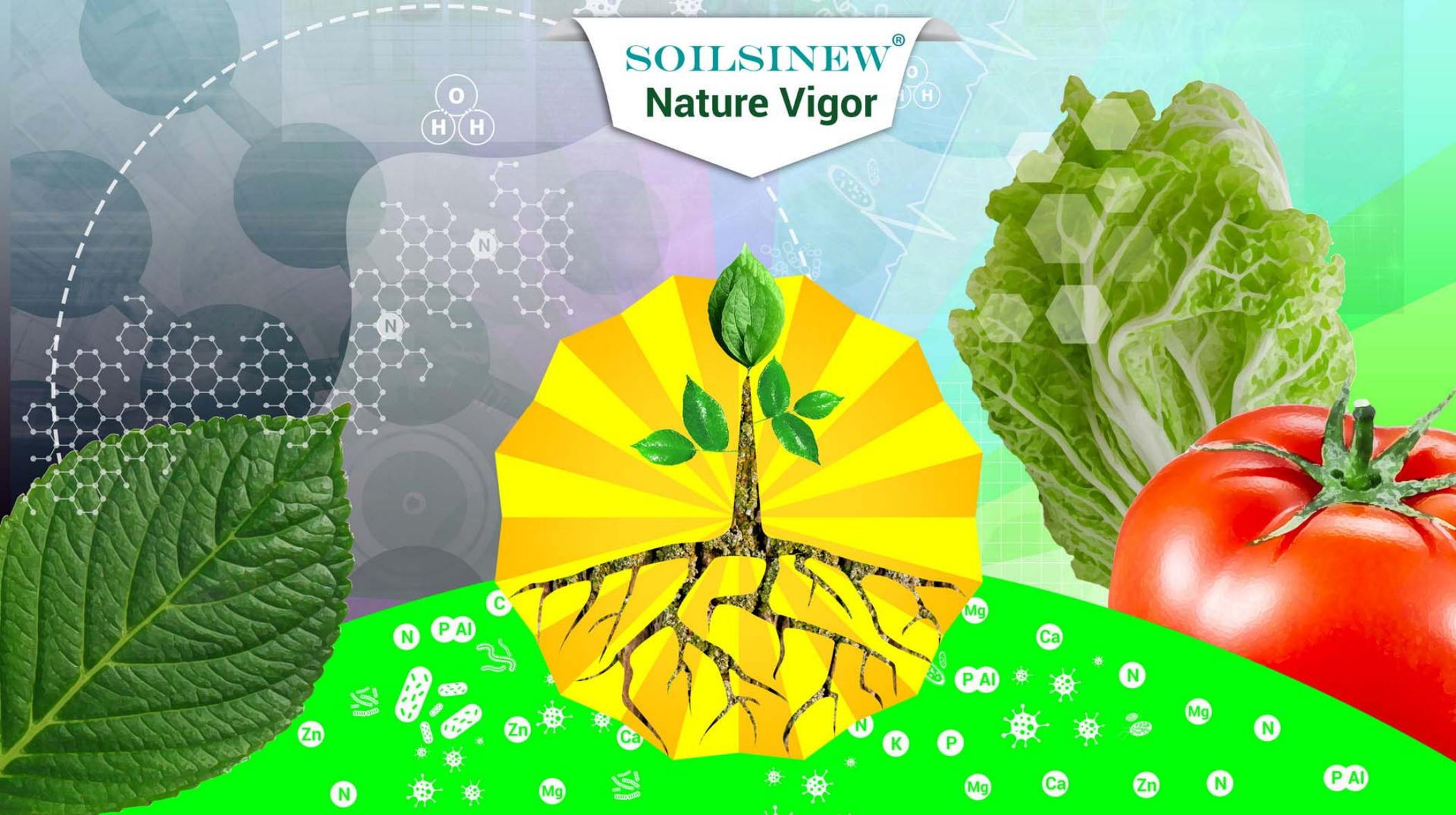


# SOILSINEW<sup>®</sup> Nature Vigor





SOIL  
HEALTH





## ABOUT US:

Soilsinew<sup>®</sup> was established on the conviction that all life and human manageability is personally associated with the soundness of dirt. For many years, the orders of Regenerative Farming, Sustainable Agriculture, and Carbon Farming has been the cornerstone of our work and convictions. Our company's enthusiasm amid that time has been aimed towards the improvement and refinement of demonstrated innovations with industry "resilience". This belief is set in advancing natural cultivating strategies, also called, "organism cultivating". We would like to thank you for your enthusiasm in learning more about sustainable agriculture and soil organisms.



## WHY US:

At Soilsinew<sup>®</sup> we're changing this paradigm. Fifty of our proprietary strains are new microbiology discoveries, which scientific breakthroughs have allowed us to combine in a stable form to produce first-of-their-kind products that the agricultural market has never seen before. In fact, no other product anywhere has our unique combination of newly discovered enzymes, hormones, chemicals and strains.

The difference between Soilsinew<sup>®</sup> and other products starts with sustainability and simplicity. Application of our soil microbe products, which grow and propagate profusely in the soil, is only needed once every crop cycle and, with perennial crops, 1X per every 6 months. Constant applications are not needed because our products contain no animal digestive system or plant residue microbes, greatly reducing multiple applications and the time, labor and expense that goes with them.

Thick white roots mean one thing; healthy plants due to healthy soil conditions. Without them, excellent production simply can't happen, and that's why Soilsinew<sup>®</sup> products were initially designed (and have a great efficacy) to remedy a wide variety of soil health problems. Once inoculation has occurred with Soilsinew<sup>®</sup>, you can rest assured that, during the full duration of the crop cycle, plant roots will stay totally white and fibrous.



## WHY US (cont.):

The main benefits of using Soilsinew®:

- Nitrogen Fixation at a Biological Level
- Solubilization of Phosphates
- Mineralization and Immobilization
- Production of Phytohormones
- Balancing the pH of your Soil
- Increased Saprophytic Competence
- Increased root vitality from sustainability
- Increased Chlorophyll Synthesis
- Increased Fertilizer Retention

- Stimulate beneficial microbial activity.
- Healthier plants and improved yields.
- Better seed germination.
- Increased sweetness of fruits and fresh flower products by nutrients from nature.

*No other product on the market today causes such a rapid formation of terpenes, humus formation and mineralization, as well as root growth and yield increase, than Soilsinew®. This is due to the more than 50 microbes found in our proprietary combination, giving Soilsinew® products an efficacy unmatched, even in side-by-side trials.*



# INTRODUCTION:

Soil health is fundamental to profitable and sustainable agriculture. Vital organic matter and nutrients are often destroyed, depleted, or otherwise lost from the soil through overuse of fertilizers, erosion, and runoff as a consequence of unsustainable farming practices.

We harness nature's technology to bring new solutions to modern agriculture. Our microbial formulation is postponed in organic bio-stimulants that complement each other to promote soil quality, plant health, and fertility in several ways.



## **INTRODUCTION (cont.):**

Vital organic bio-stimulants and beneficial microorganisms are usually demolished through the overuse of soil erosions, nutrient runoff, and unsustainable and chemical farming practices.

The combination of our products provide the energy and many of the mineral requirements for soil microorganisms. Beneficial soil microorganisms lack the photosynthetic organization to capture energy from the sun since must survive on residual carbon containing substances on or in the soil. Most energy stored within the carbon bonds functions to provide energy for various metabolic reactions within these microorganisms. Our beneficial soil microorganisms (algae, yeasts, bacteria, fungi nematodes, mycorrhizae, and small animal) perform many beneficial functions which influence soil fertility and plant health.



**WHERE ARE OUR MICROBES FROM?**



# MICROBES IN AGRICULTURE:

- Microbes have a symbiotic relationship with nature. In fact, microbes found within the rhizospheres of plants are much greater than the concentration that is found in the rest of the soil. Those microbes play a crucial role in the decomposition of organic matter, as well as maintaining and returning nutrients to their mineral forms for plant nutrient uptake. Thus, microbes efficiently produce a variety of substances to promote plant growth and increase yields.
- Soilsinew® products contain a combination of 50-plus species of microbes. These carefully-selected microbes are found in a variety of environments; from the Amazon jungle to deserts. This ensures our products will work in even the most extreme climates.

# SOILSINEW<sup>®</sup> ECOSYSTEM & SOCIAL HEALTH:



- Soilsinew<sup>®</sup> Nature Vigor contains natural microorganisms which will help to reduce the use of inorganic fertilizers (NPK) from 50 - 80%. Not only does this reduce costs, but it also efficiently restores and enhances the quality of soil.
- Besides biodiversity, Soilsinew<sup>®</sup> Nature Vigor effectively reduces the toxic chemical compounds remaining in the soil, thereby enhancing soil fertility.
- Soilsinew<sup>®</sup> Nature Vigor is organic and eco-friendly. They are non-toxic and are safe to use around children, adults, pets, and livestock.

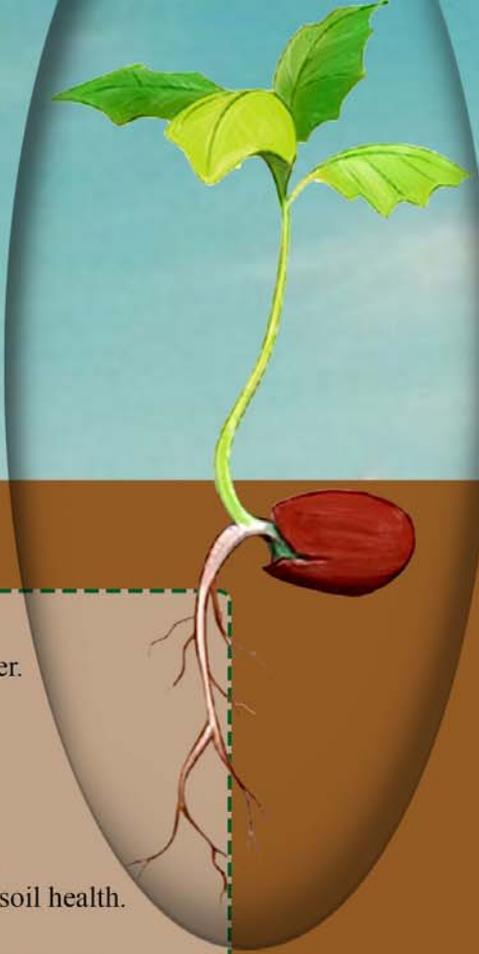


# **HOW DOES NATURE VIOLATE WORK?**



# SOILSINEW<sup>®</sup> ECOSYSTEM & SOCIAL HEALTH:

- Farmers normally look for soil with high organic matter levels. Soil organic matter and the organisms that live in it, are critical to many soil processes. It helps provide high crop yields and reduces input costs. The combination of our products introduces micro-organisms that play vital roles in the decomposition of organic matter to make retained nutrients available to the plant. Soil life plays a major role in many processes that increase nutrition and water availability for agriculture productivity.
- The main activity of beneficial organisms is growing and reproducing. By-products from stable organic bio-stimulants, roots and plant residue feeds soil organisms. In turn, soil organisms support plant health as they decompose plant residues, organic matter, cycle nutrients, enhance soil structure and control the populations of soil organisms, both beneficial and harmful (pests and pathogens) in terms of crop productivity. (cited from [www.fao.org](http://www.fao.org))



# INCREASE YIELD RESTORE & MAINTAIN SOIL HEALTH CONTROL PESTICIDES

## NUTRITIONAL FEEDS

### ENERGY SOURCES:

Light energy, in the chemical bonds of organic compounds (sugars or starches), in the bonds of inorganic compounds.

### BASIC ELEMENTS NEEDED TO MAKE AND REPLACE CELL STRUCTURE OF ORGANISMS:

Macro-nutrients

Secondary nutrients

Micro-nutrients.

### IDENTIFICATION OF MICROBES ON THE BASIS OF HOW NUTRITIONAL NEEDS:

Heterotrophs depend on the organic compounds in the environment - carbon sources, sugars, starches, fats, and other organic matters.

Autotrophs derive the energy from the non-organic sources with phototrophs and chemotrophs).



## BENEFICIAL MICROORGANISMS

- Make soil alive.
- Break down organic matter.
- Recycle nutrients.
- Create humus.
- Create soil structure.
- Fix nitrogen.
- Promote plant growth.
- Control pests and diseases to help soil health.
- Heal soil
- Reduce overuse of fertilizers, erosion, and runoff as a consequence of unsustainable farming practices.
- Save cost and Increase yield.



## HEALTHY SOIL:

- When plants die, leaves are dropped onto the surface of the soil where microorganisms can breakdown and decay plant tissue. The organic matter is then used as an energy source for microorganisms, which they use to increase their population in the soil. These organisms use easily digestible materials (like simple sugars and carbohydrates) found in the plant material, leaving more resistant materials (such as fats and waxes) behind. The organic matter left behind is not easily decomposed; it compromises the found in soil.
- Microorganisms create that acts as a gluing agent, essentially holding primary soil particles (sand, silt, clay) together to form secondary aggregates or 'soil peds'. These organisms and the organic bio-stimulants help aid in the soil development and the formation of soil horizons. also helps soil absorb and retain moisture, which means theses soils require significantly less irrigation. provides a reservoir for the plant nutrients available in the soil which allows for balanced plant growth.

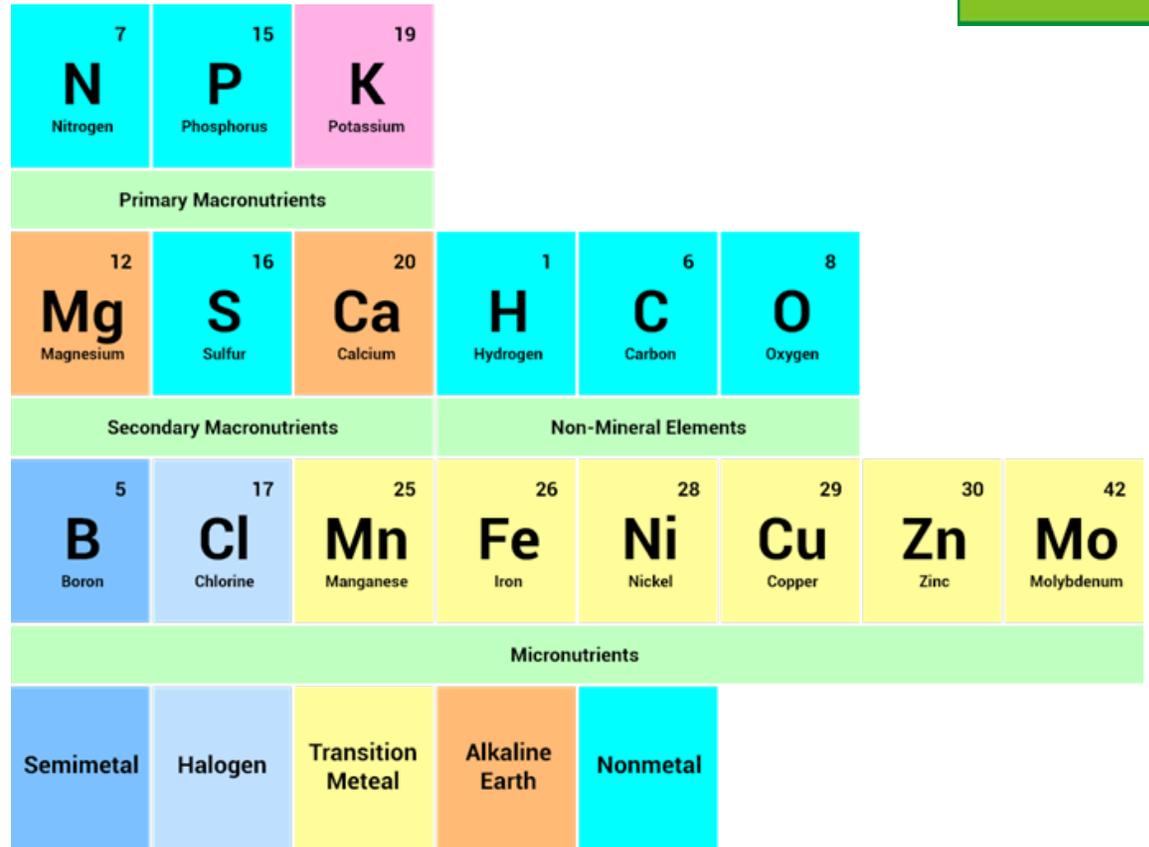


## HEALTHY SOIL FROM NATURE:

- Nature Vigor provides the organic fertilizer full of minerals and vitamins from nature.
- Nature Vigor presents 100% natural source of vitamins and minerals that can be applied to any soil and plant without worrying about harmful chemicals or waste of products.
- Nature Vigor is a great product to feed and rebuild the healthy soil.
- The nutrients from nature help fruit become sweeter; veggie become larger; flower plants become longer post - harvest; and biomass become stronger and healthier.

# WHAT ARE ESSENTIAL NUTRIENTS FOR PLANT GROWTH?

Plants are complex organisms that require many different forms of nutrients. There are 17 nutrients that are essential for plant health. The primary macronutrients (Nitrogen, Phosphorus, Potassium,) secondary macronutrients (Magnesium, Sulfur, Calcium,) micronutrients (Boron, Chlorine, Manganese, Iron, Nickel, Copper, Zinc, Molybdenum) and Non-mineral elements (Hydrogen, Carbon, Oxygen) are all nutrients needed for optimal growth and a healthy plant. It's all about the biology of the soil and here is why it is so important.





**WHAT ARE THE BENEFITS OF  
SOILSINEW<sup>®</sup> NATURE VIGOR?**



# SCIENTIFIC METHODS:

Our microbial soil enhancers can rebuilt and maintain soil health and fertility in several methods:

1. Nitrogen Fixation at a Biological Level - Microorganisms assimilate nitrogen in the atmosphere into organic compounds.
2. Solubilization of Phosphates - Phosphates bound in the soil are solubilized, allowing plants to more easily uptake them.
3. Mineralization and Immobilization - Healthy plant hormones are increased, as well as the storage of soil carbon, greatly increasing nitrate nitrogen availability to plants. This creates a nutrient reservoir plants can access, comprised of organic bio-stimulants in the soil.
4. Production of Phytohormones - Using bacteria, Soilsinew<sup>®</sup> Nature Vigor significantly reduces the salinity of your soil, enhancing it greatly.

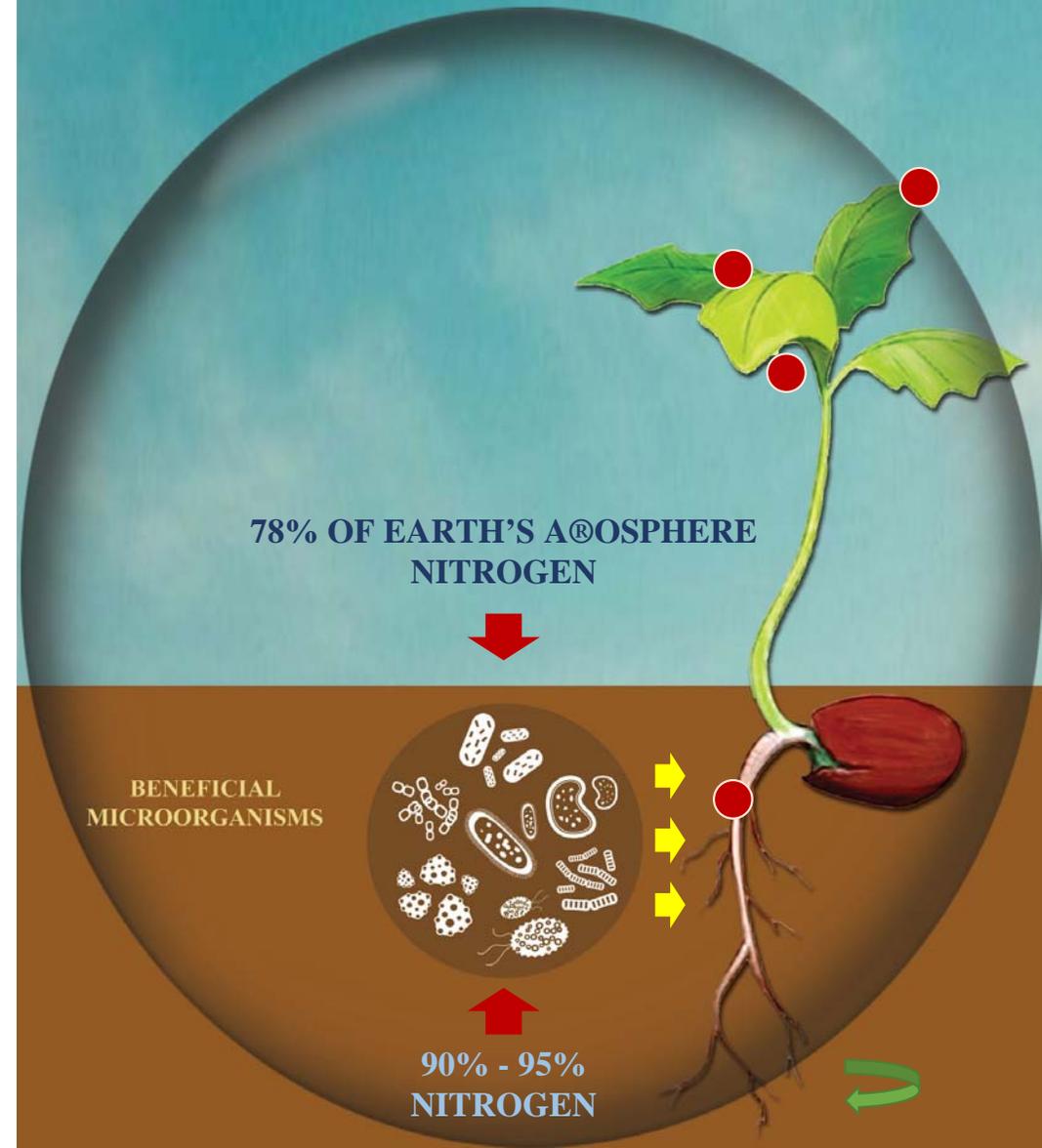


## SCIENTIFIC METHODS (cont.):

5. Balancing the pH of your Soil - The organic bio-stimulants found in Soilsinew<sup>®</sup> Nature Vigor make your soil more porous, even under extreme environmental conditions, allowing for better aeration, infiltration and drainage of the soil. Leaching is also greatly reduced due to buffering of the pH, as well as improving aggregation of soil particles.
6. Increased Saprophytic Competence - The microbes in Soilsinew<sup>®</sup> Nature Vigor are helped by saprophytes, which consume dead and decomposing matter. This allows Soilsinew<sup>®</sup> products to perform better as it allows our microbes to better compete with both native soil microbes and other organic bio-stimulants.

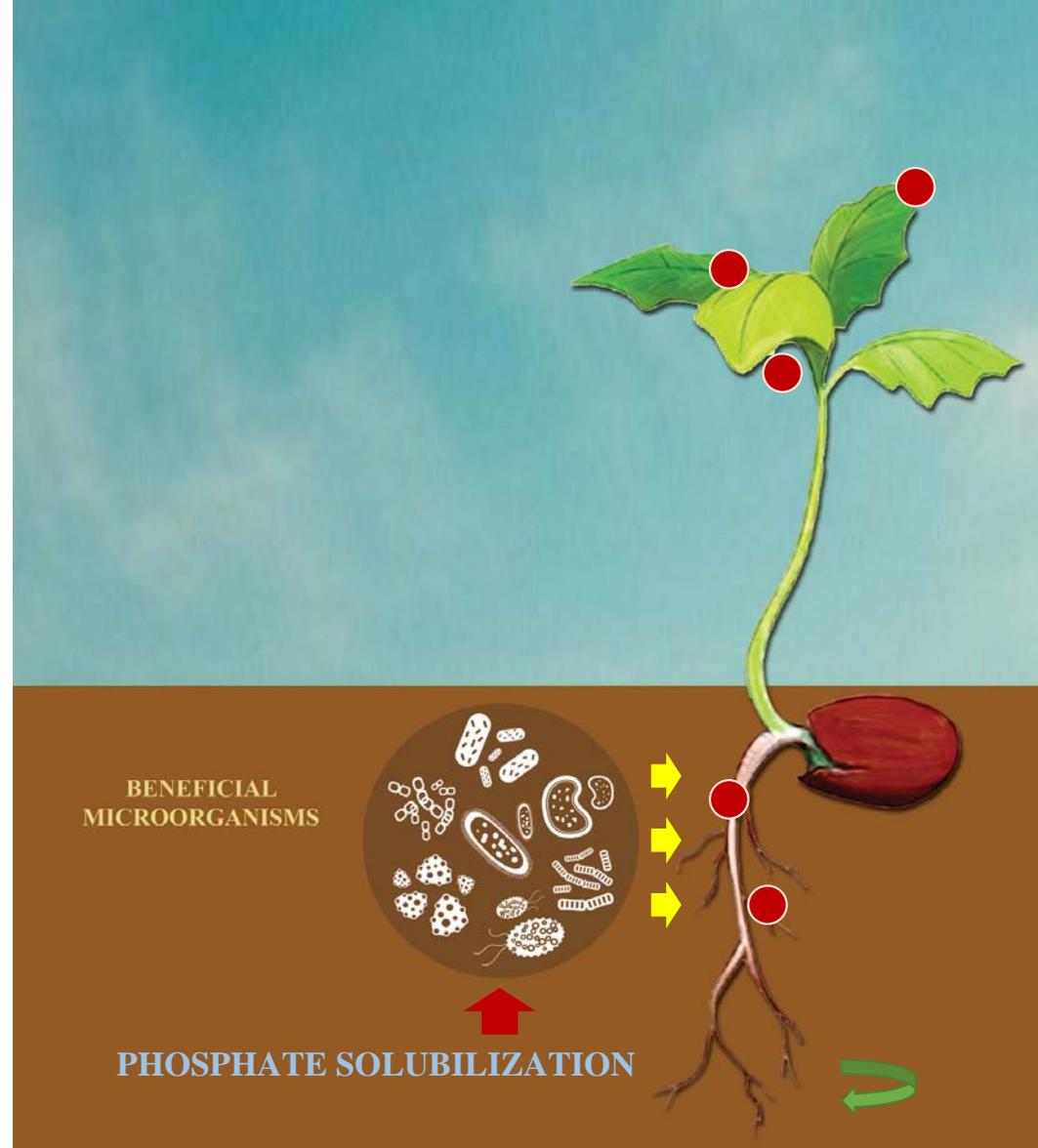
## BIOLOGICAL NITROGEN FIXATION:

- 90 – 95% of Nitrogen in the soil is in an organic form that is not available to uptake by plants. Furthermore, 78% of the earth's atmosphere is nitrogen which is not available for plant use.
- Soilsinew<sup>®</sup> Nature Vigor provides beneficial microbes that plays a vital and necessary role in the Nitrogen cycle.
- This is the process of taking the unusable nitrogen from the air and converting it into organic compounds that plants and organisms can use.



## PHOSPHATE SOLUBILIZATION:

- Phosphorus is one of the main nutrients plants need to grow healthy. Plants get the phosphorus from the soil by absorbing P from the soil as primary and secondary orthophosphates. It is essential plants get enough phosphorus because it is important for many of its production cycles including root growth, converting the sun's energy into usable energy and many other key functions. A lack of phosphorus is detrimental to the plant and will cause it to not absorb nutrients.
- Soilsinew® Nature Vigor helps plants receive the amount of phosphorus they need to thrive. Our product accomplishes this through phosphate solubilization which is the process of solubilizing bound phosphate in the soil and making it available for uptake by plants.



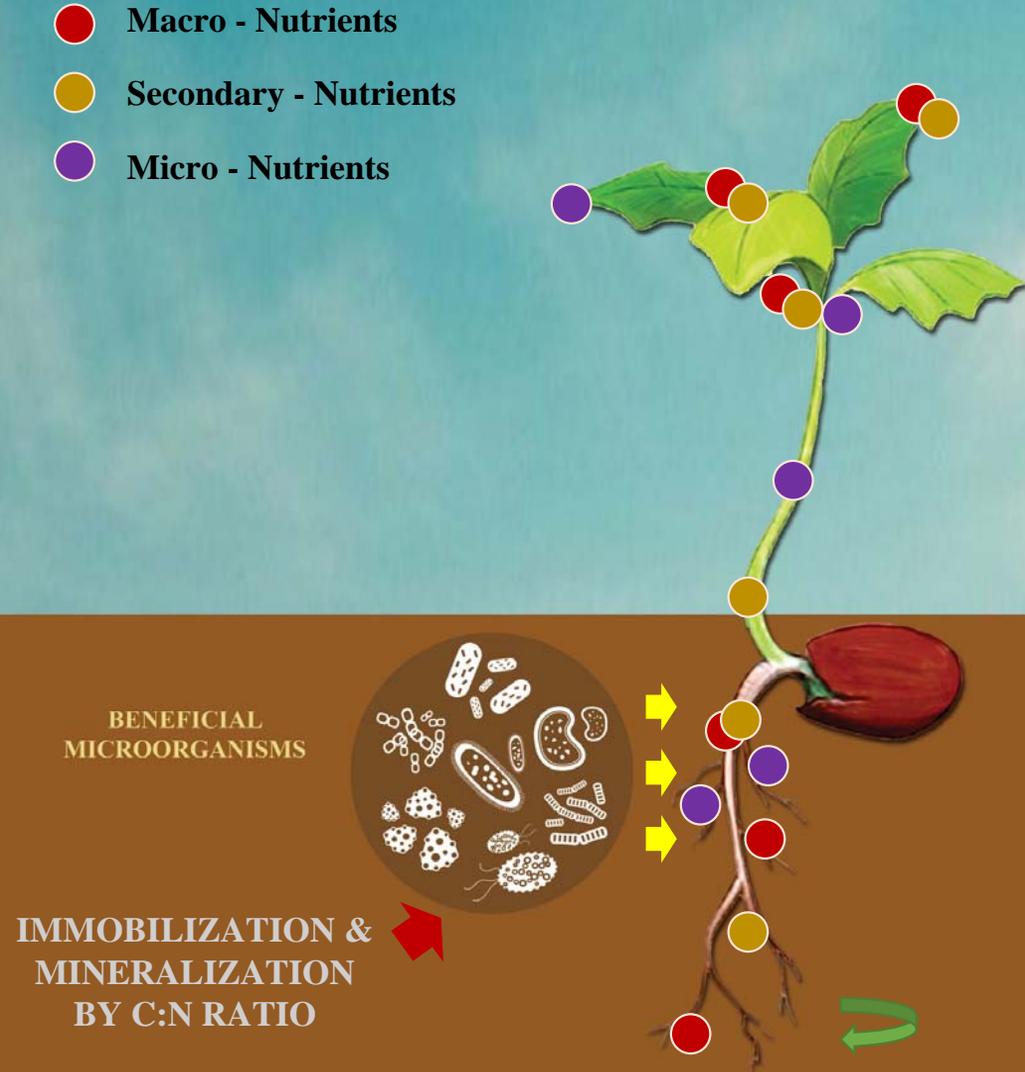
## IMMOBILIZATION & MINERALIZATION:

Plants have different parts containing various amount of nitrogen. Our Nature Vigor provides the beneficial microorganisms expressing amount of nitrogen in plants or in organic matters is the carbon to nitrogen ratio (C:N ratio).

•**Immobilization:** When the C:N ratio of added organic matter is high (greater than 30:1 ratio), microorganisms will require more nitrogen from the soil (form of nitrate or ammonium) or in the air (form of ammoniac) to decompose the carbon in the organic matter. This nitrogen will be immobilized (unavailable for plants) until these microorganism die when the nitrogen is released.

•**Mineralization:** When the C:N ratio of reduced organic matter is low (less than 30:1 ratio), the abundant nitrogen is supplied through the decomposition of the organic matter to obtain the nitrogen levels of the decomposing organism. As a result, there will be a net release and build up of inorganic nitrogen in soil (mineralization)

The more we can balance the IMMOBILIZATION & MINERALIZATION, the more plants can update nutrients and increase yield.



# IMMOBILIZATION & MINERALIZATION:

The graph shows what happens when organic material with high C:N ratio is added in soil. There are 3 time periods.

## 1<sup>st</sup> Phase: net immobilization (C:N Ratio is decreasing)

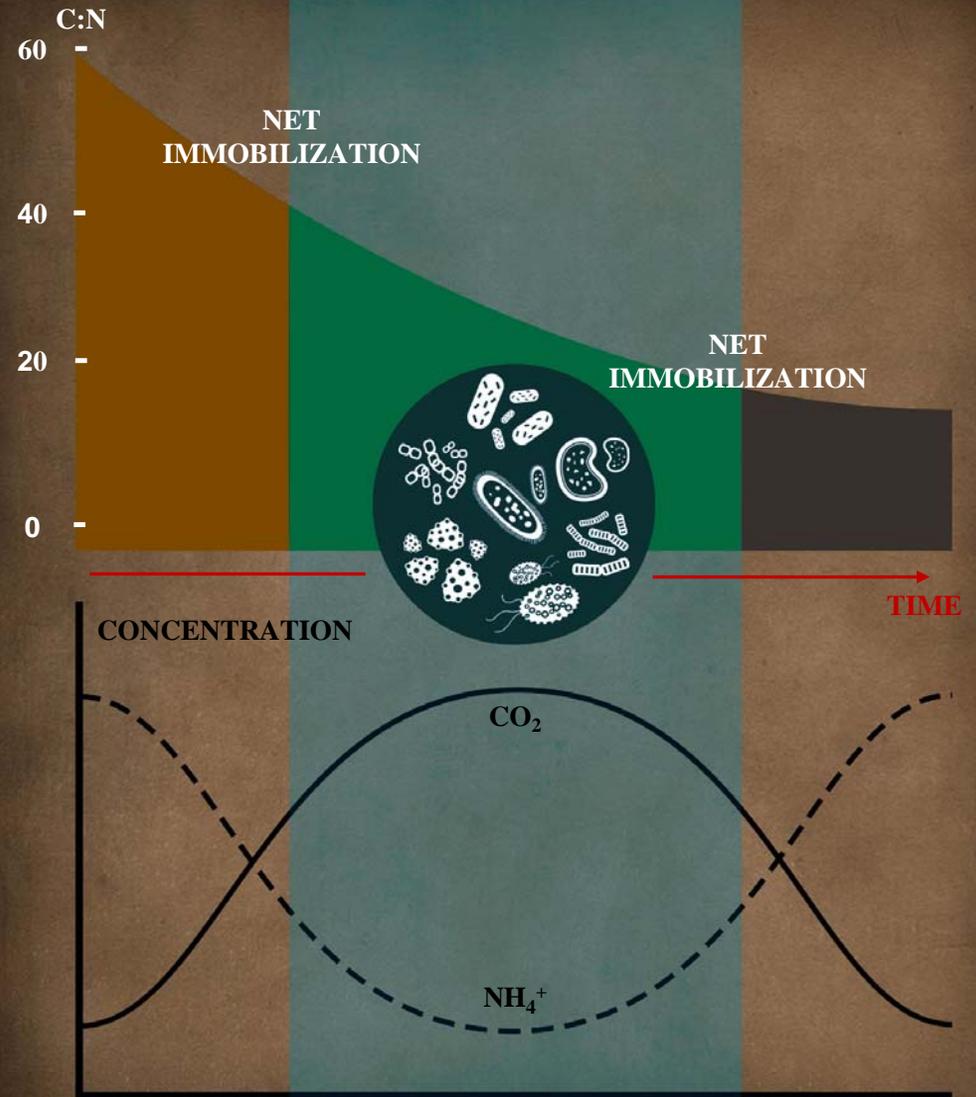
- Number of our microorganisms are increasing.
- Microorganisms consume N ( $\text{NH}_4^+$ ) causing it to decrease.
- Microorganisms consume C compounds and release  $\text{CO}_2$

## 2<sup>nd</sup> Phase: Balance immobilization & mineralization

- Microorganisms have consumed most of the available N.
- Maximum consumption of C products and production of  $\text{CO}_2$ .

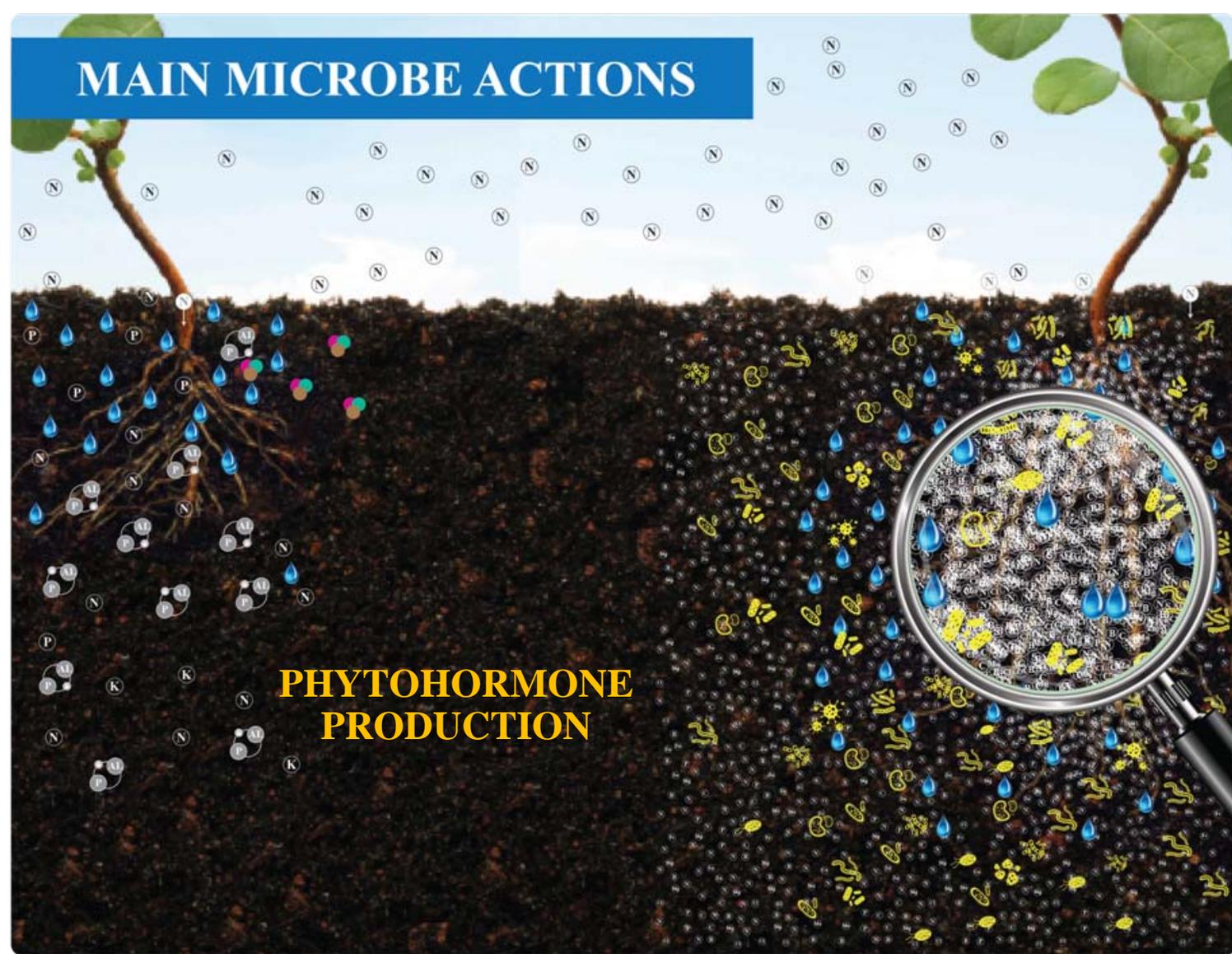
## 3<sup>rd</sup> Phase: net mineralization (C:N Ratio is low)

- Microorganisms are dying.
- $\text{NH}_4^+$  level is increasing – the  $\text{NH}_4^+$  that was part of the microorganisms is now available in soil.
- C compounds are decomposed –  $\text{CO}_2$  production is low.



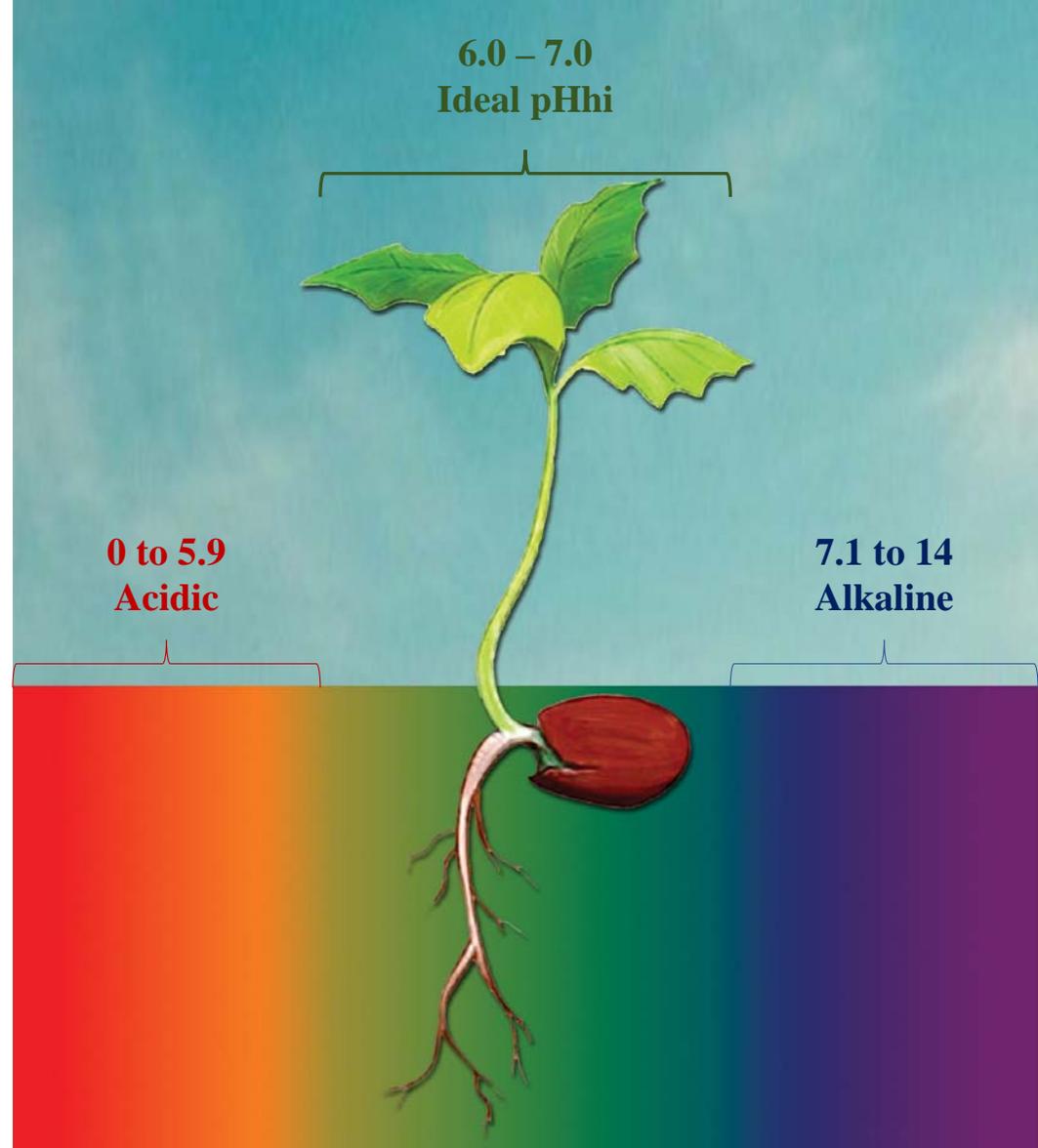
## PHYTOHORMONE PRODUCTION:

- Plant growth promoting microorganisms in Soilsinew® Nature Vigor contain organic stimulants and beneficial microorganisms that colonize the plants onto seeds and enhance plant growth. They produce phytohormones through phytohormone production.
- Phytohormone production is an organic substance synthesized organ of the plant that can be translocated to other stages where it triggers unique biochemical, physiological, and morphological responses.
- This process give crops chances to reach optimal growth and yield at shortest times.



## BALANCE SOIL pH:

- Soil pH has the most effect on the availability of most nutrients to plants in both either chemical forms and solubility of nutrients in soil.
- SoilsNew® Nature Vigor promotes optimal soil pH under extreme environmental condition by balancing . Organic bio-stimulants makes the soil more porous, thus improving soil aeration, infiltration and drainage. It buffers the soil's pH and prevents losses of plant nutrients through leaching. Organic bio-stimulants make soils more granular, improving the aggregation of soil particles.



## SAPROPHYTIC COMPETENCE:

- Saprophytic competence describes the ability of rhizobia inoculants to establish in soil, at least for the interval between growing season with species and strain differences in this ability well documented.
- Saprophytic competence of SoilsNew<sup>®</sup> Nature Vigor has a unique role to utilize to improved commercial inoculants aggressiveness and perseverance in soil versus less efficient native strains. In addition, SoilsNew<sup>®</sup> Nature Vigor obtain available nutrients and additional water from the environment and soil for plant to uptake.

## MIRCROBIAL FERTILIZERS





## PRODUCT BENEFITS:

- Increases efficiency of fertilizers, chemicals and amendments.
- Up to 30% yield increases
- Chelate soil nutrients.
- Improve nutrient uptake, especially phosphorus, sulfur, and nitrogen.
- Reduce the need of nitrogen fertilization.
- Solubilize minerals
- Improve soil structure
- Stimulate soil biological activity
- Act as a storehouse of N, P, S, and Zn
- Improve water-holding capacity for better drought resistance and reduction in water usage.



## **PRODUCT BENEFITS (more):**

- Increases organic matter
- Up to 80% to 100% reduction in fertilizer usage
- Unlocks bound up nutrients
- Regulates pH in acid or alkaline conditions
- Remediate radiation and other toxins in soils
- Remediate heavy metal contamination in soils
- Acting as a chelating agent aiding plants in the uptake and usability of nutrients essential for a crops healthy and productive life cycle
- Increase high BRIX level
- Increase the sweet for fruits
- Increase flower productions on flowering plants.
- Keep fresh for the cut flowers longer

# FOR HIGHER YIELDS

# WITH ORGANIC MATTER

- Enters through the stomata and leaf tissue.
- Increases fruit set during flowering, pollination and germination.

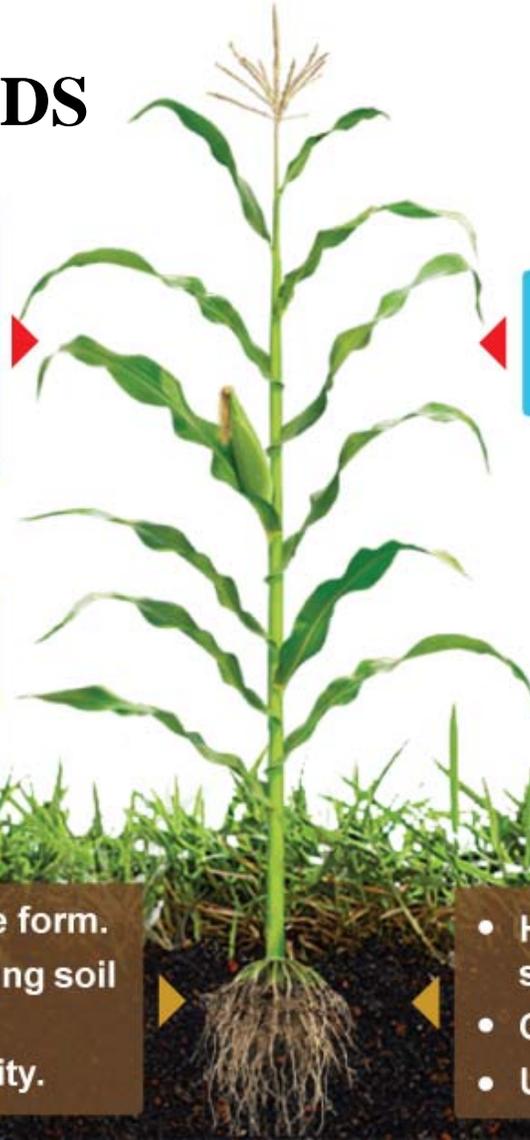
- The oxygen availability increases.
- CO<sub>2</sub> is taken up through the leaves.

- Improves the breakdown of leaf residues

- Reduces nutrient inputs

- Chelated minerals are in a bio available form.
- A clean carbon food source for increasing soil biology.
- Increases soil aeration and worm activity.

- Hold nutrients in a bio available form in soil solution.
- CO<sub>2</sub> is taken up through the roots.
- Unlocks soil nutrient reserves.





# CONCLUSION:

- Soil health is fundamental to profitable and sustainable agriculture. Vital organic matter and nutrients are often destroyed, depleted, or otherwise lost from the soil through overuse of fertilizers, erosion, and runoff as a consequence of unsustainable farming practices.
- Our products combine microbes with organic bio-stimulants to bring the best nutrients to your plants. The microbes work to break down organic matter in the soil to make macronutrients, secondary nutrients and micronutrients available for plants. The combination of microbes and is used to further benefit the soil by making it more fertile and allows it to retain moisture. It also provides reservoirs for nutrients so that they are readily available for plants. Along with all the benefits to soil health, farmers will also save cost from not having to buy traditional fertilizers.
- We utilize the relationship between microbes and organic bio-stimulants to create healthier soil that is not damaged by chemical fertilizers and pesticides that provides the best growth and yield potential for your plants. We believe in helping farmers grow soil by harnessing the power of nature to drastically increase crop yields and produce sustainable food sources. Our microbial soil enhancer is dedicated to providing environmentally friendly products that create and maintain thriving eco-systems that promote healthy and sustained plant growth.