

Editorial

Dear readers,

After having largely drawn on previous issues and capitalization missions conducted in the pioneer countries in terms of adoption, extension and dissemination of experiences related to Bt cotton growing, in this edition **Agripol** deals mainly with other topics that relate to the agricultural sector. In this sixth issue of the newsletter « **DABA** », the editors have put a special emphasis on themes that relate to African agriculture. In particular, topics which concern more and more people in the rural areas, above all, grass-roots stakeholders, namely African farmers.

Through the various headings, **Agripol** points out themes that are nowadays the subject of complex and open debates. True to its approach, « **DABA** » introduces the debate and raises some challenges confronting African agriculture.

Thus, under the heading « *Behind the scenes* », an article is devoted to the sale/rent of arable land in African countries. Nowadays, in some African countries, (Mali, Madagascar, etc..), there are new foreign investors in the agricultural sector. The latter, with the backing of policy makers, are granted vast stretches of land to grow their own crops and export them afterwards towards their respective countries. Consequently, natives take a dim view of the new investors and consider their actions as a form of land despoliation.

However, local political leader argue that huge investments are made by these companies which are backed, in some cases, by countries with important financial means. The question being asked is whether the involvement of these investors can be seen as an opportunity for African countries, or rather as a threat to the food sovereignty they have been advocating for a long time?

Under « *Breaking news* », **Agripol** deals with the rise in the price of cotton on the international market of raw material. World cotton rates have known a rapid rise since the second semester of 2009. This is explained by the contraction in the supply of cotton as shown both by the fall in world production and initial stocks, and, by the increase

in demand by the cotton industries. To that should be added the continual drop of the euro versus the dollar and the increased competitiveness of agricultural exports from CFA countries.

« *Cross perspectives* » focuses on changes regarding the growing of Bt cotton, with the intrusion of “new” pests. For some time now, secondary pests have been praying on cotton plantations in India, China and the USA. These insects are of great interest to scientists who are closely studying their origin.

As indicated by its name, « *Alternatives* » deals with an agricultural method being advocated by the United Nations Food and Agriculture Organization (FAO). It is about sustainable management of the lands, a form of agriculture that combines revitalization, land protection and productivity.

In this issue, the **Agripol** team has interviewed Philippe Medeau, a manager of Bayer CropScience¹ in India. During the **interview**, Medeau talks, among other things, about Bayer CropScience’s new orientations, its perception of global agriculture along with the emergence of biotechnologies, and Bayer’s policy to conquer the African market.

Last but not least, « *Focus on ...* » introduces the institute of Makhathini Research Station. The centre is based in the Makhathini Flats in the hills of Kwazulu Land, in South Africa. Makhathini Research Station has been in the vanguard of researches conducted for the adoption of Bt cotton cultivation in South Africa.

Enjoy your newsletter!

INTERVIEW

Mr. PHILIPPE MEDEAU,

A BAYER CROPSCIENCE MANAGER, IN INDIA

“Biotechnology
has changed the
life of farmers
who have
adopted it”



Pages 7-8

¹ Bayer CropScience is an international company that deals with agricultural research. Its main interest lies in biotechnologies. It belongs, with Monsanto and Syngenta, to the world’s leaders in the field.

LAND TRANSACTIONS IN AFRICA

Land monopolization or development opportunity?

The land acquisition has been increasing over the last few years. Large areas of arable land are sold or rented to new land owners. This kind of speculation is common in Africa, Asia, Latin America and Eastern Europe. In the search for the probable causes, one should mention the latest economic, financial, food and energy crises.



Who benefits from land transfer in Africa? The question is of great concern to many people. Some argue that it is a win-win trade whereby each stakeholder makes a profit, whereas others said that it is mainly a stratagem of some rich countries to dispossess poor countries of their lands.

The leap in food products prices in 2008 has been followed by a new agricultural strategy. This means for some countries devoting themselves to subsistence crops on soils far away from home for the sole purpose of feeding their populations. The main countries concerned include Ethiopia, Benin, Ghana, Mali, Kenya, Madagascar, Mozambique, Sudan and Zambia. In most cases, the pattern is the same. It is either through a bilateral contract between the governments of the two parties, or a contract finalized between private investors and the government of the host country.

« An opportunity » for some people

To those who advocate land transactions, this can create opportunities for developing countries. So, new outlets for the sale of local products and the reduction of unemployment through new jobs offers at the national level could be mentioned. Some other advantages, like the development of the infrastructural sector and the rise in agricultural productivity could benefit host countries.

As far as Rodney Cooke of the International Fund for Agricultural Development (FIDA) is concerned, « *if finalized properly, these agreements can bring about positive*

results for all the parties while constituting a tool for development ». Undoubtedly, this practice will accentuate the deterioration in the living conditions of the host countries' rural populations. Nevertheless, it represents a real opportunity for national and local development to the extent that some factors accompany its implementation. The following can be named: the creation of a greater transparency, effective regulations, skilfully negotiated contracts and robust management and monitoring systems for social and environmental impacts. This position is shared by the World Bank through its « win-win » initiative which establishes the seven basic principals of socially responsible land monopolization described as « *agricultural investments* ».

The detractors of the practice denounce « a monopolization of the lands »

For stakeholders who are opposed to these practices, it is nothing but of a monopolization (or despoliation) of the lands to the detriment of impoverished populations. In fact, in this context of food, economic and energy crises, it is surprising that despite the scarcity of arable lands, some countries agree to sell property rights. The only plausible explanation would be the lure of profit to the detriment of public interest. As long as the lands are acquired by private investors, natives will lose access to the resources on which they depend. It is not mainly about lands but rather about the accessibility of water, forests and pastures. This situation threatens the food sovereignty

of the concerned countries while making worse poverty and hunger.

The World Bank study points out some of those worries. During the conference held in Washington on the 26th of April 2010, it indicates, « *that these projects do not benefit the local communities. The studies of environmental impact are scarce and the inhabitants are regularly driven out of their lands without being consulted nor compensated. Furthermore, the investors target deliberately countries that show a poor land governance indicator* ». For a Non Governmental Organization like Grain, « *the privatisation of fertile lands could lead to the disappearance of small agricultural farms and the livelihoods of the people who live in the rural areas in many regions around the world* ». To show the extent of the risks being incurred, N'Diogo Fall of the Network of West African Farmers and Producers Organisations (NWAFFPO) stresses the fact that « *whole communities have been dispossessed of their lands in favour of foreign investors*»; and, that, « *land should remain an asset for local communities in Africa* ».

In response, the International Institute for Environment and Development (IIED) recommends « *the previous creation of efficient guarantees within the national legislation and a skilful and transparent negotiation, to secure local rights on land and water. It is also essential to define the model of companies that will take into account local stakeholders, specific commitments in terms of investment, strong social and environmental guarantees as well as local food security* ».

Even if it is unanimously agreed that investments in agriculture are helpful and that the South-South dynamics are to be encouraged, it is important to play by the rules and mobilize the required funding to guarantee the survival of local producers.

On both sides, the various arguments are justifiable and defensible. In view of the fact that these transactions are not ready to cease, the current debate should deal with « *How to transform the current land monopolization into a real development opportunity?* » ■

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IMPROVEMENT OF COTTON RATES

A glimmer of hope for African cotton producers!

World cotton rates have reached a record level at the end of the year 2009 and at the beginning of the year 2010. This spectacular jump is explained by diverse and varied joint factors. But the fall during the third consecutive campaign of world cotton production (22.1 million tons, or a 6% decline compared to the preceding campaign) has played a key role.



The A Cotlook index which is baseline for world cotton prices has increased significantly. It stood at 92.30 cents Usd-Pound on April 26, 2010; this was its highest value in fifteen years. The evolution of the A Cotlook index shows a gradual increase between August 2009 and April 2010 going respectively from 64 cents Usd-Pound to 84-87 cents Usd-Pound.

According to the experts of the International Cotton Committee Advisory (Icac), the demand has known a 4% increase. For the 2009/2010 campaign, the world demand of the cotton industry is expected to be 24.4 million tons. In addition, India which is the greatest producer, consumer and exporter of cotton in the world, has gradually put a stop to its exports in order to satisfy its national market.

For more than a decade now, the fibre cotton price on the international market has kept decreasing, leading in the process to a drop in revenue for millions

of cotton producers in Africa. The subsidies granted by the USA, China and the EU to their cotton producers have contributed immensely to that situation. Despite the various advocacy and lobbying campaigns organised by the worst hit countries, the handling of the issue of subsidies by the World Trade Organization has not made any real progress despite numerous initiatives undertaken in order to denounce the distortions caused by such commercial practices.

This situation has led to a series of in-depth reforms of the African cotton sectors thus compelled to readjust since they largely depend on volatile international market rates. This has been materialized by a restructuring of the cotton sectors and a disengagement of the State in favour of private operators. The first consequence of these reforms has been a sustained and continued fall of cotton producers' income, thus weakening their already precarious living conditions.

While waiting for a better situation, African cotton producing countries, for lack of a better alternative, have redoubled their efforts in the production of cotton. A well-rewarded perseverance because it is evident that the improvement of the cotton world rates is being reflected in the purchase price of seed cotton paid to grass-roots producers in the different cotton producing countries. For instance, compared to the preceding campaigns, an increase in the purchase price of cotton in most AProCA member countries (African Cotton Producer Association) has been noted.

This situation heralds a promising future for the African cotton sector which, through its different professional organisations, has chosen as its objective the revival of the cotton production in order to reach the saturation capacities of the under-exploited ginning factories over the last years. ■

● Cross-perspectives

Bt COTTON AND SECOND PESTS INFESTATION

A headache for producers!

In order to better control the Lepidoptera and reduce the use of insecticides and pesticides in cotton farms, Bt has been presented as a credible alternative. Since 1996, the year when it was first marketed in the USA, its production has been increasing constantly. In 2010, world Bt cotton acreage reached millions of hectares. However, the invasion of secondary pests is challenging the advantages of transgenic cotton.



Since 1996, marketing year in the USA, the number of producers who have adopted Bt cotton across the world has been increasing continuously. In Africa, Burkina Faso

which is the first producer in the CFA zone plans to devote, after only two years' experiment, 95% of its cotton farms to transgenic cotton growing. However, after several years of marketing, a new

phenomenon worries the producers of countries like the USA, China and Argentina. It is the advent of new pests.

Despite the fact that it destroys mainly primary pests (the

Lepidoptera) and requires a low level of treatment, transgenic cotton has been the target of new pests over time. In China, for instance transgenic cotton has known an unprecedented invasion by bugs. As the growing of transgenic cotton was progressing in China's six provinces, the mirids were gaining ground. According to some experts, this does not exist on conventional cotton farms. «*Formerly, conventional cotton farms were like "centres" for the mirids; in the sense that they were destroyed inside them by insecticides, even if Bt toxin does*

not target them, explained Denis Bourger Researcher at of the Biological and Populations Management Centre (Bpmc) before pursuing: «*Then, with the sharp decrease in the use of insecticides, cotton farms have become "sources" of mirids*».

The same has been noticed in India and South Africa. If the issue of new pests does not cast doubt on the efficiency of transgenic cotton in dealing with primary pests, nevertheless it raises the issue of poor control of its effects on the ecosystem. Today, the consequences of this biotechnology cannot be predicted with accuracy in the long term. For producers, the consequence of the invasion by new pests is felt at several levels.

First, with regards to yields, the invasion by pests causes a decline in productivity because of the destructive effects these insects have on transgenic cotton. Thus, several cotton plants are



destroyed, leading to the harvesting of a small quantity of seed cotton. This variety, which is supposed to engender a significant increase in yields, could become less profitable than the conventional one. Secondly, the drawback caused to the producers by the new pests results in the increase in production costs. In order to destroy these pests, the producers will be led to make additional treatments. Therefore, the eradication of the new pests is not obvious for producers. They should try different insecticides and make several treatments before they could succeed. This situation is explained by the fact that these minor insects which differ from cotton secondary pests (bugs, white flies, aphids, dust mites etc) were not known as «*cotton plant pests*». Lastly, even if the producers were able to control these new pests, they would have to devote more working time to Bt cotton

growing which was initially designed to facilitate the growing of this product.

Research is still on regarding the supply of new types of insecticides. This is the case in India with the region of Nagpur where the Central Institute for Cotton Research (Cicr) has integrated secondary pests into its control strategy, the research for the supply of new types of insecticides. Overall, for the producer, new pests' management represents an additional cost that increases the production cost which is already burdened by the high price of Bt cotton seeds.

The lack of knowledge concerning the long term effects of transgenic cotton on health and environment; the increase in production cost and working hours create serious worries for the validity of Bt cotton advantages. Therefore, it is necessary to remove any doubt by boosting research on new pests. ■

● Alternatives

SUSTAINABLE LAND MANAGEMENT

A solution to land degradation

Numerous countries like Sub-Saharan African countries are confronted with the degradation of arable lands. In a context of food insecurity, it is important to tackle the issue of the protection of lands, and this, through a rational and appropriate management of the lands.



Adopted in 1992 during the United Nations Earth Summit, the expression « *Sustainable Land Management* » (Slm) is defined as « *the use of resources, such as soils, water, animals and plants to produce goods, meet ever-increasing human needs, while preserving their long term production potential and their functions in the environment* ». Therefore, they represent an absolute way of minimizing risks and rehabilitating deteriorated areas. It is an imperative when it comes to ensuring an optimum use of land resources for present and future generations.

Sustainable Land Management will ensure integration between agriculture and the environment through two objectives: first, to maintain the long term producti-

city of the ecosystem's functions (lands, water, biodiversity); second, to increase the productivity (quality, quantity and diversity) of goods and services for a sound and healthy diet.

The factors of land's degradation causes are many. Among them are the development of acidity; wind and water erosions, and declining fertility, among other things.

The respect of Sustainable Land Management is based mainly on four principles. The first one consists in starting with the needs of land users and adopting a participative approach; the second is to integrate the use of natural resources within ecosystems and operating systems. The promotion of a multi-level and multi-stakeholder commitment corresponds to

the third principle while the fourth principle consists in targeting policy-makers, institutional backing as well as developing inspiring mechanisms for the adoption of SLM and the generation of income at local level.

All these principles require collaboration and partnerships between several stakeholders. It is about users of lands, technical experts and political decision makers. In order to encourage and support States for greater involvement in the adoption of this alternative, FAO is implementing some capacity building activities. Thus, FAO is supporting its member states through training, information, communication, tools, equipment and political reform. Besides, there are several programs linked to SLM, namely the promotion of agricultural schools on the ground, of conservation agriculture and watersheds management without forgetting the dissemination of agricultural systems for integrated land and water management and sustainable forest management.

In its quest for soil protection, Ghana is often referred to as an example thanks to its important network of negotiators which allowed the creation of greater competitiveness on the fertilizers market. After all is said and done, three methods of SLM will be remembered: reduction of ploughing time, use of organic matters instead of burning, and control of wind erosion.

Achieving food security and improving livelihoods will definitely require appropriate use of land and management practices. Therefore, it is important to encourage countries to reinforce SLM measures and to develop new farming systems. This will give back to the soil its capacity to feed the world's populations. ■

Mr. PHILIPPE MEDEAU, A BAYER CROPSCIENCE MANAGER, IN INDIA

“Biotechnology has changed the life of farmers who have adopted it”

Mr. Philippe Medeau, a Frenchman born near Bordeaux, is one of the Bayer CropScience managers in India. He has joined the agricultural division of the Bayer Company after having previously worked for an agricultural cooperative. This enabled him to take part in the development of the company's activities in several countries. He joined in 2009 the Indian subsidiary with, in particular, the mission of boosting the development of its cotton growing activities. In this interview, he talks at length about the introduction of biotechnology in agriculture and his company key position.

DABA: Could you introduce to us Bayer BioScience?

Mr. PHILIPPE MEDEAU: BioScience is a division of Bayer CropScience which develops and markets mainly seeds. We are active in more than 100 countries. We achieved a turnover of 503 million Euros in 2009. We have six core crops: oilseeds, cotton, rice, vegetables, and since last year, wheat and soybean. We have an important research and development program that will enable us to support our strong growth during the coming years.

What are the activities you are currently developing in India?

Though recently established, the BioScience division of Bayer CropScience is already among the key leaders of the Indian Seed sector. Our objective is to promote inside this huge country all the crops that belong to our global portfolio. Of course, our six core crops are already part of our development strategy. Our relationship with the market is active through very regular contacts with the Indian authorities, especially when it comes to launching our own Bt cotton varieties. In the near future, we are expecting to provide Indian farmers with solutions such as GlyTol and TwinLink.

What are the leading sectors conducive to a biotechnology development in agricultural research?

Bayer CropScience considers

biotechnology as a great progress factor. It accelerates plant breeding processes. Additionally, it allows the introduction of new properties into plants. For us, it is essential to continue exploring genomes in order to better understand the relationship between genes and agricultural properties. The exploration field is infinite and there are high hopes. The main difficulty is the introduction of transgenic seeds into the market. The next key step will be the use by farmers of biotech food crops such as rice.

With its abundant natural resources and ecosystem, does Africa really need biotechnology?

Bollworm (*Heliothis armigera*) attacks are a factor which limits yields in Africa. The necessary sprays of insecticides are often not done properly (inappropriate products, sprayed at the wrong time, used in wrong doses,). Growing Bt cotton could be a real solution for safeguarding the farmer as well as the environment (effective use of insecticide) leading to increased yield concerning seed cotton.

Although a leader in the USA, Bayer CropScience is absent in Africa. What are the strategies being implemented to penetrate this market?

Today, biotechnology is not widely available in Africa, firstly because the necessary regulatory structures



are not in place in most African countries (except South Africa and Burkina Faso). However, the situation is changing, and some countries have already adopted Biosafety regulations based on the Cartagena Protocol, but the National Biosafety Committees responsible for the implementation of these regulations are not yet operational. We are following very closely the evolution of local regulations and we are ready to cooperate with authorities to evaluate Bayer CropScience solutions under local agricultural/climatic conditions.

Do you think that the adoption of biotechnology in agriculture will help overcome the food crisis?

Biotechnology alone will not eradicate hunger in the world. To fulfill the millennium goal, we need to

optimize all agronomical practices, ensuring access to water and inputs; enhancing food transportation and storage, and ensuring the financing of agriculture... Biotechnology is one of the key elements which will allow to speed up the process of bringing solutions in order to produce more and better while limiting the agriculture environmental footprint.

How would Bayer Crop Science and Monsanto, the two main leaders in the field of transgenic seeds, make more accessible this technology to producers?

There are many contractual relationships in this field allowing parties to have access to different technologies and make them available to farmers through a wider range of plant varieties. Nevertheless, this does not prevent fierce competition. In addition, I would like to highlight the fact that these agreements do not happen only within the industry, but also with the public and semi-public institutions playing an important role in research and development

What are the arguments you would put forward to reassure those who oppose biotechnology?

For those who are willing to discuss the soundness of these technologies, I would like to recommend two things. First of all, that they revert to history and check how accessing modern technology has changed farmers' life in the last 15 years. Secondly, I would recommend that they pay attention to the sources of information being relayed by the media. Then, it will be interesting to compare the opinion of those who have followed a rigorous scientific process and the others.

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MAKHATHINI RESEARCH STATION

The secular arm of small black farmers

If South Africa has been the first country of the continent to adopt Bt cotton, the credit should go to small black farmers in the Makhathini Flats region. Supported by the "Makhathini Research Station", these farmers have been able to acquire this technology, enabling the Makhathini Research Station to become their secular arm.

A department of the National Research Centre which is based in Rustenburg which is a department of Ministry of Agriculture, "Department of Agriculture" (Doa), the Makhathini Research Station in South Africa works specifically for the identification of the small producers' needs. With the Rustenburg Centre, it proposes solutions to the difficulties encountered by impoverished small farmers; namely the drop in yields, the lack of means to acquire inputs and pesticides. Therefore, the Makhathini Research Station has backed and encouraged the black cotton producers during the adoption of transgenic cotton.

Between 1996 and 2002, the research centre would organise every other year promotion days whose aim was to introduce to the members of the 45 producers' associations the results of experiments concerning transgenic cotton. With the support of the Cotton South Africa Building, the Makhathini Research Station trained 30 producers a year. The objective was to make an initial transfer of the new technology from closed (research centre) towards open spheres (farms).

After the introduction on a big scale of transgenic cotton into the region, the research centre would organise every year, two months before sowing, information and awareness-raising campaign on Bt cotton. It would allow the gathering of forecasts for the next campaign. Cotton producers would be invited to join in the teaching and field shows days during sowing time,



thus allowing a great number of them to acquire relevant knowledge.

For Jurie Steyn, the Director of Makhathini Research Centre, «*the role and involvement of black farmers have facilitated the adoption and promotion of Bt cotton in South Africa*».

Besides, the centre has created a newsletter on Bt cotton titled Biotechnology for Small Scale Farmers with the support of Africa Bio, a Non Governmental Organisation. Based on caricatured images and simple and easily understood texts, this newsletter is a practical guide for the small farmers.

After the harvest, and based on a selection by Makhathini Research Centre, the Cotton SA awards some prizes to the best producers of the different communities of Kwazulu Land. The aim of this is to motivate and encourage black farmers to invest more in the production of transgenic cotton.

Following the activities of the Makhathini Research Station, the adoption rate for Bt cotton has exceeded 90% in the region. Despite the difficulties linked to the climate and the transport of seed cotton, Bt is still well liked in Makhathini and this thanks to the relentless support of the research centre. ■