# The Language of the Plant - Part II

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## Epigenetics

There is a new word that growers, consultants, and research professionals are going to have to add to their vocabulary. It is called: EPIGENETICS. This new word has just been recently recognized by plant physiologists. The implications are that when you change the expression of a plant cell, this expression is passed on to all daughter cells, granddaughter cells, etc. In other words, when you change the genetic expression of a cell it is passed on to all cells for the rest of that plants life.

An example of epigenetics playing a role in cropping practices today could possibly be the earlier planting of wheat into cooler soils with favourable yield results. The wheat plant will then develop with shorter internodes than the same variety that is planted in warmer soils with less lodging and the yield potential is generally higher. Farmers generally know that the earlier that they plant, the higher the potential yield will be. Evidently, epigenetics is easier to instill in plant cells when the plant is young.

This is the reason why applying nutrients and other growth enhancing compounds as seed treatments can have such a profound effect upon crop yields. The epigenetic effect on the young plant, as it germinates, may be greater than when applied as a foliar spray to the plant when the plant is older. The role of foliar applied nutrients and stimulant type products may be more important in protecting this new genetic potential that has been developed in the very early stages of plant growth.

Stoller's research at various Universities consistently show that products applied as seed treatments return the greatest dollar value per dollar invested of any treatment, when trying to enhance yields of any crop. This applies to corn, soybeans, wheat, cotton, canola and other crops. The evidence for the Epigenetic effect has been reinforced through seed treatment studies conducted globally by Stoller with a patented product from Stoller known commercially in the USA market as Bio-Forge®.

> “...growers are only realizing 30 to 35 per cent of the potential yield ...each plant cell contains.”

The impact of this new plant treatment can be observed in the color and quality of the corn grain, the germination of the corn seed, and the vigorous plant growth of the seedlings when the seed is planted compared against the seed that has not been treated with Bio-Forge the previous year.

*Jerry Stoller is the President and CEO of the Stoller Group. In agri-business for over 40 years, Stoller is dedicated to helping producers enhance crops by maximizing the genetic expresion of plants.*

Stoller is dedicated to helping producers realize of more of the potential yield that the DNA in each plant cell contains. Some very exciting discoveries are being made today that appear to be unlocking more of the genetic potential that occurs naturally within each living plant cell and the unlocking of more of this potential will be one of the answers to very substantial crop yield increases in the near future.

When referring to epigenetics, we are referring to the plant’s ability to give greater expression of the full genetic potential that it contains. At the present time, most growers are only realizing in crop production 30 to 35 per cent of the potential of the DNA that is combined from the mother and father genetics and contained in this single plant.

You are going to read more and more about the permanent change that occurs within the plant when it is effectively treated in order to greater expression of the power of each cell. This power will steadily pass on to the other cells in the plant for the rest of the plants life. You are going to read more and more about this topic in the future.

Stoller, headquartered in Houston, Texas, is actively researching and developing plant performance products in more than 50 countries. For more information, visit www.StollerCanada.com.