

Activation of epigenetics passway for improving traits in different cultivars

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Extended Abstract

Introduction: Improvement of agricultural methods and productivity is seen as one of the greatest challenges of the 21st century. In about two decades from now, the world population will be increased dramatically. This in turn will force food production to its limit. One potential solution for increasing food supply is by using epigenetics techniques. By applying moderate stress on plants plus specific selection process, we were able to apply phenotypic changes without affecting the plant genotyping. We, at Epigenetics, developed a non-GMO platform for improving seed traits, based on treatment and selection cycles. Results show an increase in yield potential of row crops, vegetables and ornamentals (Soybean, Corn, Pepper, Tomato, Chrysanthemum, Echinacea, Stevia and other). Indications show that Epigenetics treatment may expose a new source of genetic diversity through heritable epigenomic modifications. We concentrated our attention to the increased plant's growth and yield by manipulating genes that control the level of photosynthesis activity (photosynthetic rate). Increase energy supply (up to 80 to 100%) allows the plant to activate many new traits such as increase bio-mass, resistant to abiotic stress, resistance to herbicide side effects and better growth potential which associate with increased fruit to canopy fresh weight ratio.

Conclusion:

After activation of the epigenetics biochemical pass way, we introduced a selection process directed towards a chosen trait, toward biomass and yield increased. Our technology is blind to the origin of the plants: non-GM or GM, untouched their original properties while increasing their yield.

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