



EARLY GROWTH AND DRIER GRAIN WITH PUREGRADE®

It is important to have a starter fertilizer in place during corn's VE stage of growth, or germination and emergence. The final size of leaves, ears and other parts depends on having an adequate supply of nutrients when the radicle and seminal roots begin growth before emergence. Looking ahead a few more weeks, we see why a banded supply of fertilizer in amongst the seminal roots continues to be important to final yields. Because PureGrade low-salt liquid fertilizers contribute to earlier, stronger plant establishment, plants are better able to outlast unplanned stressors such as weather extremes and insect pressures, as well as planned reproductive stressors such as bloom and grain production. For example, low temperatures can tie up valuable soil nutrients. Placing PureGrade liquid fertilizer in-furrow or positioned 2x2 from the seed at planting provides young root systems with an immediately available source of 100% water-soluble nutrients.

Exciting things begin to happen, at least from the corn plant's perspective, during the first 4 weeks of life. It has not reached adolescence, yet. It has to transition from the seminal root system to the permanent or nodule root system that will function throughout the rest of the plant's life.

Tassel formation is initiated and the uppermost harvestable (final ear) is initiated. Usually, 8 to 10 identifiable ear shoots will develop, but it is generally the uppermost one that becomes the ear that is harvested.

Kernel row number determination begins at about stage V5 and may be completed by stage V8, or about 4 weeks after emergence. Row number is largely determined by genetics, but severe stress before stage V8 can change that. In contrast, the number of kernels per row is determined later and depends a great deal on environmental factors.

Many stresses during the first few weeks of life can impact yield. We can control fertility, weeds, insects and provide moisture if irrigation is available. We can control excessive moisture to some degree by maintaining drainage systems.

Often, it is temperature that places the greatest stress on crop growth. Root growth is slowed and fewer nutrients are

absorbed. This can happen when either excessively high or low temperatures occur over extended periods. Positioning a band of liquid nutrients in the root zone helps overcome slow growth due to temperature extremes.

PureGrade low-salt liquid fertilizers placed in a band in or near the row during planting is the best way to prevent early nutrient stresses on corn and other crops. Because of the proximity of the PureGrade starter product to the root system, nutrients are quickly found and absorbed. The early assimilation of nutrients produces faster growth regardless of soil temperatures. Nutrients like phosphorus and potassium are especially needed during the time soils remain cold.

Many growers add a foliar application of PureGrade products such as OverPass CF, OverPass SF, or Super 72, during the early growth period to increase the nutrient levels in the plant and stimulate growth. In addition to the starter application, foliar fertilizer helps keep the plant strong to resist environmental stresses.

DRIER GRAIN

In addition to higher yields, another big advantage of using a PureGrade low-salt fertilizer with high phosphorus content is the likelihood of drier grain at harvest and the ability to start harvest a few days sooner. It is common to have 1 to 2 percent drier grain and sometimes more due to starter phosphorus. The savings in drying expense can help pay for the PureGrade product application. Another way to look at it is that harvest can start 3 or 4 days earlier. That may be just enough to get everything done before the snow falls. Savings on drying costs can pay up to about half of the cost of a typical PureGrade low-salt starter application depending on fuel costs.

It is common to have 1-2% drier grain at harvest when using a PureGrade Starter Fertilizer high in phosphorus.

Written by: Dennis A Zabel, PureGrade Technical Support



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