PUMICE: an Ideal Soilless Growing Media

High-Effeciency grow systems demand a high-performance grow media that delivers results in these key areas:

STABILITY

~ the grow media must be substantial enough to support a plant's root system, as it is the root system that supports the plant and the fruit.

Pumice grow media is lightweight, yet substantial enough not to float away. The grippy surface of the little pumice stones form a stable bedding matrix to support thriving plants.

NUTRIENT HOLDING CAPACITY

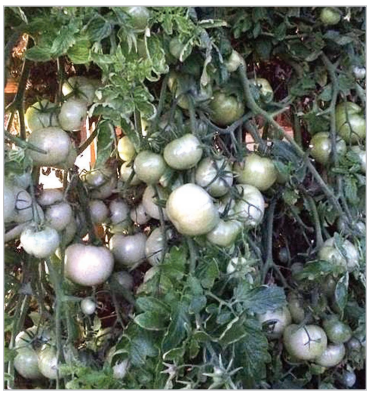
~ an effective grow media must have the ability to retain that nutrient-rich water for a time, making it continuously available to the roots between watering cycles.

Hess 'Ponics grow media is entirely made up of pure, natural pumice. This foamed stone is riven with countless tiny pores that function as microscopic reservoirs to capture and store nutrient-rich moisture and give it back to the root system as needed. That allows for less frequent watering cycles and avoids problems like algae growth. That also saves energy and reduces the wear and tear on the system.

GAS EXCHANGE

~ a grow media must allow free flowing exchange of oxygen at the root zone.

The highly porous, low-bulk nature of Hess pumice facilitates an effective and positive exchange of gases between the root zone and the environment.



Tomatoes grown by Fish Grow Greens of Phoenix using Hess 'Ponics Grow Media in an aquaponics system.

DRAINAGE

~ balance is so important: a grow media must be able to shed water quickly to allow air into the root zone, yet retain enough nutrient-rich moisture between irrigation cycles to fuel rapid growth.

The pores that perforate the pumice stones in the Hess 'Ponics Grow Media are (naturally) not the same size—and it is this natural variety in pore size and shape that provide the needed balance. The tiny, microscopic pore sizes hold water and make it available as demanded by the root system. The large pores drain quickly, shedding water and taking in air.

WEIGHT

~ soilless grow beds tend to be positioned above ground/floor level to allow a sump tank underneath and to provide easy access when planting and harvesting, and that means grow-media weight is an issue.

Since pumice is essentially a foamed glass stone, it is less dense and weighty than gravel or sand. 1.5 cubic feet of pumice media weighs 75 pounds.

MEDIA PARTICLE SIZE

Hess 'Ponics Grow Media stones are not man-made, but rather natural pumice crushed and screened to specific sizes. Medium size media (3/4"x 5/16") is an all-purpose size for ponic media beds and net pots.

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CROP BALANCE

As a grow media, pumice provides good drainage, excellent moisture retention, and increased gas exchange necessary for both vegetative and reproductive (fruit) growth.

LONG LIFE

~ to be able to continually replant in the same grow media saves time and money.

Pumice grow media is enduring—lasting years in a properly designed and maintained system.

NUTRIENTS CONTRIBUTED BY GROW MEDIA

Hess 'Ponics Pumice is more than an inert bedding media, rather, through the activity of microbes, it is slowly broken down on a molecular level, contributing valuable nutrients to a ponics system—nutrients like silicon dioxide, iron, ferric oxide, ferrous oxide, sodium, potassium, calcium, magnesium oxide, titanium dioxide. (see table below)

HESS PUMICE

While pumice is found abundantly across the globe, Mother Nature did not create all pumice as equal—the physical characteristics, chemical makeup, purity, and color vary widely.
In the Southeast corner of Idaho lies a commercial pumice deposit that enjoys a world-wide reputation for purity, ideal elemental composition, and whiteness. From this deposit comes the pumice for our Hess 'Ponics Grow Media.

SUSTAINABLE & GREEN

Since the entire suite of pumice's useful properties are bestowed by nature, the process to prepare pumice for market is simple, sustainable, and green. Our pumice grow media is not manufactured—it is simply scraped from the deposit, crushed, dried, and screened to size.

- No heating is necessary, which means lower carbon production emissions than any other media on the market.
- No chemicals are used or necessary.
- No water is needed. Even the pumice dust that clings to the particles is useful—providing readily soluble trace minerals and nutrients to the system.
- Packaged in biodegradable brown paper bags.

Hess 'PONICS GROW MEDIA
Pumice for Ultra-Efficiency Growth Systems

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NUTRIENTS CONTRIBUTED BY HESS 'PONICS GROW MEDIA	
Silicon Dioxide	Essential for water use efficiency and drought resistance as well as strong cellular growth that prevents disease and insect damage while allowing increased nutrient absorption.
Aluminum Oxide	Inert in neutral pH, can react in acidic conditions, but aquaponics and hydroponics only function in a pH range of 6.2 to 8, so it is not an issue here.
Iron, Ferric Oxide, Ferrous Oxide	Essential for chlorophyll synthesis. In mature aquaponic systems, natural chelation occurs as organic molecules (chelating agents) within the root zone bond with iron to form a soluble nutrient and thereby increase Iron availability to plants.
Sodium	A micro-nutrient that helps to regulate gas exchange, metabolism and the generation of chlorophyll.
Potassium	An essential nutrient important to root growth, gas exchange and photosynthesis while increasing drought and disease resistance.
Calcium	A macro-nutrient that strengthens cell walls and increases stress tolerance.
Magnesium Oxide	A trace element essential for many plant functions including photosynthesis, nutrient uptake and nitrogen fixation.
Titanium Dioxide	Improves germination, seedling growth and photosynthesis.