



AgraGel®

Water Absorbing Crystals

AgraGel® crystals are engineered specifically for moisture retention with the ability to release moisture to the plant upon demand.

AgraGel® crystals absorb and hold hundreds of times their weight in water, and then upon demand, release the moisture to the plant. Of all plant polymers now available, **AgraGel®** crystals have the greatest absorption under soil pressure and perform more effectively in the presence of fertilizers and other water soluble soil additives. In addition, **AgraGel®** crystals are completely non toxic and due to their high resistance to electrolytes remain actively effective for more than seven to ten years with a single application. Affordable costs together with reduced irrigation requirements, fertilizer savings and significant increases in crop yield result in a most cost effective product.

What is AgraGel®

AgraGel® crystals are potassium based, organic cross linked copolymers with water binding groups. In dry form, they are white, crystalline granules with a neutral pH, and when hydrated, they become a gel which retains fluids, even under soil pressure and in the presence of fertilizers and other soil additives. **AgraGel®** crystals are characterized by high volume absorption and fluid retention, and are available in a variety of crystal sizes for various soil requirements.

How AgraGel® works:

When water or fluids come into contact with **AgraGel®** crystals, an electrical force pushes the inward structure of the particle away from the center via electrical repulsion. Small voids are created inside the particle, drawing the water inward which results in rapid swelling. When the water evaporates or is taken up by the plant, the particle shrinks and ready for the process to repeat.

These reservoirs of water (hydrogels) are evenly dispersed throughout the plant's root zone. When the soil dries out and reaches 50% of field capacity, the crystals are engineered to release their moisture to compensate for the outside pressure on the gel wall. This promotes the roots to grow toward the new moisture source provided by the **AgraGel®** crystals. In many cases the roots grow right through the hydrated crystal, extracting the moisture before moving on to the next nearest one. This process promotes increased root mass resulting in larger plants and increased crop yield. **AgraGel®** crystals extend the time between irrigations thus providing for more efficient use of available water, contributing to water conservation.

BENEFITS

The use of **AgraGel**[®] crystals are highly resistant to electrolytes, yielding numerous hydration cycles. A single application remains actively effective for more than seven years. Therefore, **AgraGel**[®] is extremely cost effective due to the rate of application and the longevity of performance

AgraGel[®] crystals retain fertilizers and other water soluble additives by significantly reducing leaching.

AgraGel[®] crystals remain effective in the presence of fertilizers, salts and other chemicals that adversely effect the absorption capacity of all other polymers. **AgraGel**[®] can be applied simultaneously with fertilizers and other water soluble additives.

AgraGel[®] crystals promote root growth resulting in larger, healthier plants. It increases crop yields due to greater root mass created by added moisture availability.

AgraGel[®] crystals act to de-compact soil which allows roots access to lower soil depths. The application greatly improves irrigation, filtration and drainage due to the aeration provided by the shrink-swell cycle.

AgraGel[®] crystals provide for uniform moisture conditions in soil, irrigation mats, geo-textiles and other agricultural media.

AgraGel[®] crystals will not float through the soil matrix to the surface or create water rivulets when subjected to heavy rain or watering schedules.

AgraGel[®] crystals are completely non toxic and environmentally safe. They will not contaminate plants, soil or ground water.

SUMMARY

- Dramatically reduces the frequency of required watering schedules
- Significantly reduces leaching of fertilizers and other water soluble additives
- Enables plant growth under poor, saline, sandy and compacted soil conditions
- Allows for plant growth in extremely hot and dry conditions
- Substantially reduces labor and maintenance costs associated with watering
- Rapid absorption provides for direct benefits from rainfall and brief irrigation schedules
- Plants are healthier and grow faster and more abundantly resulting in greater crop yields
- 7-10 year longevity of performance
- Extremely cost effective

Physical Data on **AgraGel**[®] crystals:

Chemical basis:	Highly cross linked potassium based polyacrylate-polyacrylamide copolymer
Physical form:	White granular crystals
Particle sizes:	Between 60 and 4000 microns
Bulk density:	540 +/- 40 kilograms/cubic meter
pH value:	6.0 to 6.8
Moisture content:	5% (+/- 2%)
Storage:	Indefinitely under dry conditions



SCIENCE IN SYNC WITH NATURE™

AgraGel[®] crystals are soil additives for water and nutrient retention and are not nutrients themselves.

US & International Patents Pending

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