

Cash cows and bull markets?

the finance behind GM crops

March 2000

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Aventis (new updated version, March 2000)

From test tube to tummy - the GMO supply chain

Animal feeds and genetic engineering (5 briefings)

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Introduction

Money makes the world go round, or so the saying goes. And the big biotech companies are even more dependent on a ready supply of up-front cash than many other corporate giants - with massive costs in scientific research and development it can be many years before a new genetics-based product comes to market.

The movement against genetic engineering of food and crops has been unprecedented in its scope - activists around the world have shown great strategic innovation and have won some major battles. Yet the war is far from won - with so many years of time and money invested in genetics, the corporations are still reluctant to abandon the biotech holy grail. And financial institutions provide campaigners with a key strategic lever - if successful, financial campaigns have the power to withdraw necessary funding from the companies, cutting off the unwanted technology at source.

And financial companies are beginning to feel the pinch. About 40% of US banks are now sceptical about financing GM seed purchases. Influential analysts such as Deutsche Bank now recommend avoiding the sector, and the UK's biggest agricultural insurer, NFU Mutual, also refuses to insure against the environmental risks of GM crops.

Below Corporate Watch reviews some of the main elements of the financial network - without which the biotech corporations would be unable to survive.

Overview

Shareholders

The shareholders provide a company with long-term capital - often to be used for research and development (R&D) - which might take years to bring a profit back to the company. Since biotech companies are extremely dependent on R&D, shareholders play a vital role in kick-starting new developments in the technology.

The shareholders are by law protected from any liability arising from the actions of the corporation which they support. This is the doctrine of 'limited liability', without which the capitalist system would cease to function. In the biotechnology sector, particular risks include the results of releasing GMOs into the environment, and potential health effects on consumers of eating new GM foods. Because the shareholders don't bear the risk, it ends up being borne by society.

All of the bigger companies involved in genetic engineering are multinational corporations. Monsanto and DuPont are for example based in the US, Aventis in France, and Novartis in Switzerland. Some companies in the UK are subsidiaries of companies in other countries - so their only shareholder is the parent corporation.

The largest shareholders in big corporations are almost always other companies. These might be other blue-chip corporations or financial institutions such as insurance companies, unit trusts or pension funds. Others are simply 'asset managers', whose job is to make as much profit as possible for the real owners of the money (frequently occupational pension schemes or local authorities) by investing it wherever it can generate the highest returns.

These are some of the major shareholders of the biggest biotech companies:

- **KPC International NV** (13.88% of Aventis)¹ - Kuwait Petroleum, the state-owned oil company.
- **Capital Group Companies Inc.** (7.01% of AstraZeneca)² - an American asset management company, the third biggest in the world.³
- **Allianz AG** (5.31% of Monsanto, through Pimco Advisors)⁴ - huge German insurance (2nd biggest in the world) and financial services company.⁵
- **Investor Investments AB** (5.14% of Astrazeneca)⁶ - investment company owned by the powerful Swedish Wallenberg family.⁷
- **FMR Corp. aka Fidelity Investments** (5.09% of Monsanto)⁸ - huge conglomerate involved in insurance, mutual funds, banking etc. Fidelity is the world's leading mutual fund⁹, and recently came under fire for investments in Occidental Petroleum, who plan to drill on U'wa indigenous land in Colombia.
- **Wellington USA** (5% of Aventis)¹⁰ - US-based holding company.
- **The Sandoz Foundation** (4.12% of Novartis, through Emasan AG)¹¹ - a foundation controlled by the Sandoz family, devoted to long-term investments.

Venture capital

The term 'venture capital' means investments that are more risky than 'normal' investments - often this means start-up cash for a new company with a high-tech big idea. Many of these might go bankrupt, but some do succeed and go on to play an important role in developing new frontline technologies. Success stories can lead to massive windfall profits in return for a rather small initial investment on the part of the venture capital firm - as was the case in the early days of the US computer software industry. Venture capital firms often end up being shareholders in the firm in which they invest.

According to the BVCA (British Venture Capital Association)¹² there are many who are interested in investing in biotechnology, but most of them specialize in the pharmaceutical and medical areas. In agricultural biotech venture capital is less important, but the following do have some holdings:

- **3i Group plc** (who are about to take over the B.I.L., Biotechnology Investments Ltd, from Rothschild Asset Management. This fund has some holdings in agricultural biotechnology)¹³
- **Lloyds TSB Development Capital Ltd**¹⁴
- **Midlands Venture Fund Managers Ltd**¹⁵

SHAREHOLDERS

Capital Group Companies Inc.
25 Bedford Street
London, England WC2E 9HN
Telephone: 020 - 8542 8131

Sandoz Foundation
No known subsidiary in the UK

FMR Corp
Fidelity International Ltd
Oakhill House, 130 Tonbridge Road
Tonbridge, Kent TN11 9DZ
Telephone: 01732 - 777 305

Investor investments AB
Investor London Limited
10, Hill Street, London W1X 7FU
Telephone 020 - 7514 5000

KPC International
Kuwait Petroleum International Ltd.
80 New Bond St,
London, W1Y 9DA
Telephone: 020 - 7491 4000

Allianz AG
Allianz Cornhill International
27 Leadenhall Street
London, EC3A1AA
Telephone: 020 - 7488 1882

Wellington USA
Wellington Underwriting Holdings Ltd.
2 Minster Court, Mincing Lane
London, EC3R 7FB
Telephone: 020 - 7929 2811

VENTURE CAPITAL

3i Group plc
91 Waterloo Road, London, SE1 8XP
Telephone: 020 - 7928 3131

Lloyds TSB Development Capital Ltd
50 Grosvenor Street, London, W1X 9FH
Telephone: 020 - 7499 1500

Midlands Venture Fund Managers Ltd
The Square, Beeston, Nottingham,
NG9 2JG
Telephone: 0115-967 8400

ADVISORS

Credit Suisse First Boston
1 Cabot Square, London E14
Telephone: 020 - 7888 8888

Deutsche Bank
6 Bishops Gate, London EC2
Telephone: 020 - 7545 8000

Goldman Sachs Group Inc.
133 Fleet Street, London EC4
Telephone: 020 - 7774 1000

J.P. Morgan & Co Inc.
60 Victoria Embankment, London EC4
Telephone: 020 - 7600 2300

Lehman Brothers International
1 Broadgate, London EC2
Telephone: 020 - 7601 0011

Morgan Stanley Dean Witter & Co
25 Cabot Square, London E14
Telephone: 020 - 7513 8000

ANALYSTS

Brown Brothers Harriman & Co.
59 Wall Street, New York,
NY 10005, USA
Telephone: 001 212 483 1818

Credit Suisse First Boston
1 Cabot Square, London E14
Telephone: 020 - 7888 8888

Deutsche Bank
1 South Street, Baltimore
MD 21202, USA
Telephone: 001 410 727 1700

ING Barings
(Paul Leming doesn't work here - we
don't know where he works)
60 London Wall, London EC2
Telephone: 020 - 7767 1000

J.P. Morgan & Co Inc
60 Wall St., 46th Fl., New York,
NY 10260-0060, USA
Telephone: 001 212 483 2323

Merrill Lynch & Co Inc
25 Ropemaker Street, London EC2
Telephone: 020 - 7628 1000

Warburg Dillon Read
1 Finsbury Avenue, London EC2
Telephone: 020 - 7567 8000

Advisors/brokers

Financial advisors provide guidance for a company on how to play the stock markets - such as whether to invest in a new company, or on how the company's own shares are faring. A company's brokers also invest its surplus cash in other companies' shares, where it can continue earning a profit until needed for future investments. In recent years advisors and brokers have been kept busy by the rapid rate of concentration in the biotechnology sector - their role in facilitating mergers and takeovers makes them key agents in concentrating corporate power into fewer and fewer hands.

Many of the biggest merchant banks in the world have been involved in broking and advising for biotech-companies, for example:

- **Credit Suisse First Boston** (general advisor and broker for AstraZeneca¹⁶ and DuPont¹⁷ and acted as broker for Rhone-Poulenc in the merger with Hoechst to Aventis¹⁸)
- **Deutsche Bank** (advisor for AkzoNobel in a deal where Hoechst sold off subsidiaries as part of the merger with Rhone-Poulenc)¹⁹
- **Goldman Sachs Group Inc.** (general advisor for AstraZeneca)²⁰
- **J.P. Morgan & Co Inc.** (advisor and broker for both Hoechst and Rhone-Poulenc on their merger into Aventis)²¹
- **Lehman Brothers International**²²
- **Morgan Stanley Dean Witter & Co** (general broker for DuPont)²³

Analysts

Whereas advisors give financial advice to the company itself, analysts provide information about the company for other investors. Their word can mean the difference between an investor putting millions into a company or shifting cash elsewhere. Not surprisingly, companies are particularly keen to keep a good relationship with their analysts.

But they don't always succeed. In July 1999, Deutsche Bank issued a report called "Ag Biotech: Thanks, But No Thanks?", advising investors to sell their holdings in the seed company Pioneer Hi-Bred, as well as voicing general scepticism about the future for biotechnology generally. The report sent shockwaves throughout the industry, as it was the first time that a major financial player had broken ranks and admitted that consumer hostility was undercutting the GM foods market.²⁴

Analysts work mostly for merchant banks, and individuals or teams specialise in particular companies or sectors. Analysts specialising in biotech include:

- Theodore Semegran at **Brown Brothers Harriman & Co.**²⁵
- Jonathan Senior at **Credit Suisse First Boston**²⁶
- Frank Mitsch and Jennifer Mitchell at **Deutsche Bank**²⁷
- Paul Leming at **ING Barings**²⁸
- Donald Carson at **J.P. Morgan & Co Inc**²⁹
- John Roberts at **Merrill Lynch & Co Inc**³⁰
- Karl Keegan at **Warburg Dillon Read**³¹

Banks

Every company has its bankers, who provide it with a range of services. These include everything from holding their accounts to providing loans. The capital a bank provides (in the form of an overdraft or loan) is more short-term than capital from shares, and may be used for any kind of investment - whether that involves opening a new pesticide plant or establishing a crop trials programme. A lending bank does not take any ownership over the company - the loan is simply a service provided for a fee (interest).

In a survey performed in the USA by the Federal Reserve Bank of Chicago in January this year, many bankers stated that they were sceptical about financing purchase of GMO seeds - between 4 and 12 percent said that they wouldn't finance it at all, and a further 28% did "hold reservations" about it.³²

Some of the more important bankers in the UK, when it comes to financing biotechnology, are:

- **Barclays Bank** (Monsanto)³³
- **Citibank** (AstraZeneca)³⁴
- **HSBC Bank Plc** (AstraZeneca)³⁵
- **National Westminster Bank plc** (High Wycombe branch for Monsanto³⁶ and Bradford Senior Managers Office for Novartis³⁷)

Insurance

Without an insurance company shouldering the burden of risk on its behalf, a company would need to be much more cautious. This is particularly significant with regard to biotechnology - as the potential risks associated with consumer health and the environment could be massive.

GMOs are a difficult area for insurance companies. Due to the inherent uncertainties associated with the technology, they have little way to correctly evaluate the risks they are taking - something the reinsurance company Swiss Re stated in a report published 1998³⁸. On the 17th February 2000, Friends of the Earth revealed that the UK's leading farm insurance company - NFU Mutual - will not offer farmers insurance against GM pollution.³⁹

Insurance companies specializing in biotech include:

- **Chubb Insurance Company of Europe, SA** (who have been selected as a "BioPurchasing partner" by the US-based Biotechnology Industry Organization)⁴⁰
- **Gerling Insurance Service Co Ltd**⁴¹
- **Miller Insurance Group**⁴²
- **Opus Insurance Service Ltd**⁴³

BANKS

Barclays Bank, High Wycombe branch
16 High street,
High Wycombe HP11 2BE
Telephone: 01494 - 442 155

Citibank
Concourse level, Cabot Place East
Canary Wharf, Poplar,
London EC14 5QF
Telephone: 020 - 7512 9000

HSBC Bank Plc
27 Poultry, London EC2P 2BX
Telephone: 020 - 7260 8000

National Westminster Bank,
High Wycombe branch
PO Box No 17, High Wycombe
HP11 2AJ
Telephone: 01494 - 510 234

National Westminster Bank,
Bradford Senior Managers Office
27 Bolton Road, Bradford BD1 1EQ
Telephone: 01274 - 730 790

INSURANCE

Chubb Insurance Company of Europe
106 Fenchurch Street, London EC3
Telephone: 0171 - 867 5555

Gerling Insurance Service Co Ltd
50 Fenchurch Street, London EC3
Telephone: 0171 - 696 8099

Miller Insurance Group
Dawson House, Jewry street,
London EC3
Telephone: 0171 - 488 2345

Opus Insurance Service Ltd
5 Devonshire Square,
London EC2M 4YD
Telephone: 0171 - 648 5400

COMMODITIES TRADE

Cargill Investor Services
Cannon Bridge Ho,
Dowgate H1, London EC4
Telephone: 020 - 7283 5272

Commodities trading

Commodities are 'real things' like raw materials - unlike finance, which exists mostly as digits on a computer. Genetically modified crops such as soyabeans or maize are traded on the commodities exchanges around the world. They are not just bought and sold on the 'spot market' (a relatively simple, straightforward transaction) - all kinds of futures and options contracts concerning them are handled in the exchanges.

Since they are produced in other countries, GM commodities are not traded on any exchanges in the UK - instead they are primarily handled by the CBT (Chicago Board of Trade). One leading company that is involved in this trading is Cargill Investor Services (CIS) Commodity Group, a subsidiary of the Cargill corporation.⁴⁴

Government subsidies

The government is deeply involved in financing the GM-sector. A key area is in funding basic research⁴⁵ in areas which are still a long way from commercialisation, and therefore unlikely to be of direct financial interest to a company. However, the increasing privatisation of universities means that funding for pure, interest-driven research is being cut - and often universities are only supported at all if they do work which is relevant to industry's needs.

Every year the UK government uses approximately £600 million of public money to fund research in biosciences (this includes both agriculture and pharmaceutical research).⁴⁶ Mainly it is the Department of Trade and Industry (DTI) that is responsible for this financial support, either directly or through the Biotechnology and Biological Sciences Research Council (BBSRC).⁴⁷ Much of this is directed to universities and other research institutions, but a substantial amount goes straight to private companies, through programmes such as SMART, LINK, BIO-WISE, the Enterprise Fund etc.⁴⁸ LINK, for example, has a yearly total of £37 million going straight into corporate coffers.⁴⁹

Another more hidden government subsidy is through its funding of the education of almost all the people working in the private biotech companies. Alongside the industrialisation of university research, student courses are being increasingly required to provide training for future careers in industry.

Yet another way the government supports private companies in the biotech sector is through start-up support for new businesses.⁵⁰ There are also proposals for tax breaks that will benefit these companies, especially their research and development.⁵¹

You can find more information on how the government supports biotechnology from the DTI's 'Bioguide', at <http://www.dti.gov.uk/bioguide>.

GOVERNMENT

Department of Trade and Industry
1 Victoria Street, London SW1
Telephone: 020 - 7215 5000

Biotechnology and Biological Sciences
Research Council
Polaris House, North Star Avenue
Swindon, Wilts SN2 1UH
Telephone: 01793 - 413 271

Invest in agri-biotech? You must be kidding!

- Consumer markets for GMOs are collapsing

Few technologies can have been as unpopular at their introduction as GM food. In a 1998 MORI poll, only 22% of those questioned supported the introduction of GM foods.⁵²

In spring 1999, all major UK supermarkets announced the removal of GM ingredients from their own-brand products. Through the rest of the year the big food processors (including Unilever, Nestle and Northern Foods) and fast-food outlets (including McDonald's and Pizza Express) followed suit.

The ripple effects of this massive consumer rejection are spreading both internationally and back through the supply chain. Public opposition to GM food is on the rise in the USA, Japan and Australia, and new GM labelling regulations in most countries are likely to lead to a similar pattern being followed to that in Europe.⁵³

To date, much of the GM crop harvest has gone to the animal feed market, but now supermarkets are rejecting GM-fed meat too.⁵⁴ This spread of concern to the animal feed sector has all happened within about 6 months - and there is every reason to expect it to spread further.

- Farmers don't want to grow GMOs

The American Corn Growers Association has warned its members: "With prices hitting historic lows, the last thing a farmer needs to occur is that both foreign consumers and domestic grain buyers refuse to purchase certain products. In this event, farmers need to think long and hard before planting GMO seeds."⁵⁵

And farmers are actually avoiding GM crops. A survey by ACGA shows that there is a reduction between 12-20% of acreage farmland planted with GMO crops this year, compared to 1999.⁵⁶

Leading distributor Archer Daniels Midland has encouraged its suppliers to segregate GM crops. ADM has since wavered, but its position remains unpredictable.⁵⁷ A two-tier grain market is now developing, with GM-free crops selling at a premium, while farmers have to pay higher prices for the GM seed - a double-whammy disincentive.⁵⁸

- Investors lose out

Monsanto, originally the chief cheerleader for agri-biotech, is mourning the death of the 'life sciences' model that it gave birth to. In 1999 Monsanto's share price plunged to \$33, from a previous high of \$63 - reflecting the error of pinning its flag so firmly to the mast of the GM technology.⁵⁹

The Deutsche Bank reports 'GMOs are dead' and 'Ag biotech: thanks but no thanks' highlight a high-risk and unprofitable future for GM food and crops, and advise investors to get out of the seed sector.⁶⁰

Up to 12% of US banks now refuse to finance GM seed purchases, and a further 28% have strong reservations.⁶¹

The Guardian, 4th September 1999:



Financial Times, 2nd September 1999:



The Guardian, 6th October 1999:



From the cover of the Deutsche Bank report "GMOs are dead".



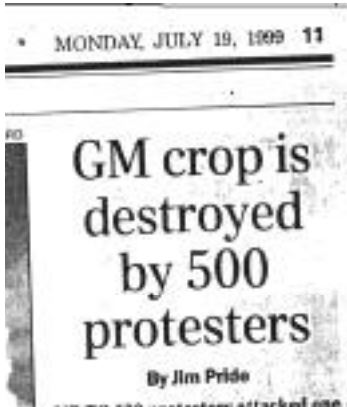
- New regulatory threats

Biotech industry hopes of a free trade agreement on GMOs were dashed this November with the collapse of the World Trade Organisation meeting in Seattle. Instead, the less industry-friendly Montreal Biosafety Protocol will form the basis of international regulation, giving countries more power to reject GM imports on safety and precautionary grounds - and presenting a clear risk to owners of the GM technology.

New quick, cheap GMO test tools are becoming available, leading to an increase in the detection of crop exports that exceed GM content limits.⁶² This in turn adds to the pressure on grain elevators to segregate GM crops, reinforcing the two-tier grain market.

Companies face potentially huge legal liabilities arising from GM cross-contamination, health and safety issues and anti-trust suits. The recent lesson from the tobacco industry shows that a strategy of passing on risk to government regulators is not always successful.

The Daily Telegraph, 19th July 1999:



- Anti-GMO activism: an unquantifiable risk

GM technology has been eco-activists' number one enemy for over two years. The degree of imagination and determination of the campaigners continues to confound expectations as it spreads further across the supply chain, and the UK can certainly expect another summer of discontent.

Meanwhile, activists across Europe and in the USA and elsewhere are opening a new front, with dozens of 'decontaminations' taking place at GM sites across North America. There are some indications that following the massive demonstrations on June 18th in the City of London, financial companies could be the next to be targeted.

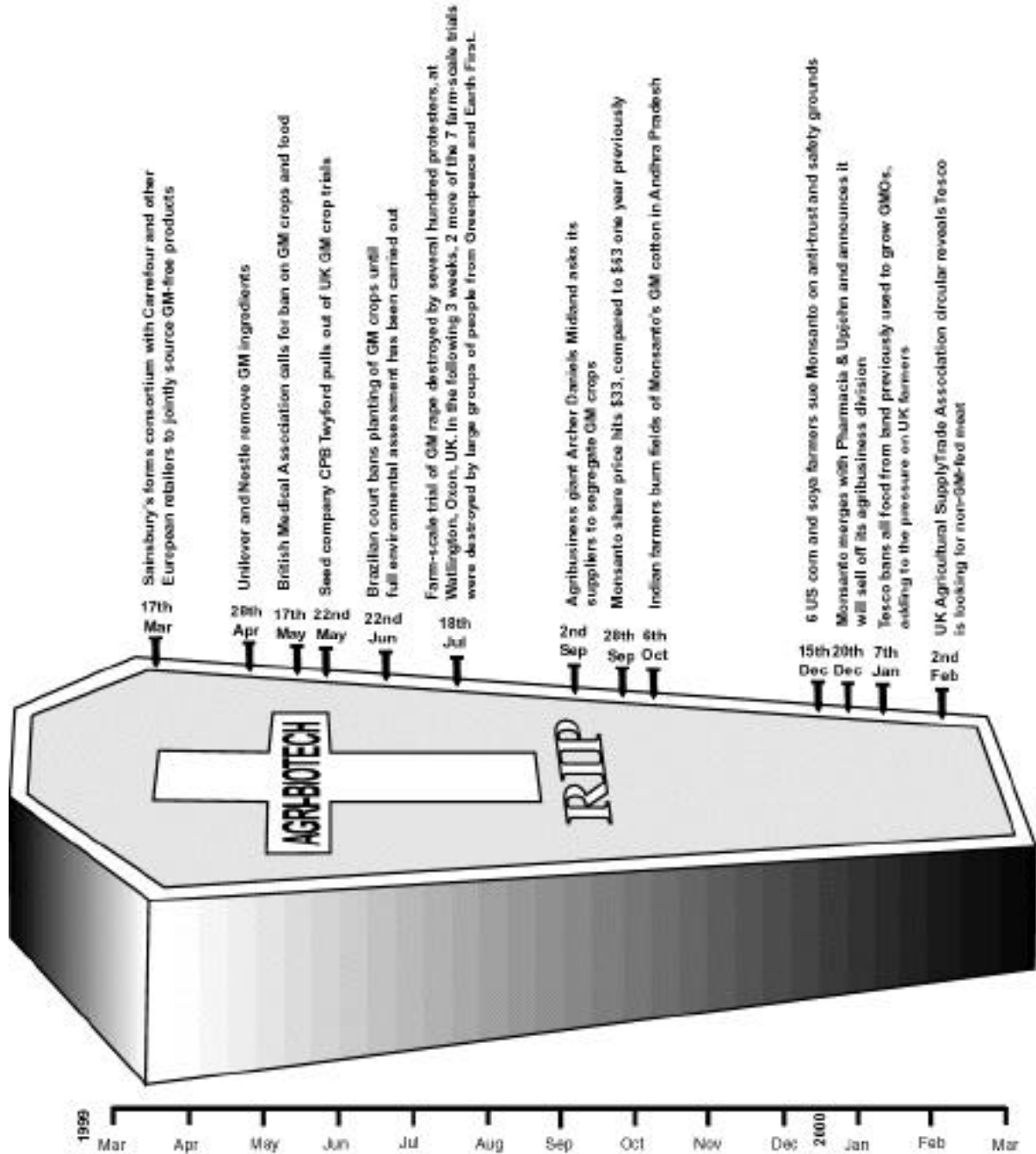
- Aventis: the captain on the deck of the sinking ship

The newly-formed Aventis has embraced the failed life sciences model. Monsanto has learnt the hard way, yet Aventis seems unwilling or unable to learn those same lessons.



In fact, on 21st December 1999, the day after trading in Aventis began, the Wall Street Journal said: "Billions of dollars later, that concept of a unified 'life sciences' company - using technology to improve both medicines and foods - has become an affliction itself for Monsanto."⁶³

Aventis is carrying out the vast majority of the GMO field trials in the UK - so its profile among protesters will only increase. As its markets continue to collapse, as its investors start to recognise they're backing a loser, as regulators succumb further to public pressure against GMOs and as activists intensify their direct action, Aventis looks sure to follow Monsanto down the pan.



A year in the death of the agri-biotech sector

For a more detailed timeline of the collapse of biotech, see Genewatch's briefing 'A review of developments in 1999' - www.genewatch.org or tel 01298 871 898, or <http://www.connectotel.com/gmfood/>

See Corporate Watch issue 9 or <http://www.corporatewatch.org/cw9mag/pages/cw9diy.html>

See <http://www.corporatewatch.org/pages/res3.html> or Corporate Watch issues 5 and 7, or try <http://www.eco-action.org/rr/>

Ideas for action

- **Persuade analysts and investors that agri-biotech doesn't make financial sense**

Arrange a meeting or speak to them on the phone, and use the arguments on pages 6-8. Bear in mind that analysts are experts how the industry is faring in terms of markets - what they might not know so much about is activism. Investors may not be so well informed, as they rely on other people's research; also, the bigger their shareholding the harder it is for them to disinvest, but the more influence they have over company policies.

- **Expose the holdings of major high-street brands, such as banks and insurance companies.**

This could include using banners, leaflets and press work. Tell their customers that their money is being used to help force GMOs down people's throats.

- **Persuade 'friendly' investors to disinvest from agri-biotech**

Persuade investors such as trade union pension schemes, student union and local authority investments using ethical arguments (and financial arguments to back them up!). Ask them which companies they invest in, or for UK companies get the list of shareholders from Companies House (the government's company registry), then interpret the codes using the Index of Nominees and Beneficial Owners. This is available in some libraries.

- **Target investors with direct action, to challenge their support for biotech**

Office occupations, banner drops, AGM actions (eg for insurance companies), pickets etc.

- **Ask your own pension scheme, bank or insurance company whether they invest in biotech companies.**

If so ask them not to. Get your friends and family to do the same.

- **Expose, target and lobby the government to reduce its financial support for biotech.**

- **Send anything you find out to Corporate Watch.**

For example, if you find out your pension company invests in biotech, we will add it to this briefing on our website.

The finance behind Aventis

The recently-launched Aventis (formed by a merger of Hoechst / AgrEvo and Rhone-Poulenc) has taken over from Monsanto as the company leading the development of GM food and crops, in Britain and globally. It is the only company performing farm scale trials of GM crops in the UK - and hence is the closest to the mass commercialisation of its unwanted products.

The company's top 10 shareholders, and the overall geographical distribution of all shareholders, will be published in Aventis' annual report, due to come out in April or May this year. Without benefit of that definitive source, this list aims to be as accurate as possible.

Aventis SA is a company registered in France, with subsidiaries in many countries. SA is short for Societe Anonyme (anonymous organisation). As such, Aventis does not have to reveal its shareholders to the public. The following list of shareholders is compiled by ORT, a French information company. It is assembled through collecting various information from public and private sources, and is not 100% complete. In a few places we have amended the ORT list - for example it says that the French government owns 1% of Aventis, which the company itself denies.

[Other sources: D&B, Who Owns Whom 1999/2000; phone books]

Shareholders

13.88% GALLUS (PETROCHEMICAL RESOURCES HOLDING BV NETHERLANDS)

Holding company owned by KPC International NV, Netherlands Antilles (Kuwait Petroleum, the state-owned oil company).
UK contact: Kuwait Petroleum International Ltd.

Kuwait Petroleum International Ltd.
80 New Bond St,
London, W1Y 9DA
Phone: 020 - 7491 4000

5.00% WELLINGTON USA

Holding company, USA.
UK contact: Wellington Underwriting Holdings Ltd.

Wellington Underwriting Holdings Ltd.
2 Minster Court, Mincing Lane
London, EC3R 7FB
Telephone: 020 -7929 2811

3.80% SALARIES DE LA STE RHONE POULENC

Top management of Rhone Poulenc

2.89% FRANKLIN RESOURCES INC USA

Investment company, USA.
British subsidiaries: Templeton Global Investors Ltd, Templeton Investment Management Ltd.

Templeton Investment Management Ltd
St Michaels Place
George Yard
Moorgate / Fenchurch
London EC3V 9DH
Phone: 020 - 7208 7000

2.72% MR MERIEUX ALAIN

Private investor, France

2.49% INDICIA FRANCE

Investment company, France

Cornhill Insurance
 32 Cornhill
 London EC3 3LJ
 Phone: 020 - 7626 5410

Societe Generale
 179 PO Box
 Leeds, West Yorkshire, LS2 7TJ
 Phone: 0113 245 9671

Banque Nationale De Paris p.l.c
 8-13 King William Street
 London EC4P 4HS
 Phone: 020 - 7895 7070

Fiat House
 266 Bath Road
 Slough, Berks SL1 4HJ
 Phone: 01753 511 431

Credit Suisse UK Limited
 Five Cabot Square
 London E14 4QR
 Phone: 020 - 7888 8000

Credit Lyonnais
 Broadwalk House
 5 Appold Street
 Moorgate / Fenchurch
 London EC2A 2JP
 Phone: 020 - 7374 4014

AXA Insurance
 Fountain Ho Fenchurch Street
 London, EC3M 5DJ
 Phone: 020 7220 7147

AXA Sun Life
 101 Cannon Street
 London, EC4N 5AD
 Phone: 020 7621 6500

Guardian Royal Exchange
 132 High street
 Newmarket, CB8 8JB
 Phone: 01638 561 381

1.57% AGF ASSURANCES

Insurance company, owned by Allianz AG, Germany.
 British subsidiaries include: AGF Holdings, AGF Insurance, AGF Pension Trustees, Cloverleaf Insurance Ltd, Cornhill Insurance.

1.50% GROUPE INDUSTRIEL MARCEL DASSAULT

Investment company, France

1.38% FAMILLE MERIEUX

Private family, France

1.00% GENEVAL

Holding company, owned by Societe Generale, French bank.
 British subsidiaries include: Credit du Nord, Cannon Bridge Corporation, Societe Generale.

0.94% BANQUE NATIONALE DE PARIS

French bank.

0.72% FIAT FRANCE SA

French subsidiary of Italian car manufacturer.

0.67% CREDIT SUISSE GROUPE SUISSE

Banking & insurance company, Switzerland
 British subsidiaries include: Churchill Insurance, Credit Suisse First Boston.

0.48% UNIVERS ACTIONS

Investment company, France

0.40% CDR PARTICIPATIONS

Investment company, owned by Credit Lyonnais, the French bank.

0.40% AXA

Insurance company, France
 British subsidiaries include: AXA Direct, AXA Insurance, AXA Sun Life, Sun Life and Provincial Holdings, Guardian Royal Exchange.

0.16% DELAHAYE GENERALE OPTIONS

Investment company, owned by Societe Generale. See Geneval above.

Footnotes

1. ORT, www.ort.fr, 8th February 2000
2. Hemmington Scott, www.hemscott.com, 17th February 2000
3. Hoover's Online, <http://www.hoovers.co.uk>, 29th February 2000
4. According to the Directory of Multinationals 5th edition, 1998, Oppenheimer Group Inc. own 5.31% of Monsanto. Oppenheimer Group Inc. was bought by Pimco Advisors in November 1997 (Pimco Advisors Holdings LP, SEC Form 10-Q, 13th August, 1999). Pimco, in their turn, has reached an agreement for Allianz AG to acquire majority ownership of Pimco Advisors (Pimco Advisors homepage, <http://www.pimcoadvisors.com>, 1st March 2000).
5. Hoover's Online, <http://www.hoovers.co.uk>, 29th February 2000
6. Hemmington Scott, www.hemscott.com, 17th February 2000
7. Hoover's Online, <http://www.hoovers.co.uk>, 29th February 2000
8. Directory of Multinationals 5th edition, 1998
9. Hoover's Online, <http://www.hoovers.co.uk>, 29th February 2000
10. ORT, www.ort.fr, 8th February 2000
11. Directory of Multinationals 5th edition, 1998; The Sandoz Foundation homepage, <http://www.sandozfondation.ch/english/novartis.html>, 1st March 2000.
12. BVCA homepage, <http://www.bvca.co.uk>, 17th February 2000
13. Phonecall to Rothschild Asset Management, former head of BIL, 29th February.
14. Phonecall to Lloyds, TSB Development Capital Ltd, 25th February.
15. Phonecall to Midlands Venture Fund Managers Ltd, 29th February.
16. Hemmington Scott, www.hemscott.com, 17th February 2000
17. Financial Times 13th October 1999
18. Financial Times 12th October 1999; Financial Times 18th October 1999
19. Financial Times 11th August 1999
20. Hemmington Scott, www.hemscott.com, 17th February 2000
21. Financial Times 10th August 1999; Financial Times 11th August 1999
22. The UK Biotechnology Handbook 2000
23. Financial Times 13th October 1999
24. Deutsche Bank, Ag Biotech: Thanks, But No Thanks?, 12th July 1999.
25. PR Newswire, 20th December 1999, Chemical Market Reporter 10th January 2000
26. Financial Times 28th October 1999
27. PR Newswire, 20th December 1999; Deutsche Bank, Ag Biotech: Thanks, But No Thanks?, 12th July 1999; Chemical Market Reporter 10th January 2000
28. PR Newswire, 20th December 1999
29. Financial Times 13th September 1999; Chemical Marketing Reporter 13th September 1999
30. Financial Times 10th September 1999; Chemical Marketing Reporter 13th September 1999; Financial Times 26th October 1999; PR Newswire, 20th December 1999
31. Financial Times 28th October 1999
32. Agricultural Newsletter, Federal Reserve Bank of Chicago, No. 1907, February 2000.
33. Kompass 1999/2000 United Kingdom
34. Hemmington Scott, www.hemscott.com, 17th February 2000
35. Hemmington Scott, www.hemscott.com, 17th February 2000
36. D&B Key British Enterprises 1999
37. D&B Key British Enterprises 1999
38. Swiss Reinsurance Company, Genetic engineering and liability insurance. The power of public perception. 1998.
39. Friends of the Earth, press release 17th February 2000.
40. Chubb homesite, <http://www.chubb.com/businesses/tig/lifescience.html> & <http://www.chubb.com/businesses/trades/bio/>, 17th February 2000
41. The UK Biotechnology Handbook 2000
42. The UK Biotechnology Handbook 2000
43. The UK Biotechnology Handbook 2000
44. Cargill Investor Services homesite, <http://www.cis.cargill.com>;
45. Barling, David & Henderson, Rosie, Whose science? Public sector research into GM food and agriculture in the U.K. Greenpeace, 1999.
46. Department of Trade and Industry, Genome Vally. The Economic Potential and Strategic Importance of Biotechnology in the UK. December 1999; Financial Times, 28th October 1999.
47. Department of Trade and Industry, Biotechnology in the UK. BioGuide. <http://www.dti.gov.uk/bioguide>, 17th February 2000.
48. Department of Trade and Industry, Biotechnology in the UK. BioGuide. <http://www.dti.gov.uk/bioguide>, 17th February 2000.
49. Letter from Miss Patricia Eriken, LINK Directorate, 16th February 2000
50. Department of Trade and Industry, Genome Vally. The Economic Potential and Strategic Importance of Biotechnology in the UK. December 1999.
51. Department of Trade and Industry, Genome Vally. The Economic Potential and Strategic Importance of Biotechnology in the UK. December 1999.
52. MORI / Genewatch, June 1998, 'Public Attitudes Towards Genetic Engineering'
53. Deutsche Bank Alex Brown, 'GMOs are dead', 21st May 1999
54. BBC News, 'M&S to remove GM products from animal feed' 19th August 1999; UK Agricultural Supply Trade Association Feed Circulars F99-222 2nd February 2000 and F99-166 9th February 2000; Iceland Frozen Foods plc, press release 'Iceland takes the lead on non-GM animal feed' 13th December 1999; American Corn Growers' Association (ACGA), press release 'Corn growers believe elevator actions will reinforce farmer decisions to seek alternatives to GMOs', 15th December 1999
55. ACGA, press release 'Corn growers believe elevator actions will reinforce farmer decisions to seek alternatives to GMOs', 15th December 1999
56. ACGA, press release 'Corn growers complete survey on farmer planting intentions for upcoming growing season', 21 February, 2000.
57. ADM statement to suppliers regarding genetically enhanced crops, September 1999
58. Dr Robert Wisner (Dept of Agriculture, Iowa State University), 'Evolution of the demand for non-GMO corn and soybeans', 15th September 1999; Seedquest, 'American Corn Growers Association believes results of Biosafety Protocol meeting in Montreal will demand segregation of all crops' 29th January 2000
59. Hoovers On-line, <http://www.hoovers.co.uk>
60. Deutsche Bank Alex Brown, op cit 2, and 'Ag Biotech: Thanks, But No Thanks?', 12th July 1999
61. Agricultural Newsletter, Federal Reserve Bank of Chicago, No. 1907, February 2000.
62. See for example Strategic Diagnostics Inc, at www.sdx.com
63. Scott Kilman and Thomas M. Burton, "Biotech backlash is battering plan Shapiro thought was enlightened," Wall Street Journal, 21th December 1999, p.A1.