Holistic & Integrated

Plant-Focused

Advanced Technologies

Biomimicry Approach

AZENTIVE
inventive • adaptive • collective

ENLIGHTENED GROWING INDOORS:
Biomimicry and Controlled Environment Lighting

CONTACT US!

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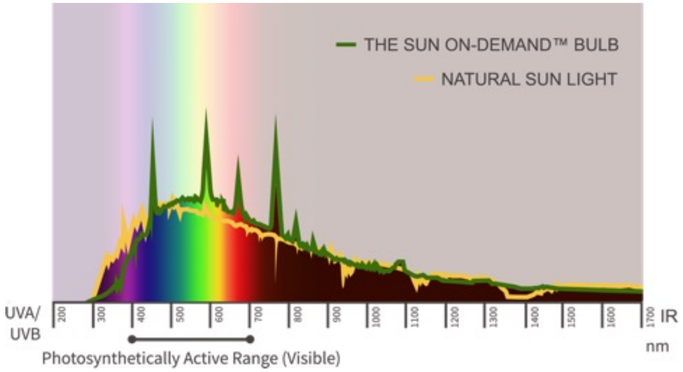
NATURE'S TRUTHS

BASIC TRUTH #1: Plants thrive in the sun's full electromagnetic spectrum emitted through photons, which emit both particles of light and frequencies/wavelengths.

BASIC TRUTH #2: Living soil enables a bio-dynamic exchange of energy and nutrients.

Without sunlight, plants are weaker, more expensive, and dirtier to grow.

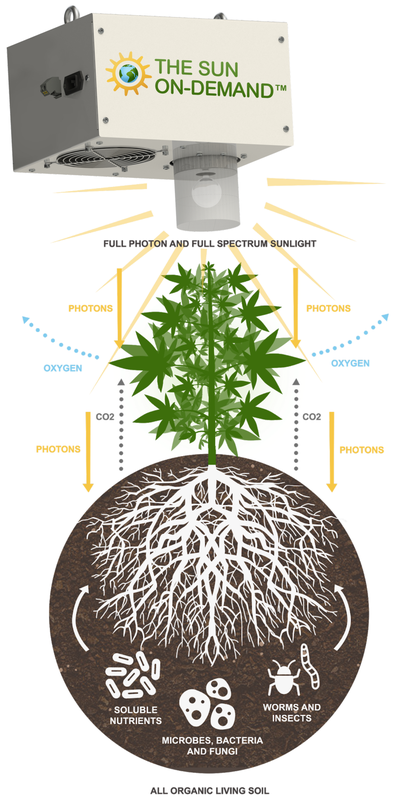
Frequency Range of Natural Sunlight Compared to Advanced Sunlight Technology



HOW NATURE "DIALS IT IN"

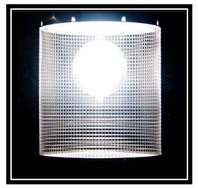
- Creates maximum bioavailability with optimum abiotic conditions (e.g. spectrum, temperature, humidity, CO2, water, etc.)
- Enables adaptive stress reactions for maximum expression of genetic potential by cultivating biotic conditions (e.g. plant genetics, beneficial microbial, bacterial, & fungal networks, plant communities, herbivorous insects, fungal pathogens, etc.)
- Achieves maximum desired plant responses

SUNLIGHT INCREASES BIOAVAILABLE ENERGY



- Damage repair from UVB exposure depends on simultaneous availability of UVA and Blue frequencies.[1]
- Green light penetrates leaves and improves the efficiency of photosynthesis.[2]
- The Emerson Effect established the superior efficiency of combined red and far red frequencies via multiple photosystems.[3]
- Food soil web microbial and fungal networks nourish the plant, boost immune responses, reduce environmental impacts of commercial cultivation.[4]

IMPLICATIONS FOR CRAFT & MEDICINAL CANNABIS



1. Sungrown cannabinoid and terpene profiles in controlled environments
2. Commercial viability for highly sought after but difficult to grow landrace genetics
3. Lower environmental impacts of commercial cultivation (e.g, nitrate runoff, carbon footprint from energy consumption, reliance on unsustainable salt-based chemical nutrients)

MORE TO LEARN ABOUT PLANT GROWTH AND INTELLIGENCE

- Role of light beyond visible spectrum (PAR): electromagnetic energy and plant-soil communication and interdependence
- Connections between frequencies and chemotypical expression: Potential to recreate native lighting regimens (e.g., recreate Himalayan or Jamaican sunlight anywhere)

RESEARCH CITED

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3. Emerson, Robert. (1957). Dependence of yield of photosynthesis in long wave red on wavelength and intensity of supplementary light. Science.
4. Lowenfels, Jeff (2010). Teaming with Microbes, Second Edition. Portland, OR: Timber Press.