



## STOLLER ENTERPRISES, INC.

*...World leader in crop nutrition...*

Which is our Objective, Page 1 of 2

### **Which Is Our Objective ... Increasing Yields? Or, Reducing The Loss Of Genetic Potential?**

Every grower wants seed with higher genetic potential. New varieties have helped us increase yields. We therefore call on plant breeders to "give us seed with higher genetic potential".

Consider this: We are now only receiving 25% to 35% of the genetic potential in our present seed!!! Why? Because we lose genetic potential everyday after the day of planting. The highest genetic potential of any seed exists at the day of planting. Every day afterward, genetic potential is lost.

How do we lose genetic potential?

- Poor seed bed
- Poor planting depth
- Poor moisture ... too much or too little
- Soil temperature
- Direction of root growth during the first 15 days after germination
- Poor soil tilth (oxygen for roots)
- Hard pan
- Soil nutrient balance
- Poor nutrient supply
- Poor nutrient balance
- Soil insects
- Soil diseases
- Plant population
- Row width
- Plant toxicity of one plant on its neighbor (autotoxicity)
- Diseases
- Insects
- Hormone imbalance
- Seasonal rain
- Seasonal temperature
- Wind
- Hail
- Weeds



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These are only 23 reasons why we lose genetic potential. There are more.

How do we minimize the loss of the genetic potential. If we can do so, it will automatically increase yields!!!

Obviously, all of our present good practices are still only yielding 35% of the genetic potential in the seed.

Is this problem going to be solved with grid sampling? Of course, not.

Is this problem going to be solved with a magic product? Of course, not.

Is this problem going to be solved with various practices such as tillage, row space, or plant population? Of course, not.

Is this problem going to be solved by more and more expensive herbicides, micronutrients, or fungicides? Of course, not.

The weather is the main factor that controls the realization of high genetic potential.

More specifically, the weather at the beginning of seed filling.

Why is temperature and soil moisture so important? Because they control the hormone balance in the plant. It is the hormone amount and balance that controls the size, shape, and yield of a plant. And it is the weather (temperature and soil moisture) that controls the amount and balance of hormones in the plant.

What about fertilizers?

All fertilizer nutrients can affect the hormone balance in the plant. The two nutrients that have the greatest affect are nitrogen and calcium.

Nitrogen tends to increase hormones. More nitrogen ... more hormones. This effect of nitrogen is good during good growing conditions. The effect of nitrogen is negative when plants are under stress.

Calcium protects the plant against the negative effects of nitrogen during periods of stress.

Independent of fertilizer, the plant hormones can be regulated by the application of plant hormones.

The use of plant hormones will be the only way that we can control the effects of weather, diseases, insects, and other negative growth factors.

Which hormones do we use?

When do we apply them?

Where do we apply them?

**“We can only learn by understanding The Language Of The Plant.”**