

Modern Breeding is the Foundation Of Progress in Agriculture, Abstract

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The concept of a sustainable world has to be rethought: We must realize, that true progress in all fields of human activity is the foundation of sustainability. This includes also modern breeding with molecular methods.

It has become clear in recent years that the difference between gene transfer with genetic engineering and natural mutation has been exaggerated. Actually, new genomic analysis has shown that for example transgenesis has less impact on the transcriptome of wheat grain than conventional breeding.

The often criticized herbicide tolerant crops offer the possibility to change to no-tillage agriculture, which is beneficial for the soil ecology.

Recent meta analysis of the impact of Bt crops on non-target insects has revealed, that generally the Bt cropping is beneficial to non-target insects compared to the old-fashioned pesticide spraying.

One often cited seemingly negative paper on the potential impact of Bt proteins on aquatic organisms reveals to be flawed: It is not a real field study and lab experiments demonstrate in this paper that under realistic concentrations the impact of Bt proteins is even beneficial compared to non-Bt crops.

Recent statistics in crop prices and crop production worldwide stress the importance of renewing efforts in crop breeding, in order to get enhanced yields which are desperately needed.

The times should be over for sterile fights between ecological/organic farming and biotechnology driven production methods, it is a necessity to work together and develop new strategies of precision agriculture, including new industrial methods in organic farming.