

# element XX®

## 1) Pre-Plant Soil Incorporated Application\* (Lighter Rate/Shallow Depth):

Rate by Dry Weight (wt) or Rate by Volume (Granular & Micronized vol)

Rate per cubic foot of soil:	0.5 - 1 oz (dry wt)	1/16 cup Granular (vol) - 1/10 cup Micronized (vol)
Rate per 100 gallon grow pot:	7 - 14 oz (dry wt)	1 cup Granular (vol) - 1 1/2 cups Micronized (vol)
Rate per 1,000 square feet:	7 - 20 lbs (dry wt)	-----

## 2) Pre-Plant Soil Incorporated Application\* (Heavier Rate/Deeper Depth):

Rate by Dry Weight (wt) or Rate by Volume (Granular & Micronized vol)

Rate per cubic foot of soil:	1.5 - 3 oz (dry wt)	3/16 cup Granular (vol) - 3/10 cup Micronized (vol)
Rate per 100 gallon grow pot:	20 - 40 oz (dry wt)	3 cups Granular (vol) - 4 1/2 cups Micronized (vol)
Rate per 1,000 square feet:	21 - 60 lbs (dry wt)	-----

\*Tilling or otherwise mixing element XX® with the soil prior to planting. Deeper depth root systems include most plants yielding nuts, fruits and commercial buds. These rates can be repeated seasonally/annually as desired. The "Lighter Rate/Shallow Depth" rates can be repeated several times and is generally recommended.

## 3) Broadcast/Top-Dressed/Soil Surface Application:

Rates for surface applications align with the lighter-to-moderate pre-plant incorporated rates noted above. Soil surface applications are more efficacious if watered, assisted by rain and/or worked into the soil. To more uniformly distribute the minerals/nutrients throughout the soil/root zone such that they will be consistently more available throughout the growing season to both the plant as well as the soil biology, it is generally recommended to apply element XX® several times seasonally/annually.

Water Applications: element XX® in its micronized form can be applied via water delivery systems such as hydroponics, teas, foliar sprays and drip irrigation. Each grower entails a unique set of circumstances: fertility program(s), fertility profile, desired feeding schedule, media, equipment, climatic and environmental conditions, etc. Accordingly, there is no universal "one-size-fits-all" rate. However, suggested typical rates include approximately 1.25 oz (dry weight) per 20 gallons of water in foliar sprays, 1.5 oz per 20 gallons in hydroponics, 1.5 - 3.0 oz per 20 gallons in drip irrigation and 2 - 4 oz per 20 gallons in teas.

[Note: ~ 4 teaspoons = 1 dry oz].

Cloning: Add ~ 1/2 teaspoon element XX® Micronized to 1 gallon of cloning solution [2.5 dry oz per 20 gallons]

Calcium Rich Mineral Composite  
FOR ROOT, SHOOT, AND PLANT GROWTH

# KELZYME®

## Research & Development Center



Contains  
Calcium  
Sourced From  
Ancient Sea  
Beds

# element XX®

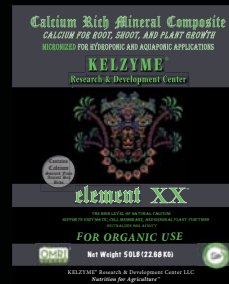
THE HIGH LEVEL OF NATURAL CALCIUM:  
SUPPORTS ENZYMATIC, CELL MEMBRANE,  
AND GENERAL PLANT FUNCTIONS  
NEUTRALIZES SOIL ACIDITY

## GRANULAR

## MICRONIZED



KELZYME® Research & Development Center LLC  
Nutrition for Agriculture™  
Canadian Distributor  
Kootenay Biological Soils  
855 China Creek Rd, Genelle, BC V0G 1G0  
Phone: 250-200-0445  
E-Mail: ryan@boogie-brew  
www.kootenaybiosoil.ca



FOR  
ORGANIC  
USE



KELZYME® Research & Development Center LLC  
Nutrition for Agriculture™

# element XX<sup>®</sup>

element XX<sup>®</sup> is an OMRI-listed and CDEA Organic Input Material(OIM)-registered 100% natural, calcium-rich mineral composite. The uniqueness of element XX<sup>®</sup> traces back millions of years over which time nutrient-rich sea kelp and various forms of marine life thrived and subsequently fossilized. element XX<sup>®</sup> is mined from a designated single area in northern Nevada, and is available in granular (slower, residual activity) and micronized forms for soil applications, both indoors and outdoors any time of the year or growing season. Additionally, the micronized form is used in soilless media, cloning and water applications.

element XX<sup>®</sup> is a product of nature, and one of its most significant nutrient components is calcium. element XX<sup>®</sup> contains a guaranteed minimum of 35% calcium. Plants require a panel of essential elements in the root zone. One of the most critical to plant development and also one required in the largest quantity is calcium.

Calcium is an integral part of plant cell wall structure and builds strong stems and leaves. When calcium is taken up by the plant, it forms pectin, a structural heteropolysaccharide contained in the primary cell walls of plants. In essence, calcium is the structure that binds cell walls together, providing a strong and healthy plant. As calcium is not easily redeployed from one area of the plant to another, a steady supply of calcium is necessary throughout the life of the plant to strengthen its vascular system, produce thicker and stronger stems and promote new growth at the growing points. If the plant has a healthy vascular system, it is able to more efficiently take up water and other essential minerals, resulting in a stronger, more disease-resistant, stress-resistant plant as well as a more bountiful and healthy crop. Calcium in the plant is also an activator for a number of plant growth-regulating enzyme systems, helps convert nitrate-nitrogen into forms needed for

protein formation and also serves as an intracellular messenger.

A healthy soil profile is critical for a healthy plant. element XX<sup>®</sup>, in addition to feeding the plant, also supports and feeds the soil which in turn helps nourish the plant. element XX<sup>®</sup> flocculates clay and organic matter particles, leading to proper soil porosity, soil aeration and soil drainage – each of which supports the beneficial biology of the soil complex, aerobic by nature. Additionally, the beneficial soil biology is further nourished by feeding heavily upon the calcium supplied by element XX<sup>®</sup>. And lastly, element XX<sup>®</sup> neutralizes acid soils which otherwise can be injurious to optimal plant and soil health. The net result is element XX<sup>®</sup>, a product of nature, gives back to nature by promoting healthy soil, healthy plants and healthy crops.

element XX<sup>®</sup> fosters vigorous and beautiful plants and buds, robust fruits and vegetables and lush turf. It is ideally suited for vegetables, fruits, citrus, flowers, shrubs, trees, orchards, vineyards, turf, nut, row and field crops, and Cannabis.

element XX<sup>®</sup> is available in package sizes of 1 lb., 4 lb., 8 lb., 35 lb., 50 lb., ton sacks, and bulk truck.



## element XX<sup>®</sup> – Typical Analysis\*

<u>Analyte</u>	<u>Result</u>
Calcium (Ca)	37.03%
Total Nitrogen (N)	0.02%
Total Phosphorous (P) (as P <sub>2</sub> O <sub>5</sub> )	0.08%
Total Potassium (K) (as K <sub>2</sub> O)	0.03%
Moisture	0.18%
Total Carbon (C)	8.0%
Iron (Fe)	0.22%
Magnesium (Mg)	0.39%
Sulfur (S, SO <sub>4</sub> )	0.03%
Boron (B)	9.2 ppm
Cobalt (Co)	0.87 ppm
Copper (Cu)	4.0 ppm
Manganese (Mn)	0.02%
Molybdenum (Mo)	0.99 ppm
Sodium (Na)	0.025%
Zinc (Zn)	9.2 ppm
Antimony (Sb)	3.16 ppm
Beryllium (Be)	1.20 ppm
Chromium (Cr)	1.50 ppm
Lithium (Li)	<5.0 ppm
Silicon (Si)	838.9 ppm
Strontium (Sr)	352.1 ppm
Tin (Sn)	< 1.0 ppm
Titanium (Ti)	23.0 ppm
Thallium (Tl)	0.61 ppm
Vanadium (V)	5.0 ppm

\* As-Is Basis