# MONSANTO

**CORPORATE WATCH BIOTECH BRIEFINGS 2003**

**This briefing aims to give campaigners (primarily in the UK) an insight into Monsanto, who they are, what they do and how they operate.**

## 1. Summary

Monsanto is a US based agricultural company. Its key business areas are agrochemicals, seeds and traits (including GM crops) and GM bovine growth hormones. Until the late 1990s Monsanto was a much larger 'lifesciences' company whose business covered chemicals, polymers, food additives and pharmaceuticals as well as agricultural products. All of these other business areas have now been demerged or sold off. Historically Monsanto has been involved with the production of PCBs[1], dioxins and the defoliant/chemical weapon 'Agent Orange'.[2]

In 2002 Monsanto had sales of $4,673 million.[3] Based on 2001 figures Monsanto is the second biggest seed company in the world and the third biggest agrochemical company.[4] Monsanto has the largest share of the global GM crops market. In 2001 its crops accounted for 91% of the total area of GM crops planted worldwide.[5] Monsanto's principle sales of GM crops are in US, Canada and Argentina, with several other countries including India and South Africa providing smaller sales. Monsanto are currently pushing for the commercialisation of GM wheat in the US and Canada. All is not going well for Monsanto, its share price plummeted in the second half of 2002 following its sell off by former parent company Pharmacia[6] and this was compounded by the departure of its CEO at the end of 2002.[7] In 2002 Monsanto entered into an important agreement with DuPont. As a result of this agreement both companies agreed to drop a number of outstanding patent disputes and to share their patented GM crops technologies. Some commentators see this 'agreement' as constituting a merger by stealth of the two companies GM crops businesses.[8]

Monsanto is one of the big three companies looking to commercialise GM crops in the UK in the near future. Monsanto has a relatively small stake in the commercialisation of the first round of GM crops in the UK. It has two varieties of GM sugar beet, developed in conjunction with Syngenta, which are awaiting approval for the UK national seed list.[9] Monsanto has conducted field trials of GM crops in the UK since the mid 1990s[10] and its crops were used in the farm scale trials. Monsanto attracted much of the initial public outrage against GM crops in the UK, and has therefore kept a low public profile over recent years.

GM crops are vital to Monsanto's future and it has a strong interest in seeing them grown in the UK and Europe. It is heavily involved with a number of industry joint initiatives such as SCIMAC, ABC and CropGen (see over view briefing for more information about these organisations) designed to influence both the public and government on the issue of GM crops. Monsanto is helping to flood Europe with new GM applications,[11] putting pressure on the EU to drop the de facto moratorium on new GM crop varieties.

In 1998 Monsanto bought Plant Breeding International Cambridge a major UK based cereals and potato breeder.

1 Rachel's Environment & Health News #144 - Thanks to Monsanto. August 29, 1989 available online at www.rachel.org/bulletin/pdf/Rachels_Environment_News_994.pdf (viewed 08/07/03)
2 Warwick, H., 'Agent Orange: The Poisoning of Vietnam' The Ecologist, Vol. 28, No 5, September/October 1998 available online at www.argonet.co.uk/users/john.rose/orange.html (viewed 08/06/03)
3 'Monsanto Company reports fourth quarter and full year 2002 results' available online at www.monsanto.com/monsanto/layout/media/03/02-05-03.asp (viewed 08/06/03)
4 based on table 4, page 11 of 'GM Crops-going against the grain' Action Aid, May 2003 available online at www.actionaid.org/resources/pdfs/gatg.pdf (viewed 07/06/03)
5 ETC Group briefing 'Ag Biotech Countdown: Vital Statistics and GM Crops, Update'—June, 2002 available online at www.etcgroup.org/documents/biotech_countdown_2002.pdf (viewed 08/06/03)
6 'Troubled Monsanto scales down GM hopes in Europe' David Teather, The Guardian, 20/08/02 available online at www.guardian.co.uk/gmdebate/Story/0,2763,777538,00.html (viewed 08/06/03)
7 'Monsanto President Verfaillie Resigns', Jim Slater AP available online at http://ngin.tripod.com/191202a.htm (viewed 08/06/03)
8 see 'DuPont and Monsanto "Living in Sinergy"-the five Gene Giants are becoming four' ETC Group news release 09/04/02 available online at www.etcgroup.org/documents/nr2002apr9.pdf (viewed 07/06/03)
9 DEFRA 'National Lists of Varieties Public Register for GM Sugar Beet' web page applications 45/774 and 45/813 available online at www.defra.gov.uk/planth/pvs/pubreg/preg07.htm (viewed 07/06/03)
10 DEFRA'Index of public register entries for applications to release GMOs for any other purpose than marketing under Directive 90/220/EEC' web page available online at www.defra.gov.uk/environment/gm/exper.htm (viewed 07/06/03)
11 'European GMO deliberate release and novel foods legislation: Consents and pending applications, including UK opinions' available online at they do and how they operate. www.defra.gov.uk/environment/gm/pdf/euconsent.pdf (viewed 07/06/03)

# Monsanto

# 2. Company Structure and History

## History

Monsanto has been by far the most prominent corporation promoting the introduction of biotechnology in agriculture, and it is the world leader in this field. Monsanto was the first major agrochemical and pharmaceutical company to pursue the 'life sciences' concept. During the 1990s it shed many of its chemical concerns and embarked on a spending spree investing heavily in biotechnology research, acquiring seed companies worldwide.

In the late 1990s Monsanto was the first company to widely market first generation GM crops. This was accompanied by an aggressive public relations campaign aimed at persuading a concerned public that GM crops were a safe and desirable innovation. The campaign backfired, resulting in Monsanto becoming the primary focus of a rapidly growing global resistance to GM crops - to a large extent drawing attention away from the likes of Bayer CropScience (formerly AgrEvo and Aventis CropScience) and Syngenta (Novartis/AstraZeneca) who were quietly getting on with introducing similar products.

By late 1998 a combination of Monsanto's status as an international bogeyman, and a need for returns on its extensive investments resulted in a loss in market confidence in the company and its share price plummeted. Stability was regained through a merger with pharmaceutical giant Pharmacia/UpJohn in April 2000. As a result of this merger the combined company, known as Pharmacia, took over Monsanto's pharmaceutical wing Searle. The infamous agrochemical and biotechnology division, still known as Monsanto, was spun off as a nominally separate company with Pharmacia originally retaining an 85% share. Monsanto Company became completely separate and independent from Pharmacia on August 13, 2002, when Pharmacia distributed its remaining Monsanto shares to Pharmacia's stockholders.[12] Also in 2002, Monsanto and DuPont reached an agreement to drop a raft of lawsuits against one another and to share patented crop biotechnology traits. This move may be seen as a pseudo-merger for companies which are too large to be permitted to merge.[13] Monsanto as it now stands is a smaller company than that which first gained public notoriety in the mid-1990s. In 1996 its sales were $6,348m[14], rising to $8,648 in 1998, [15] but dropping to $5,462m in 2001. [16]

In the UK, Monsanto purchased the seed company Plant Breeding International (PBI) Cambridge in 1998[17], which it then merged with its existing UK agri-chemicals and GM research businesses to form Monsanto UK Ltd. Monsanto UK has carried out field trials of glyphosate-tolerant sugar/fodder beet, glyphosate-tolerant oilseed rape, and glyphosate-tolerant and male sterility/fertility restorer oilseed rape.[18]

## Structure

Monsanto's business is run in two parts: Agricultural Productivity, and Seeds and Genomics. The Agricultural Productivity segment includes Roundup herbicide and other agri-chemicals, and the Animal Agriculture business. The Seeds and Genomics segment consists of seed companies and related biotechnology traits, and a technology platform based on plant genomics.[19] In reality of course these two segments are inseparable, since the agri-chemicals are becoming increasingly dependent on the seeds segment for sales.

### Involvement with GM crops

Monsanto's involvement in GM crops began in the early 1980's.[20] The focus of its work has been the development of herbicide tolerant crops (RoundUp Ready crops tolerant of Monsanto's own glyphosate herbicide) and insect resistant crops (Bollgard, Newleaf and Yieldgard crops). Monsanto's GM crops were first grown commercially in the US in 1995.[21] These traits have been engineered into commodity crops such as soya, maize, oilseed rape and cotton.

# 3. Current Situation with GM crops

## 3.1 Global

Monsanto is a world leader in GM crops. Its products accounted for over 90% of GM crops grown worldwide in 2002.[22] Its current biotechnology products include herbicide-tolerant and insect-protected crops such as YieldGard maize, Roundup Ready maize, Roundup Ready soybeans, Bollgard cotton, Roundup Ready cotton, and Roundup Ready oilseed rape (canola).[23] Its GM crops are grown principally in the US (soya, maize,cotton, canola), Argentina (soya) and Canada (canola, maize).

12 Monsanto timeline web page available online at www.monsanto.com/monsanto/layout/about_us/timeline/timeline6.asp. (viewed 30/06/03)
13 see 'DuPont and Monsanto "Living in Sinergy"-the five Gene Giants are becoming four' ETC Group news release 09/04/02 available online at www.etcgroup.org/documents/nr2002apr9.pdf (viewed 07/06/03)
14 Monsanto Annual Report 1998, page 2
15 Monsanto Annual Report 1998, page 2
16 Monsanto 2001 Annual Report, available online at http://media.corporate-ir.net/media_files/NYS/MON/reports/2001-Monsanto_Annual_Report.pdf (viewed 30/06/03)
17 Monsanto timeline web page available online at www.monsanto.com/monsanto/layout/about_us/timeline/timeline6.asp (viewed 30/06/03)
18 www.genewatch.org (viewed 30/06/03)
19 Monsanto web site available online at www.monsanto.com/monsanto/layout/about_us/default.asp (viewed 31/10/02)
20 Monsanto time line web page available online at www.monsanto.com/monsanto/layout/about_us/timeline/timeline5.asp (viewed 01/07/03)
21 Monsanto time line web page available online at www.monsanto.com/monsanto/layout/about_us/timeline/timeline6.asp (viewed 01/07/03)
22 ETC Group briefing 'Ag Biotech Countdown: Vital Statistics and GM Crops, Update'—June, 2002 available online at www.etcgroup.org/documents/biotech_countdown_2002.pdf (viewed 08/06/03)
23 Monsanto web site available online at www.monsanto.com/monsanto/layout/sci_tech/default.asp (viewed 01/07/03)

For a list of Monsanto's commercialized GM varieties worldwide, see http://www.genewatch.org/GeneSrch/Companies/Monsanto.htm

According to the International Service for the Acquisition of Agri-biotech Applications (an industry body), in 2002 global biotech acreage reached 145 million acres.[24] Over 90 per cent of these are crops carrying Monsanto traits. Closer inspection reveals that 99 per cent of these crops are being grown in just four countries however (see overview), and that expansion into new countries is not taking place very rapidly.

There has been some good news for Monsanto during the last two years though:

- India gave its approval in mid-2002 for the growing of insect-resistant cotton.[25] However, results from the first harvest were not good, with farmers complaining of lower yields and insect attacks.[26]
- According to the ISAAA, Honduras and Columbia grew GM crops for the first time in 2002.[27]
- In Australia both RoundUp Ready and insect resistant cotton have been commercialized[28]
- In 2001, South African officials approved the commercial use of Roundup Ready soybeans, allowing the domestic production of the country's first commercial biotech food crop. Other non-food crops which had already been approved were insect-protected maize used for animal feed, Roundup Ready cotton and Bollgard cotton.[29]
- Officials in Indonesia approved Bollgard insect-resistant cotton for commercial planting in 2001.[30]
- In the Philippines, the government approved YieldGard Corn Borer insect resistant maize for commercial growing in December 2002.[31]

## 3.2 UK

**UK field trials**

In the UK Monsanto have conducted field trials of sugar and fodder beet, maize and oilseed rape, all of which haave been modified for herbicide tolerance (RoundUp Ready).[32] A number of other companies including Advanta (Sharpes International Seeds), Bayer CropScience (AgrEvo), Danisco, Maribo, Nickerson, Pioneer Genetique and Syngenta (Novartis/Hilleshog) have conducted field trials using Monsanto's RoundUp Ready technology, as have research institutes IACR Brooms Barn and Imperial College London.[33]

Monsanto's plans in the UK have been dramatically scaled down during recent years. Of 17 Monsanto-related products submitted for National Seed Listing trials in the UK, only two are current (see section on #77 sugar beet) below, and have completed their NSL trials, and the rest have been withdrawn.[34] Monsanto-related products are not just those for which Monsanto is the applicant for field-testing or for National Seed Listing, but also those applied for by other companies using Monsanto's technology in their products. The withdrawn products were fodder beet, spring oilseed rape and winter oilseed rape.

**Commercialisation of GM crops in the UK**

Crops with the potential for commercial growing:

- Monsanto/Syngenta RoundUp tolerant sugar beet line #77 (a.k.a. T9100152)

Monsanto and Syngenta have been working in conjunction on GM herbicide tolerant (RoundUp Ready) sugar beet based on a transformation known as #77 or Event T9100152. #77 varieties have been trialed for inclusion on the UK National Seed List, and as part of the government sponsored farm scale trial program. Monsanto/Syngenta currently have two #77 sugar beet varieties known as Pacific and Sturgeon that have completed national seed listing trials.[35] In early February 2003, Syngenta and Monsanto made a joint application for EU-wide marketing consent for all GM sugar beet varieties based on #77/Event T9100152.[36] If the application is successful Monsanto/Syngenta will have removed one of the final obstacles that stands between it and the commercial growing of its first GM crop in the UK. In spring 2003 Syngenta planted a number of research and development trials of #77 sugar beet varieties, which further underlies its intention to commercilaise this crop line. In March 2003, a spokesperson for Syngenta Seeds said that its GM herbicide tollerant sugar beet was unlikely to be available to farmers until 2008 at the earliest. The next few years will be used to develop new varieties based on the #77 event.[37]

24 ISAAA press release, 17/01/03: "Biotech Crops Continue Rapid Global Growth: New report documents nearly 6 million farmers chose biotech last year" available online at www.isaaa.org (viewed 01/07/03)
25 'India to start growing pest-resistant cotton', Kunal Bose, 09/05/02, Finacial Times.
26 'Bt Cotton Fraud Proved', Forum for Biotechnology and Food Security/ AgBioIndia Mailing List 10/12/02 available online at http://ngin.tripod.com/101202a.htm (viewed 01/07/03)
27 'Biotech Crops Continue Rapid Global Growth: New report documents nearly 6 million farmers chose biotech last year' ISAAA press release, 17/01/03 available online at www.isaaa.org (viewed 01/07/03)
28 Monsanto press releases available online at www.monsanto.com/monsanto/layout/media/01/05-03-01.asp and www.monsanto.com/monsanto/layout/media/02/03-27-02a.asp (viewed 01/07/03)
29 Monsanto press release available online at www.monsanto.com/monsanto/layout/media/01/12-20-01.asp (viewed 01/07/03)
30 Monsanto press release available online at www.monsanto.com/monsanto/layout/media/02/02-11-02.asp (viewed 01/07/03)
31 Monsanto press release available online at www.monsanto.com/monsanto/layout/media/02/12-05-02.asp (viewed 01/07/03)
32 EU Joint research Council data base available online at http://biotech.jrc.it/deliberate/GB.asp (viewed 09/07/03)
33 EU Joint research Council data base available online at http://biotech.jrc.it/deliberate/GB.asp (viewed 09/07/03)
34 DEFRA Plant Varieties and Seeds Section, Public Register - National Lists of Varieties (GM) available online at www.defra.gov.uk/planth/pvs/pubreg/preg01.htm (viewed 26/06/03)
35 DEFRA Plant Varieties and Seeds Section, Public Register - National Lists of Varieties (GM) available online at www.defra.gov.uk/planth/pvs/pubreg/preg07.htm (viewed 26/06/03)
36 information available online at http://gmoinfo.jrc.it/csnifs/C-BE-99-01.pdf (viewed 26/06/03)
37 'GM crops in performance worry' by Tom Allen-Stevens Farmers Weekly, UK, 21/03/03 available online at www.gene.ch/genet/2003/Mar/msg00076.html (viewed 24/06/03)

- A5/15 fodder beet

Monsanto has developed A5/15 GM herbicide tolerant (RoundUp Ready) fodder beet in conjunction with two other companies. Monsanto own the RoundUp Ready trait, DLF Trifolium A/S developed line A5/15 and Danisco Seed are the plant breeder, seed producer and are in charge of seed processing and pelleting.[38] A5/15 has been grown as part of the UK farm scale trials.[39] There are currently no A5/15 varieties with applications open for UK national seed listing. Monsanto along with Danisco and DLF Trifolium, has applied for European Union Part C consent to cultivate this line. It would still need either National Seed Listing or European Common Catalogue listing to be sold commercially to farmers in the UK.[40]

Other Monsanto crops:

- Oilseed Rape line GT73 (a.k.a RT73)

The technology for this crop line was developed by Monsanto but has been trialled by Monsanto, Pioneer and Advanta.[41] Advanta still has a consent to field trial this line until 2006 but has not used it in recent years. GT73 is also part of the NIAB (National Institute for Agricultural Botany) BRIGHT (Botanical and Rotational Implications of Genetically Modified Herbicide Tolerant Crops) trials, which are intended to make recommendations for the management of herbicide tolerant crops.[42]
Monsanto has recently applied for a consent to import and use this line in the EU, but not to cultivate it.[43]

- Monsanto subsidiary Calgene has developed an oilseed rape line called Transformation Event 23, which is being experimented with by the Scottish Agricultural College, but is a long way from commercialisation.[44]

- Monsanto and KWS Saat of Germany have made a Part C application to the EU to cultivate H7-1 RoundUp Ready beet.[45] If it is accepted, this would mean that it could be grown anywhere in the EU but that it would still need National Seed Listing or to be added to the European Common Catalogue in order to be sold commercially to farmers. In addition it would still need Novel Food consent before it could be sold for human consumption.

*(All information in this section from Genewatch, www.genewatch.org, unless otherwise referenced)*

38 information on A5/15 fodder beet from GeneWatch GM crops database available online at www.genewatch.org/ (viewed 30/06/03)
39 Genewatch UK briefing on 'GM crops currently being trialled in the UK (2001)' available online at www.genewatch.org/Crop%20Trials/Trl2001.pdf (viewed 30/06/03)
40 information available online at http://gmoinfo.jrc.it/csnifs/C-BE-99-01.pdf (viewed 26/06/03)
41 information on GT73 oilseed rape from GeneWatch GM crops database available online at www.genewatch.org/ (viewed 30/06/03)
42 Genewatch UK briefing on 'GM crops currently being trialled in the UK (2001)' available online at www.genewatch.org/Crop%20Trials/Trl2001.pdf (viewed 30/06/03)
43 'European GMO deliberate release and novel foods legislation: Consents and pending applications, including UK opinions' available online at www.defra.gov.uk/environment/gm/pdf/euconsent.pdf (viewed 07/06/03)
44 information on Transformation event-23 from from GeneWatch GM crops database available online at www.genewatch.org/ (viewed 30/06/03)
45 'European GMO deliberate release and novel foods legislation: Consents and pending applications, including UK opinions' available online at www.defra.gov.uk/environment/gm/pdf/euconsent.pdf (viewed 07/06/03)
46 www.asgrow.com (viewed 09/07/03)
47 www.dekalb.com (viewed 09/07/03)

**Seed Companies in the UK**

PBI –Plant Breeding International Cambridge (www.monsanto-ag.co.uk)
Monsanto acquired Plant Breeding International of Cambridge (PBIC) from Unilever in 1998. PBIC produces new varieties of agricultural crops and markets them through a network of associated companies and agents worldwide. PBIC has worked on breeding programmes including winter wheat, barley, oilseed rape and potatoes. The PBIC seeds business has now fully integrated with Monsanto's UK operations.

RoundUp Ready sugar and fodder beet are the only Monsanto related GM crops which may be commercialised in the UK in the near future. As Monsanto do not directly own UK seed companies working in this area they are developing these products with partner seed companies Syngenta, Danisco and DLF Trifolium (see above).

Monsanto also own seed companies Asgrow[46] and DeKalb Genetics[47], both companies have carried out GM field trials in the EU.

## 3.3 Europe

**EU field trials**

Elsewhere in the EU, Monsanto has also been running field trials as follows:

Field Trials of the following crops have been carried out under the Monsanto, Asgrow and Dekalb names:

- Roundup-tolerant cotton; Bt. insect resistant cotton; Bt. insect resistant + Roundup tolerant cotton

- Roundup-tolerant maize; Bt insect-resistant maize; Bt insect-resistant + Roundup tolerant maize; Glufosinate ammonium (Liberty)-tolerant maize; Bt. insect resistant + glufosinate ammonium (Liberty)-tolerant + insect resistant maize;

- Roundup-tolerant oilseed rape; Roundup-tolerant + male sterility/fertility restorer system oilseed rape

- Roundup-tolerant soybean
- Roundup-tolerant sugar/fodder beet
- Cucumber mosaic virus resistant tomato
- Fusarium fungus-resistant wheat
- Watermelon mosaic virus-resistant and zucchini yellow mosaic virus-resistant squash

These were carried out in: Belgium, France, Germany, Greece, Great Britain, Ireland, Italy, Portugal, Spain, and Sweden.

(An overview of Monsanto's EU and UK field trials can be found by doing a company search for Monsanto, on the Genewatch UK online database at http://www.genewatch.org/GeneSrch/default.htm. More detailed information on Monsanto's UK GM crop field trials can be found online on the DEFRA web site at http://www.defra.gov.uk/environment/gm/pdf/exper.pdf. Further information on its EU GM crop trials can be found online at the Robert Koch Institute website http://www.rki.de/GENTEC/GENENG/GENTEC_E.HTM and the European Union Joint Research Centre web site at http://biotech.jrc.it/)

**EU Marketing Consents**

During early 2003 there has been a spate of applications for EU consent by biotech companies including Monsanto. As of July 2003, the only applications by Monsanto for cultivation within the EU are for the #77,

A5/15 and H7-1 beets, as well as applications to grow RoundUp Ready cotton in Spain and Greece. In addition there are applications to import (but not cultivate) GT73 RoundUp Ready oilseed rape (mentioned above); NK603 RoundUp Ready maize; NK603xMON810 RoundUp Ready and insect resistant maize; GA21xMON810 insect resistant and RoundUp Ready maize, GA21 RoundUp Ready maize and MON863/MON863xMON810 insect resistant maize.[48]

**Central and eastern Europe field trials**

Monsanto has also been active in central and eastern Europe. Romania is the only country which allows commercial growing of GMOs, but the weak regulatory systems in CEE countries make it difficult to track releases. In 1999 Romania grew 2000 hectares of herbicide-tolerant soybeans and 1000 hectares of virus or insect-resistant potatoes, of which at least the soybeans were probably Monsanto products. (DG Agri: Economic impacts of genetically modified crops on the agri-food sector. Working document of DG Agri, 2000). Monsanto field trials have taken place in Romania, Bulgaria, Croatia, Czech Republic, Hungary, Poland and Ukraine, and have involved RoundUp Ready-tolerant maize, RoundUp Ready-tolerant sugar beet, Bt insect-resistant maize , Bt insect-resistant potatoes, and Dekalb RoundUp Ready-tolerant maize.[49]

## 4. Future GM crops

Monsanto's strategy is based around genetically modifying commodity crops, and refining technologies which it already has commercialised. It is continuing to develop genetically modified traits that can be stacked in a single seed product, along with Roundup Ready tolerance to provide continuing sales for the herbicide. The most important new product Monsanto is trying to introduce is RoundUp Ready wheat. This has caused an unexpected level of debate in the US, generally because it is the first major GM crop which would be used predominantly for products to be consumed by humans rather than as animal feed.[50] Wheat is also a vital export crop for the US, which currently holds 26-28% of the world market share.[51] The EU was the fourth largest importer of US wheat overall in 2001, and although this position may diminish due to new EU rules on imports,[52] it would nevertheless be extremely serious for the US to virtually lose the EU market for its wheat, which is a real possibility if GM wheat is commercialised.

As well as wheat, Monsanto is mainly concentrating on different traits in crops which it has already worked with. The majority of its field trials in the US during the last two years have involved maize, altered to exhibit various traits.[53]

Monsanto are also involved in a joint venture with Cargill Renessen, which is currently developing the following GM crops:[54]

- Improved-oil soybeans for feed
- Three kinds of improved-energy corn (maize) for feed

48 information available online at http://gmoinfo.jrc.it/csnifs/C-BE-99-01.pdf (viewed 26/06/03)
49 Lheureux et al. 'Review of GMOs under Research and Development and in the Pipeline in Europe', European Science and Technology Observatory, European Commission Joint Research Centre, and Institute for Prospective Technological Studies, March 2003, p.78-81
50 'Wheat Industry Wrestles with GMO Issues', 28/01/03, Reuters available online at www.planetark.org/dailynewsstory.cfm/newsid/19607/newsDate/29-Jan-2003/story.htm (viewed 01/07/03)
51 'A sea change in the world wheat market' Bill Tierney, 12/09/02 available online at www.agriculture.com/default.sph/agNotebook.class?FNC=ArticleList__Aarticle_html___8294___819 (viewed 01/07/03)
52 US Wheat Associates, Wheat Letter, 06/09/02 available online at www.uswheat.org/marketnews.nsf/79bc5f93cc2bbac085256abf00568081/6a153e6979f4b88b85256c2c004b7383?OpenDocument (01/07/03)
53 Information Systems for Biotechnology database (search for Monsanto in the 'institution' box) available online at www.isb.vt.edu/CFDOCS/fieldtests1.cfm (viewed 01/07/03)
54 Monsanto 'Product Pipeline' web page available online at www.monsanto.com/monsanto/layout/products/prod_pipeline/productpipeline.asp (viewed 01/07/03)

- Healthier' oil for food uses
- Improved-protein soybeans for feed
- High-starch/ethanol corn (maize)
- Processor Preferred soybeans

Herbicide tolerant (RoundUp Ready) varieties continue to play a large part in Monsanto's plans, showing that although these are extremely easy to reject due to their obvious benefits to corporations and lack of benefits to humans, Monsanto believes that there is still a large potential for them.

## 5. Recent financial history/corporate stability

Monsanto had a difficult time during 2002. Its share price had been steadily falling and, in spite of an upturn in sales in the fourth quarter, total sales for 2002 were only $4,673m, compared to $5,462m for 2001.[55] The primary causes, according to the company, were lower volumes of RoundUp sales in the US due to drought, lower prices for RoundUp due to it going off-patent and facing increased competition from competitors, and lower sales of RoundUp and seeds in Latin America.[56] Events in Argentina also affected the company in other ways: Monsanto's Argentine unit lost $154 million in the 2002 fiscal year, due to the collapse of the Argentine economy and a deepening recession which forced the government to default on most of its public debt and devalue the peso in January 2002. The government also converted what was a dollar economy into a peso economy and, as a result, Monsanto received devalued pesos for products it had sold in dollars, slashing its sales income.[57]

In December 2002 CEO, Hendrik Verfaillie, resigned after he and the board agreed that his performance had been disappointing[58] and the company had faced extensive criticism for failing to deal more honestly and effectively with its difficulties. 'This is a company that has been optimistic on the borderline of lying,' said Sergey Vasnetsov, senior analyst with Lehman Brothers in New York. 'Monsanto has been feeding us these fantasies for two years, and when we saw they weren't real,' its stock price fell.[59]

No matter what weaknesses the company has, it is worth bearing in mind the following:[60]

- Global sales of Roundup herbicide exceed those of the next six leading herbicides combined.
- Monsanto holds the No.1 or No.2 position in key corn and soybean markets in North America, Latin America, and Asia. Monsanto also holds a leading position in the European wheat market.
- Monsanto is the world leader in biotechnology crops. Seeds with Monsanto traits accounted for more than 90 percent of the acres planted worldwide with herbicide-tolerant or insect-resistant traits in 2001.

## 6. How important are GM crops to Monsanto?

Monsanto's current financial situation will make it fight all the harder to get GM crops commercialised worldwide in order to make a return on its huge research and development budget, which totalled $560 million in 2001.[61]

Monsanto is becoming increasingly dependent on GM crops. Monsanto's key product RoundUp has gone off-patent, and therefore Monsanto's share of the glyphosate market has declined, with rivals Syngenta picking up 7-10 per cent of the glyphosate market by the end of 2002 according to Monsanto Chief Operating Officer, Hugh Grant.[62] RoundUp Ready crops help to ensure a continuing market for Monsanto's RoundUp as opposed to generic formulations of glyphosate. Hugh Grant and Chairman Frank AtLee have said that this year (2003), they expect that sales of seeds and genetically modified trait licences will surpass sales of Roundup which have supported the company for years.[63]

Monsanto has been repeatedly spun off so that the company is now dependent on a limited range of agricultural products, of which GM crops play an increasing role. Therefore it will fight all the harder to get these products introduced.

55 Monsanto Company Reports Fourth Quarter and Full-Year 2002 Results, Monsanto Press Release, 05/02/03 available online at www.monsanto.com/monsanto/layout/media/03/04-30-03.asp (viewed 01/07/03)
56 Monsanto Company Reports Fourth Quarter and Full-Year 2002 Results, Monsanto Press Release, 05/02/03 available online at www.monsanto.com/monsanto/layout/media/03/04-30-03.asp (viewed 01/07/03)
57 'GMOs help Argentina fight subsidies, Monsanto',12/11/02, Damian Wroclavsky, Reuters, available online at http://ngin.tripod.com/121202a.htm (viewed 01/07/03)
58 'Monsanto Seeks Successor, May Face More Upheaval', Scott Kilman, The Wall Street Journal, 19/12/02, available online at www.connectotel.com/gmfood/ws191202.txt (viewed 01/07/03)
59 'Monsanto wants to sow a genetically modified future', Rachel Melcer, St. Louis Post-Dispatch, 22/02/03 available online at http://ngin.tripod.com/240203a.htm (viewed 01/07/03)
60 Monsanto'About Us' web page available online at www.monsanto.com/monsanto/layout/about_us/ataglance.asp, (viewed 19/12/02)
61 Monsanto Annual Report 2001, p.22, available online at http://media.corporate-ir.net/media_files/NYS/MON/reports/2001-Monsanto_Annual_Report.pdf (viewed (01/07/03)
62 'Monsanto takes GM crusade to Brazil' Caroline Daniel, The Financial Times, 05/02/03
63 'Monsanto wants to sow a genetically modified future', Rachel Melcer, St. Louis Post-Dispatch, 22/02/03 available online at http://ngin.tripod.com/240203a.htm (viewed 01/07/03)

## 7. Strategy

Monsanto's recently departed CEO, Hendrik Verfaillie, was kind enough to lay out his three wishes for us in 2001: 'The first is (approval for) Round-Up Ready soyabeans in Brazil. The second is making progress in Europe - specifically around Round-Up Ready corn (maize). Number three is Bt. cotton in India.'[64] His third wish has already come true - as noted above, the Indian government approved the growing of Bt insect-resistant cotton in mid-2002. This may have opened the door somewhat for other crops, depending on how far news of Bt cotton's failures travels, since although cotton is not perceived as a food crop, its oil is used for human consumption.

Brazil has proved to be an unexpected sticking point for Monsanto. The Brazilian government had shown itself generally to be pro-GM, and the over-zealous former agriculture minister Pratini de Moraes had twice tried to approve commercialisation of RoundUp Ready soya beans. As part of its global strategy, Monsanto had bought up seed companies in Brazil and was poised to dominate bio-tech farming. However, approval has been held up in the courts by Greenpeace and the Brazilian Institute for Consumer Defence (IDEC).[65] In October 2002, Brazilian people elected a new President, Luis Inácio Lula da Silva (Lula), who is thought likely to uphold the current ban on growing GM crops.[66] Only time will tell if he is able to withstand the pressure from the United States.

Europe is nearly self-sufficient in maize[67] and in the medium term could in theory provide an important market for Monsanto's GM varieties. However, at the moment Monsanto is only applying for EU approval to import GM maize varieties grown elsewhere in the world.[68] It seems that European non-acceptance of certain GM maize varieties may be holding up Monsanto's plans in Argentina. 92% of EU maize imports of in 2002 came from Argentina.[69] Whilst Argentina does grow some GM maize varieties, it is only those varieties that have been approved for import into the EU. Roundup Ready maize was introduced in the US in 1998 but has yet to receive approval for use in Argentina. The variety is not approved for sale in Europe where Argentina has two big clients: Spain and Portugal. In the past four years, six different Argentine agriculture secretaries have upheld the decision not to approve the herbicide resistant corn in order to protect sales of 800,000 tonnes of the grain a year to Spain and 400,000 tonnes to Portugal.[70] There is currently a Part C consent application for RoundUp ready maize NK603 to be imported into the EU[71] and if this is successful Argentina's policy on RoundUp Ready maize may well change.

In the UK after their initial PR blunder in 1998, which backfired spectacularly, Monsanto have managed to keep a fairly low public profile.

### How important is the UK/EU in Monsanto's global strategy?

The EU's importance in the short term is primarily as an importer of Monsanto's GM crops. European objections to GM crops have slowed down Monsanto's expansion in commodity-exporting countries such as Brazil and Argentina, as outlined above. The importance Monsanto attaches to the EU is underlined in the US's recent threatened trade sanctions under WTO rules, which suggest that Monsanto and others are immensely bothered by Europe's reluctance to authorise the import of new GM crops and to allow widespread commercial growing of GM crops. Likewise, Europeans are being blamed for brainwashing African governments into refusing to accept GM food aid, showing how influential European fears are seen to be, and simultaneously insulting the analytical capabilities of African governments. However, Europe will also be seen as a market for growing GM varieties, being a huge producer of agricultural produce. In 2001 the EU, as a whole, exported $57,805m of agricultural produce to countries outside of its borders, second only to the US which exported $70,017m.[72]

64 'Monsanto's chief indulges in a little wishful thinking: Hendrik Verfaillie hopes for approval from Brazil, Europe and India' By Nikki Tait, Financial Times; 20/07/01

65 'Sow resistant: The battle continues to prevent Brazil, a major soya producer, caving in to pressure to authorise GM crops', Sue Branford, The Guardian, 17/04/2002 available online at http://society.guardian.co.uk/societyguardian/story/0,7843,685228,00.html (viewed 01/07/03)

66 'Lula's Victory in Brazil a Sharp Blow to Monsanto: Lula Government Would Favor GM-Free Brazil', Reuters, 03/10/02, By Reese Ewing, available online at www.organicconsumers.org/ge/lula110402.cfm (viewed 01/07/03)

67 'Review of GMOs under Research and Development and in the Pipeline in Europe', Lheureux et al. European Commission Joint Research Centre, Institute for Prospective Technological Studies, European Science and Technology Observatory, March 2003 p.63)

68 'European GMO deliberate release and novel foods legislation: Consents and pending applications, including UK opinions' available online at www.defra.gov.uk/environment/gm/pdf/euconsent.pdf (viewed 07/06/03)

69 'Review of GMOs under Research and Development and in the Pipeline in Europe', Lheureux et al. European Commission Joint Research Centre, Institute for Prospective Technological Studies, European Science and Technology Observatory, March 2003 p.63)

70 'GMOs help Argentina fight subsidies, Monsanto', Damian Wroclavsky, 12/11/02 available online at www.forbes.com/markets/newswire/2002/12/11/rtr820698.html (viewed 01/07/03)

71 'European GMO deliberate release and novel foods legislation: Consents and pending applications, including UK opinions' available online at www.defra.gov.uk/environment/gm/pdf/euconsent.pdf (viewed 07/06/03)

72 World Trade Organisation, Exports of Agricultural Products of Selected Economies 1990-2001, Table IV.9, available online at www.wto.org/english/res_e/statis_e/its2002_e/section4_e/iv09.xls (viewed 01/07/03)

## Appendix 1: UK Locations:

**Monsanto UK Ltd. (PBIC)**
The Maris Centre, 45 Hauxton Rd.
Trumpington, Cambridge CB2 2LQ
England
tel. 01223 849200
www.monsanto.co.uk
www.monsanto-ag.co.uk
registered office for Monsanto UK Ltd

**Monsanto UK Ltd.**
Tulip House, 70 Borough High St.
London SE1 1XF England
tel. 020-7864-9913

*This is the company's government and public affairs office. This is a small office (maybe just a couple of desks) in a large office building housing a number of different companies.*

**Monsanto PLC**
PO Box 53, Lane End Road, High Wycombe, Bucks. HP12 4HL

*Monsanto PLC appears to be a remnant of old Monsanto/Pharmacia, the company has no employees and is registered at Pharmacia's UK head office. It has two directors: Philip Greenhalgh and JG Lee.*[73]

## Appendix 2: Monsanto UK Ltd. Directors:[74]

**Colin Elwell**: Company Secretary and finance lead

**Kenneth Baker**: Head of external affairs (ie. PR and lobbying)

**Jeffrey Cox** General Manager

**Marc De Smedt** Accountant

**Luc Leunis** Chemical engineer

**Kevin Walsh** Solicitor

## Appendix 3: World Headquarters:

**Monsanto Company**
800 North Lindbergh Boulevard, St. Louis, MO-63167
(314) 694-1000
www.monsanto.com

## Appendix 4: Board of Directors:[75]

**Frank V. AtLee III**
Chairman of the Board of Monsanto

**Hugh Grant**
President and Chief Executive Officer

**Gwendolyn S. King**
President, Podium Prose.

**Sharon R. Long, Ph. D.**
Professor of Biological Sciences and Dean of the School of Humanities and Sciences, Stanford University

**C. Steven McMillan**
President and CEO of Sara Lee Corp.; also a member of the Board of Directors of Pharmacia Corporation

**George Poste, D.V.M., Ph.D.**
Chief Executive of Health Technology Networks, a consulting group specializing in the application of genomics technologies and computing in healthcare.

**William U. Parfet**
Chairman of MPI Research, LLC; also a member of the Board of Directors of Pharmacia Corporation.

**Robert J. Stevens**
President and CEO of Lockheed Martin Corporation

## Appendix 5: Monsanto Officers and Executives:[76]

**Frank V. AtLee III**
Chairman of the Board

**Hugh Grant**
President and Chief Executive Officer

**Dr. Robert T. Fraley**
Executive Vice President and Chief Technology Officer

**Terrell K. Crews**
Executive Vice President and Chief Financial Officer

**Charles W. Burson**
Executive Vice President, Secretary and General Counsel

**Carl M. Casale**
Executive Vice President, North America Commercial

**Donald K. Bandler**[77]
Senior Vice President, Government Affairs, formerly: Ambassador to the Republic of Cyprus, Special Assistant to the President, Senior Director for European Affairs at the National Security Council, Deputy Chief of Mission at the American Embassy in Paris, Counselor for Political and Legal Affairs at the American Embassy in Bonn, Director of the State Department Office of Israel and Arab-Israeli Affairs

**Mark J. Leidy**
Executive Vice President, Manufacturing

**Gerald A. Steiner**
Executive Vice President, Commercial Acceptance

**Donald K. Bandler**
Senior Vice President, Government Affairs

**Sarah S. Hull**
Senior Vice President, Public Affairs

**Cheryl P. Morley**
Senior Vice President, Corporate Strategy

**John Murabito**
Senior Vice President, Human Resources

**Richard B. Clark**
Vice President and Controller

**Janet M. Holloway**
Vice President and Chief Information Officer

**Robert A. Paley**
Vice President and Treasurer

## Appendix 6: Key Monsanto employees in the commercialisation of GM crops in the UK.

**Tony Coombes** is Head of Public Affairs for Monsanto UK Ltd. Bernard Marantelli, who used to work in communications for Monsanto now works for Lexington Communications, who now run the Agricultural Biotechnology Council (ABC). You can find out more about Bernard Marantelli on Lexington's website (http://www.lexcomm.co.uk/a_frame.html).

Monsanto is represented on the UK government's science review panel by **Dr. Andrew Cockburn**, Director of Scientific Affairs for Monsanto Europe/Africa.[78] He's also a visiting lecturer at the University of Surrey (where he is also on the examining board), Brunel University and Kings College London (ibid.)

Monsanto is involved in several lobby groups, more information about which can be found in the overview briefing. These include:
The **Agricultural Biotechnology Council** (ABC) (www.abcinformation.org)

**CropGen,** (www.cropgen.org) –it is unclear whether Monsanto is still a funder.

The **Crop Protection Association** (formerly the British Agrochemicals Association) (www.baa.org.uk)

The **European Crop Protection Association** (www.ecpa.be/)

The **BSPB** (British Society of Plant Breeders), (www.bspb.co.uk).

**SCIMAC** (Supply Chain Initiative on Modified Agricultural Crops) www.ukasta.org.uk/news/scimac/)- Monsanto is a member of at least two of the organisations which make up SCIMAC.

**EuropaBio** (www.europabio.org)

The **International Chamber of Commerce** (ICC) (www.iccwbo.org )

**World Business Council for Sustainable Development** (WBCSD)

**Business Action for Sustainable Development** (BASD) www.basd-action.net.

## Appendix 7: Further sources of information

The following publications and web sites are interesting independent sources of information on Monsanto

An excellent briefing on the old pre Pharmacia merger Monsanto compiled by ASeed Europe www.groundup.org/monsanto

Monsanto Monitor www.groundup.org/fcorp.htm

'Monsanto and genetic engineering: Risks for investors' by Innovest Strategic Value Advisors/Greenpeace April 2003 available online at http://web.greenpeace.org//reports/?campaign_id=3992

The Ecologist Monsanto edition, archived online at http://www.dhushara.com/book/upd/umar99/monsan/ecol1.htm

73 Monsanto PLC, Annual Return 2002 www.companieshouse.gov.uk/
74 Monsanto UK Ltd, Annual Return 2002 www.companieshouse.gov.uk/
75 Monsanto 'directors' web page available online at www.monsanto.com/monsanto/layout/about_us/leaders/directors.asp (viewed 01/07/03)
76 Monsanto website available online at www.monsanto.com/monsanto/layout/about_us/leaders/default.asp (viewed 01/07/03)
77 www.monsanto.com/monsanto/layout/about_us/leaders/bandler_web_bio.asp (viewed 01/07/03)
78 GM science debate website available online at www.gmsciencedebate.org.uk/panel/members/cockburn.htm (viewed 01/07/03)

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**Also available in this series:**
The 'Biotech Family Tree 2003' A2 poster,
Company Briefings on Bayer CropScience and Syngenta, and an overview briefing on the GM crops Industry in the UK.

For further copies contact Corporate Watch at the address below.
Downloadable versions of all of these briefings are available at www.corporatewatch.org.uk under 'genetics'.

**About Corporate Watch**
Corporate Watch is an independent UK based research group, which works to expose the mechanisms by which corporations operate and the detrimental effects that they have on society and the environment. We have a website which includes detailed profiles of corporations and lobby groups in a variety of industry areas, as well as regular news updates covering corporate and campaign news, analytical articles and book reviews.
Current areas of research include:
GM crops, the PR industry, the Peat industry and Corporate Structures.

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