for the company after the US, and the broader Latin America/Africa/Middle East region accounts for about a quarter of the global Bayer CropScience sales of around €8.4 billion.

Bayer has recently increased its presence in two of its strategic crops, soy and wheat. It has announced two steps to bolster the soybean business. Firstly the company has acquired the soy germplasm bank from Melhoramento Agropastoril Ltda, a firm operating in Cascavel in the Brazilian State of Paraná. Secondly it has signed an agreement to acquire the soybean seed company Wehrtec and the soy business of Agricola Wehrmann, both headquartered in Cristalina, Goiás, Brazil, centered in an important soybean area. Mr Condon said these moves will enable Bayer CropScience to enhance its research and breeding of soybean varieties tailored to meet the demands and needs of soybean farmers in the country. They complement the acquisition of the company SoyTech in the State of Goiás in 2011.

Mr Condon also used his visit to stress the need for a 'New Agricultural Revolution' – a productivity increase in agriculture that is more sustainable and environmentally compatible. "We need real integrated solutions – not only a good fit between seeds, biologics and chemicals, but also a good integration of these solutions in the specific agricultural environment and society", Mr Condon explained. This applies especially to Latin America, where agriculture has changed more rapidly than anywhere else in past decades. "We are fully aware of problems like increasing weed resistance and we want to tackle them in close collaboration with everyone involved."

Marc Reichardt, head of Bayer CropScience's operations in Latin America, stressed the positive outlook for the region: "We are continuously creating jobs focusing on marketing and sales and also on the expansion of our Seeds business." In Brazil alone, Bayer CropScience increased the number of full-time jobs by about 20% last year and is planning a similar increase this year. "Our long-lasting investments in Brazil, for example in high-tech machinery for seed treatment, will continue to grow. In 2013, we will invest almost three times as much compared to just three years ago," said Mr Reichardt. "As a global agricultural powerhouse, Brazil's agro-economy has a key role in helping ensure world food supply. Through our continued investments in innovation and our strong partnerships in the country, we continue to strongly support the Brazilian farming community."

Bayer CropScience has also signed an agreement to expand its successful cooperation with the Brazilian wheat-breeding company Biotrigo Genética Ltda (www.biotrigo.com.br). This will enable Bayer to use the lineage of new wheat varieties from one of Brazil's leading wheat breeding companies. Biotrigo's germplasm pool is renowned for its yield, high milling and baking quality and disease resistance. "Our agreement with Biotrigo is another step towards a world-class research platform for wheat genetics," said Hartmut van Lengerich, head of cereals and fungicides at Bayer CropScience. "We have entered into collaborations with the best partners in wheat research and breeding across the world. Now we are also looking forward to working with the motivated and experienced Biotrigo team."

"Biotrigo is a global leader in combining grain yield and end-use quality with resistance to difficult to control diseases," said Edward Souza, director of wheat breeding at Bayer CropScience. "Their guidance will help us continue to build our capacity in Europe and emerging markets." According to

Otoni Rosa Filho, Biotrigo technical director, the agreement will enable his company to make an even greater investment in research and development.

Biotrigo, is located in Passo Fundo in the region Rio Grande do Sul in southern Brazil. Currently the cooperation is based on the joint development of customised solutions consisting of wheat seed and crop protection products for the Brazilian market. The expansion of the collaboration will be focused on regions outside the Americas.

EUROPEAN NEWS AND MARKETS

MEPS CALL FOR REMOVAL OF ALL ENDOCRINE DISRUPTING CHEMICALS

At a plenary session of the European Parliament on health issues which met on 14 March there was a strong call for all endocrine disruptors to be removed from use unless the manufacturer can provide evidence that a safe threshold level can be identified. Åsa Westlund (Swedish member in the Group of the Progressive Alliance of Socialists and Democrats) proposed that current rules on the use of endocrine disruptors should be closely examined with a view to updating or proposing new legislation by June 2015 at the latest. Hormone-affecting 'endocrine disruptors' include some pesticide groups that according to some reports have been linked to recent increase in cases of impaired sperm quality, early onset of puberty, certain cancers and other disorders.

Ms Westlund's resolution was adopted by 489 votes to 102, with 19 abstentions. She said: "This report aims to identify the way forward on how we should handle the issue of endocrine disrupting chemicals. I want to make it clear that the time for political action has come." Potential endocrine disruptors include substances such as steroid hormones, some pesticides, dioxins, and plastic additives. The MEPs argued that action should be taken to protect human health, especially in vulnerable groups such as pregnant women and infants.

It is recognised that the definition of endocrine disruptors is not fully understood. However, in view of the increase in hormone-related disorders over the past 20 years, MEPs have urged increased investment in research and call on the European Commission to propose criteria - based on international standards - to define and assess endocrine disruptors. They also call for endocrine disruptors to be treated as 'substances of very high concern' in the EU's 'REACH' rules. MEPs stress that as current science does not provide a sufficient basis for setting a limit value below which adverse effects do not occur, endocrine disruptors should be regarded as 'non-threshold' substances. They argue that any exposure to such substances should be deemed to entail a risk, unless the manufacturer can provide scientific proof that a threshold can be identified.

EFSA TEST FOR PESTICIDE RESIDUES IN FOOD

The European Food Safety Authority (EFSA) has published the results from the latest Europe-wide testing programme for pesticide levels in food. It was carried out in the 27 EU Member States, as well as Iceland and Norway and covers measurements taken during 2010. It was concluded that over 97% of samples contained residue levels that fall within permissible limits. The exercise also assessed dietary exposure and concluded the chemical residues on the foods analysed did not pose a long-term risk to consumer health. The approach adopted considered the potential effects of combined exposure to a number of chemicals that have similar toxicological properties. This contrasts with the majority of established techniques used which rely only on the measurement of pesticide residues, active ingredient by active ingredient.

The national programmes found that 97.2% of samples contained residues within the European legal maximum residue level, MRL. The lowest MRL exceedance rates were found on foods of animal origin – with 0.1% of samples above permissible limits. MRL exceedance rates of foods imported into the EU, Norway and Iceland were more than five times higher than those of foods originating in these countries - 7.9% compared to 1.5%. MRL exceedance rates have been broadly stable over the last four years – with the percentage of samples above the legal limits ranging from 2.3% in 2007 to 1.2% in 2009. The 2010 report found the foods with the highest percentage of samples exceeding the MRL were oats (5.3%), lettuce (3.4%), strawberries (2.8%) and peaches (1.8%). Based on the findings of the 2010 monitoring programmes, EFSA concluded there was no long-term risk to consumer health from the pesticide residues through their diets. Regarding short-term acute exposure, the report found that a risk could not be excluded for 0.4% of samples – or 79 out of a total of 18,243. This conclusion is based on a worst-case scenario that assumed consumption of the largest portion of a food type that contains the highest residue measured of each pesticide.

For the report EFSA performed for the first time a cumulative risk assessment with the aim of paving the way for the better use of the approach in future reports. It is concluded that there is a need for additional data collection by national authorities and modifications to the methodology in order to reduce the significant uncertainties found in the results.

NON CHEMICAL WEED CONTROL

A pan-European group of weed specialists has examined the possibilities for using non chemical methods for weed control in reduced tillage arable systems. The review covers the redesigning of cropping systems, cover crops, stubble management strategies, tactics to strengthen crop growth relative to weed growth and direct mechanical weed control methods.

Lead author Bo Melander, of Denmark's Aarhus University, explained: "We are a group of ENDURE partners who have reviewed the European literature on weed problems and management in reduced tillage systems in order to analyse the possibility of adopting non chemical methods in these cropping systems. Future EU and national regulations on pesticides challenge European agriculture to become less dependent on pesticides and focus more on alternative solutions for weed problems. This can become very critical for reduced tillage systems which have a stronger dependence on herbicides and eventually a higher consumption of chemicals. It will be very challenging for growers to comply with the intentions of European pesticide regulations. The review points to some of the non-chemical methods that may have immediate usage in today's non-inversion tillage systems but also emphasises where research and innovation need to produce new solutions to meet the situation." *Weed Technology 27(1):231-240. 2013 European Perspectives on the Adoption of Non Chemical Weed Management in Reduced-Tillage Systems for Arable Crops.*

UK PUBLISHES NATIONAL ACTION PLAN

The Department of Environment, Food and Rural Affairs (Defra) has published details of how it aims to strengthen the UK's already stringent rules on the sale, storage and use of pesticides. The UK National Action Plan for the sustainable use of pesticides will ensure that the UK complies with the new EU directive that aims to harmonise pesticide rules across Europe. The plan says a number of the measures already in place in the UK go beyond those required by the EU and it applauds the high standards, well maintained equipment, training and voluntary schemes adopted within agriculture. It does say, however, that amenity and amateur pesticide users are not operating to the same high standards as farmers. While extensive extra regulation is not needed, Defra does highlight some areas for improvement. All professional users are to hold an agreed certificate by 26 November 2015 including 'grandfather rights holders'. All distributors are to have sufficient staff holding accredited training certificates by 2015 and all pesticide application equipment except handheld and knapsack applicators must be subject to an inspection regime by 26 November 2016. New equipment must be inspected within five years of purchase. Progress of the plan will be assessed over five years.

Strengthening the training of users, distributors and advisers is one important part of the plan. Another issue is residues from pesticides found in slug pellets - such as metaldehyde - applied to autumn-sown cereals and oilseed rape being detected in some watercourses. Defra also says river basin management plans should be developed to set out measures that address specific water quality issues. As expected the plan also calls for more integrated techniques to managing pests, weeds and diseases, such as through crop management or 'natural' pesticides. EU member states must set out how IPM principles will be adopted by all professional pesticide users by 1 January 2014.

ROTHAMSTED RESEARCH TO CONDUCT MORE GM WHEAT TRIALS

Rothamsted Research has submitted an application to Defra to extend its current GM wheat field trial to include additional autumn-sown Cadenza wheat. Rothamsted scientists believe it would be advantageous to gain further data from their experiment in wheat planted at a different time of year and under different weather conditions with different aphid populations.

Rothamsted Research scientists, who receive strategic funding from the UK Government through the Biotechnology and Biological Sciences Research Council (BBSRC), have been seeking a novel ecological solution to overcome an aphid problem in wheat. One approach has been to use an odour, or alarm pheromone, which aphids produce to alert one another to danger. This odour, (E)- β -farnesene, is also produced by some plants as a natural defence mechanism and not only repels aphids but also attracts the natural enemies of aphids such as ladybirds. The work has been effective in the laboratory and Rothamsted scientists have already conducted the first field trial to investigate whether the GM plants work outside in the field, as well as in the laboratory.

The new application that Rothamsted Research has submitted to Defra for permission to conduct the winter sowing involves exactly the same GM lines and experimental design as the current spring-

sown experiment. The autumn extension to the trial will be sown in mid-September and destroyed after 10-12 weeks in late November or late December depending on the weather.

MAJORS RESPOND TO FAILED PROPOSAL TO BAN NEONICOTINOIDS

In response to the failure of the European Commission to win support for an EU-wide ban on neonicotinoid pesticides, Syngenta's chief operating officer, John Atkin, said: "We are pleased that EU Member States did not support the European Commission's shamefully political proposal. Restricting the use of this vital crop protection technology will do nothing to help improve bee health." A spokeswoman for Defra, the UK's environment department, said 14 out of the 27 EU nations - including the UK and Germany - had not supported the Commission's proposals as they currently stood. The Commission must now decide whether to appeal the decision or amend its proposal.

Syngenta has repeatedly highlighted that the Commission tried to justify its actions on the basis of a hurried and highly theoretical review by the European Food Safety Agency (EFSA). It says the review made fundamental mistakes which led to a serious over-estimation of the amount of pesticide bees are exposed to under field conditions. It also ignored key studies and independent monitoring by governments which prove the safety of neonicotinoid pesticides. Syngenta urged the Commission to broaden the efforts to tackle the real causes of the decline in bee health rather than continuing to focus on neonicotinoid pesticides, which deliver significant socio-economic and environmental benefits.

Bayer CropScience also welcomed the fact that no consensus was reached by the EU member states. It said this provides hope to European farmers that they can continue to have access to safe and effective crop protection products supporting their ability to grow safe, high-quality, affordable food. Bayer CropScience believed the proposal relied too heavily on the precautionary principle, without taking the principle of proportionality into account. It said not only had the Commission incorrectly based its rationale on the recent EFSA reviews of these products, but it had failed to make the appropriate impact assessments of any decisions they proposed on the broader interests of European stakeholders. The company said it continues to believe that any political decision relating to registrations of neonicotinoid-containing products should be based on clear, scientific evidence of adverse effects of the affected products under realistic conditions of use, including the extensive stewardship measures that are in place in the field.

AMERICAN NEWS AND MARKETS

SYNGENTA TO LAUNCH NEW NEMATICIDE IN 2014

Syngenta has recently announced that it should have a new seed treatment product available for controlling soybean cyst nematodes in 2014. "We plan to have large-scale testing in 2013 with the product being registered in 2013 for a launch in 2014. We hope sales will have started towards the end of 2013 for planting season 2014," said Rex Wichert, head of the soybean portfolio for Syngenta. The new product is being described as a biological nematicide. "It is a bacterial spore that attaches to the nematode and then grows inside resulting in death," said Mr Wichert. Extensive field testing shows a high percentage of control. "Currently the only control of this pest is by planting resistant varieties of soybeans and this resistance is being challenged." Syngenta intends to promote the nematicide for use with soybeans that have some inbuilt soybean cyst nematode resistance.

MAKHTESHIM AGAN RULED NOT TO HAVE INFRINGED BASF PATENT

Makhteshim Agan Industries (MAI) and Control Solutions, Inc. (CSI) have announced that the US Court of Appeals for the Federal Circuit in Washington has ruled by unanimous decision to dismiss an appeal submitted by BASF. The court ruled that the product known as *Taurus SC* (fipronil) does not infringe US Patent Number 6,414,010 or US Patent Number 6,835,743. The Federal Circuit decision confirms and authorises the continuation of US marketplace activity and customer engagement relating to sales of *Taurus SC*. BASF has maintained longstanding allegations, beginning in April 2010, of patent infringement against MANA (Makhteshim Agan North America) and CSI.

Shaul Friedland, head of MAI's Americas region says, "Throughout this case, MAI has maintained a corporate position and opinion that BASF's claims have been without merit." Mark Boyd, president and CEO of CSI, says: "We are pleased that this matter is finally resolved and are looking forward to servicing additional customers who still had some concerns."

In June 2011, MAI's affiliate CSI launched fipronil-based products under the brand names *Taurus SC* for the professional pest control market, and *Prefurred* for companion animal use. Fipronil is also used for termite prevention and treatment, flea, ant and tick control, and as a broad spectrum insecticide for crop markets in a variety of branded products throughout the world. The active ingredient is used in crop protection mainly for treatment of cotton, potatoes, rice and seed treatment in addition to broad uses for non-crop applications.

BASF'S SOYBEAN HERBICIDE RECEIVES APPROVAL

BASF's soybean herbicide *Zidua* (pyroxasulfone) has received US federal approval. According to the company 10 years of research and field trials have shown that the residual herbicide lasts up to two weeks longer than other herbicides currently on the market. "*Zidua* provides growers with a new class of chemistry and performs well on its own, but it can also be used effectively with *Kixor* (saflufenacil) herbicide technology," said Dr Greg Armel, technical market manager, BASF. "Soybean growers can now combine the fast, effective burndown and enhanced residual control benefits of *Kixor* with the residual activity of *Zidua* for long-lasting weed control."

The herbicide can be tank-mixed with products containing *Kixor* to provide a preplant and preemergence combination that controls resistant weeds with up to three different sites of action. It can also be applied with a range of use rates, allowing soybean growers to select the best rate for their specific needs, based on soil textures in their fields. The product is currently labeled for use in corn and soybeans. Future label expansions are being developed for use in cotton and wheat, and the herbicide is being evaluated for uses in sunflowers, mint, peanuts and other crops.

EPA APPROVES MAKHTESHIM AGAN INSECTICIDE

Skyraider, an insecticide/miticide manufactured by Makhteshim Agan, has received approval by the EPA for broad-spectrum control against soil and foliar insects on soybeans, cotton, potatoes and other crops. The product is an optimised premix formulation of proven crop protection technology and includes two different modes of action. The pyrethroid bifenthrin gives rapid insect knockdown while the formulation's neonicotinoid component, imidacloprid, delivers longer lasting control. *Skyraider* has some unique attributes and performs equal to or better than the market leaders by delivering good control of difficult to manage pests like aphids, *Lygus* species, stink bugs and wireworms. *Skyraider*

provides both translaminar and systemic movement, which allows improved penetration and relocation of the active ingredients throughout the plant, including feeding sites on the underside of leaves.

“With this kind of systemic activity, *Skyraider* has an advantage in controlling foliar insects, including aphids,” said Dave Rummel, Makhteshim Agan North America (MANA) brand leader. “At recommended rates, it also controls mites, which several competitors do not support as part of their insect control. On potatoes, Mr Rummel points out that the *Skyraider* label includes wireworms and Colorado potato beetle.

BASF AND MONSANTO TEAM UP IN CANADA

BASF and Monsanto have teamed up in Canada to promote best stewardship practices for improved weed control and sustainable weed management. Working together with retailers across Eastern Canada, they are offering farmers rebates when *Roundup WeatherMAX* is purchased with *Integrity*, *Eragon*, *Marksman* or *Armezon* herbicides. The companies say these tank-mix partners deliver multiple modes of action to meet the challenge of controlling tough and resistant weeds. “ Using multiple modes of action is a recommended way to improve the control over higher rates of glyphosate alone, and is proven as a way to help delay the development and spread of herbicide resistance,” says Sean Chiki, brand manager for herbicides at BASF Canada. They can also control glyphosate-resistant weeds such as Canada fleabane, common ragweed and giant ragweed.

DUPONT PIONEER INVESTS IN SEED PRODUCTION PLANTS

DuPont Pioneer is to invest \$26.3 million to expand two of its Indiana seed production facilities, creating up to 41 new jobs by 2016 in the Rushville and Tipton, Indiana region. Both expansions, expected to be completed by October, will allow the company to condition and process its *Optimum* and *AcreMax* family of corn seed products. DuPont Pioneer, which currently has 500 full-time employees in Indiana and more than 12,000 worldwide, plans to begin hiring additional production technicians in the autumn. The company produces and supplies hybrid or improved varieties of maize, soybean, sunflower, canola, rice, sorghum, alfalfa, cotton and wheat to farmers in more than 90 countries. As an incentive, the Indiana Economic Development Corporation has offered DuPont Pioneer up to \$265,000 in conditional tax credits and up to \$45,000 in training grants based on the company's job creation plans.

OTHER NEWS AND MARKETS

NUFARM LOSES ROUNDUP

Nufarm Australia has received notice from Monsanto that agreements relating to the exclusive distribution of *Roundup* branded glyphosate in Australia and New Zealand are to be terminated. The company entered into an agreement with Monsanto in 2002 for exclusive use of Monsanto's *Roundup* brand and has launched a number of innovative glyphosate products under that brand, including *Roundup Power Max* and, more recently, *Roundup Attack*. The agreements include a requirement for Nufarm to pay a distribution fee to Monsanto on all Nufarm sales of glyphosate into the Australian and New Zealand markets. Nufarm's managing director, Doug Rathbone, said his company remained committed to the glyphosate segment and will continue to invest in the development of innovative glyphosate formulations under Nufarm's brands. "The glyphosate segment has changed significantly over the past few years, becoming increasingly competitive and generating substantially less value for suppliers into the Australian market. The brand premium attached to *Roundup* has been eroded and we will now focus our ongoing investment in glyphosate on Nufarm's own brands where we can build long term value on a more secure basis and ensure our cost competitiveness."

Nufarm currently has an approximate 50% market share of glyphosate sales in Australia, with some 60% of those sales involving products that are marketed under the *Roundup* brand. Nufarm's *Roundup* branded glyphosate sales in Australia and New Zealand in financial year 2012 were valued at approximately \$100 million. The notice given states that Nufarm may continue to sell *Roundup* branded product in Australia and New Zealand until 28 August 2013. Because Nufarm's cost position will improve after the distribution arrangements have ceased the company does not expect there to be a material impact on its earnings.

SINOCHEM TAKES ON MONSANTO'S GLYPHOSATE FOR AUSTRALIA

The glyphosate contract that Monsanto has removed from Nufarm has been awarded to Sinochem. Monsanto has been building ties with the company since forming a joint venture in hybrid seeds 12 years ago. Sinochem, the state-controlled Chinese chemicals group, already sells *Roundup* in China and the Philippines. The company, which in 2009 launched a failed attempt to buy Nufarm, has built an Australian agrochemicals division largely around former Monsanto staff. Roger Angell, the Sinochem Australia managing director, is a former regional head for Monsanto. Richard Jagger, the Sinochem Australia commercial manager, and Michael Summons, country leader for New Zealand, are also former senior Monsanto staff.

"Sinochem has been an excellent global partner and we believe they will do an outstanding job serving our customers in Australia and New Zealand through this new agreement," said Mike Frank, the head of Monsanto's international row crops and global vegetable business. Monsanto is believed to be seeking a fast track into the Chinese market and Sinochem company's seed technology in China. Relations between the two companies came under particular scrutiny two years ago when the two groups were revealed to be involved in talks over strengthening ties, potentially through equity stakes or a larger joint venture.

GERMAINS COMPLETES FURTHER TRIALS ON SUGAR BEET WITH HARPIN

The sugar beet seed treatment company, Germain's, has been evaluating the use of Harpin $\alpha\beta$ as a sugar beet seed treatment both in the greenhouse and the field since September 2010. These tests have shown that the advantages brought by Harpin $\alpha\beta$ to the performance of sugar beets are sufficient to warrant commencement of large-scale trials in the US during 2013. Registrations to allow these trials are either in place or being prepared for the start of the season. This decision to move to the next stage of testing has triggered a milestone payment to Plant Health Care. John Brady, CEO of Plant Health Care, commented: "This is a very positive development in our relationship with Germain's and gives us further confidence in the potential of our Harpin $\alpha\beta$ protein products. Sugar beet has now been added to the list of important crops which respond favourably to Harpin $\alpha\beta$ seed treatment with soybean and maize, as well as many fruit and vegetable crops."

Paul Mullan, managing director/CEO of Germain's Seed Technology, said: "The opportunity to work with Plant Health Care allows us to further enhance our *XBEET* platform of innovative value added

products. Trials have shown excellent performance improvements in key market areas. Additional trials are planned in 2013 year in order to further validate the benefits for the sugar beet industry and to support registration of the Harpin proteins in global sugar beet markets.”

BAYER AND NATURE SOURCE GENETICS EXPAND COOPERATION

Bayer CropScience and the research company Nature Source Genetics, based in Ithaca, New York, US, have signed an agreement to expand their cooperation. They have entered into a five-year collaboration involving the pre-breeding and enhancement of soybean germplasm. The goal is to create improved seed by making use of innovative technologies to identify and incorporate previously non detectable, naturally occurring genes. The partnership will combine the expertise of Bayer CropScience’s soybean breeders and geneticists with Nature Source Genetics’ technical know-how and the company’s bioanalytical platform to identify and utilise the full range of promising germplasm. The partnership also builds on a successful cotton partnership, which began in 2008.

“The collaboration between Bayer CropScience and Nature Source Genetics marks a significant expansion in the strategic scope of our soybean breeding programme,” said Mike Gilbert, head of Global Breeding and Trait Development at Bayer CropScience. “With this partnership, we now have access to new and valuable sources of genetic diversity in soybeans, which we can incorporate into our already robust breeding programme to further expand and improve the products we offer growers worldwide.”

MONSANTO COMPLETES APPROVALS FOR NEW SOYBEAN TECHNOLOGY

Monsanto has now completed all regulatory approvals in South American markets including Brazil, Argentina, Paraguay and Uruguay for its soybean product *INTACTA RR2 PRO*. The company has also obtained food safety approvals in more than 40 countries and regions including Australia, Canada, Colombia, EU, Japan, Korea, Mexico, New Zealand, Philippines, Taiwan, and the US. This is the first major trait technology product that Monsanto has specifically developed for the South American market. It combines insect control and glyphosate tolerance with increased yield potential. The company is now working towards a commercial introduction of the new technology to local farmers in Brazil, Argentina, Paraguay and Uruguay in the coming seasons. Over the past two seasons, farmers in Brazil have been able to test this next generation soybean technology through what Monsanto called the Ground Breakers programme. In 2012, Monsanto say *INTACTA RR2 PRO* soybeans were planted by 500 Brazilian farmers who tested the products in their fields and compared them with other soybean varieties commonly grown in their region. The company says that fields planted with *INTACTA RR2 PRO* varieties realised a big productivity advantage, when compared with current commercial products.

It is estimated that China purchases approximately 60% of the total soybeans that are traded globally. In addition, approximately 60% of China’s total soybean imports are produced by Brazilian and Argentine farmers. China’s import approval for the new product’s food, feed and processing use is currently pending.

ROUNDUP READY CANOLA ON THE INCREASE IN AUSTRALIA

In just three years, *Roundup Ready* canola harvests have more than doubled and accounted for 11% of the 1.5 million hectares of canola harvested in Australia last season, says Monsanto. Profitable weed control, diminishing premiums for non-GM canola and access to high performing varieties attracted the highest number of growers yet to plant *Roundup Ready* canola. Monsanto Australia managing director, Daniel Kruithoff, said *Roundup Ready* canola is fast becoming a mainstream crop in Australia. “Weeds cost Australian agriculture an estimated \$4 billion each year so it is no surprise that an increasing number of growers are turning to *Roundup Ready* canola for the profitable weed control that it offers.”

GM canola growers also benefited from more favourable market conditions that saw most growers receiving prices within \$10 of those for non-GM canola for their last harvest. “We are expecting an even better season in 2013 on the back of growing momentum in the marketplace towards *Roundup Ready* canola such as China reopening its market to Australian canola after resolving Blackleg import restrictions. China, along with other major markets in Asia, accepts GM canola so *Roundup Ready* canola growers stand to benefit from regaining access to this important market,” Mr Kruithoff said. Recent National Variety Trials (NVT) also revealed that *Roundup Ready* canola varieties are higher

yielding than other herbicide tolerant varieties. NVT data shows it is on average yielding 12% higher than Triazine Tolerant canola and 6% higher than Clearfield over the last three years. The area planted to *Roundup Ready canola* in Australia last year was 176,000 hectares, up from around 140,000 in 2011 and 85,000 in 2010.

STARPHARMA AND MAKHTESHIM AGAN IN PRIOSTAR COLLABORATION

The Makhteshim Agan Group has announced that it will be applying Starpharma's *Priostar* dendrimer technology to novel crop protection formulations across its product range. Dendrimers are a type of synthetic nanoscale polymer that is highly regular in size and structure. The collaboration programme includes the development of new formulations of a number of Makhteshim Agan's active ingredients, including three which each exceeded \$400 million in sales in 2011. Sami Shabtai, head of Innovative Development at the company, said: "Makhteshim Agan strives to offer differentiated solutions to address growers' needs, based on innovation, quality and value. We are actively seeking exciting technologies that can complement our in-house capabilities and market understanding to deliver effective and simple crop protection solutions." David Peters, managing director of Farnoz, Makhteshim Agan's Australian subsidiary, added. "Farnoz looks forward to applying Starpharma's dendrimer technology to complement our effective and reliable Australian portfolio. Australia is an environment with unique challenges for agriculture and innovation is an important component in our strategy for providing the solutions today's Australian growers need."

The benefits of Starpharma's *Priostar* dendrimers to the crop protection industry can include: improved product efficacy; more concentrated formulations; a reduction in solvent loading; and improved bioavailability through increased adhesion. In addition to the collaboration with Makhteshim Agan, Starpharma continues to advance the commercialisation of *Priostar* for crop protection applications through both its own internal research programme and through partnerships with other crop protection companies.

ISAGRO SALES UP 2.8% IN 2012

Isagro's sales revenues increased by 18.7% to €46.7 million in the fourth quarter of 2012. For the full year sales increased by 2.8% to €148.3 million. Earnings before interest, tax, depreciation and amortisation (EBITDA) on sales were up by 111.1% to €10.4 million in the fourth quarter. The full year EBITDA increased by 39.8% to €18.8 million. Isagro indicated that the drought in Europe, especially in Italy, severe drought in the US, a reduction in the area cultivated with cotton in Brazil all affected geographic markets that are of great importance for Isagro. The company depends in particular on the demand for fungicides, a segment that accounts for 65% of the Group's sales, compared with a market average of 26%.

Isagro doubled the revenues from new registrations, from €14 million to €28 million in 2012, mainly by achieving 40 new registrations. However, it suffered a contraction in its core business - copper fungicides in Europe and tetraconazole on cotton in Brazil. The company has started to develop a new soil applied biopesticide for the US market, the commercial launch of which is planned for 2014. Isagro also signed an agreement with FMC for the co-development of a new SDHI fungicide discovered by Isagro's research and has started new projects for the identification of generic products to be developed in mixtures with proprietary products and for direct distribution initially in India. Isagro has also terminated its Joint Discovery Agreement with Chemtura AgroSolutions, which enabled the two companies to co-finance research activities aimed at the discovery of new crop protection products. This will now be carried out independently by Isagro.

The company has also undertaken a critical revision of the various areas of its business with the aim of implementing an effective optimisation policy for its product portfolio. It recently signed a commercial agreement with Syngenta for the supply and marketing of Isagro's biological fungicide *Remedier* in Europe, Africa and the Middle East.

With reference to 2013, the company expects a 'carry-over effect' on sales due to the need to absorb the stocks of copper fungicides in Europe and of tetraconazole in the US. Product was still in distribution channels at the end of 2012. Isagro expects consolidated sales to be around €140 million in 2013. This figure is then expected to reach €170 million in 2014 and €200 million in 2015, as it recovers and the growth in the sales of new registrations gets under way.

MAKHTESHIM AGAN'S REVENUES RISE 5.3%

Makhteshim Agan's 2012 revenues rose to \$2.83 billion from \$2.69 billion in 2011, up 5.3%. Fourth quarter 2012 revenues increased to \$579 million, up 5.5%. The primary contributors to growth in sales were an increases in the volume of products sold and higher selling prices, partially offset by currency effects. In constant currency terms Makhteshim Agan sales grew by 6.5% in the fourth quarter and 7.2% for the full year.

Commenting on the results, Mr Yang Xingqiang, MAI's chairman, said: "2012 was another successful year for the Company with continued growth in all regions, and improvement in all our financial indicators, including EBITDA and operating profit. During the year, the company made progress in implementing its strategic initiatives, including the integration of MAI's and ChemChina's operations, expansion of the company's global marketing activities and the launch of new, differentiated products."

Mr Erez Vigodman, president and CEO of Makhteshim Agan, commented: "This was a year with a host of challenges, including increases in raw material prices, exchange rate fluctuations, and challenging weather conditions in key markets and we achieved impressive financial results." He went on: "We demonstrated significant growth in all of the geographical regions in which we operate, specifically in emerging markets, while strengthening our infrastructure and capabilities in these markets. At the same time, we continued to focus on implementing our strategic and operational change programme. To support this effort, we continued to launch differentiated, value adding, effective solutions to support and cement our market position, as we seek to simplify agriculture everywhere, whilst continuously improving our capabilities in areas such as manufacturing, supply chain, registration, product development, and product portfolio.

"As part of our strategic initiatives we pursued intensive activities designed to strengthen our competitive position worldwide. Our activities are targeted at creating an infrastructure for continuous expansion and profitable growth which includes strengthening our abilities in areas such as R&D, development of differentiated and unique products, advanced IT systems, advanced marketing capabilities, and innovation culture. At the same time we are realising the potential of our merger with ChemChina. We made steady progress in advancing our goal of creating an operational and commercial infrastructure in China that will enable us to step up our presence in the Asia Pacific region, to tap the growth potential in the growing Chinese market and support our global activities. We are confident that our activities will complement and significantly enhance MAI's global leadership position and will enable us to present a unique and differentiated business model in the crop protection industry," concluded Mr Vigodman.

On a geographic basis, the strongest sales increases were in the company's Asia Pacific region which contributed \$497.3 million for the year, a 10% increase from \$451.9 million in 2011. The increase came from increased sales volume (particularly in Australia, India and Thailand) resulting from new product launches and strengthened market initiatives, as well as a rise in selling prices, and despite difficult climactic conditions. Sales in Latin America for fiscal year 2012 amounted to \$642.9 million compared with \$609.3 million in 2011, a 5.5% increase. North American sales for 2012 rose to \$497.5 million from \$478.4 million for 2011, an increase of 4%. European sales for 2012 were \$1,092.4 million compared to \$1,049.3 million for 2011, an increase of 4.1%.

EBITDA for 2012 was \$429.8 million (15.2% of sales) compared to \$372.8 million (13.8% of sales) for 2011, an increase of 15.3%. EBITDA for the fourth quarter of 2012 was \$41.1 million (7.1% of sales) compared to \$26.6 million (4.8% of sales) for the comparable period in 2011.

During 2012, progress was made in the analysis and design of the operational and commercial potential within China for MAI. This process included investigation of assets and opportunities in China which would best serve MAI's strategic intent to create a substantial business platform in China. The company also created and filled two new executive positions, Ignacio Dominguez as chief commercial officer and Jean-Marc Dardier, head of global marketing. The new positions are intended to strengthen MAI's market and customer focus by better harnessing its global marketing strengths and executing its market strategies.

CONFERENCES AND FEATURES

UK MINISTER STEPS UP COMMITMENT TO AGRICULTURE

David Willetts MP, the Minister of State for Universities & Science, recently presented an outline of the UK government's 'Agri-Tech Strategy' which is in development. His presentation, in London, was to attendees of the All-Party Parliamentary Group on Science and Technology in Agriculture which on this occasion was open to the public. Around 70 people were present.

Mr Willetts reported that the current coalition government is showing a renewed interest in agriculture, and recognises that even in times of financial constraints the coalition accepts the urgent need to modernise and strengthen UK agriculture and food production. The Agri-Tech Strategy is attempting to put science at the heart of the agricultural policy with the goal being 'sustainable intensification' derived from innovation and research.

Over the years, and influenced by the creation of agricultural surpluses from a now outmoded Common Agricultural Policy, much of the infrastructure associated with agricultural R&D in the UK had been dismantled. Furthermore many of the links between agriculture and the food industry had been lost. Mr Willetts reported that Ministers now accepted that the process had gone too far and were keen to re-establish and renew these linkages. The improved integration would give the UK greater ability to produce good quality food at affordable prices.

There are four main threads to the proposed strategy.

1. The development of seven 'catapult' centres for funding by both government and industry in order to push money out to decentralised opportunities. This is intended to speed up the decision process for development funding and avoid every project having to be agreed by a London based Government department.
2. To use catalyst funds to initiate new innovative developments (based upon the successful model used in medical research work). The government recognised that in the past failures occurred where new projects had been pushed ahead before they were ready for commercialisation. Bioscience research funding now amounted to around £180 million with further support for the UK Technology Strategy Boards.
3. Better skills training for appropriately trained scientists. Although the UK compared favourably with its EU counterparts in terms of numbers trained, close inspection showed that the resource allocated per student was now low compared with that in other member states. What had been lost was hands-on experience.
4. In an environment where overall R&D funding from government would be reduced, quality relationships between science and industry would need to be encouraged. Mr Willetts also welcomed increased involvement from the business community in developing the R&D strategy.

Other observations made during the presentation were that the application of agricultural R&D should be looked upon as an equivalent endeavour to that applied to other high tech industries such as computers and IT.

Mr Willetts observed that the standing of the UK was world class in the sciences relating to the understanding of plant based DNA and how plant genomes could be exploited to the benefit of agriculture. He expressed a personal view that GM technology is a crucial component capable of bringing about improvement in both agricultural production and sustainability.

In transferring scientific developments to less developed countries Mr Willetts considered it important that the countries followed a technically led path and did not pursue an emotional and romantic view of farming. In this respect he was not a supporter of the 'export' of organic production methods. The attendees were left with greater encouragement that agriculture is seen by government to be an important contributor to the success of the UK.

THE FUTURE OF AGRICULTURE

The 6th Forum for the Future of Agriculture (FFA) took place in Brussels on 5 March. It was organised by Syngenta in partnership with the European Landowners' Organisation (ELO).

This event focused on the challenges of sustainable intensification of food production. Much of the discussions also touched on the forthcoming reform of the EU Common Agriculture Policy (CAP). John Atkin, COO of Syngenta, joined a panel discussion on the CAP and the food value chain, where he commented on the upcoming reform. He said: "Over €360 billion will be spent on the new CAP, but it has to be more than farm subsidies if it's going to lead to the sustainable intensification of agriculture, and provide value for Europe's taxpayer."

Mr Atkin highlighted that the CAP must also be part of a legislative framework that supports innovation in agriculture: "The EU's track record on this is poor: an increasingly conservative approach is resulting in unnecessary restrictions on some technologies needed by farmers to be productive, competitive, and sustainable in the global market. The new CAP must also incentivise farmers to adopt solutions – such as the pollen-rich flowering field margins of Operation Pollinator, which provide habitat and nutrition essential to the survival of bees."

In a session on agricultural development in Africa, the delegates were in agreement that to realise the great potential and to tackle malnutrition and poverty, growers need access to modern inputs, infrastructure and markets as well as motivating pricing policies. Akinwumi Adesina, Minister for Agriculture and Rural Development in Nigeria, also emphasised the importance of modernising African agriculture to make it more attractive for young people. Syngenta intends to play a leading role in supporting agricultural transformation on the continent, which is reflected by its commitment to build a \$1 billion business in Africa over the next 10 years.

Other major topics of debate were food waste, bio-based economy, and sustainable intensification and resource efficiency. To increase production on existing land while preserving ecosystems and biodiversity, the FFA delegates called for new forms of public-private partnerships generating practical solutions that are easy to adopt on farms across Europe.

CROPWORLD GLOBAL 2013

UBM Live the organisers of CropWorld Global 2013 say the annual agricultural industry event will in future focus exclusively on helping the industry to innovate.

Terri D'Elia, exhibition director at CropWorld Global (www.cropworld-global.com), said: "After speaking with the global agricultural industry we are using CropWorld 2013 to launch our 'planting the seeds of innovation' campaign. Essentially, we are now acting as a central hub around which industry, government and related companies can meet, share knowledge and contacts in order to propagate the spread of beneficial innovations.

UBM say that the new approach better reflects macroeconomic factors and follows the commissioning of extensive research and the results of recommendations taken from the leaders of the world's largest crop producers and influential bodies such as Bayer Crop Sciences, DuPont Crop Protection, Unilever, Lindsay Irrigation and the Food and Environment Research Agency. The independently commissioned research indicated that leading companies in the crop production market are refocusing business objectives towards innovation in crop science, water management and the supply chain so that the industry is better able to address the challenges of sustainable food supply both now and in the future.

In response, the 2013 two-day event (including exhibition and forum) hopes to draw in thousands of executives who it says will come together to discuss how companies can utilise new approaches to achieve the industry's most pressing goals, including: 'decreasing the yield gap', 'increasing supply', 'developing sustainable crops', 'reducing water and waste issues', and implementing a 'responsible supply chain'. The event will combine plenary sessions, panel discussions and case studies, and will involve an international line-up of speakers who, it says, will delve into political, commercial and technical topics ranging from the impact of regulatory changes to assessing modern plant breeding and soil management techniques.

The event will take place in the Netherlands, the world's second largest agricultural exporter, between the 29th and 30th of October at the Amsterdam RAI. Four vertical-specific, modular conferences will take place over two-days examining the regulatory and industry implications across 'water and irrigation', 'crop science', 'supply chain', and 'R&D'.

REGISTRATION OF AGROCHEMICALS IN EUROPE

Informa Life Sciences is holding its annual Registration of Agrochemicals in Europe conference at the Hotel Le Plaza Brussels, Brussels, from 16-17 April 2013. The conference will cover critical guidance from the EU Commission on the implementation of Regulation 1107/2009, product renewal, article 43 and the future outlook. Highlights include the latest scientific opinion from EFSA detailing recent developments and future plans, presentations from member states on the zonal authorisation procedure, a detailed understanding of the product renewal/re-registration process, with timelines and information on how to prepare a submission for renewal, endocrine disruptors – a final definition and the impact for EU agriculture, and details of the new data requirements and guidance documents. Crop Protection Monthly will report on the conference in its April issue. For more information go to: <http://www.informa-ls.com/CQ8136CPM>.

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Website: www.crop-protection-monthly.co.uk

Editor: Martin Redbond E-mail: mredbond@aol.com

Deputy Editor: Bruce Knight E-mail: innovationmanagement@btopenworld.com

Contributors: Elaine Warrell

Editorial and Subscription Enquiries to:

Crop Protection Monthly

Blacksmiths Cottage

Ashbocking Road

Henley,

Ipswich,

Suffolk

IP6 0QX

UK

Tel: +44 (0) 1473 831645

E-mail: Cpmsubs@aol.com