

## Ocimum gets orders for OptGene™ from Dow AgroSciences

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Ocimum Biosolutions, Hyderabad, has announced the sale of its gene optimization bioinformatics software, OptGene™ to Dow AgroSciences, LLC. Financial aspects of the deal were not disclosed.

"Dow AgroSciences is one the leading companies in the world in plant biotechnology. We are very pleased to be working with Dow AgroSciences and meeting their needs in customizing this cutting edge product, OptGene™". We look forward to a continuing association with Dow AgroSciences" Ocimum's CEO Anuradha Acharya commented

Dr. Don Merlo, Senior Research Scientist, Molecular Biology group for Dow AgroSciences said "OptGene™ combines a whole suite of gene design and analysis packages into one user-friendly and user-customizable program that replaces three programs that I used previously". He added "I was amazed at the speed of Ocimum's customer response. With Ocimum having a team in India, the time difference between the US and India actually worked to my advantage, since answers to questions I encountered during my work day were worked on and solved overnight."

OptGene™ is a multi-platform compatible bioinformatics software that enables design of genes with optimized features for expression in organism of choice. The software exploits the redundancy in the codon usage to engineer desired features into the targeted gene. It comes with integrated user-friendly tools to perform various manipulations for efficiently achieving desired structural and functional features in the targeted gene sequence. It is the only product of its kind in the world. Ocimum is in the process of filing worldwide patents for this product.

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## Bio-Rad offering Quality control service

Bio-Rad India, a fully-owned subsidiary of US-based Bio-Rad Laboratories, has started a new service to create its need within the diagnostics industry. Bio-Rad has started a quality control practice for all medical laboratories. Explaining about the service the company's country manager, Dhiren Wagle said, "If you critically look at the diagnostics market of labs and pathologies in India you will find that there is a great need of any regulatory body to standardize the qualities of labs. The response is good from the industry and uptill now we have 120 labs as our subscribed members for this."

Headquartered in Gurgaon, Haryana, Bio-Rad India has regional offices at Chennai, Mumbai, Kolkata, Bangalore and Hyderabad - all catering to the numerous research, industrial and clinical laboratories of India. The company's operations in the neighboring countries of Sri Lanka, Bangladesh, Nepal, Bhutan and Maldives are also coordinated from the Bio-Rad India office at Gurgaon. A fast-growing company dedicated to bringing quality in terms of products, services and new ideas into the life-sciences research and health-care sectors, Bio-Rad India has achieved Rs 34 crore in sales in 2002.

Achieving quality control in a medical laboratory it requires using many technical tools. These include, procedure manuals, maintenance schedules, calibrations, a quality assurance program, training and quality control.

"Quality control in the medical laboratory is a statistical process used to monitor and evaluate the analytical process, which produces the patient results," Wagle said.

According to him, the statistical process requires "a regular testing of quality control products along with patient samples. And the other is comparison of quality control results to specific statistical limits. In addition, this is a value-added service. It is so, because any lab can avail this service without paying anything specifically for it. This is offered free with any of the products of the company."

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## Government to support GM technology

Agriculture Minister Rajnath Singh has reiterated that the government would support any technology, including the GM technology, that is risk-free and bring prosperity to the people. "However, the GM technology should be evaluated for its potential impact on human health and environment must be addressed if its benefits are to reach the farmers."

Inaugurating the World Seed Congress 2003, the annual event of the global seed industry in Bangalore, Singh, ruled out any revision of targets for agri exports and invited global seed companies to set up joint venture with Indian companies and develop mutually beneficial business opportunities. "Today, the biggest challenge facing the seed industry is that of meeting the ever increasing demand for good quality seeds of different crops suitable for different agro-climatic zones," he said.

Organized by the International Seed Federation, in co-ordination with the Association of Seed Industry and the Seeds Association of India, the congress may open up trade opportunities for the fledgling Indian seed industry and help India to learn about the latest technologies.

Noted agriculture scientist Dr MS Swaminathan called for creating seed reserves to overcome genetic vulnerability enhanced by genetic homogeneity. "Seed reserves are crop security, just as grain reserves are important for food security," he said.

The renowned scientist pointed out that "to sustain our agriculture progress, we need an evergreen revolution which could help us to increase productivity in perpetuity without ecological harm."

It was important to develop a proper regulatory framework to emerge as a key player in global seed trade, said International Seed Federation (ISF) general secretary Le Buenec.

"One of the key factors, in terms of exports, is adequate protection of intellectual property rights (IPRs). This proves to be a major concern for companies to export to India." For imports, India had to be a part of the international system of seed certification and member of the International Seed Testing Association, Buenec added.

ISF president Christopher Ahrens said investment to India was restricted till now due to non-favorable conditions but this was expected to grow following the new policy initiatives.

A key Indian organizer and Advanta India managing director Deepak Mullick said as per year 2000 figures, India exported \$20 million worth of seeds which could be increased to \$200 million by 2005 if all the requirements were put in place. "India has also got its first seed testing lab which could provide the Orange International Certificate required for exports. Two more such labs would be set up in the near future, he added.

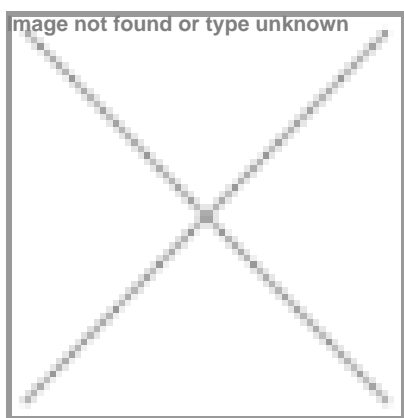
On the controversy over genetic engineering and genetically modified crops, ISF leaders said, "it is a technology that would solve many problems but it is not a tool to solve the entire problems of the world."

"Though India ranks eighth among the world's top 10 seed producing countries, China is way ahead with its market size estimated at \$3 billion as against India's \$680 million," declared Manmohan Attavar, chief organiser of the congress

Incidentally, the US leads the global seed industry with a whopping \$5.7 billion domestic market, followed by China (\$3 billion), Japan (\$2.5 billion), Commonwealth of Independent States (\$2 billion), Brazil (\$1.2 billion), Germany (\$1 billion) and Argentina (\$930 million).

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### Accelrys and Axxima collaborate to speed up drug discovery



Accelrys, a wholly owned subsidiary of Pharmacoepia Inc. has unveiled a three-year software licensing agreement with Axxima Pharmaceuticals AG. Axxima will apply Accelrys molecular modeling technology to target important infectious diseases such as HIV, Hepatitis C, and tuberculosis.

Axxima aims to speed up the discovery of novel drugs to treat these diseases. Accelrys software supports Axxima's strategy to fully integrate molecular modeling within its medicinal chemistry department, improving communication between chemists and modelers and leading to a more efficient process.

A key element in the agreement is Accelrys LigandFit software which offers a broad range of structure-based design capabilities to allow rapid evaluation of thousands of drug-like molecules against protein target sites. LigandFit calculates the likelihood that a compound will interact strongly with a protein target, indicating promising lead

compounds. Accelrys scientists will continue to work closely with Axxima to extend the validation of LigandFit for protein kinases, the primary class of targets studied by Axxima. This collaborative validation will enable Axxima to quantify virtual high throughput screening hits and to reach more rapid and reliable hypotheses.

"We are convinced that LigandFit is a very promising technology and we are confident that it will optimize workflow and throughput in our drug discovery programs," stated Dr. Andrea Missio, director of chemistry at Axxima. "It was also important to us that Accelrys could address all of our computational chemistry needs within a single environment."

This agreement not only provides Axxima with a valuable research tool, emphasized Dr Scott Kahn, chief science officer at Accelrys, but it is also supported by joint projects to expand validation of our science in an important class of disease targets. The Accelrys approach is to work closely with cutting-edge research organizations to optimize our technology and to improve the impact of our science.

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### Bt cotton a sell out this year

Whatever the critics may say, India's farmers seem to have spoken about the Bt cotton seed. The message from them is loud and clear. They see Bt cotton as a success. And the farmers have put money where their mouths are and have placed huge orders for the Bt cotton seed marketed by Monsanto-Mahyco.

So much so the seed factories of the combine are working overtime to cater to the demands of the farmers for the Bt cotton seed. And the supply is capped as the suppliers are not in a position to meet extra orders. "If we have more seeds, we would have been very happy to cater to the demands of more farmers," said a top Monsanto official.

Sources in Monsanto said the Bt cotton seed is likely to be planted in some 700,000 acres in six states this year. Last year, the first year when the crop was introduced after the regulators approved its use in March 2002, Bt cotton seeds were planted in just 80,000 acres.

The Bt cotton seed has a gene introduced from a soil-based bacterium, *Bacillus thuringiensis*, to induce immunity against a major cotton pest, boll worm. Over 50 percent of the pesticides in the cotton crop used by farmers are to give protection against the boll worm. With Bt cotton seeds, the use of pesticides against boll worm is eliminated.

One acre of cotton crop requires 450gm of Bt cotton seed. In addition, each packet of Bt cotton is sold with 200gm of normal seeds as current regulation mandate planting of residual lines of the conventional plant as a safety measure. The combined packets of 450gm Bt cotton and 200gm conventional cotton seeds retails for Rs 1,600.

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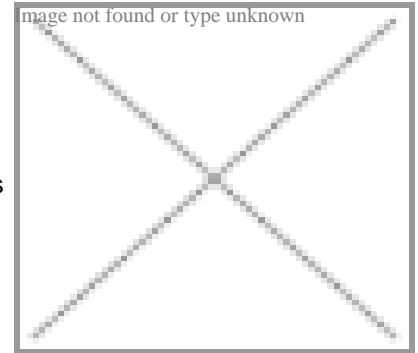


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### **Kolar Biotech to manufacture rDNA products**

The Mumbai-based Kolar Biotech is setting up a project to manufacture recombinant DNA. To provide technical consultancy and hand holding support for the project having estimated cost of Rs 33.98 crore, the company has retained Biotech Consortium India Ltd (BCIL). It will also take care of the technology transfer arrangement. The commercial production of the biotech project is scheduled to commence in April 2005.

### **Sartorius India forays into new business**

The Bangalore-based Sartorius India is set to enter into new business areas following the parent company, German-based Sartorius AG. It has acquired another German firm Diessel to enable supply of bioproducts equipments to food and beverages (F&B) and pharma segments.

### **Metahelix signs deal with NZ firm**

Metahelix Life Sciences, a Bangalore-based agri- biotechnology company, has signed a four-year plant functional genomics research agreement with ViaLactia Biosciences of New Zealand. The program involves the functional validation of a number of genes from pasture plants.

### **India to generate a million jobs: E&Y**

The biotech in India is forecast to generate \$5 billion in revenue and one million jobs over the next five years, reports the annual global biotechnology report from Ernst & Young (E&Y). To achieve this, India along with China is seizing the change to make therapeutically equivalent versions of biologics from western nations. They are now reluctant to do this because of the fear of losing intellectual property without compensation.

### **Monsanto starts research on GM maize**

Monsanto has received a clearance to initiate research on transgenic maize, following which the sample seeds has been brought into India through National Bureau of Plant Genetic Research (NBPGR). Ranjana Smetacek, director - public affairs, Monsanto India, told BioSpectrum that the regulatory studies would begin under the guidance of Ministry of Environment, Ministry of Agriculture and Ministry of Science & Technology."As for location, we are exploring venues for pollen flow studies," she added.

### **AP signs MoU with Canada**

A memorandum of understanding (MoU) was signed between the government of Andhra Pradesh and the province of Saskatchewan (leading Canadian agri-biotech state) for collaboration in the field of agri-biotechnology. The focus will be on crop, animal and environmental Biotechnology. The collaboration will extend to the areas of technology, research, regulatory issues and education. The MoU was signed at Washington by BP Acharya, industries secretary in-charge of biotechnology, AP and Larry Spanner, the deputy minister for Industries of Saskatchewan province.

### **Centers identified for GM rice tech transfer**

The Department of Biotechnology (DBT) has identified centers in the country for transfer of the 'golden rice' gene in established traditional rice varieties. The Tamil Nadu Agricultural University is one of the identified research centers for this technology transfer. Under the Indo-Swiss collaborative program on biotechnology (ISCB),the DBT had given the right to supply the seeds to research institutions, breeders and biotechnologists "to optimize the trade in many respects and eventually provide an area-specific rice line for the people".