

# Advanced Resonance Kinetics Crystal Technology

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## Abstract

Results of testing with Advanced Resonance Kinetics (ARK®) crystals on parameters of biological vitality, as indicated in key plant species, demonstrate increases in growth density, growth rate, seed viability, pathogen resistance, and phytonutrient concentration when test plants are grown with ARK® crystals. Rigorous, standardized, environmentally controlled, and repeated testing was performed, with clear indications that ARK® crystals have a significant, measurable, and demonstrable effect on increasing the vitality, fecundity, growth, and resistance to disease in the biological system, as measured via effects on plant growth and viability.

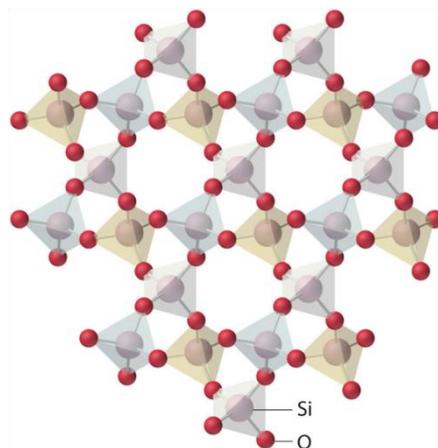
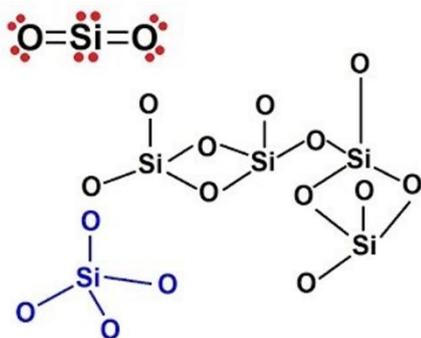
## 1. Introduction

Quartz is a trigonal crystal system comprised of a continuous matrix of  $\text{SiO}_4$  silicon-oxygen tetrahedra (Figure 1); each oxygen atom is shared between two tetrahedra, giving a final chemical formula of  $\text{SiO}_2$ . Quartz crystals convert phononic modes and mechanical pressure into electricity through the piezoelectric effect<sup>1</sup>. Through this effect quartz crystals form the control element of oscillatory circuits in modern electronics devices that require high precision frequency sources, such as the central processing unit (CPU) of computers. After an initial stimulation of the piezoelectric

axis of the specifically designed quartz crystals used in this experiment, constitutive phononic oscillations will be driven from vacuum fluctuations generating an electrical current and excitation of the electromagnetic (EM) field.

The piezoelectric axis of the ARK® crystals are stimulated using a patented electromagnetic generator (referred to as the harmonic flux resonator<sup>2</sup>) producing a uniquely structure EM field. After oscillating the crystals with the harmonic flux resonator (HFR), generating a coherency gradient in a localized region of space; phonon excitations within the crystal will be driven from coherently-structured vacuum

$\text{SiO}_2$   
(Quartz)



**Figure 1.** Left: covalent bonding arrangement of  $\text{SiO}_2$ ; right: tetrahedral coordination of  $\text{SiO}_2$  in molecular lattice. Hexagonal arrays are formed from pyramidal  $\text{SiO}_2$  units.

oscillations generating an electrical current and constitutive excitation of the electromagnetic field.

Results of testing with ARK® crystals on parameters of biological vitality, as indicated in key plant species, demonstrate increases in growth density, growth rate, seed viability, pathogen resistance, and phytonutrient concentration when test plants are grown with ARK® crystals. Rigorous, standardized, environmentally controlled, and repeated testing was performed, with clear indications that ARK® crystals have a significant, measurable, and demonstrable effect on increasing the vitality, fecundity, growth, and resistance to disease in the biological system, as measured via effects on plant growth and viability.

Testing indicates that effects of ARK® crystals can be transmitted via activation of water that has been exposed or incubated with the crystals. This strongly indicates that water, specifically the geometric coordination of the water molecules, is likely involved in the beneficial effects to the biological system that have been measured and documented.

### 1.1 Results

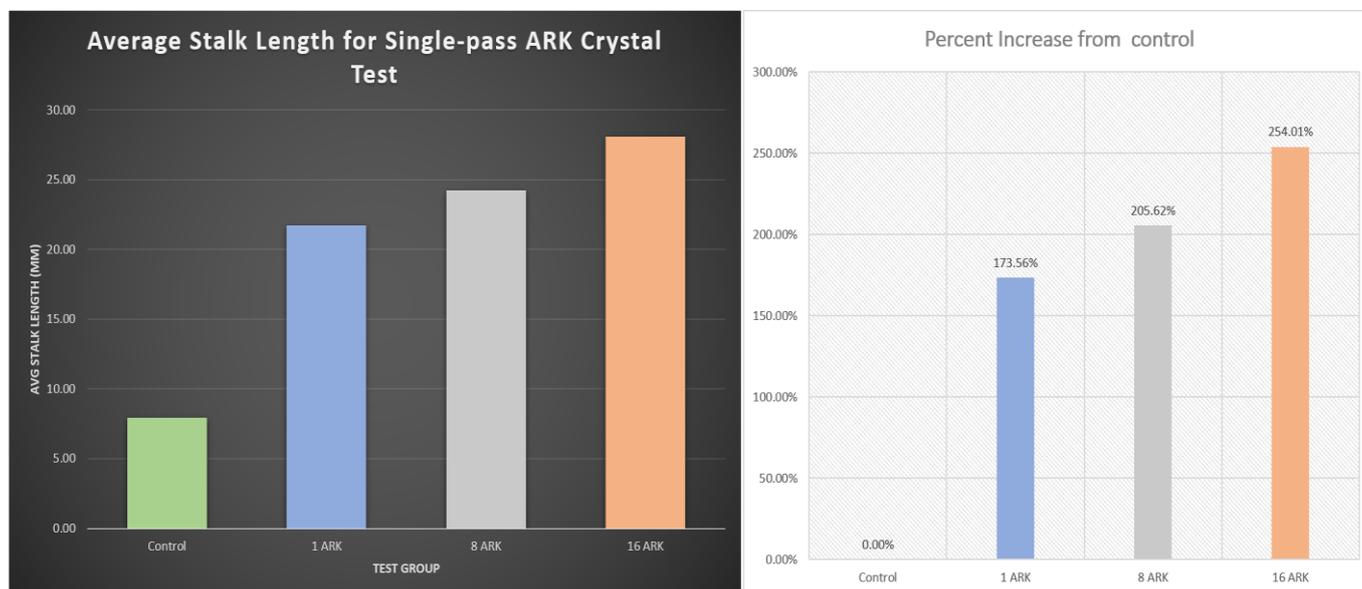
Plants of the species *Raphanus raphanistrum*—commonly known as radish—were given water treated with ARK® crystals. Experimental test groups containing ARK® crystals demonstrated statistically significant improvements in key parameters related to growth, vitality, resiliency to adverse conditions—including increased pathogen resistance—and greater fecundity, as compared to controls.

Greater vitality and growth rate was observed in test groups treated with ARK® crystals. In a single-pass experiment, where water does not have prolonged intervals of exposure to the ARK® crystals, but instead passes over the ARK® crystals one time (single-pass) at a flow-rate of  $4.0 \times 10^{-4} \text{ m}^3/\text{s}$  and is immediately distributed to test groups—in the control, water is not passed over any stationary ARK® crystals (Figure 2).

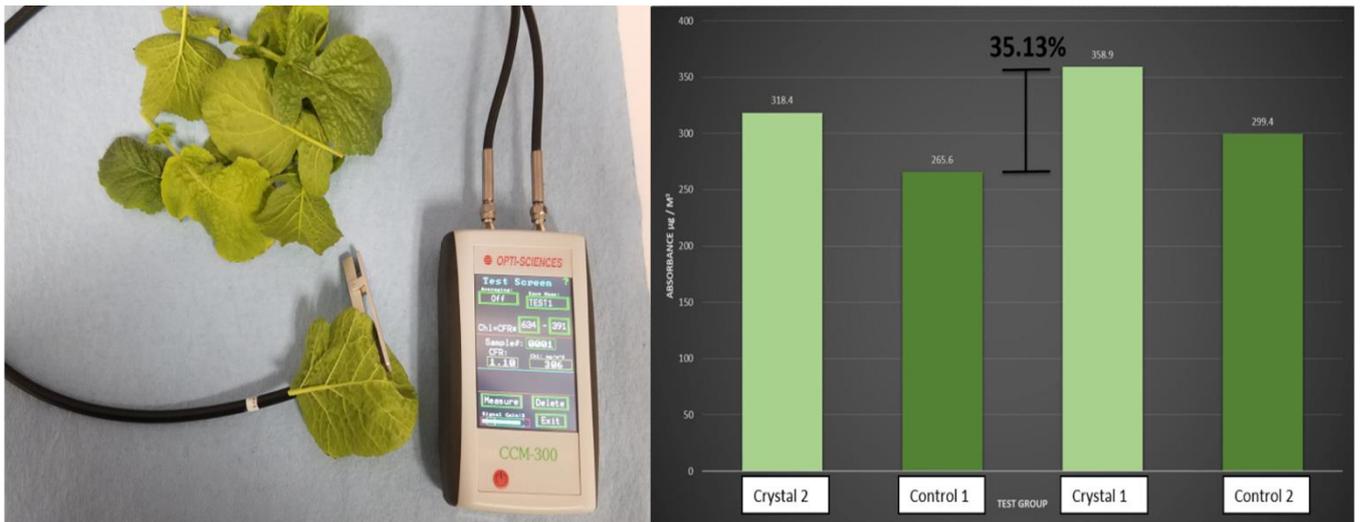
The control group, which had no exposure to ARK® crystals, had the lowest average stalk length. The average stalk length was seen to increase concordantly with increasing numbers of ARK® crystals (a dose-dependent response). The test group receiving water passed over 16 ARK® crystals had an average stalk length 254.01% greater than the control.

#### 1.1.1 Spectrophotometric quantitation of chlorophyll and phytonutrient content

Greater phytonutrient content, water utilization, and increased photosynthesis rates were observed in ARK® treated samples using spectrophotometric analysis (Figure 3). Relative spectral analysis demonstrates increased growth density, a function of increased seed germination and growth rate—and most importantly, greater phytonutrient content. In radish plants, increased phytonutrient content was measured by direct spectrophotometric analysis of the leaves.



**Figure 2.** Each test group represents the average (in mm) of 30 point measurements ( $n=30$ ) for test groups in single-pass ARK® crystal experimentation. Water flowing at  $4.0 \times 10^{-4} \text{ m}^3/\text{s}$  was passed over stationary ARK® crystals and immediately distributed to plant test groups. The control group, which had no exposure to ARK® crystals, had the lowest average stalk length. The average stalk length was seen to increase concordantly with increasing numbers of ARK® crystals (a dose-dependent response), where the number of ARK® crystals increases from 1, to 8, to 16 in the experimental test groups. The test group receiving water passed over 16 ARK® crystals had an average stalk length 254.01% greater than the control.



**Figure 3. Spectrophotometric quantitation of chlorophyll and phytonutrient content**

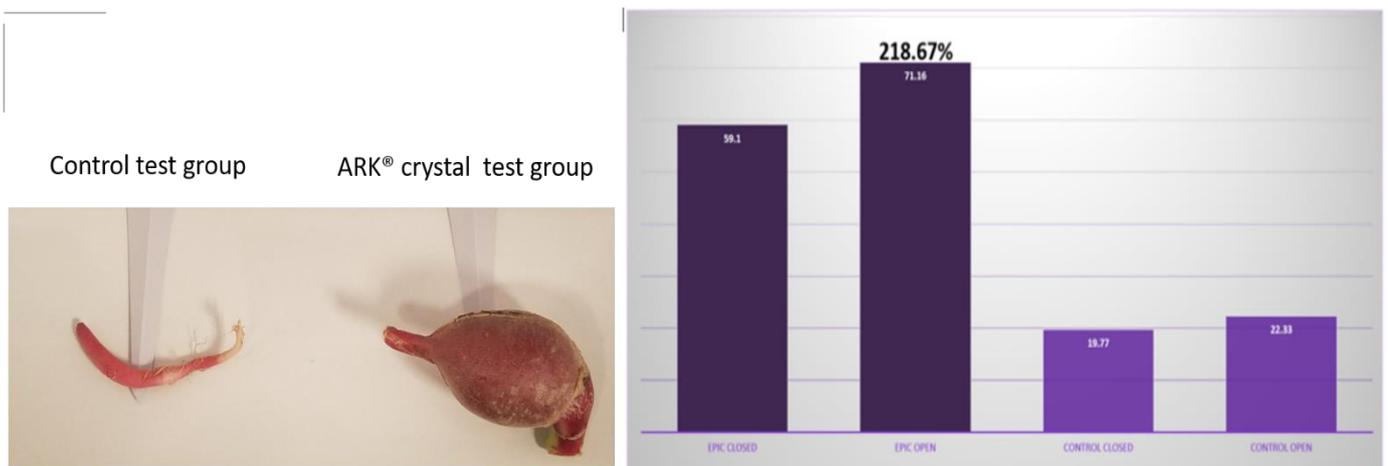
Spectral analysis of wheatgrass showed a 420.54% to 7858.12% greater relative intensity in ARK® treated groups versus control. Spectrophotometric measurement of chlorophyll content demonstrated an average 35.13% greater chlorophyll content in ARK® treated groups as compared to control groups.

### 1.1.2 Quantitation of fruiting body and seed production in plants treated with ARK® crystals

In addition to observing increased seed germination and overall growth rates after germination, quantitation of fruit and seed production demonstrates statistically significant increases of several key parameters in ARK® treated test groups. Increased number of fruiting bodies, as well as

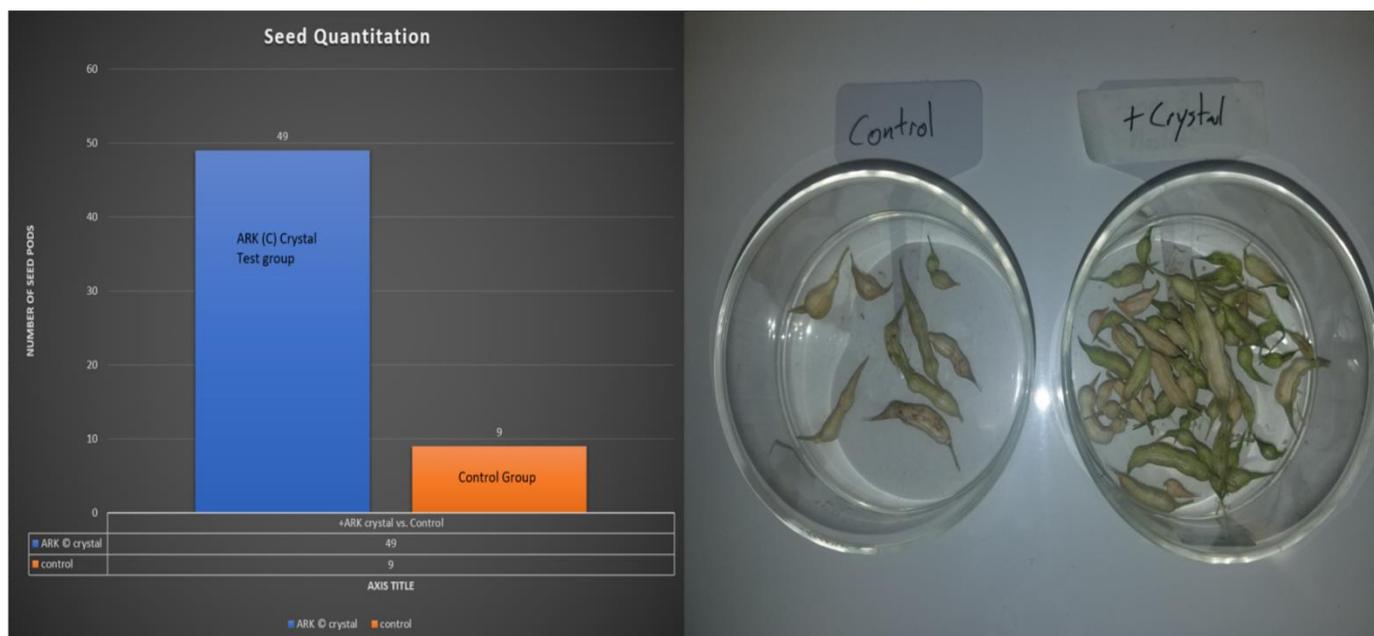
increased weight, volume, and symmetry were observed in ARK® treated test groups of *Raphanus raphanistrum* (Figure 4). Test groups similarly treated with ARK® crystals showed significant increase in seed production (Figure 5) with an average increase of 444.4% over controls.

In addition to qualitatively significant improvements in ARK® crystal treated groups, quantitative measurements of ARK® crystal treated test groups yield demonstrable improvements in fruit and seed production. Such results indicate potential benefits for sustainable agriculture practices.



**Figure 4. Quantitation of fruiting body production in ARK® crystal testing:**

Top; increased weight, volume and quantity of fruiting bodies of ARK® crystal test groups compared to control groups. Test groups treated with ARK® crystals exhibited greater fruiting body production with an average of 218.67% greater weight.



**Figure 5.** Test groups treated with ARK® crystals experienced a 444.4% greater seed production as compared to control.

## 2. Discussion

the ARK® Harmonic Flux Resonator has been used to structure crystals with specific geometric properties and composition. The ARK® crystals' molecular structure obeys similar geometric principles as the Planck Spherical Units in the fabric of spacetime<sup>3</sup> — at the molecular level the crystals are ordered in periodic repeating tetrahedral molecular units. Macroscopically, the ARK® crystals are also shaped as tetrahedrons, which is highly pertinent in considering structural and energetic resonances.

When exposed to the toroidal structured spin-field of the Resonator, spacetime throughout the crystals influences the quantum resonance properties of the constituent molecules, such that even when the crystals are removed from the Resonator field they retain the vibrational spin modes engendered by the coherent field dynamic of the Resonator device. Each crystal becomes a fractal of the larger toroidal field of the Resonator, where molecular coherency may be sustained indefinitely.

### 2.1.2 Evaluation of experimental results

Testing and measurements of key parameters of vitality in the living system were assessed in plant species treated with water exposed to ARK® crystal activation. Results demonstrate statistically significant improvements in all key parameters in test groups treated with ARK® crystals, as compared to controls. These results suggest that the patently

designed ARK® crystals have a significant beneficial affect on water and the biological system.

Results indicate that ARK® crystals may have beneficial affects that extend beyond only plants, but instead may be beneficial to the living system in general, potentially including higher taxa species. Further testing will be done to evaluate the validity of this postulation.

## References

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