

Dow AgroSciences wins US 'Green Chemistry' award

The 2008 Presidential Green Chemistry Challenge Award has been presented to Dow AgroSciences for its novel insect control technology, spinetoram. Promoting green chemistry principles, spinetoram is made through a combination of natural fermentation and synthetic chemistry. It offers the favourable environmental profile usually linked with biological products and the effectiveness of synthetic technologies. Spinetoram is the latest in Dow's spinosyn family, particularly formulated for use in vegetables, fruits, tree fruits and tree nuts. The insecticide is distributed under the global brands Delegate WG and Radiant SC, and in certain countries under Exalt and Ensure. Spinetoram is currently approved in Canada, Korea, Malaysia, Mexico, New Zealand, Pakistan and the USA. **CBNB**

Crop protection R&D

Bayer CropScience is aiming to launch 10 new crop protection active ingredients in 2008-2010. These ingredients will have a consolidated peak sales potential of over \$1.3 billion. The company also hopes to post \$2.6 billion in sales with active ingredients introduced since 2000 by 2011. Bayer's R&D activities include enhancements or new applications for existing products as well as development of new products. **CBNB**

Brazil boosts funds to promote exports

A R\$78 billion (\$49 billion) funding package has been unveiled by Brazil's President Luis Inacio Lula Silva to promote the country's agricultural exports and ease the global food crisis. Of the total, large-scale farming operations would receive R\$65 billion (\$39 billion), and family farms would get R\$13 billion. The package is 12% more than the 2007 harvest expenditure and is forecast to raise production by 5% over the 2007-2008 level. Brazil is a major global exporter of orange juice, coffee, sugar, chicken and beef, and the second after the USA in soya exports. In July 2008, Brazil levied multimillion-dollar fines against 24 ethanol makers for environmental offences in the country's Atlantic rainforest. **CBNB**

Crop protection blooms

Demand for crop protection products is anticipated to grow in the wake of the

increasing gap between agricultural productivity and population growth. Bayer CropScience pegs the worldwide market growth at a currency adjusted 10% for 2008, with the positive growth to continue into 2009-2010. The growth rates that were registered in 1H 2008 demonstrated this growth potential. Syngenta saw its 1H 2008 crop protection sales increase by 21% to \$5.55 billion. Positive growth has been seen across all product ranges and across geographic regions, with the highest growth posted in emerging markets, where sales rose 37%. Bayer CropScience saw its 1H 2008 sales rise at a currency and portfolio effect adjusted rate of 17-23% to \$3.15 billion, with the fungicides portfolio posting a 39% growth. A 21% sales increase to 2.1 billion for the period was posted by BASF in its agricultural solutions business. **CBNB**

FAO predicts record cereal harvest

The United Nations' Food and Agriculture Organisation (FAO) said in the latest issue of 'Food Outlook' that world cereal production in 2008/09 is expected to increase by 5.3%, reaching 2.24 billion tons. High prices tempted farmers to increase plantings and favourable weather means that world cereal production is expected to hit a new record high. However, FAO cautioned that farmers from developing countries burdened by rising cost of agricultural inputs might be unable to keep up with the production next year. FAO noted that most of the recovery in cereal production took place in developed countries, where farmers were in a better position to respond to high prices. Farmers in developing countries, on the other hand, were limited in their capacity to respond to high prices by supply side constraints on their agricultural sectors. The report says that world agriculture is facing serious long-term issues and challenges that need to be urgently addressed. These include land and water constraints, low investments in rural infrastructure and agricultural research, expensive agricultural inputs relative to farm-gate prices, and little adaptation to climate change. (For more information: <http://www.fao.org/news/story/en/item/8271/icode/> The Food Outlook report is available at: <http://www.fao.org/docrep/011/ai474e/ai474e00.htm>)

Hunger still a serious problem

The Global Hunger Index (GHI) in 2008 shows that hunger is still a serious

concern in the world and countries have made slow progress in reducing food security. The countries with the highest GHI scores are mostly in Sub-Saharan Africa and South Asia. Countries in the bottom list include the Democratic Republic of Congo, Eritrea, Burundi, Niger and Sierra Leone. These were some of the findings in "The Challenge of Hunger 2008: Global Hunger Index" published by Welthungerhilfe, the International Food Policy Research Institute (IFPRI), and Concern Worldwide. The report concludes that solving the food crisis will require several initiatives such as more food aid for poor people, greater investments in agriculture, and measures to calm the global food markets. (For more information: <http://www.ifpri.org/pubs/cp/GHI08.asp#es>)

Strong in-season activity has heightened 2008 season's crop protection market

New herbicides, insecticides and fungicides are helping US farmers generate better yield in the 2008 season. FMC Corp launched its Cadet herbicide (fluthiacet-methyl) in April 2008 and was awarded the exclusive marketing rights for the product in the corn and soybean markets in the USA. Bayer CropScience's Ignite 280 SL herbicide (glufosinate-ammonium) is designed for LibertyLink crops applications. The EPA-approved product, which controls over 120 broadleaf weeds and grasses such as acetolactate synthase inhibitor- (ALS) and glyphosate-resistant weeds, will be available in 2009. Valent USA Corp's Valor (flumioxazin) herbicide, already used in soybeans and cotton will have corn as a new application. Other products include BASF's Status herbicide (diflufenzopyr plus dicamba), Valent's Select Max herbicide (clethodim), FMC's Hero insecticide (bifenthrin plus zeta-cypermethrin), Makhteshim Agan of North America (MANA)'s Alias 4F insecticide (imidacloprid), Bayer's Trilex 6000 Soybean System (trifloxystrobin), Syngenta's Warrior II with Zeon Technology (lambda-cyhalothrin) and Endigo (lambda-cyhalothrin plus thiamethoxam) insecticides, DuPont's Cyazypyr insecticide, Syngenta's Alto (cyproconazole) and Quadris Xtra (azoxystrobin) fungicides, Bayer's Proline 480 SC fungicide (prothioconazole), BASF's F 500 fungicide, and Bayer CropScience's Vortex corn fungicide (ipconazole). **CBNB**

Avermectin production in China

In China, the banning of several highly toxic pesticides has resulted in increased demand for and rising prices of biological pesticides, including avermectins. Various avermectin-based formulations have been produced for use as insecticides in veterinary applications, agriculture and domestic applications. China's avermectins capacity is over 800 tonne/y and sales are over RMB Yuan 1 billion/y. China's largest avermectins producer is Hebei Veyong Bio-Chemical Co Ltd (300 tonne/y), which is planning to expand production by 200 tonne/y with the construction of a new plant in Inner Mongolia. Over the last decade or so, up to 40% of China's avermectins production has been destined for export markets. Patent expirations in 2006 resulted in increased production and sales. Growing worldwide demand for avermectins has led to supply shortages and rising prices (currently RMB Yuan 2300/kg, up from RMB Yuan 900/kg in March 2007). Challenges facing the industry include rising production costs; incorrect use of biological pesticides by farmers which adversely affect their efficacy; and increasing resistance to these pesticides from the target insects. **CBNB**

Chinese pesticide manufacture

During 1H 2008, 1.01 M tonnes of pesticides were manufactured in China, 20.8% more than for 1H 2007. Of this, 351,000 tonnes were insecticides (+7%), 113,000 tonnes were fungicides (+94.8%) and 341,000 tonnes were herbicides (+26.6%). Exports amounted to 86,000 tonnes of insecticides (+21.4%), 33,000 tonnes of fungicides (+25.3%) and 158,000 tonnes of herbicides (+13.3%). Imports totalled 4000 tonnes of insecticides (-0.6%), 7000 tonnes of fungicides (+4.8%) and 13,000 tonnes of herbicides (+12.0%). Sales rose to RMB Yuan 62.5 billion (+46.8%) and exports increased to 288,000 tonnes (+16.4%). There are currently some 2500 pesticide producers in China and 1H 2008 results for the firms are variable. Companies that produce glyphosate benefitted from significant price increases. However, other companies that produce more toxic pesticides that have been phased out by the Chinese government have reported poor results or losses unless they prepared for the phase out by diversifying. **CBNB**

Biorationals

Biopesticides could be an attractive option for retailers seeking to minimize levels of agrochemicals on their produce

Biopesticides, produced by or existing as natural or living species, could be a possible alternative to traditional pesticides as concerns about the safety of pesticide residues on fruit and vegetables are mounting. US firm BCC research forecast that biopesticides will account for 4.2% of the US pesticides market in 2010 from 2.5% in 2006. Sales of biopesticides worldwide are expected to total \$1 billion by 2010. The global chemical pesticides market is also forecast to drop 1.5%/y in 2010 from \$26 billion in 2008. Meanwhile, CPL Business Consultants calculates that sales of the biopesticide bacterium *Bacillus thuringiensis* (Bt) in the EU accounted for 62.3% of the \$43 M microbial biopesticide market in 2005. The market is projected to grow to \$200 M by 2015. Other biopesticides include UK firm Exosect's Entostat powder sticks, Marrone Organic Innovations (MOI)'s *Reynoutaria sachilimensis* extract, and Agraquest's new plant active from American wormseed or *Chenopodium ambrosioides*. Agraquest's biopesticide was registered with the US Environmental Protection Agency (EPA) early in 2008 for use as both insecticide and acaricide in ornamental plants. **CBNB**

First pesticides based on lactic acid bacteria created

Researchers from the Kyoto Prefectural Institute of Agricultural Biotechnology, Kyoto Prefectural University and Meiji Seika have developed the world's first lactic acid bacteria-based pesticides. The pesticide will be used in the cultivation of Chinese cabbage and spinach. The researchers picked the lactic acid bacteria for their effectiveness in controlling pests in those vegetables. Technologies for the cheap and high-yield cultivation of the bacteria along with the formulation of the lactic acid bacteria-based pesticides have been developed by the researchers.

Control of clubroot by fungus

Trichoderma koningii has been shown to control clubroot (caused by *Plasmodiophora brassicae*) in brassicae, workers in the Philippines have

demonstrated. The application of *Trichoderma koningii* strain cultured in rice hull substrate significantly suppressed clubroot disease severity of cabbage by 72.2% when applied as a basal treatment three weeks before planting at a rate of one tablespoon per planting hole. In terms of yield, the application of *T. koningii* produced heavier weights of cabbage. On-farm trials conducted in severely clubroot-infested farms showed that treatment with *T. koningii* strain cultured in rice hull substrate significantly suppressed the clubroot disease severity by 54 to 56%.

Insecticides

Termilone for termite control in Australia

BioProspect Ltd announced positive results on the final mammalian toxicity test of acute inhalation for Termilone, a natural compound being formulated for applications in termite treatment. This ends a two-year programme to validate the substance's benign toxicity profile and facilitates the registration of the active ingredient eremophilone with the Australian Pesticides and Veterinary Medicines Authority (APVMA). Eremophilone is a terpenoid natural product derived from eremophila oil. The company expects approval of the ingredient's registration within 12-18 months. Commercial uses of Termilone will include barrier treatments, timber treatments and contact sprays. **CBNB**

Seed treatments

Seed treatments

Chemtura introduced Enhance AW, a broad-spectrum dry seed treatment product containing carboxin and imidacloprid for soybeans, dry beans and cereal crops. It is said to provide preventive protection against seedborne fungi as well as early season insects like aphids and wireworms. Monsanto will launch its new seed treatment product Acceleron on the Roundup Ready 2 Yield soybeans in time for the 2009 season. It boasts of new seed performance technologies intended to improve the firm's genetic and trait technologies. **CBNB**

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