QUENCH™

FREQUENTLY ASKED QUESTIONS

ABOUT QUENCH™ AND HOW IT WORKS

Q. In a nutshell, what is Quench?

A. Quench is a unique superabsorbent product made from natural cornstarch, holding up to 400 times its weight in water. Quench slowly releases the held moisture as plants need it, creating an 'on-demand' source of moisture. Quench increases the quality and yield of plants, while using less water. It's a versatile product that can be used for most any home and garden plant, on the farm, at commercial nurseries and landscape services, etc.

Q. Does Quench physically change the amount of water a plant needs for optimum growth?

A. No, plants require a specific amount of water for optimal growth. Quench doesn't change that amount, but it does manage water more efficiently. Instead of water being dispersed into the soil or evaporating, it is absorbed by Quench and held for the plant to use as needed. This "bound water" more effectively and efficiently nourishes the plant to reduce the total amount of water applied, up to 50% although "your mileage may vary."

Q. Does Quench change the nature of the moisture it absorbs?

A. No, Quench triggers no chemical reactions. Quench merely absorbs moisture and any water-soluble nutrients it contains, and remains suspended in the plant root zone, storing the moisture and nutrients in plant-available form.

Q. Is Quench suitable for only one type of soil?

A. No, Quench provides benefits to all soil types. Soil particles in sandy soils are relatively large and have poor water-holding capability. Quench holds water, preventing it from moving past plant roots where it is needed most. Clay soils, which are more compacted, benefit from the increased aeration created as Quench expands and contracts, which increases oxygen levels and water percolation.

Q. Will increased moisture near the root structure cause root rot?

A. No, Quench granules will expand to many times their original volume, then contract and repeatedly expand based on the water available. This action forces soil particles apart, increasing aeration-the key element required to prevent root rot. Once the granules reach their maximum absorption, excess water is allowed to move deeper into the soil profile. This combination of ideal water availability and good aeration promotes faster plant growth and minimizes the potential for root rot.

Q. Will I always notice a difference in plant growth by using Quench?

A. During most growing seasons, use of Quench will show a definite advantage in plant development and performance. However, when environmental conditions are ideal for plant development and growth, Quench results may not be markedly different from untreated plants.

Q. What is the science behind Quench?

A. The technology is a culmination of research between the U.S. Department of Agriculture and the company. It is well proven in more than a decade of worldwide agricultural trials. Also see www.zeba.com.

Q. How does Quench benefit transplanted plants?

A. When moving and replanting a plant, Quench wil provide a consistent source of moisture leading to less water stress, better survival rate and greater plant root development.

Q. Does Quench help increase germination and growth of seeds?

A. By applying Quench in seed furrows at planting, the germinating seed and seedlings have a constant supply of moisture and nutrients available for a more complete, consistent germination and seedling emergence.

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QUENCH SAFETY

Q. **Is Quench safe for food crops?**

A. Yes! Quench is formed from cornstarch and is safe for all food crops. Quench is a natural starch-based formulation. It is non-toxic, biodegradable, pH-neutral and safe for any plant. Synthetic polymers, on the other hand, typically contain significant amounts of sodium, petroleum and other fillers, which can be detrimental to food crops. Because it is starch-based, Quench is an attractive food source for soil microorganisms. Over time, the microbes consume the Quench, creating a richer soil environment.

Q. **Is Quench organic?**

A. The base of Zeba is natural cornstarch. During manufacturing, the molecular structure of the cornstarch is tweaked in order to give Zeba its great ability to store and release water. This process limits qualification for organic certification. However, all trace elements of the process are removed, and the final Zeba granules as delivered are as 'natural' as the cornstarch in its original state.

LONG-TERM EFFECTS

Q. **Is residue left in the soil over time?**

A. No. Quench is completely biodegradable. Cornstarch, the main component, is a food source for microorganisms present in the soil. So, even after biodegrading, what remains functions as a soil amendment to improve aeration and other soil characteristics.

Q. **Does Quench alter soil pH?**

A. No. Quench granules are pH-neutral and will work well within a pH environment range of 6 to 10.

QUENCH APPLICATION

Q. **How often do I apply Quench?**

A. In general, we recommend a fresh application of Quench with each new planting. This ensures that Quench is in close proximity to the seeds (for improved emergence) and roots. For more specific applications subject to plant type, see the *Quench Application Guide.*

Q. **Can I mix fertilizer with Quench?**

A. Yes. By combining Quench and nutrients, your plants have the best advantage-both food and water. Just add fertilizers to soil as directed on the fertilizer package.

Q. **How long does Quench remain active in the soil?**

A. Quench remains effective 12 months to several years, depending on the microorganisms present in the soil, which will eventually cause biodegradation. We recommend a new application with each new planting as a way to ensure optimum efficacy. Over time, each Quench application will settle, further deepening the active zone.

COMPARISON TO POLYACRYLAMIDE FORMULATIONS (PAMS)

Q. **I've tried superabsorbents before, but couldn't really tell a difference in my plants. How is Quench different?**

A. Quench is new and totally different from other water-preservation products, including any of the synthetic polyacrylate and polyacrylamide formulations (e.g., PAMs). You've likely heard of or had experience with the many synthetic polymers sold on the market, which are supersabsorbents made with petroleum-type formulations, the active ingredient used in disposable diapers.

These synthetic polymers hold water tightly, which explains why these formulations are less effective in growing plants. The most important factor is not absorbency, but the ability of any superabsorbent to release water. No other absorbent product is able to release water as well as Quench.

Q. **What about other products that claim to have more absorbency than Quench?**

A. We developed Quench to hold 400 times its weight in water, although we can produce a granule that holds as much as 5,000 times its weight. However, experience has shown we have achieved the optimum balance that benefits plants with a product that not only achieves optimal absorbency but also the ability to release moisture as needed.

To learn more about Quench, visit **www.zeba.com**

Revision Date – 07 Sept 2006
Lit. # 20080–04