



Kelpak™

Superior Biostimulant

A premium seaweed extract, Kelpak™ concentrate is made from fresh *Ecklonia maxima* kelp farmed in the Atlantic Ocean off the coast of South Africa. A virtual cocktail of natural stimulants and nutrients, Kelpak™ has been shown to contain vitamins, minerals proteins, phytohormones, polyamines, abscisic acid, phlorotannins, concentrated gibberellins and brassinosteroids, which have been shown to elicit a wide range of physiological responses, affecting cell division, stem and root growth, flower and fruit development, seed yield, and enhanced protection from stress.

- Stimulates root growth in all plants.
- Increases water and nutrient uptake.
- Accelerates establishment of new plantings.
- Boosts plant growth rate.
- Slows blossom senescence.
- Validated by farms, nurseries, vineyards, universities, and sports venues world-wide.

Natural, Renewable, Plant-Sourced Biostimulant Enhances Plant Growth and Health

Kelpak™ is higher in auxins than cytokinins, which is unique among seaweed extracts. Auxins stimulate root growth, enhancing water and nutrient uptake. The newly growing root tips produce cytokinins, which travel upward to stimulate top growth, which in-turn results in better flowering, fruit development, and improved resistance to stresses brought on by drought, overwatering, temperature extremes, and some diseases. Lesser-quality extracts are typically higher in cytokinins than auxins, so stimulate top growth only, resulting in “leggy” plants with insufficient root structures to properly support them.

More effective, and longer-lasting than any other natural or synthetic hormone products, Kelpak™ has a shelf-life of at least two years if kept cool, dark, and tightly sealed between uses. Do not freeze.

Used in greenhouses, farm fields, hydroponic operations, or in the home, growers can expect to see orders-of-magnitude improvement in root growth, and overall improvement in plant health and crop production.

Application Guidelines – Spot Irrigation or 100 gallons/acre:

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| • Ornamentals, Orchids | 1:250 once per month. |
| • Vegetables, Strawberries | 1:100 at transplant; repeat in one month. |
| • Tree or Bush Fruits, Nuts | 1:100 once per month. |
| • Turf | 1:250 once per month. |
| • Trees, Shrubs | 1:100 at transplant; repeat in one month. |

Note: 1:250 ≈ 1 Tbsp/gal, 1 qt/100 gal, or 4 ml/L
1:100 ≈ 2.5 Tbsp/gal, 1 gal/100 gal, or 10 ml/L

Learn from the Experts



Silkwood Wines, Modesto CA The most awarded winery in California's central valley, Silkwood Wines specializes in Syrah and petit Syrah grapes, known for their tight clusters. Vines are sprayed with the product at flowering, which causes elongation of the rachis, allowing fuller fruit development and better penetration of fungicides. Yields are increased, and the quality of fruits is unsurpassed.



Citizens Bank Park, Philadelphia PA After the 2012 NHL Winter Classic outdoor hockey game, Major League Baseball's Phillies replaced the turf in the stadium. Riviera Bermudagrass was sprayed one week before harvest, and new root growth was seen during planting of the sod two weeks later - in early February. They observed more root growth than had ever been seen before, including shady areas where the turf rarely grew roots at all.



Paph Paradise, Lockeford CA Growers and breeders of top-quality, award-winning paphiopedilum (lady's slipper) orchids in northern California, Paph Paradise has found that, as a part of their regular watering and feeding regimen, the use of Kelpak™ has resulted in enhanced root growth, the development of multiple growth fronts, and better flowering in their plants.

Kelpak™ Superior Biostimulant - Use in Orchid Growing

Orchid growing has some unique challenges, and the regular, controlled application of Kelpak™ can be particularly helpful in their culture. While it can affect everything from flower size and inflorescence length to pollination rate, the most frequent use is in stimulating the growth and branching of roots.

First Rays was the first company to utilize Kelpak™ in orchid growing, and after several years of experimenting, we have found - and recommend - that the product may be used in three different ways, depending upon the needs of the plant:

Use a 1:250 Solution (1 Tablespoon/gallon, 4 milliliters/liter)

Plants with no roots:

- Using lukewarm water, immerse the entire plant in Kelpak™ solution for one- to a few hours.
- Without rinsing, pot it up, and water it in with that solution.
- For the next two waterings, use the Kelpak™ solution.

Repotting plants with decent root systems:

- Pot them up and water them in with Kelpak™ solution.
- Repeat the next two waterings.

Existing, established plants (and those above, after the recommended initial treatments):

- Add Kelpak™ to irrigation water or fertilizer solution™ once per month.



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