MIRROR TO GLOBAL AGRICULTURE
Disclaimer

The information contained in this journal has been obtained from sources considered to be authentic and reliable. However, Editors and or publishers shall not be responsible for any error or inaccuracy or for any losses suffered on account of information and analysis contained in this publication. The data and information provided in this newsletter is not advice, and should not be relied upon as such. Readers are advised to obtain professional advice before acting on any information contained in it.
Overview of Indian Crop Protection Chemical Segment

Krishnamurthy Ganesan
Managing Director
Mahamaya Lifesciences Pvt. Ltd.

Agriculture is the backbone of Indian economy with 52% of the population engaged in agriculture and related activities. But the sector’s share in Indian economy has declined to 13.7% in terms of GDP because of higher growth rates of the industrial and services sector, which needs to be addressed considering its importance in our Socio-economic development.

Indian Agriculture has been facing grave challenges for many years. The most important being “sustained development in proportion to the exploding population”. Even after the Green Revolution in 60’s, we are still not fully self-sufficient in Agriculture. The growth rate of agriculture is not able to cope up with rapidly growing population. Land under agriculture is limited but number of people being fed on the piece of land is constantly increasing. Due to inadequate irrigation facilities, lack of proper crop protection measures, poor seed quality of food grains, the output is far below world average.

Water shortage is a major problem in one part of the country while crops are damaged year after year due to flood in some other parts of the country. Of the total cultivable land merely 40% area is covered by irrigation and rest 60% depends on monsoon. On an average, farmers’ income has come down by 3 per cent in 2014-15 and by 4 per cent in 2015-16 due to crop losses as a result of shortage of rainfall. During 2014 and 2015, monsoon shortage was around 12 per cent and 14 per cent from the long period averages.

For many decades various plans are only on paper. It is a pity that the farmers are dependent on monsoon and the technologies like drip irrigation are not implemented in full swing for adequate water supply to crops in many states and in the same way flood water is not channelized for proper irrigation to avoid damage to crops. There is much to be done by Government by introducing innovative technologies to face the natural calamities along with plans for compensation and insurance for crop losses.

The second imperative challenge faced by the Indian agriculture is the colossal losses caused by the insect pest attack on the crops. About 20% crop production is lost due to insects, weeds and diseases but still Indian Crop protection chemicals usage is one of the lowest and erratic in the global scenario even though there is no dearth for agricultural scientists and technologists in the country.

The per capita consumption of pesticides in India is 0.6 Kg/ha as compared to 3kg/ha of world average. The main reason for low per capita consumption of pesticides in India is low purchasing power of farmers and small land holdings. There are signs of change in this scenario due to the entry of big food products retailers and manufacturers. In order to increase yield and ensure food security for its enormous population, extensive crop protection measures are very essential.

Indian Crop protection chemical usage pattern for decades has not change much with insecticides contributing to 55%, followed by herbicides 23%, fungicides 18% and the rest other products such as bio-pesticides, plant growth regulators except in recent years herbicide and fungicide usage is
on the increase. This contributes to the higher production of fruits, vegetables and soybean.

Andhra Pradesh & Telangana, Punjab, Maharashtra lead in consumption of crop protection chemicals followed by other states. Madhya Pradesh has been benefited a lot by proper crop protection usage and emerging as one of the important soybean producing belt not only in the country but globally. The usage of agrochemicals has seen a rise in West Bengal also.

The estimated consumption of crop protection products in FY15 in terms of value is around 2.25 billion USD and the expected growth in the coming years is 7% annually. Export of pesticides also comes to almost equal value with a slightly higher growth rate.

Agrochemical industry has come a long way in the last four decades and could cater to the needs of farmers with hundreds of products for crop protection. Till 80s, Indian farmers were far behind their counter parts with old products of MNC and then Indian companies with their R&D skill came out with number of generic molecules at much cheaper costs affordable by majority of farming community. India could become self-sufficient in many food crop production because of this development, a fact which could not be denied. But then came the situation where the cost of manufacturing of technical products is very much cheaper in China as compared to that of India. Therefore Indian companies are forced to opt for import in many cases rather than to manufacture. Patent compliance also restricts manufacture of latest molecules and so MNCs have an upper hand in providing new products. Indian companies could only co market a few products under arrangement.

The need of the hour is Indian companies should be more aggressive in research and development to come out with cost effective manufacturing method for novel molecules like Flubendamide, Bispyribac Sodium, Tolfenpyrad among others. The Indian registration authorities & the Industry should analyse the situation thoroughly and come out with more practical and easier guidelines for registration of import of molecules as well, keeping in view of the reality. This will enable the farmers to get new products at affordable cost and also illegal imports be curbed substantially.

<table>
<thead>
<tr>
<th>Molecule</th>
<th>Approx. Sales in 2015 as formulation (million USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flubendamide</td>
<td>50</td>
</tr>
<tr>
<td>Azoxyostrobin</td>
<td>33</td>
</tr>
<tr>
<td>Bispyribac sodium</td>
<td>25</td>
</tr>
<tr>
<td>Tolfenpyrad</td>
<td>10</td>
</tr>
<tr>
<td>Pyraclostrobin</td>
<td>02</td>
</tr>
</tbody>
</table>

Industry should concentrate more on development of new formulation that are eco-friendly and production of effective bio-pesticides, PGRs, bio-stimulants, micro nutrients so that farmers have access to these products that will boost the yield and enrich soil condition. Government agencies, Universities and Industry should come together in imparting proper knowledge on the usages and effectiveness of crop protection products and more importantly should dispel the myth about the crop protection chemicals (as bad boys) from the mind of the public.
CHINA

TOP PRICE TRENDS IN CHINA PESTICIDE MARKET

1. Glyphosate producers increase quotation

The environmental pressure from the Chinese government and the peak season overseas resulted in increased quotation of glyphosate from USD 2,950.98/t – USD3,024.75/t. The glyphosate giant in China, Fuhua Tongda Agro-chemical Technology Co., Ltd., increased the glyphosate quotation by USD73.77/t, up 11% YoY while Zhejiang Jinfanda increased the glyphosate quotation by USD44.26/t – USD73.77/t.

2. Price of fungicide technical keeps increasing

The low inventory of fungicide technical resulted in increased quotation. The quotation of Avermectin, Emamectin benzoate and Pyraclostrobin went up to USD59,019/t, USD 91,480/t and USD 51,642.22/t respectively by the end of Oct. 2016. While the traditional Fungicides market performance remain weak affected by the weather, poor market performance of cash crops, high inventory, and new kinds of substitutes.

3. Price of organophosphates insecticide remain stable

Due to the increasing price of ethyl chloride to about USD2,360.78/t, both the quotations of chlorpyrifos technical and phoxim technical went up to USD3,836.27/t and USD3,688.73/t respectively in Oct. 2016 while the concentration of the capacity of malathion technical kept its price stable at USD2, 582.11/t.

4. Fipronil technical remains low inventory

With low inventory, price of fipronil technical increased to USD59,019.68/t. Pymetrozine remained at USD219, 181.39/t with tight supply.

With high inventories, the quotations of Spirodiclofen technical and Etoxazole technical fell to USD19,476.49/t and USD39,100.54/t, for which the producers seemed to clear the inventory by selling them in a low price.

Though Chlorfenapyr technical was in low inventory, its prices remained at US26,558.85/t. And the price of Propargite remained at USD5,606.86/t, with the expectation to increase.

5. Herbicides producers to increase quotations

Affected by the low inventory, the price of Glufosinate-ammonium technical remained at USD17,410.8/t with tight supply. With low inventory, quotations of Trifluralin technical increased to USD4,721.57/t, and Trifluralin technical was mainly for export. Fomesafen technical was also for export trading mainly, with its quotation increasing to USD13,279.42/t due to the price growth of its upstream intermediate. As for herbicides for corn, affected by the tight supply of intermediate, the quotation of Nicosulfuron technical went up to USD24,788.26/t; that of Mesotrione technical increased to USD18,148.55/t; while that of atrazine technical remained at USD2,655.88/t, while the price of amides herbicides remained stable.

6. Supply of Triazolesfungicides remains tight

With low inventories and weak demand, the quotation of Triazoles especially that of Difenoconazole technical (USD19, 919.14/t) and Propiconazole technical (15, 492.66/t) remained tight. As for Tebuconazole technical, with low inventory, low operation rate of the producers and high price of its intermediate, its quotation was USD10, 623.54/t. The quotation of Tricyclazole technical was USD 6,934.81/t with tight supply.

Source: cnchemicals
EXPIRING PATENT OF PENOXSULAM: BLOCKING PATENTS ARE STILL A TASK FOR PRODUCERS IN CHINA

Penoxsulam, developed and produced by Dow AgroSciences LLC (Dow AgroSciences), is a trizolo pyrimidine herbicide was registered in US Environmental Protection Agency in 2004; later in 2005, it got promoted and applied in paddy fields in the southern US in 2005.

Penoxsulam entered the Chinese market in the year 2009 after being registered in Spain Brazil South Korea Thailand and Japan boosting the global sales volume to USD110 million from 10 million USD. Penoxsulam also has great performance in weeds control in non-crop market such as in lawns and in orchards. In 2013, the sales volume of penoxsulam applied in non-crop market reached about USD140 million of total 255 million USD.

It was once reported that patent protection of Penoxsulam chemical compounds would be expired on 22 Sep. 2016, which excited the enterprises which had paid long attention on penoxsulam. However, after CCM’s verification, the real expiration date would be 22 Sep. 2017 for its patent was registered in China on 23 Sep. 1997.

As per the Institute for the Control of Agrochemicals, MOA (ICAMA), there are 245 formulations and 130 mixed formulations of penoxsulam registered in field trials by 12 June 2016.

Chief Editor of the Herbicide China News, CNN quoted a need for an intense competition among the pesticide enterprises after the expiration of patent of penoxsulam. Though it is still a year away from the patent protection expiration of penoxsulam, many of the pesticide enterprises had already began to apply the pesticide registrations for penoxsulam and carry out relevant trials.

The number of patent applications of top 10 appliers reached 198, accounting for over 60% of the total patent application of penoxsulam in China. That’s to say, the patent application involved penoxsulam was quite concentrated in China.

<table>
<thead>
<tr>
<th>Applicant</th>
<th>No of application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dow AgroSciences LLC</td>
<td>72</td>
</tr>
<tr>
<td>Huizhou Sino·quick Chemical</td>
<td>48</td>
</tr>
<tr>
<td>BASF SE</td>
<td>23</td>
</tr>
<tr>
<td>Bayer CropScience (China)</td>
<td>15</td>
</tr>
<tr>
<td>Jiangsu Rotam Agrochemical</td>
<td>12</td>
</tr>
<tr>
<td>Beijing Yoloo Pesticide</td>
<td>9</td>
</tr>
<tr>
<td>Shaanxi Sunger Road Bio-Science</td>
<td>6</td>
</tr>
<tr>
<td>Syngenta Crop Protection</td>
<td>5</td>
</tr>
<tr>
<td>Shandong Binnong Technology</td>
<td>4</td>
</tr>
<tr>
<td>Shanghai Lianbao CropSciences</td>
<td>4</td>
</tr>
<tr>
<td>Jiangsu Fuding Chemical</td>
<td>4</td>
</tr>
<tr>
<td>Changzhou University</td>
<td>3</td>
</tr>
<tr>
<td>Kumiai Chemical Industry</td>
<td>3</td>
</tr>
<tr>
<td>Ishihara Sangyo Kaisha</td>
<td>3</td>
</tr>
<tr>
<td>DuPont Agricultural Chemicals</td>
<td>3</td>
</tr>
<tr>
<td>Qingdao Hailir Pesticides &amp; Chemicals</td>
<td>3</td>
</tr>
<tr>
<td>Jiangsu Dongbao Pesticide Chemical</td>
<td>3</td>
</tr>
<tr>
<td>Heilongjiang University</td>
<td>2</td>
</tr>
</tbody>
</table>

Dow AgroSciences, leader in technology development of penoxsulam, owns the most applications about penoxsulam, including the patents about compound of the general formula, preparation methods of compounds, intermediate, preparation methods of intermediate, formulations of compound, new use of compounds, mixed formula of compound and compound compositions.

Huizhou Sino·quick, Jiangsu Rotam, Yoloo Pesticide and Shaanxi Sunger Road, major patent appliers in China, mainly applied for the patents of compound compositions and formulation. Others were about the preparation methods of penoxsulam and further modification of penoxsulam compound of the general formula.
Considering the time when Dow AgroSciences applied patents about penoxsulam, it may extend the patent protection period for penoxsulam virtually, because Dow AgroSciences covers almost all the patents in the production process of penoxsulam technology project. That’s to say, Dow AgroSciences has applied various blocking patents of penoxsulam to protect its development on penoxsulam.

According to ICAMA, 6 producers in China have already gained the registrations in producing products contained penoxsulam. Some penoxsulam products have the patent protections while some haven’t. Though Dow AgroSciences patent about penoxsulam technical is expiring, many of the blocking patents are still protecting its production of penoxsulam.

“For those enterprises which are planning to capture the penoxsulam market, it is important to pay attention to the technology that are still in patent protection period, which could prevent themselves from getting into trouble,” suggested The Editor.

Source: cnchemicals

GLYPHOSATE PRICE IN CHINA IS LIKELY TO CONTINUE RISING IN DECEMBER 2016

After a long period of declining glyphosate prices in China, the current season strengthens the confidence for increasing prices. The main reason for the recently steady growth of glyphosate price and the expected increasing trend, is the higher price of the raw materials for glyphosates like glycine and paraformaldehyde. Their prices are rising, due to production cuts by governmental orders and supply difficulties in the big snowing winter of China’s north. In fact, 70% of the glyphosate production is based on the glycine process, which requires glycine and paraformaldehyde. Glycine price itself experienced a month on month fall from January to September 2016. Only recently in November, the price climbed remarkably on a 22.45% MoM basis.

These implementations will prospectively end on 31 December 2016. Therefore, many producers of glycine and paraformaldehyde have reduced their operating rate, which in turn increases the prices due to lower supply and shortage. The leading glycine producers in China, Shijiazhuang DonhuaJinjiong, and Linyi Hongtai, already rose their prices for glycine, which represents a trend that is going to be continued, according to CCM.

Besides this winter in China has two main effects on the glyphosate price. Firstly, winter is known to be the storage season for glyphosate. This higher demand in building a storage is driving prices upwards. Secondly, impact is the heavy snowfall in northern China. The snow causes difficulties in transportation, which also leads to a shortage of raw materials and therefore a higher price of upstream and downstream products. Paraformaldehyde is especially affected by this issue. China’s leading suppliers of paraformaldehyde, Hebei Jin Taida and Hebei Aerospace, both with an output of about 50,000 tons, had to cut down production completely, due to the region’s logistics and transportation being blocked.

Other upstream products of glyphosate, like yellow phosphorus and methyl alcohol, experienced increasing prices up to 30% because of increased coke prices in November, which are traditionally caused by the heating season in China’s cold north. The increasing coke prices, up to 200% compared to early 2016, lead to higher prices of raw materials in China in general.

Source: cnchemicals

10 PESTICIDES FROM CHINA LISTED IN FAO/WHO SPECIFICATIONS FOR PESTICIDES

Since 2011, Chinese pesticide companies have speeded up the establishment of. To date, 10 product specification applications from 5 Chinese companies have been approved by FAO/WHO Joint Meeting on Pesticide Specifications (JMPS) and another 10 product specification are under review. The detailed information is given in the below tables.
### Table 1. The product specification applications from Chinese companies approved by JMPS

<table>
<thead>
<tr>
<th>No.</th>
<th>Products</th>
<th>Applicants</th>
<th>Executive Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Deltamethrin (coated) LN</td>
<td>Tianjin Yorkool International Trading Co., Ltd.²</td>
<td>2010/2013 WHO</td>
</tr>
<tr>
<td>2</td>
<td>Picloram TC</td>
<td>Beijing Nutrichem Co., Ltd.²</td>
<td>2011 FAO</td>
</tr>
<tr>
<td>3</td>
<td>Hexazinone TC</td>
<td></td>
<td>2012 FAO</td>
</tr>
<tr>
<td>4</td>
<td>Deltamethrin TC, WP</td>
<td>Rotam CropSciences²</td>
<td>2013 FAO</td>
</tr>
<tr>
<td>5</td>
<td>Nicosulfuron OD</td>
<td></td>
<td>2013 FAO</td>
</tr>
<tr>
<td>6</td>
<td>Chlorothalonil SC</td>
<td></td>
<td>2014 FAO</td>
</tr>
<tr>
<td>7</td>
<td>Bifenthrin TC</td>
<td>Jiangsu Yangnong Chemical Group Co., Ltd.²</td>
<td>2014 FAO&amp;WHO</td>
</tr>
<tr>
<td>8</td>
<td>Lambda-cyhalothrin TC</td>
<td>Jiangsu Huifeng Agrochemical Co., Ltd.²</td>
<td>2014 FAO&amp;WHO</td>
</tr>
<tr>
<td>9</td>
<td>Permethrin 40.60 TC</td>
<td>Jiangsu Huifeng Agrochemical Co., Ltd.²</td>
<td>2015 FAO&amp;WHO</td>
</tr>
<tr>
<td>10</td>
<td>Prochloraz TC, EW</td>
<td></td>
<td>2015 FAO</td>
</tr>
</tbody>
</table>

Note: (1) Original application; (2) Equivalent; (3) Formulation

### Table 2. The product specification applications regarding Chinese companies reviewed by JMPS in 2016

<table>
<thead>
<tr>
<th>No.</th>
<th>Products</th>
<th>Applicants</th>
<th>Application Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Azoxystrobin TC</td>
<td>Jiangsu Sevencontinent Green Chemical Co., Ltd.²</td>
<td>FAO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Beijing Nutrichem Co., Ltd.²</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Propiconazole TC</td>
<td>Jiangsu Fengdong Crop Science Co., Ltd.¹</td>
<td>FAO</td>
</tr>
<tr>
<td>3</td>
<td>Pyraoxystrobin TC, SC</td>
<td>Shenyang Research Institute of Chemical Industry¹</td>
<td>FAO</td>
</tr>
<tr>
<td>4</td>
<td>Dicamba TC</td>
<td>Jiangsu Yangnong Chem Co. Ltd.²</td>
<td>FAO</td>
</tr>
<tr>
<td>5</td>
<td>Fluazinam TC</td>
<td>Beijing Nutrichem Co., Ltd.²</td>
<td>FAO</td>
</tr>
<tr>
<td>6</td>
<td>Bentidacon TC</td>
<td>SaerfuAgroChem.²</td>
<td>WHO</td>
</tr>
<tr>
<td>7</td>
<td>Pyriproxyfen TC</td>
<td>NTGC Fine Chemical Co. Ltd.²</td>
<td>WHO</td>
</tr>
<tr>
<td>8</td>
<td>Yahe LN (deltamethrin coated) LN - ext. to 60 and 1000D yarn</td>
<td>Fujian Yamei Industry &amp; Trade Co., Ltd.³</td>
<td>WHO</td>
</tr>
<tr>
<td>9</td>
<td>Bifenthrin TC</td>
<td>Jiangsu Huifeng Agrochemical Co., Ltd.²</td>
<td>FAO&amp;WHO</td>
</tr>
<tr>
<td>10</td>
<td>Lambda-cyhalothrin TC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: (1) Original application; (2) Equivalent; (3) Formulation

Source: essencechem.com

---

An ISO 9001:2008 certified company

MahaMaya

MAHAMAYA LIFESCIENCES
RUSSIA

STRONG HERBICIDE USE, ACCELERATING FUNGICIDES, AND SEED TREATMENT DRIVE GROWTH IN RUSSIA

By Andras Marfi, Kleffmann Group

The global pesticide market saw serious decline after years of growth, in 2015, falling 10% in value. Russia, one of the world’s largest markets, is one of the few countries that managed to remain on a growth track, reaching approximately $1.2 billion. Spurring that growth (and in some cases restricting it) are three major issues: the economical-political situation, the structural-industrial relationship, and the agricultural-technological connection.

Ruble Crisis

With the ruble Russian currency losing its value approximately to half just a few months before 2015’s main crop protection sales season, and with no reliable forecasts about where the exchange rate was headed, producer companies had a difficult time creating the pricing and sales strategy, especially since local farmers think in rubles. As a result, list prices in rubles went up significantly (on average 60%).

On the other hand, governmental goals to make Russia self-sufficient gave a huge support to local growers. Local generic companies saw growth in market share as well.

Changing Structure, New Rules

In the last decade, there was a clear separation in strategy between foreign and local companies. While international companies focused on sales through distributors, minimizing the share of direct sales (approximately 80% to 85% sales went through distributors), the biggest local companies predominantly sold directly to farmers (70% to 80% direct sales). This is changing with local companies increasing the share of sales they give to distributors.

In addition, there are big regional differences. Approximately 80% of the crop protection turnover in Russia comes from the European part while the eastern part is catching up. The crop protection market in the East is dominated by a different set of companies: ones that either have a strong soybean portfolio, a solid country-wide network, or have geographical advantage i.e. are Chinese.

Technological Development —

Despite the financial difficulties and big increase in product prices, crop protection technology used by Russian farmers is developing. This helped produce record-high yields and production volumes in 2015. Growers are expected to set new records in 2016 when the total grain volume has the potential to reach 114 million tonnes. The past few years showed a tendency toward diversification of the crop structure, primarily with the share of soybean increasing, but this tendency is still far from fulfilling the potential.

Average spending on crop protection products for one hectare of land cultivated with field crops is very low in Russia at $21/ha. Herbicides still make up 60% of the total market value despite the low average product value. The penetration of fungicides in general is still quite low in key field crops. Nevertheless, fungicides are the main growth driver. Although azoles still dominate the market, there has been a visible switch in 2015, and it continued in 2016: Apart from cereals, there is obviously space for fungicide market development in sunflower (2% treated in 2015), sugar beet (area treated growing from 47% in 2014 to 64% by 2015) and soybean (growing from 7% to 15%).

The seed-treatment market is growing as well as the competition on it. More farmers sow seeds treated with both fungicide and insecticide products, and trends show the share of complex fungo-insecticide products is growing. This market is still under development in cereals but is dominating in potato.

Source: Agribusiness global
UNITED KINGDOM

UK APPROVED CERTIS’ FUNGICIDE TAKUMI SC ON PUMPKINS

Certis’ fungicide product, Takumi SC, (cyflufenamid), has been granted an ‘Extension of Authorisation for Minor Use’ (EAMU) in UK to allow applications to be made on pumpkins and winter squash against powdery mildew. Powdery mildew is a big problem in pumpkins affecting the leaf quality and development of the crop.

Previously, pumpkins were the only cucurbit not included under the product label for Takumi SC, or subsequent EAMUs. And with an estimated 10 million pumpkins grown in the UK every year, due partly to the growing popularity of Halloween but also as a result of growing consumer demand for local and seasonal produce, it’s become a key crop for some growers. The disease can also occur at any time during the season, and as a result can cause significant financial losses if not identified and controlled early.

Takumi SC has a one day harvest interval, providing flexibility for growers. The EAMU approval states that for use of Takumi SC on pumpkin crops, the maximum individual dose is 150 ml/Ha. Growers can make a maximum of two applications per crop, per year, providing a seven-day interval is left between applications.

Source : Certiseurope

USA

TRUMP NAMES DOW CHEMICAL CEO TO LEAD AMERICA MANUFACTURING COUNCIL

US President-elect Donald Trump declared that Dow Chemical Company CEO Andrew Liveris will head the American Manufacturing Council in his administration.

This is part of his (Trump’s) economic message to “buy American and hire American.”

The American Manufacturing Council is the principal private sector advisory committee to the secretary of commerce on the manufacturing in the US.

Trump described Liveris as “one of the most respected businessmen in the world,” who will be tasked with finding ways to bring industry back to America.

“Nobody can do it like Andrew,” Trump added.

Liveris said that his company will invest in “a new state of the art innovation centre” in Michigan, crediting Trump with creating a business climate that energised his company.

Source : CNN News
INDIA

NEW PESTICIDES LAUNCHED IN INDIA IN 2016

ESCADA · active ingredient: Acephate, 95% SG · a newly developed formulation for the management of yellow stem borer, leaf folder, brown plant hopper of paddy was launched as a line extension of HPM’s continuous development to meet farmer’s requirement.

TEMPRID™ · active ingredient: Imidacloprid· by BAYERis India’s first dual active household insecticide , which combines the fast-acting, broad-spectrum control of beta-cyfluthrin with the systemic residual control of Imidacloprid to provide premium performance and efficacy in cockroach control.

ZEBA · a unique technological product to counter the increasing drought-like situations and uncertainty of monsoon. ‘Zeba’ is expected to play a crucial role in Indian dryland farming in years to come.

ZECHOR · Indofil Industries Limited (IIL) launched a rice herbicide Zechor developed by LG Life Sciences is a sulfonyl urea-based selective rice herbicide . It is a patented herbicide that does not cause any phyto-toxicity when used in recommended dosages.

GREEN LABEL · Insecticides India Ltd (IIL) has launched a new post-emergence herbicide Green Label, manufactured in India for the first time using advanced technology. Green Label contains active ingredient Bispyribac sodium 10% SC, which is a broad spectrum systemic herbicide.

Source: various sources

FOOD GRAIN OUTPUT MAY SCALE PEAK NEXT YEAR, AGRI GROWTH AT 5.5% IN INDIA

The agriculture sector is all set to bounce back leaving two years of drought behind and may well pull off record food grain output of 270 million tonnes in 2016-17 on good rains, but farmers’ woes may continue due to adverse impact of notes ban and low sales realisation. The farm growth is estimated to rise at over 5 per cent this fiscal, from 1.2 per cent in the previous year, on the back of record kharif food grain production at 135 million tonnes (MT) and likely bumper output in the ongoing Rabi season, helped by good monsoon in most parts of the country.”

2016 began on a sticky note as the country’s overall food grain output remained flat at 252 MT in 2015-16 crop year due to second straight year of drought. Pulse output fell to 16.5 MT resulting in high prices for most part of the year that kept the government on its toes, which took various steps to cool prices and bring relief to consumers.

The year also witnessed the government fixing the maximum retail price and royalty for cotton seeds, including Bt cotton, based on its order issued at the far end of 2015.

The move was opposed by biotechnology firms while the domestic seed manufacturers were in favour of the decision. Global biotechnology major Monsanto threatened to re-evaluate its India business. It plans to introduce new products, besides entering into the legal battle against this order. In 2017, the ongoing legal battle involving global MNC Monsanto, the government and the domestic seed industry will be keenly watched as the outcome will shape the future of regulations for selling GM seeds.

Source: The Indian Express

INDIAN CROP PROTECTION INDUSTRY DRIVES BETTER REGULATORY FRAMEWORK; ALIGNS WITH GLOBAL BEST PRACTICES

Crop Life India recently organized a two-day workshop on “Equivalence Procedure and Data Bridging Concepts for Registration of Crop Protection Products” to enable adoption of globally approved best practices for the Indian agriculture industry.

This event saw leading national and global experts, from various fields such as agriculture scientists, toxicologists and regulators of Central Insecticides Board & Registration Committee (CIB & RC). Aimed to drive better and faster adoption
of global standards in the Indian regulatory environment to help more effective registration of crop protection products considering various chemical and toxicological profiles to promote good agricultural practices. Enabling faster registration of safer and greener crop protection products is believed to help quality manufacturing processes, thus creating farmer access to safer and greener technologies in the country.

Some of the significant forward looking regulations that were discussed during this meeting included harmonization with OECD protocols in major disciplines, crop grouping concept, minor changes regulation to enable innovation at a faster pace.

The way forward for the Indian crop protection industry, valued at $ 4.2 Billion would be to concentrate on delivering specialty formulation, develop regulatory capacity and regulatory data development apart from market research for enhancing reach and distribution of the industry.

The Indian regulatory system concerning the Crop Protection Industry which is very robust and knowledgeable has already adopted the OECD guidelines which is a step towards global acceptance of regulatory norms.

Global MNCs invest about 8-10% of their revenues in Research & Development, while Indian bred crop protection manufacturers spend 1-2% of their revenues in R&D, which makes them less competitive to compete in the global market in developing specialty molecules. Ease of introduction of latest pest control solution technology is the key to some of the challenges faced by Indian farmers like spurious products, low focus on R&D by domestic manufacturers, inefficiencies in the supply chain etc. which need to be addressed on priority.

Discovery of new molecules is a highly specialized R&D activity; it is significant to note that, on an average, only one molecule out of 100000 screened chemical compounds gets finally identified and selected, for full development while going through the rigorous R&D process and Regulatory approvals. From discovery in the labs to the introduction at a country regulatory level, it takes more than 8-10 years and involves an investment of more than 1600 Crores. Further, in India to provide access at the farm level, the product must undergo 3-4 years of stringent evaluation on efficacy, safety, MRLs and other parameters as per guidelines established by CIB&RC and another 1-2 years for review of data and final registration approval.

Source : Crop Life India

PESTICIDE TECHNICAL APPROVED FOR USE IN INDIA IN 2016 BY THE CENTRAL INSECTICIDE BOARD & REGISTRATION COMMITTEE, INDIA

The Central Insecticides Board and Registration Committee is responsible to advice the Central and State governments on technical matters related to insecticides and grant of registration to various pesticides for import, manufacture, export, sale and use in India after proper review and validation of the data generated submitted by the applicant. The CIB & RC in 2016 granted registration of 32 technicals to 19 applicants.

<table>
<thead>
<tr>
<th>Pesticide Technical</th>
<th>Applicant Company</th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate Technical 95% min</td>
<td>M/s Sinochem India Company Pvt Ltd</td>
<td>9(3) TI New source</td>
</tr>
<tr>
<td>Sulfentrazone Technical 91% min</td>
<td>M/s FMC India Pvt Ltd</td>
<td>9(3) TI</td>
</tr>
<tr>
<td>Imazamox Technical 93% w/w min.</td>
<td>M/s BASF India Ltd</td>
<td>9(3) TI</td>
</tr>
<tr>
<td>Lambdacyhalothrin Technical 96% min</td>
<td>M/s Willowood Chemicals Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Bifenthrin Technical 95% min</td>
<td>M/s Willowood Chemicals Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Chlorimuron ethyl Technical 95% min</td>
<td>M/s Crystal Crop Protection Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Azoxystrobin Technical 95% min.</td>
<td>M/s GSP Crop Science Pvt Ltd</td>
<td>9(3) TIM vs TI</td>
</tr>
</tbody>
</table>

Source : Crop Life India
<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Company</th>
<th>Source Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difenconazole Technical 92% Min</td>
<td>M/s Cheminova India Ltd</td>
<td>9(3) TIM vs TI</td>
</tr>
<tr>
<td>Difenconazole Technical 95% Min</td>
<td>M/s Excel Crop Care Ltd</td>
<td>9(3) TIM vs TI</td>
</tr>
<tr>
<td>Emamectin benzoate Technical 95% min</td>
<td>M/s Mahamaya Lifesciences Pvt Ltd</td>
<td>9(3) TI New source</td>
</tr>
<tr>
<td>Oxyfluorfen Technical</td>
<td>M/s Dow Agrosciences India Pvt Ltd</td>
<td>9(3) TI New source</td>
</tr>
<tr>
<td>Pyriproxifen Technical 95% min</td>
<td>M/s Parijat Industries India Pvt Ltd</td>
<td>9(3) TI New source</td>
</tr>
<tr>
<td>Imazapapyr Technical 98% min.</td>
<td>M/s Crystal Crop Protection Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Ethephon Technical 90% min</td>
<td>M/s Crystal Crop Protection Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Glyphosate Technical 95% min.</td>
<td>M/s Adama India Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Paclontrazol Technical 95% min</td>
<td>M/s Cheminova India Ltd</td>
<td>9(3) TIM vs TI</td>
</tr>
<tr>
<td>Bispyribac Sodium Technical 95% Min</td>
<td>M/s Insecticides India Ltd</td>
<td>9(3) TIM vs FI</td>
</tr>
<tr>
<td>Glyphosate Technical 95% min.</td>
<td>M/s Willowood Chemicals Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Azoxyystrobin Technical 96.5% min</td>
<td>M/s ADAMA Makhteshim Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Acephate Technical 97% min</td>
<td>M/s ADAMA Makhteshim Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Azoxyystrobin Technical 95% min</td>
<td>M/s Cheminova India Ltd</td>
<td>9(3) TIM vs TI</td>
</tr>
<tr>
<td>Fluxapyroxad Technical 98% min</td>
<td>M/s BASF India Ltd</td>
<td>9(3) TI</td>
</tr>
<tr>
<td>Metiram technical 84% w/w min</td>
<td>M/s BASF India Ltd</td>
<td>9(3) TI</td>
</tr>
<tr>
<td>Fosetyl Aluminium Technical 96% min</td>
<td>M/s Bayer Crop Science Ltd</td>
<td>9(3) TI</td>
</tr>
<tr>
<td>Fipronil Technical 95% min</td>
<td>M/s HIFIL Chemicals Pvt Ltd</td>
<td>9(3) TI New source</td>
</tr>
<tr>
<td>Azoxyystrobin Technical 98% min</td>
<td>M/s Crystal Crop Protection Pvt Ltd</td>
<td>9(3) TI New source</td>
</tr>
<tr>
<td>Azoxyystrobin Technical 98% min</td>
<td>M/s Dhanuka Agritech Ltd</td>
<td>9(3) TI New source</td>
</tr>
<tr>
<td>Emamectin benzoate Technical 95% min</td>
<td>M/s Dhanuka Agritech Ltd</td>
<td>9(3) TI New source</td>
</tr>
<tr>
<td>Diafenthiuron Technical 97% min</td>
<td>M/s Willowood Chemicals Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Imidacloprid Technical 95.0% min</td>
<td>M/s Willowood Chemicals Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Imidacloprid Technical 95% min</td>
<td>M/s Adama India Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Azoxyystrobin Technical 96% min.</td>
<td>M/s Excel Crop Care Ltd</td>
<td>9(3) TIM vs TI</td>
</tr>
<tr>
<td>Carbendazim Technical 98% min.</td>
<td>M/s Crystal Crop Protection Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Bispyribac sodium Technical 95% min</td>
<td>M/s Godrej Agrovet Ltd</td>
<td>TIM vs FI</td>
</tr>
<tr>
<td>Fluopyradifurone Technical 96% min</td>
<td>M/s Bayer CropScience Ltd</td>
<td>9(3) TI</td>
</tr>
<tr>
<td>Penoxsulam Technical 97% min</td>
<td>M/s Dow Agrosciences India Pvt Ltd</td>
<td>9(3) TI</td>
</tr>
<tr>
<td>Butachlor Technical 95% w/w min</td>
<td>M/s Sinochem India Company Pvt Ltd</td>
<td>9(3) TI New source</td>
</tr>
<tr>
<td>Abamectin Technical 90.0% min.</td>
<td>M/s Syngenta India Ltd</td>
<td>9(3) TI</td>
</tr>
<tr>
<td>Hexythiazox Technical 97% min</td>
<td>M/s Willowood Chemicals Pvt Ltd</td>
<td>9(3) TI vs TIM</td>
</tr>
<tr>
<td>Penflufen Technical 95% min</td>
<td>M/s Bayer CropScience Pvt Ltd</td>
<td>9(3) TI</td>
</tr>
<tr>
<td>Metamitron Technical 98% min</td>
<td>M/s Punjab Chemicals &amp; Crop Protection Ltd</td>
<td>9(3) TIM</td>
</tr>
<tr>
<td>Flusilazole Technical 95% min</td>
<td>M/s Dhanuka Agritech Ltd</td>
<td>9(3) TI New source</td>
</tr>
</tbody>
</table>

Source: Central Insecticide Board, India
COMPANY NEWS

RALLIS TO BUY 26.37% MORE STAKE IN SUBSIDIARY ZWAOL FOR Rs 20 cr

After this acquisition, Rallis India’s stake will increase to 100 percent in Zero Waste Agro-Organics Ltd (ZWAOL), which manufactures organic compost. Tata group’s agro-chemical firm Rallis India will acquire an additional 26.37 percent stake in its arm Zero Waste Agro-Organics for nearly Rs 20 crore, making the company a wholly-owned subsidiary. The total consideration for acquisition of these shares is Rs 19.49 crore. The company’s revenue from operations stood at Rs 11.45 crore in last fiscal.

Source : Money control

INSECTICIDES INDIA Q2 NET PROFIT UP 59% AT Rs 28.68 cr

Agro-chemicals maker Insecticides India’s net profit rose by 59 percent to Rs 28.68 crore for the quarter ending September on higher sales. Its net profit stood at Rs 17.99 crore in the year-ago period, the company said in a regulatory filing. Income from operations increased to Rs 467.50 crore in the second quarter of this fiscal from Rs 369.99 crore in the corresponding period of the previous year. The Delhi-based company had posted a net profit of Rs 39.29 crore over a turnover of Rs 988.15 crore in the previous year.

Source : Money control

BAYER CROPS SCIENCE Q2 NET PROFIT SEE MARGINAL RISE AT Rs 159 cr

Bayer CropScience Ltd reported a marginal increase of 2 per cent in net profit at Rs 159.1 crore for the quarter ended September 30, on higher sales. Its net profit stood at Rs 155.8 crore in the year-ago period, the company said in a regulatory filing. Income from operations rose to Rs 1,160 crore during July-September quarter of this fiscal from Rs 1,055.2 crore in the corresponding period of the previous fiscal.

Source : Money control

MONSANTO INDIA POSTS Rs 0.89 LAKH PROFIT FOR Q2

Monsanto India reported a net profit of Rs 0.89 lakh for the quarter ended September as against a net loss of Rs 26.38 crore in the year-ago period. Total income jumped over two-fold to Rs 99.37 crore for the second quarter of this fiscal from Rs 39.93 crore in the same period last year, the company said in a regulatory filing.

Source : Money control

PI INDUSTRIES POSTS 78% RISE IN Q2 PROFIT

The company’s revenue increased by 20 percent to Rs 572 crore, according to a regulatory filing. Agro-chemicals firm PI Industries reported 78 percent increase in its net profit at Rs 101 crore for the quarter ended September. The company’s revenue increased by 20 percent to Rs 572 crore, according to a regulatory filing. During the first half of this fiscal, net profit increased by 60 percent to Rs 228 crore, while revenue went up by 17 percent to Rs 1,255 crore compared to the year-ago period.

Source : Money control

UPL : RIDING THE LATIN AMERICA WAVE

Latin America continues to power UPL Ltd. Revenues, volumes and operating profit were up 17%, 23% and 19%, respectively, in the September quarter. The growth is driven by India and Latin America. Together, both the regions generated more than half of its sales last fiscal year.

Of them, Latin America is the clear outlier. Revenues are up 34% against rise in the first two quarters by 26%, better than the 10% rise in India.
The strong show, however, failed to impress investors who drove the stock down 1% on Friday. A one-time expense related to the Advanta Ltd merger weighed on profit growth. Excluding this item, profit would have grown 44% and led to earnings upgrades.

The growth is again expected to be driven by Latin America, which is seeing traction in agriculture activities. Last fiscal year, the region alone generated 32% of UPL's sales.

Source: livemint

**DHANUKA TO REAP REWARDS OF NICHE FOCUS, NEW PRODUCTS**

The strategy of consistently adding new specialty chemicals with the help of global innovators has enabled Dhanuka Agritech to outgrow peers. Delhi-based Dhanuka Agritech launched 16 new products in the past three fiscal years. The thrust continued with seven new launches in the first two quarters of the current fiscal. It plans to introduce two more products in the second half. The share of incremental revenue from new products reached 20% in FY16, compared with 15% in the previous fiscal.

The sugarcane and maize herbicide ‘Sempra,’ co-marketed insecticide ‘Cover’ and fungicide ‘Conika’ hold the potential. Typically, one blockbuster product means incremental revenue of about ‘100-150 crore every year.

The company’s revenue grew by 13% in the first half of FY17 compared with the industry’s growth of 8.6%. Analysts expect Dhanuka’s revenue to grow by 16% and 22% for the current and next fiscals, respectively, on account of a strong product pipeline and focus on specialty chemicals.

Source: The Economic Times

**AKZONOBEL, ATUL JV FOR WORLD-SCALE MCA PLANT IN INDIA**

AkzoNobel NV and Atul Ltd have declared their intention to jointly invest in the production of monochloroacetic acid (MCA) in India, which will include setting up a world class MCA plant at Atul’s facility in Gujarat. Each partner will hold a 50 percent stake.

The partnership will build on Atul’s status as a leading global supplier of the herbicide 2, 4-D (which uses MCA as a key raw material), and AkzoNobel’s leading global position in MCA market, with plants in the Netherlands, China, Japan and US.

The partnership will use chlorine and hydrogen manufactured by Atul to produce the MCA, taking advantage of both Atul’s existing infrastructure and the leading eco-friendly hydrogenation technology supplied by AkzoNobel.

From an initial annual capacity of 32 kilotons, the plant has been designed for future expansion to 60 kilotons. The plant will produce enough MCA to meet the captive requirement of Atul: AkzoNobel will market the rest of it, mainly in India.

MCA is an essential building block in the chemical industry and is used in a wide variety of chemicals. For example, AkzoNobel customers use MCA to produce thickening agents for the food, oil, mining, personal care and detergent industries.
The product is also used in agrochemicals, adhesives, pharmaceuticals, thermo-stabilizers, surfactants and cosmetics.

Source: World of Chemicals news

FMC BEGINS REGISTRATION PROCESS FOR NEW FUNGICIDE ACTIVE INGREDIENT

FMC Agricultural Solutions has begun the joint U.S. Environmental Protection Agency and Canadian Pest Management Regulatory Agency registration process for bixafen, a new pyrazole carboxamide fungicide. Registration is being sought for corn, soybeans, cereals, canola, peanuts and potatoes in the U.S. and, in some instances, Canada.

FMC acquired exclusive rights to bixafen from Bayer CropScience to develop and distribute the novel product for row crops in the United States and Canada.

Bixafen is the first of several new, proprietary crop protection active ingredients FMC plans to submit registrations for over the next three years. A senior spokesperson of FMC said as pest challenges evolve, it’s incredibly important to bring new active ingredients to market. Growers need new tools to manage resistance and to control yield-robbing diseases, weeds and pests.

FMC has a robust pipeline of 16 new synthetic and biological active ingredients to be commercialized over the next seven years.

Source: FMC Corporation

ADAMA LAUNCHES BANZAI FUNGICIDES TO COMBAT BLIGHT ON TOMATO AND POTATO CROPS IN BRAZIL

Adama has launched the fungicide Banzai (Dimethomorph) to combat one of the major diseases affecting tomato and potato crops: the potato blight (Phytophthora infestans). Common in places with mild temperatures and, mostly, with high air humidity, the blight is found in all regions of Brazil and is one of the toughest diseases to control in agriculture and the first lesions are only visible after three to four days of contamination.

Banzai is a very important fungicide for resistance management of fungi, and it is highly effective for the control of blight. Besides this, it does not cause toxicity and ensures a higher quality harvest,” explained the portfolio manager.

According to research by Adama, Banzai has presented high efficiency when applied to crops of tomatoes and potatoes, which allows higher productivity and greater profitability for the farmer. The product will be available for sale in January 2017 through the main distribution channels.

Source: Agropages

MERGERS, ACQUISITIONS AND DEALS IN 2016

JANUARY

• LG Chem acquired agrochemical company Dongbu Farm Hannong.
• SynTech Research acquired Syngenta’s field and laboratory facility.
• French seed company Vilmorin & Cie acquired Genica Research.

FEBRUARY

• Dow AgroSciences and the US genomics company, Radiant Genomics
• Sipcam Advan and Rotam, joint venture SipcamRotam.

MARCH

• ChemChina subsidiary Adama Agricultural Solutions and Starpharma
• Arysta LifeScience and Chinese Academy of Agricultural Sciences
• Best Crop Science acquired agrochemical production facility from Arysta LifeSciences

APRIL

• Bayer CropScience and Israeli Innovations Company Trendlines agreed to invest in a joint agricultural technologies fund.
• Indian company Deccan Fine Chemicals is to acquire Syngenta’s agrochemical manufacturing facility in Goa, India.
• Dow AgroSciences agreed to collaborate with US Company TeselaGen Biotechnology.
MAY
- Bayer offered to acquire Monsanto, valuing the company at some $62 billion.
- DuPont seed subsidiary DuPont Pioneer invested in the aerial data and drone technology provider, PrecisionHawk.
- Syngenta Limagrain’s Argentine subsidiary for the latter to be protected by Syngenta’s Plenus seed treatments.

JUNE
- BASF licensed the US seed company, Northern Seed.
- Chinese agrochemical company Beijing Nutrichem agreed to acquire Dow Agro Sciences’ tebuthiuron herbicide business.
- Danish seed company DLF Seeds · French seed company Florimond Desprez.
- DuPont seed subsidiary DuPont Pioneer and Monsanto agreed a licensing deal, Brazil.
- Monsanto and Sumitomo Chemical entered into a global licensing agreement to develop, register and commercialise protoporphyrinogen oxidase.
- Japanese company Mitsui Chemical's and Indian agricultural inputs company P I Industries agreed to form a joint venture in India called Solinnos Agro.

JULY
- Crystal Crop Protection acquired BASF’s fungicide, Bavistin (Carbendazim), in India.
- Monsanto entered into a multi-year supply agreement with DuPont to provide dicamba herbicide in the US and Canada.
- Sumitomo Chemical’s US-based biopesticides and biorational products subsidiary, Valent BioSciences Corporation.

AUGUST
- Belgian specialty chemicals distributor Azelis acquired the Italian specialty chemical distributor for agrochemical and fertiliser formulations, Ametech.
- Mitsui & Co’s, Certis Europe, and Greek agrochemical firm K&N Efthymiadis created the joint venture, KNE Certis

SEPTEMBER
- BASF and French plant biotechnology company Plant Advanced.
- Bayer CropScience parent company Bayer agreed to a complete takeover of Monsanto after the US company in its third bid.
- Insecticides India agreed a deal with Nihon Nohyaku’s Indian subsidiary, Hyderabad Chemical.
- Syngenta and Rijk Zwaan signed an extensive cross-licensing agreement on native traits in vegetables.

OCTOBER
- Bayer CropScience and the Chinese Academy of Agricultural Sciences agreed to collaborate.
- Dow AgroSciences and Monsanto reached a non-exclusive global option and licensing.
- Monsanto sold its Argentine cotton seed business, Genetica Mandiyu, to an Argentine investor group headed by Cazenove
- Nufarm sold its 14.7% stake in Indian agrochemical company Excel Crop Care through an open market offer from Sumitomo Chemical.

NOVEMBER
- BASF and FMC agreed to collaborate on the introduction of combination insecticides/ fungicides for in-furrow use in maize in the US.
- Dow AgroSciences signed an exclusive licensing agreement with US agricultural biotechnology company Chromatin
- FMC took full ownership of its former agrochemical joint ventures with Nufarm, F&N Agro Ceska Republika in the Czech Republic and F&N Agro Slovensko in Slovakia.
- Monsanto and DuPont agreed that Monsanto would offer DuPont’s insecticidal seed treatment, Lumivia (chlorantraniliprole – trade-marked as Rynaxypyr).

Source : Various sources
BIOTECH NEWS

GENETICALLY MODIFIED BEANS TO FLOOD NIGERIAN MARKETS IN 2019 – NABDA

The NABDA Director General, at the November edition of Open Forum on Agricultural Biotechnology (OFAB), revealed that Nigeria would soon witness abundant beans as the GM cowpeas (or beans) would be released into the market in large quantities in two or three years’ time. Adding to this she quoted, the cowpea, which is currently undergoing field trials, is safe and wouldn’t pose any health risk to Nigerians, dismissing “the insinuation” that GM foods are unhealthy; saying over 100 Nobel Laureates had signed a petition to guarantee its safety and rules are being followed in its production. The Nigerian Ethical Committee is working day and night to ensure that no rules were breached. In 2-3 years’ time, cowpea should be ready in commercial quantity in the country.

Source : DailyTrust

PARAGUAY LAUNCHES NEW RUST-RESISTANT SOYBEANS

The Institute of Agricultural Biotechnology (INBIO) launched its second variety of Asian rust (Phakopsora pachyrhizi) resistant soybeans, Sojapar R24, in Paraguay. According to the agronomist and the technical advisor at the INBIO, Sojapar R24 soybean will be available for the next commercial season.

INBIO had already launched its first Paraguayan variety of Asian rust resistant soybeans, the Sojapar R19, which was planted for the current season. The two cultivars were entirely developed in Nigeria through a public-private partnership between the entity and the Paraguayan Institute of Agrarian Technology.

The advisor of INBIO remarked, the Sojapar R24 variety is already in the multiplication stage, while the Sojapar R49 and the Sojapar M42 are already in the final stages of research. She further added that the new variety is also resistant to the disease known as Charcoal Rot- Macrophomina phaseolina.

Source : AgroPages

BIOTECH CROPS CONTRIBUTE ~US$ 127,000M TO ARGENTINA’S ECONOMY

Biotech crops contributed an estimated amount of US$126,969.27 million of gross benefit to Argentina from 1996 to 2016. This is according to a report released by the Argentine Council for Information and Development of Biotechnology (ArgenBio).

The majority of these benefits (66%) went to farmers, while the remaining portion went to the government (26%) and technology providers (8%). The report also stated that the surplus brought about by the technology created over 2 million jobs over the two-decade period.

The synergy between GM crops and no-till farming practices led to conservation of soils, decreased greenhouse gas emissions, and energetic efficacy of crop management.

Source : International Service for the Acquisition of Agri-Biotech Applications SEAsia Centre (ISAAA)
US FDA APPROVES GE PINK PINEAPPLE

The U.S. Food and Drug Administration (FDA) completed the evaluation of genetically engineered pink flesh pineapple and concluded that it is as safe and nutritious as its conventional pineapple varieties. The pink pineapple was developed by Del Monte Fresh Produce with lower levels of the enzymes that convert pink pigment lycopene to the yellow pigment beta carotene. The new pineapple variety will be identified as “extra sweet pink flesh pineapple” to distinguish it from Del Monte’s “golden extra sweet pineapple”.

Source: International Service for the Acquisition of Agri-Biotech Applications SE Asia Centre (ISAAA)

RESEARCH SHOWS WHEAT YIELDS COULD INCREASE BY 20% WITH NEW CHEMICAL TECHNOLOGY

Scientists at Rothamsted Research and Oxford University have created a synthetic molecule that when applied to crops, increases the size and starch content of wheat grains by up to 20 percent. The study reports the method based on using synthetic ‘precursors’ of the sugar trehalose 6-phosphate (T6P). This is a first-of-its-kind strategy that used chemistry to modify how sugars are used by plants.

Rothamsted Research identified that T6P is crucial in controlling how wheat uses sucrose, the main fuel generated by photosynthesis, and key to the development of wheat grains. When more T6P is available to wheat grains as they grow, the greater the yield. Oxford University developed a modified version of T6P that could be taken up by the plant and then released within the plant in sunlight. This T6P ‘precursor’ was added to a solution and then sprayed onto the plants, causing a ‘pulse’ of T6P, resulting in more sucrose being drawn into the grain to make starch. When tested in the lab, this approach resulted in an increase in wheat grain size and yield of up to 20 percent.

Source: International Service for the Acquisition of Agri-Biotech Applications SE Asia Centre (ISAAA)

AUSTRALIA’S OGTR AUTHORIZES FIELD TRIALS OF GM BANANA

Australia’s Office of the Gene Technology Regulator (OGTR) has issued a license to Queensland University of Technology, allowing the field trials of banana genetically modified (GM) for resistance to Fusarium wilt disease. The field trials (License Application DIR146) are allowed to take place at Litchfield, Northern Territory, for a period of 5 years. The purpose of the field trial is to evaluate the level of disease resistance and agronomic performance of the GM banana plants under Australian field conditions.

The final Risk Assessment and Risk Management Plan (RARMP) concludes that this limited and controlled release poses negligible risks to people and the environment and does not require specific risk treatment measures.

The finalized RARMP, together with a summary of the RARMP, a set of Questions and Answers on this decision and a copy of the license, are available online from the DIR 146 page in the OGTR website.

Source: International Service for the Acquisition of Agri-Biotech Applications SE Asia Centre (ISAAA)
AGROCHEMEX 2016 CHINA

ACE, the abbreviation for AgroChemEx, AgroChemEx is an annual agrochemical symposium and exhibition organised by the China Crop Protection Industry Association (CCPIA) since 2005. Founded in 1982, the CCPIA, with its 614 plus members, has become a major force in China’s crop protection industry. The event attracts over 600 exhibitors, specialising in technical, formulation and adjuvants, who together account for 80% of China’s pesticide output. AgroChemEx provides the opportunity to meet the top producers in China and get to know their brands and a valuable platform for the exchange of information and business development opportunities.
ICSCE 2016 GOA

ICSCE, International Crop Science Conference & Exhibition, is an annual agrochemical conference and exhibition organised by the Pesticide Manufacturers & Formulators Association of India and marketed by Mayvi International.

The two day event was organised on 10-11 Nov 2016 at Ramada Caravella Beach Resort, Goa. It was attended by over 300 delegates, 60 exhibitors and visitors from across the crop protection chemical industry. The event started with lightening of the lamp and welcome address by Mr. Pradip Dave, President, PMFAI followed by lectures by different delegates.

The key note speakers were Mr. Pramod N Karlekar, President, FMC India Ltd.; Mr. Vijay Rai, Chairman, Akola Chemicals (I) Ltd, India; Mr. Filippo Quaglia, Senior Researcher, Lamberti Spa, Italy; Mr. Menno Pontier, Global Sales Director Chemical Business, Bericap Ltd. Germany; Dr. Imme Gerke International Development of Regulatory Globalization, Germany; Dr. Matthew Phillips; Director Crop Protection and Seeds, Informa Ltd. UK; Mrs. Li General Secretary, China Crop Protection Industry Association, China. The delegates discussed about the current and future outlook of the agrochemical Industry which included the Market Overview, Future Scope, Regulatory Frameworks, Contract Research, Manufacturing opportunities, Environmental
Friendly Formulations, Patent, Etc. On the evening of 10th Nov a cocktail Reception was organised which was sponsored by Mahamaya Lifesciences Pvt. Ltd. and Jebsen & Jessen. The exhibitors included the pesticide manufacturers and formulators from India and China.

Overall ICSCE provided a platform to the visitors and exhibitors to meet each other and interact with each other and exchange of information and business development opportunities.
GLOBAL PROVIDER OF DATA & INSIGHTS ON AGCHEM, SEEDS AND BEYOND

- The leading global provider of agri-input information
- Linking top-down (industry analysis) with bottom-up (market research) information
- Research based on direct communication with farmers worldwide
- 350 large scale farmer surveys worldwide (> 500,000 interviews)
- Offices in 21 countries

We Provide Answers To Your Crucial Questions.

For more than 25 years Kleffmann Group has conducted farmer based surveys which are repeated each season, known as “Panels”. Our panels provide insights on market shares as well as key market drivers.

Examples of data dimensions: CP/Seed turnover by country, crop, product, active ingredient, licence holder. Timings of application, intensity and pest/target/disease split by segment, product and Ai etc.

Agricultural Sectors:

- Seed
- Crop Protection
- Livestock & Animal Health
- Ag Machinery
- Horticulture
- AgriMore

- Anamis: Annually replicated farmer based studies collecting data on all major crops.
- AdHoc: Individual short term studies tailored to your information needs.
- AgriGlobe: Consolidated database for global CP and Seed market.

www.kleffmann.com
Mahamaya Lifesciences
A company with global vision, representing world class overseas manufacturers on exclusive basis for marketing their products in India. With business activities spreading from China to Latin America crossing through Korea, Middle East, European countries and Dominican Republic.
We offer novel, innovative products and new concepts for the benefits of farmers across the globe.
We deal in:
Herbicides, Insecticides, Fungicides and Household Pesticides - Technical and Formulations

Mahamaya Consultants
is an independent consulting company undertaking Registration of Plant Protection products globally.
We provide:
I Global registration
I Dossier preparation for registration
I Generation of toxicology, chemistry and bioefficacy data
I Market and product Research
I Data generation through GLP Laboratories

Agrolook
International crop science quarterly magazine
Extensive coverage of the latest developments in Agriculture, Bio technology, Crop Protection chemicals
Focus - Product Development, Market information, Regulatory guidelines of Agrochemicals, Company news, Environmental news, Country reports

Mahamaya Lifesciences Pvt. Ltd.
337-338, 3rd Floor, Space I Tech Park, Sector-49, Sohna Road, Gurugram-122001, INDIA
Telephone : +91 124-4301988/4371988
www.mahamayalifesciences.com ■ info@mahamayalifesciences.com