

Genetically modified organisms (GMOs) are now used in the production of pharmaceutical drugs, gene therapy, and golden rice (containing provitamin A). Although options of buying GMOs in the developing countries are limited now, their availability is expected to increase in these countries in the near future and along with it debates will definitely pursue. The creation and use of GMOs have increased continuously in the past few decades. Since creation of the first recombinant bacteria (*E.coli*) was reported in 1973, expressing an exogenic *Salmonella* gene <sup>(1)</sup>, Genentech (now a member of the Roche Group) was the first company to announce the creation of an *E.coli* strain producing the human protein insulin in 1978 <sup>(2)</sup>. More recently (2009), transgenic animals (forms of GMOs) were approved by the U.S. Food and Drug Administration for the production of the first human biological drug (an anticoagulant) to reduce the probability of blood clots during surgery or childbirth <sup>(3)</sup>. Genetically modified bacteria are now used to produce clotting factors to treat haemophilia <sup>(4)</sup> and human growth hormone to treat different forms of dwarfism <sup>(5)</sup>. In 2012, genetically modified male mosquitoes containing a lethal gene have been developed and released to the environment to fight Dengue fever which is responsible for the death of thousands of people worldwide <sup>(6)</sup>.

Considering the anxiety of public over the safety of these organisms, international organizations such as WHO and FAO have been issuing guidances on assessing the safety of genetically engineered organisms during the past two decades <sup>(7)</sup>. Other societies including International Society for Biosafety Research –ISBR– have also been established to promote scientifically sound biosafety research worldwide. ISBR is organizing an International Symposium on the Biosafety of Genetically Modified Organisms (ISBGMO) which is to be held in St Louis, Missouri, USA, 16-20 September 2012. This symposium is expected to be attended by scientists, regulators and developers from all over the world. Main topics in this symposium will include: Genetically modified animals, biosafety policy and practice, RNAi applications and considerations, genetically modified biofuels, current regulatory challenges, defining environmental harm, concepts and applications for environmental risk assessment and regulatory decision-making, biotechnology and crop improvement in developing countries, and new applications of modern biotechnology in agriculture and future implications.

It is very appropriate for the leaders of biotech industry and government regulatory agencies in Iran to attend such conferences for learning, exchanging ideas and participation in the discussions on the safety of GMOs. It looks as certain that the products from GMOs will enter the Iranian animal and food market(s) in the coming years. Therefore, the appropriate regulatory agencies in the Ministries of Health and Agriculture should prepare themselves to scientifically explain to the public the importance of GMOs and why they are safe to use either as food or pharmaceutical drugs.

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## References

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