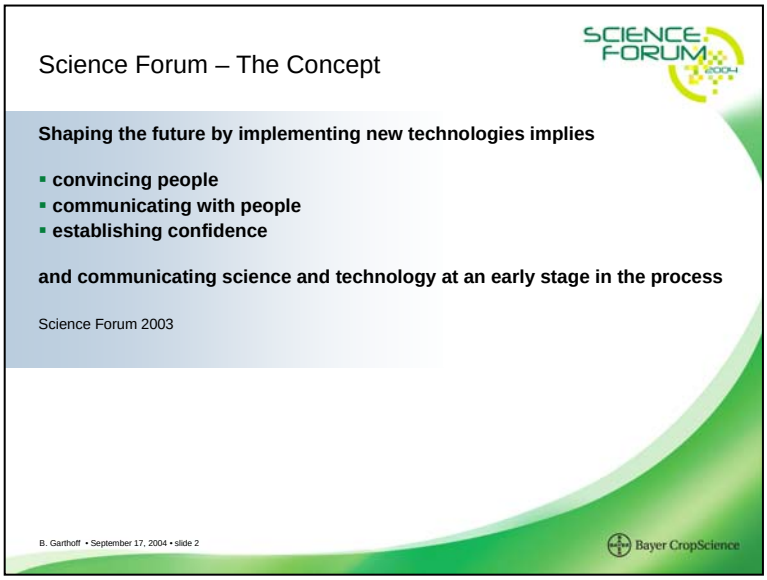
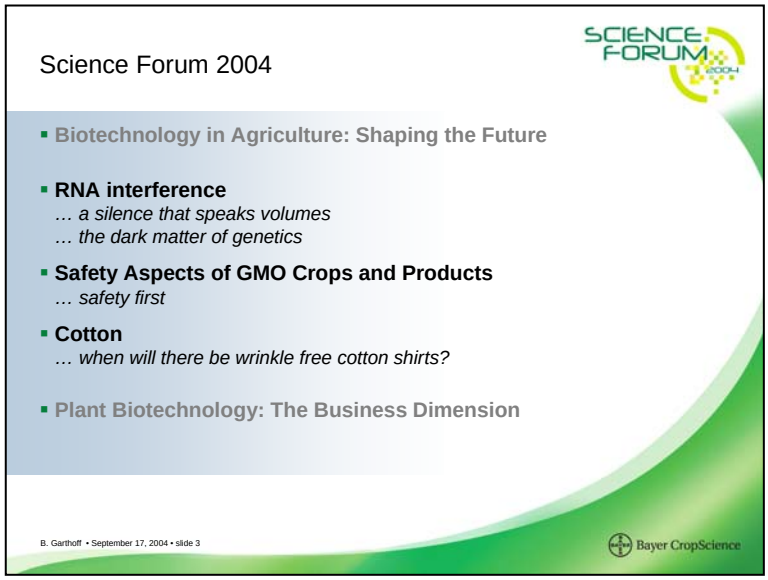
Good morning, Ladies and Gentlemen! I am delighted to have the opportunity to speak to you today on this very special event for Bayer Crop Science - our 2nd annual Science Forum. I'd like to extend a warm welcome to all of you joining us today – to the participants, speakers and media representatives that have found the time in their busy schedules to spend the day with us here in Gent. I also like to welcome everybody joining us via internet.



When we established this event last year, we aimed to create a forum to report the evolution and development in science and technology to the public, to give insights into what it is all about and where ideas and technological innovations come from. One of the main challenges for developing and using cutting edge technologies is that society understands why this is a good idea! And understanding implies

communicating with them and establishing confidence. Communicating science and technology at an early stage in the process plays here an important role.

This is the concept of the Science Forum. We want to facilitate understanding by fostering transparent and constructive dialogue on scientific topics between our Industry and you: our stakeholders.



For this year's Forum, we selected Plant Biotechnology as our topic. A technology which, we believe, will be instrumental in shaping the future of the agricultural industry.

Today, we will cover three aspects of this technology which will illustrate the complexity surrounding plant biotechnology and highlight the need of a common understanding as a basis for constructive discussion.

I will start this morning by exploring the broader context of plant biotechnology, which has left the exploratory stages and is well on its way into the agricultural production system, offering exciting opportunities for novel products and solutions that will assist in dealing with today's and future global challenges of food, feed and fiber demand.

This will involve - for instance - the use of enabling technologies like RNA interference. This technology is usually referred to as *gene silencing*, but there are much more interesting quotes such as the one recently used in Nature magazine (404, 804-808): *a silence that speaks volumes* - or to say it with the words of Prof. Baulcombe and his key note speech: *the dark matter of genetics*. Our own

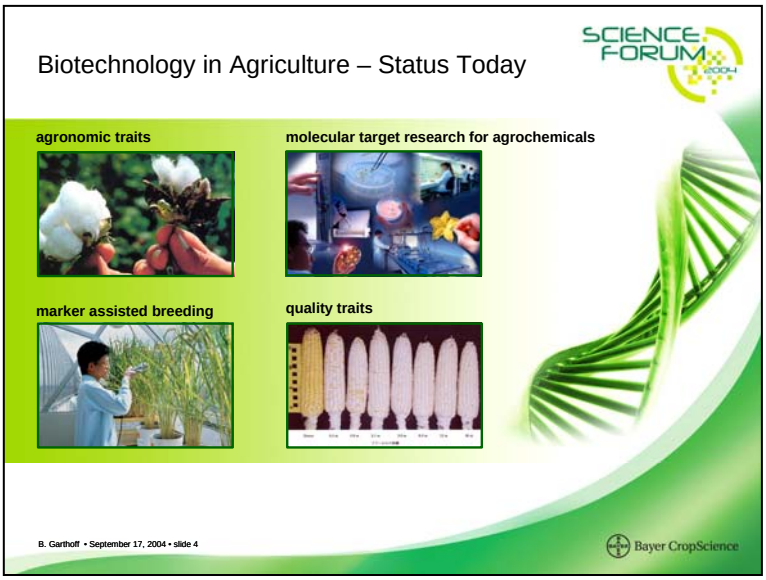
researchers will complement this talk by illustrating the application of RNAi in the discovery process of crop protection products as well as in crop improvement.

Of course, the safety aspects of new technologies are an important factor to observe for all involved in innovation. In the context of plant biotechnology, Herman Koëter will address this issue later this morning by explaining *Safety Aspects of GM Crops and Products* from a European regulatory perspective.

The afternoon is dedicated to Cotton. Starting with the history of the crop and its value chain, cotton serves as a vibrant example of the various aspects involved in growing, producing and improving an agricultural crop. Our external and internal experts will present to you ways and methods of applying plant biotechnology to a crop and the multitude of opportunities it holds in creating tangible benefits.

Our CEO Friedrich Berschauer will conclude the Forum by elaborating on the business dimension of plant biotechnology, the framework which needs to be addressed when discussing this topic, and some of the conditions, we as an industry, will have to meet in order to enhance confidence in this technology and the future benefits it can bring.

I invite you to participate in the discussions during the Q&A sessions in the morning and afternoon.



Today, there are essentially 4 areas in agriculture where biotechnology plays an important role, based on the advancing knowledge on metabolic and developmental

processes, and structural and functional genomic information of more and more species.

Agronomic Traits covers plants engineered to resist insects or to allow more targeted use of herbicides. These first generation traits have provided farmers with production and yield benefits, effectively facilitating and improving crop quality and management. The current trend is towards stacking two or more such crop protection traits to combine desired effects and to improve productivity with traits, such as stress tolerance, using improved versions of endogenous plant genes.

Molecular Target Research for Agrochemicals, where researchers use functional genomics information to identify useful target genes for trait development at the molecular level in plants, insects and pathogens. Similar to the approach in the pharmaceutical industry, high-throughput test systems containing the molecular target of interest are used to screen large libraries of chemicals. The objective is to identify small molecules which act on those targets in a desired way, leading to a jump start of chemical research for agrochemicals.

Marker Assisted Breeding, where Genomic Research and Molecular Breeding are providing more and more insight into the genetic composition and allelic variation for traits of interest at the molecular level. Breeders are increasingly using this information to design their breeding programs.

Last but not least, Quality Traits. First generation biotechnology solutions mainly addressed crop management and yield aspects. Today biotechnology aims at improving the quality of the agricultural products or producing new high value products in plants. Examples range from improved oil and starch, health and processing benefits to bio-engineered fibers, bio-fuel and plant-made pharmaceuticals. At present, the market potential for therapeutic proteins alone is estimated to reach over 59 billion US$ by the year 2010.

All of these technologies or their applications in agriculture are largely unknown to the broad public.

From history books, we all know the issues around the time when the first trains were introduced to a non-informed public - when people were afraid to use trains and when there was jealousy towards the railway tycoons who made fortunes by constructing their networks - yet the world has come around to the idea that the introduction of railways was a major step forward for trade as well as wellbeing and comfort of people.

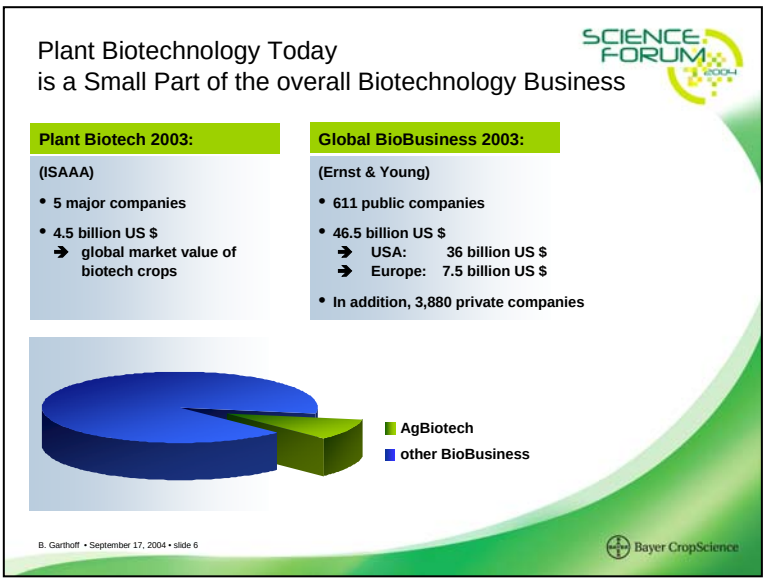
I suppose you could compare the railway promoters with the biotech companies of the world today.

Private and public companies are investing into biotechnology, because they believe that:

- the technology in all its facets can be well managed,
- the benefits of this technology will be understood by the public and the markets,
- and that consequently this investment will yield dividends in the long run.

In contrast to the railways, there is today stringent and comprehensive legislation in place, regulating what the industry can do and what not.

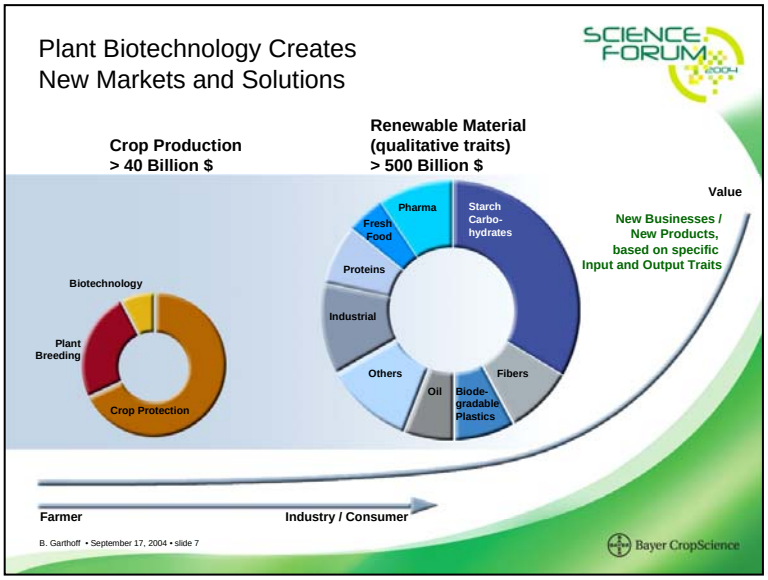
In addition, there is widespread support from the scientific world, where numerous researchers with their teams are focusing on advancing biotechnology in all conceivable aspects. The FAO estimated the global public funding alone to be in excess of one billion US $ per year, a huge amount being spent to develop biotechnology for the wellbeing of the world's population.



The global private sector biotech market last year already accounted for over 45 billion US$, the bulk of it in the United States. Over 4,500 companies are engaged in this area of innovation.

Current applications in agriculture accounted for about 10 % of the overall market, illustrating that plant biotech is today still only a small part of the overall biotech business.

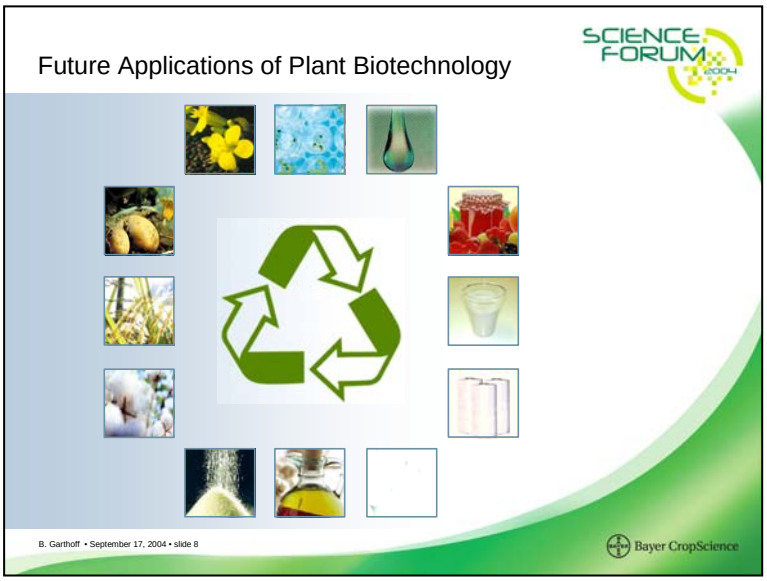
Yet we see tremendous potential for this market.



Given that the demand for food, feed and fiber is growing with population and economic development, it is my firm belief that the necessary increase in global plant production can only be achieved, if we make use of all technologies we have at our

disposal. These include conventional crop protection, plant breeding and plant biotechnology.

At the same time, plant biotechnology creates new markets and solutions downstream. Using crops as bioreactors, it will be possible to produce a wide range of materials on a renewable basis. This step is often referred to as "white" or “industrial” biotechnology, where plants are engineered so that they can produce valuable products well beyond today’s use for nutrition and fibers.

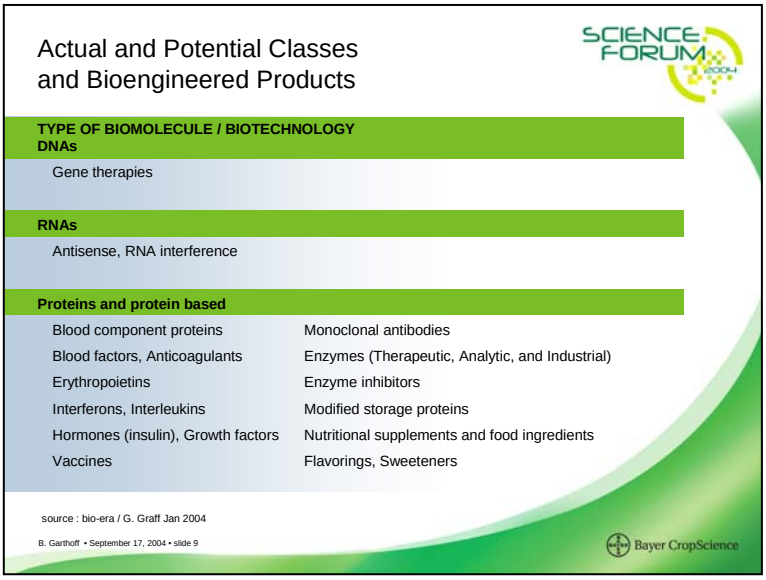


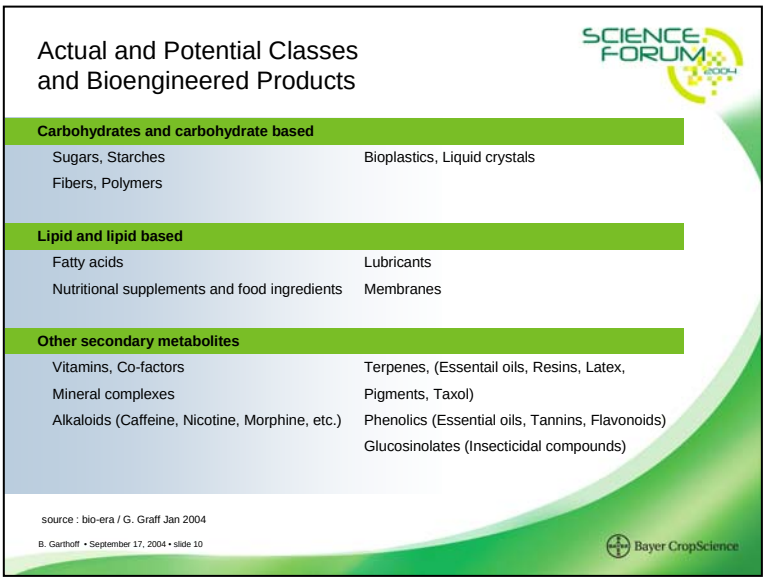
Starch, proteins, biodegradable plastics, industrial products and other products produced from improved crops will play an important role in the future. There are many and very real options to enhance crops to produce so-called biomaterials, which can optimize or even enable processing in the industries downstream.

An example is this material made of starch, which comes out of our labs in Potsdam. We have engineered potato plants in ways that they yield specific qualities of starch, designed to fit different manufacturing processes in industry, for instance in the manufacturing of paper. Starch is used as retention aid for holding back solids in the paper in first step in paper production, where pulp is sprayed on the table and then quickly dewatered. Higher molecular weight and higher charge density have positive impact on paper quality by increasing paper strength, while the improved retention of solids is reducing the load of the waste water … one of the biggest problems in paper production.

As you can see, the industry has come a long way from just focusing on the farmers' benefits. A number of applications of plant biotechnology will provide evident benefits for the consumer, like new oil profiles in the nutrition area or new cotton fibers with exciting new qualities for the textile industry. We believe that in the long-run a very important area of plant biotechnology innovations will also be plant-made pharmaceuticals.

Some more detailed applications for biotechnology can be seen on the next two charts.





As I have illustrated, an array of novel technologies are at our disposal today, that enable us to use the genetic make-up of plants to improve their productivity and the qualities of modern varieties. These technologies clearly have the potential to improve plant breeding, farming and food-processing. They will be key in transforming today's input intensive agriculture into one that is more sustainable by making more efficient use of available resources.

Sustainable Development, *Industrial Ecology*, and other terms all lead into one direction: balance the resources and find ways to manage them. The question we must ask ourselves is how we can improve the value creation chain in plant production? How can we achieve more efficient use of land, energy and material by putting them in a holistic context, which would include the input or production side as well as the output dimension.

Let's look first at the input side of growing crops. We will need to optimize the amount of fuel, fertilizers, agrochemicals and water used in the process of agricultural production. At the same time, we must increase the productivity of the agricultural system on limited arable land. The scarcity of resources will be the single largest challenge we will face in the coming decades: how to produce more food on less land for double the population with half the water?

Let me illustrate the complexity of the task ahead by referencing water, which is quickly becoming a scarce commodity.

According to the International Water Management Institute, currently up to 90 % of all managed water is used to grow food. Groundwater levels are plummeting and rivers are already overstressed. Western diets, which depend largely on meat, are already putting great pressure on the environment. Meat-eaters consume the equivalent of about 5,000 liters [1,100 gallons] of water a day compared to the 1,000 - 2,000 liters used by people on vegetarian diets. It takes on average 1,800 liters of water to grow 1 kg of wheat compared to 9,700 liters of water for 1 kg of beef. All that water has to come from somewhere.

Now, will we be able to solve this issue by a change of diet? Probably not! Quite on the contrary, current dietary trends clearly indicate a gradual shift from vegetarian to *meaty* diets triggered by economic development.

We are confident that plant biotechnology represents a part of the solution which we as an industry can bring to the table. It will offer the possibility to engineer crops in such a way that they require less water to grow. In doing so, we will be able to manage the resource water more efficiently, tipping the balance in favor of that scarce resource.

Let me briefly elaborate on my perspective on what our industry's contribution can be and should be in facilitating Balanced Resource Management to sustainably "shape the future".

If we can engineer crops in a way to be more fertilizer efficient, one not only needs to produce and use less fertilizer, but will also save on fuel needed to transport it to the farms. If plants are resistant to certain insects or diseases, one can realize similar savings on agrochemicals.

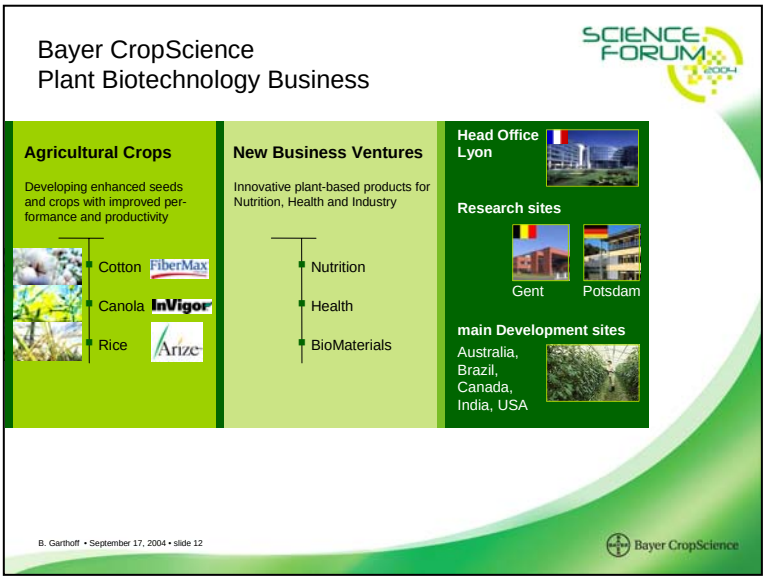
If we now expand our view from managing the agricultural crop towards some of the downstream industries which use agricultural output in their manufacturing process, one can see powerful options to further balance resources. The trend will have to be towards renewable ones instead of stretching the ones which are scarce. If we enhance crops to produce products that are designed to better fit the subsequent manufacturing processes, those processes can be run more efficiently and with less waste, but at the same time with better product quality. They can make chemical and physical modifications redundant and thus contribute to savings in time and energy.

Another positive tip of the balance will be to grow materials directly in plants, on a renewable basis, instead of using limited fossil resources to manufacture them. The engineering of plant metabolism can improve the quality of plant raw materials. It will also allow us to produce innovative raw materials in plants. Exciting perspectives for plant biotechnology!

As a consequence of this trend, of course, production systems will have to be shaped accordingly. Given the multitude of new varieties that will evolve, appropriate logistics of harvest collection, transport and stock keeping will need to be in place to ensure identity preservation from harvest at the farm-gate to the point of use.

We as Bayer CropScience are committed to facilitating the approach of Balanced Resource Management and do our part to make it a reality.

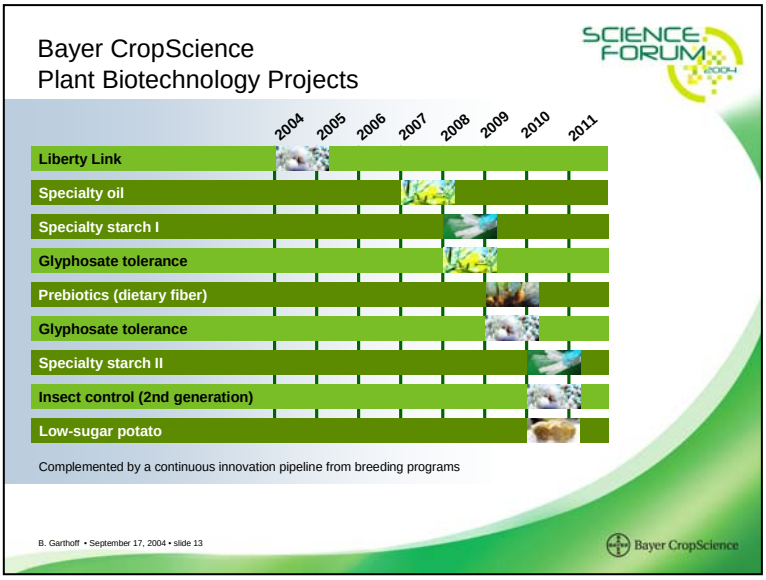
We have designed our organization to reflect this commitment, with a dedicated business group called BioScience, focusing on the research, development and commercialization of plant biotech products.



Our focus in plant biotechnology is twofold. In our Agricultural Crops business, we concentrate on three key crops: cotton, canola and rice. Using plant biotechnology and modern breeding methods, we develop and market improved seed varieties and are well positioned to participate in the growing global market for enhanced crop genetics. Lykele van der Broek, who heads BioScience, will give you some more insights into the business as part of the Cotton Forum early this afternoon.

The New Business Ventures unit of BioScience is at the forefront of creating novel, plant based products for health, nutrition and other industrial uses to meet the demands for new solutions using renewable resources. To do so, we leverage the innovative potential of our crop programs and work with downstream partners, such as food processors, as well as partners in other Bayer businesses, such as Health Care.

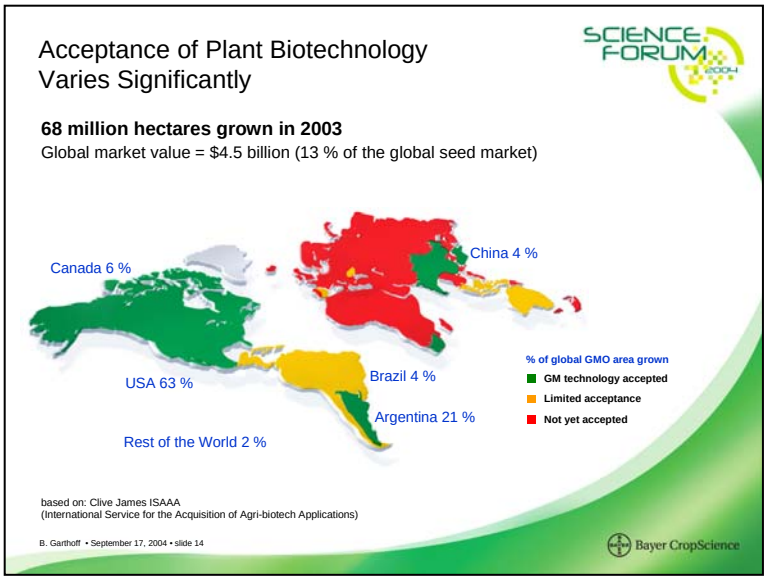
In addition, we are extremely pleased about the many co-operations we have established with academia and public institutes worldwide. In fact, both of our research sites in Gent & Potsdam have developed out of start-ups which had significant contact with the University of Gent and the Max Planck Institute in Berlin.



Besides traits such as herbicide tolerance and insect resistance, current innovations include carbohydrate modification, whereby our scientists are able to change the way plants synthesize carbohydrates to create new starches with improved characteristics, ideally suited for new applications for food and industry. Researchers have also started developing plants with high tolerance to stress, such as severe temperatures, and discovered genes that improve the healthy properties of canola oil. We are confident that these projects will lead to a pipeline of new products offering direct customer, industry and consumer benefits.

Ladies and Gentlemen, as I have highlighted in introducing the scope of the Science Forum, continuous and open communication is a prerequisite to build and ensure public trust and confidence in innovative products and solutions and new

technologies. It is no different with plant biotechnology, which has not yet been adopted across the globe to the same extent.

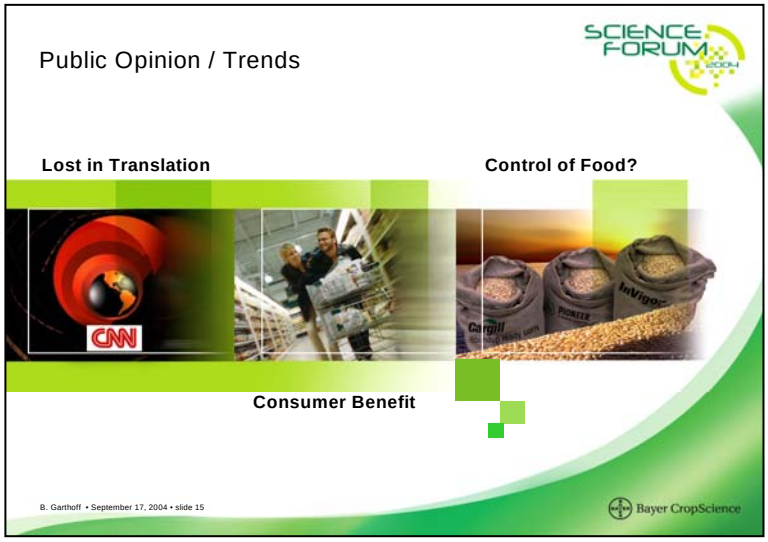


Essentially, the technology is used in six countries, four crops (soybean/55%, cotton/21%, canola/16% and corn/11%) at different percentages of the total acreage grown, using just two traits (herbicide tolerance and insect resistance).

A total of 18 countries with 3.4 billion people have adopted biotech crops, where about seven million farmers cultivated 68 million ha [167 mio acres] in 2003, up 15 % over 2002.

We expect that this upward trend continues. As an example, China plans to spend 120 million US$ for field trials over the next years for GM rice alone.

In Europe, the public at large has not embraced plant biotechnology as yet. While the individual reasoning might be more complex, there are three major aspects currently reflected in the public's opinion:



Let me read to you the announcement for a workshop run by Stephan Herrera, The Economist, USA @ Euroscience Open Forum in Stockholm Aug. 26, 2004:

Lost in Translation: media, science and politics

Most people acquire most of their knowledge about science and technology through the media. How much is lost in translation between scientists and journalists? Does this influence the public's perception of science? Is it the cause of the furore over stem cells, genetically modified food and nanotechnology? What are the responsibilities of the media? How should scientists and journalists communicate controversy and uncertainty to the public? How can misunderstandings be avoided? As pressure groups become increasingly savvy about politicising scientific issues, how should the research community defend reality?

Well, the discussion at the forum was scheduled as a three hour workshop, which would crash our agenda here today. Nevertheless, I believe this list of questions raises some vital aspects of what we are faced with today here in Europe … in terms of public acceptance concerning plant biotechnology. We as scientists have to get more engaged and play our role to communicate more effectively the risks and benefits of our technologies.

At this point let me refer you to our Science Forum hand-out which you have received. In it, you will find for the presentations given today not only a scientific abstract but also a summary written for the broad public, in a language we would expect a 16 years old student to appreciate and understand. In doing so, we are aiming to close the communication gap between the scientific community and the

public. Given the difficulties we had writing them but also the degree of appreciation we have received for this effort at last year's Science Forum, I would like to extend this challenge to all of the scientists here today – just consider writing such a second abstract when you publish your next scientific paper. In this way, you would contribute to our ambition as a scientific community to help in *making science make sense*.

Consumer Benefit is the next big topic influencing the acceptance of plant biotechnology. It is my pleasure to quote Per Pinstrup-Anderson, professor at the Royal Veterinary and Agricultural University of Copenhagen and at Cornell University, who stated at the Science Forum last year: *"In Europe, we use genetic engineering in human medicine because we can get sick, but many Europeans do not want to use genetic engineering in food and agriculture because we are not hungry."*

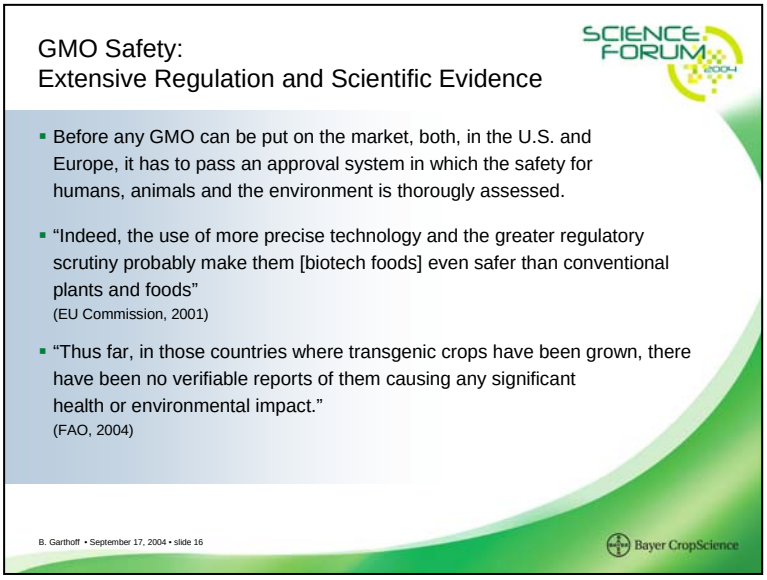
I guess that is pretty much to the point and does not require further explaining.

The third reason - and here I quote Dr. Jim Peacock of our partners CSIRO in Australia who is present in the audience – *"the third reason for caution and concern rests squarely on a mistrust of major multinational companies with suspicions that these technologies may give them unfair* ***control over*** *our* ***food*** *supplies.*

Support of our public research institutions is important to deal with this concern and will enable fair partnerships to be put into place.

So many of us these days have little knowledge about farming or where our food comes from so it is hard for us to assess the benefits and risks, even though there are excellent examples of major environmental and economic benefits."

Thanks Jim for having highlighted this point, which brings me to the other important aspect of the public debate, GMO safety.

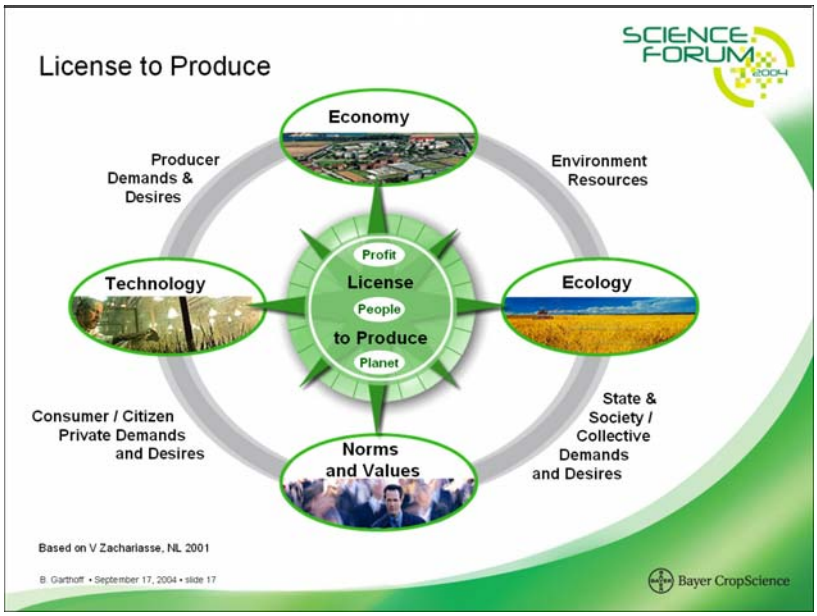


I will not be too detailed here, since Herman Koëter has kindly accepted to spotlight the topic later in the morning from the perspective of the European Food Safety Authority.

A few things I would like to point out, though. While we acknowledge that there is public concern, there is today scientific consensus to say "GMOs are safe".

The regulatory procedures ensure the safety of the farming and processing operations and of the food itself. In the EU, for instance, specific legislation on GMOs has been in place since the early 1990s to protect citizens' health and the environment. I think it is fair to say that there are more checks applied to GM foods and organisms than there are to conventional foods and organisms.

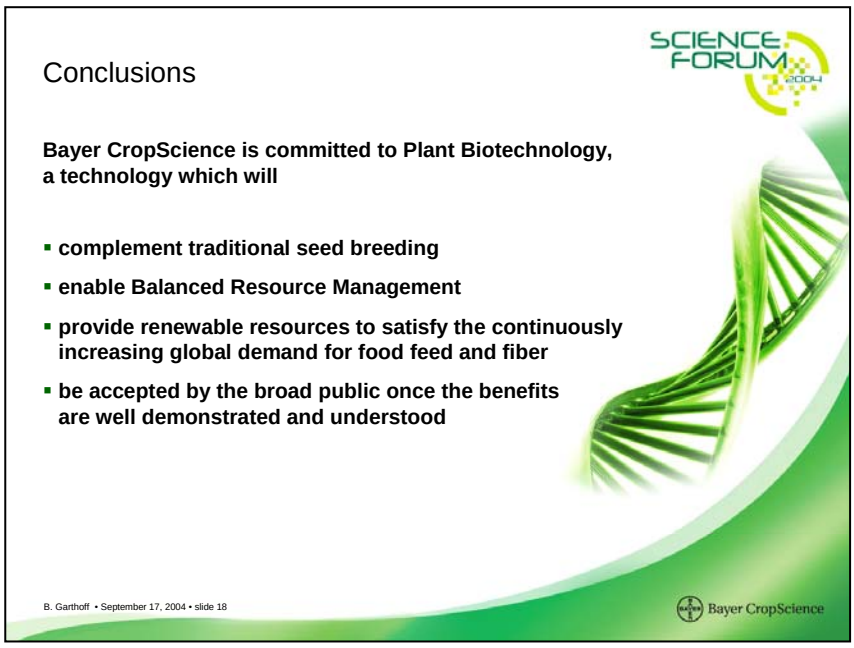
Safety is for us at Bayer CropScience a top priority. We are committed to a responsible approach to all our products and to active product stewardship at all times, whether for crop protection or plant biotech products.



We can only “shape the future” responsibly and manage our resources in an optimal fashion, if we strike a balance between the interests of all stakeholders involved. We will have to find a societal consensus that takes into consideration the scientific, economic, social and ethical dimensions.

As a consequence, it is our firm belief at Bayer CropScience that nowadays innovation and technology development must leave the ivory towers. In a society globally linked by media, a multitude of stakeholders hold opinions on what is socially and ethically acceptable behavior … which technological innovations or aspects thereof are deemed acceptable and which are not.

A challenge for developing and using cutting-edge technologies is that people understand why this is a good idea. Regulatory frameworks are required, which take into account that the development process for products in plant biotechnology requires a number of years to develop a marketable product. Companies will find it difficult to invest long-term into innovation if regulations change frequently.



At Bayer CropScience, I think we are "in good shape" for the future. We are committed to plant biotechnology, which will complement the traditional seed breeding, enable Balanced Resource Management and provide renewable resources to satisfy the continuously increasing global demand for food, feed and fiber. Last but not least, we believe plant biotechnology will be accepted by the broad public once the exciting benefits are well demonstrated and understood.

Thank you for your attention.