

Allow the agri-biotech interventions, ABLE-AG urges Telangana govt - BioVoiceNews

During an awareness session on agri-biotechnology in Telangana, the Association of Biotechnology Led Enterprises emphasized on the needs to allow pending field-trials of GM crops with regards to technology interventions in agriculture in the state



Association of Biotechnology Led Enterprises, Agriculture Group (ABLE-AG) Executive Director Dr Shivendra Bajaj along with eminent public institution scientists Dr B Sesikeran, Former Director, National Institute of Nutrition (ICMR), Dr P Ananda Kumar, Indian Institute of Rice Research, and Dr Ajay Panchbhai, Biotechnology Affairs Manager – India, DuPont Pioneer addressing the media on the opportunities and potential of GM agriculture.

Hyderabad: The Association of Biotechnology Led Enterprises – Agriculture focus Group (ABLE-AG) on May 18th organized an awareness session on need for Agri-biotechnology in Telangana by a delegation of senior scientists.

Through the session, the scientists and ABLE AG urged the government to initiate farm technology interventions in the state that would include introducing farmers to drought resistant variants of rice, the main food-grain planted by farmers and consumed in the state. The scientists also highlighted and discussed the problem with regards to the pending field trials of GM crops in the state.

Dr B Sesikeran, Former Director, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad and Dr P Ananda Kumar, Principal Scientist, Biotechnology Unit, Indian Institute of Rice Research, Hyderabad were the prominent scientists who addressed the audience. They were accompanied by Dr Shivendra Bajaj, Executive Director, ABLE-AG and Dr Ajay Panchbhai, Biotechnology Affairs Manager- India, DuPont Pioneer.

Addressing the audience at the session, Dr P Ananda Kumar, Principal Scientist, Biotechnology Unit, Indian Institute of Rice Research, Hyderabad said, “The projected world population growth for next 50 years is 70-75 million per year and to ensure food security for them technological interventions in agriculture is the need of the hour. For a drought hit state like Telangana it is essential to curtail farmer distress and introduce different GM as well as non GM crop varieties. Drought resistant variants of crops that can withstand high temperatures and reduced irrigation should be considered along with herbicide tolerance and nitrogen use efficiency especially in the case of rice, Telangana’s primary food-grain.”

As per ABLE-AG, the drought tolerant rice varieties can mitigate climate change and reduce ground water discharge.

Due to the severe drought, the overall rice output of 2015 season in the state was down to approximately 3 million tonnes (as against a normal year’s harvest of around 4.5 million tonnes). However, rice requires significant irrigation. For every kilogram of rice grown in Telangana, a farmer uses approximately 3145 litres of water. The irrigation water used by farmers to produce 3 million tonnes of rice (the production in 2015-16) would therefore have been in the region of 9.4 billion cubic litres (1 cubic litre = 1000 litres).

At least 25% of this amount or 2.3 billion cubic litres of water can be saved if farmers switched to drought tolerant rice. Newer variants of GM as well as non-GM rice currently being tested internationally claim to reduce irrigation needs by up to 60%, says ABLE-AG.

According to the experts, a normal rainfall year, if farmers were to plant drought resistant rice, expecting a normal harvest of 4.5 million tonnes, the water saved would be approximately 3.5 billion cubic litres. To put this into context from a non-agriculture perspective, a saving of 3.5 billion cubic litres works out to 100 cubic litres (or 100,000 litres) of water per citizen per year. Or 274 litres of water per day per person (Telangana’s state population taken as 35 million as per 2011 census).

Dr B Sesikeran, Former Director, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad highlighting the safety and nutrition perspective of GM Crops said, “GM foods are consumed across the world and to date there is no documented proof that any approved, commercially grown GM crop has caused allergic reactions owing to a transgenically introduced allergenic protein. India’s regulatory mechanism is among the best in the world and ensures adequate bio-safety measures in relation to the licensing of GM crops”.

Speaking on the issue of field trials, **Dr Shivendra Bajaj, Executive Director, Association of**

Biotechnology Led Enterprises – Agriculture Group said, “Telangana’s focus now needs to be ‘more crop per drop’. There has to be a concerted effort to drive agricultural growth through technology interventions. Telangana has several GM crops where field trials are pending including rice, cotton, wheat, and others. The state should also focus on crops with heat and drought resistant traits. Telangana can show the way to India’s other states where similar GM crop trials are pending.”

Talking about the regulatory mechanism **Dr Ajay Panchbhai, Biotechnology Affairs Manager- India, DuPont Pioneer** said, “The regulatory framework in India is as stringent and scientific as any other system in the developed countries and thus proper measures are taken before any crop is approved for field trials or environmental release.”

Few of the points that ABLE-AG believes are relevant to the position taken by it on GM crops, are mentioned below:

Falling groundwater levels

The state government has declared 231 mandals to be drought affected. The groundwater department has however categorized 300 mandals across the state as water stressed. 140 mandals are severely water stressed, with water levels at 20 metres below ground level (m-bgl). The ground water situation is critical in another 69 mandals with levels plummeting to 15 – 20 m-bgl. It is between 10 to 15 m-bgl in another 98 mandals. The average depth of ground water is now at 15.26 mbgl as compared to 10.42 mbgl in 1999. Groundwater is Telangana’s lifeline because only a fifth of the state’s arable land is under canal irrigation.

Shrinking crop area

The overall food-grain production in Telangana was 6.5 million tonnes in 2015-16 as against the target of 11.1 million tonnes. Compared to 2014-15, the area under paddy crop shrank by 33 per cent in 2016-17. Likewise, maize, millet and oil seed crops too declined. In the 2015 Rabi season, the area under food crops sown was 5.32 lakh hectares as against the normal area of 10.08 lakh hectares. This is about 47 per cent less than the normal area. Paddy is the worst-hit crop due to continuous dry spells.

GM crops mitigating climate change

Increasing efficiency of water usage will have a major impact on conservation and availability of water globally. Seventy percent of fresh water is currently used by agriculture, and this is obviously not sustainable in the future as India’s population increases to over 1.7 billion by 2050. At the same time, droughts, floods, and temperature changes are predicted to become more prevalent and more severe as we face the new challenges associated with climate change, and hence, there will be a need for faster crop improvement programs to develop varieties and hybrids that are well adapted to more rapid changes in climatic conditions. Drought tolerance is expected to have a major impact on more sustainable cropping systems, particularly in developing countries such as India, where drought will likely be more prevalent and severe than industrial countries.

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