



BACKYARD GARDENING AND BASIC NUTRITION[©]

By Carmen Bailey



Only during my older age have I become satisfied with and appreciative of, answers to questions I asked myself as a child. What constitutes life? How did we get it? How did we keep it? Why was I 'me'?

While I felt it was correct to say that my Higher Power took care of such things, that was not a complete answer to a child who wanted all the details. All of my early questions are not answered yet, but my chosen lifestyle showed me enough and I want to share it with you.

It is medical knowledge that:

We are what we see.

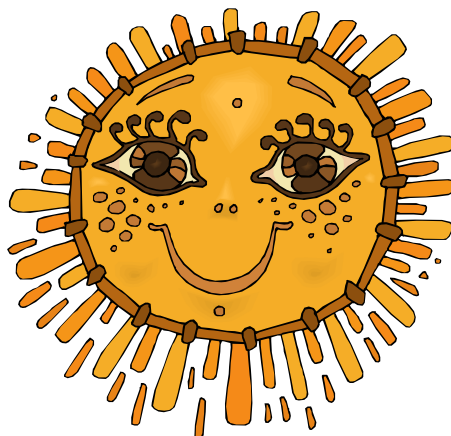
We are what we hear.

We are what we breathe.

We are what we think.

We are what we eat.

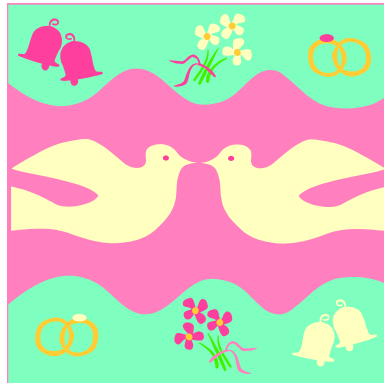
It is the last above mentioned body of lore with which I wish to begin my small treatise on health: a little accounting of the properties of a seed. What is it made of? What does it do? What are its needs in order to function?



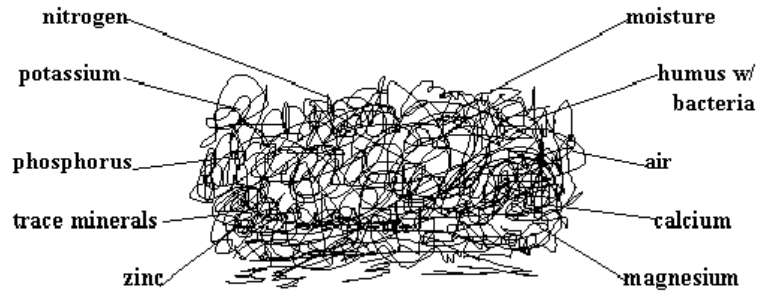
A seed is a fertilized egg. It remains a miracle, how life gets into a seed, but in any event, a seed is a hibernating bundle of life which is ready to burgeon into production and produce a plant like the one it came from... when it has its needs.

Because it is alive, it needs the same things which anything else needs in order to grow... air, moisture, and warmth. It requires nutrients later on, as the seed grows into a plant and its roots spread and reach out to gather food and water to send up the stem in its vascular bundles to feed the plant.

In order to help your plant grow into sturdy capacity, there is a diagram of its soil's needs on the next page.



DIFFERENT KINDS OF SOIL



GREAT SOIL!

It has been plowed to make the soil loose so air and roots can get in. Manures, compost, or old spoiled hay are mixed in.



POOR SOIL

It has been plowed but there are not enough nutrients.



HARD SOIL

Air and moisture and extra nutrients and roots cannot get in. Do not waste seeds, time or effort in trying to grow in hard soil.

The term "NPK" [nitrogen, phosphorus, potassium/potash], is the term used to denote the general richness of soil. For large tracts, the farmer has a soil sample taken and the test will state what is needed, as perhaps "20 20 20." Or if the soil is phosphorus poor, the test may say that "20 60 20" is needed in order for his plants to obtain enough of these three key elements – which may include a break down acid which will kill vital soil life.

In your backyard garden, you can do more for Our Planet and Yourself than supply only three nutrients and an acid which will kill soil life.

People actually need 44 nutrients which soil life promotes. So... where do you get those 44 nutrients?

They come from edible plants grown in soils which have been amended with natural fertilizers such as unleached and old manures, home made compost, blood meal and crushed bone meal from the abattoir; and potash from your cook fire ashes. Mix them in very well. Raw potash placed next to roots will kill them.

Naturally fertilized plants are sturdier. They withstand heat, cold, and disease better than plants fertilized with only three nutrients. Over a period of time, the same thing will happen for you when you eat all those natural nutrients!

Always, always, read the label to assure yourself that the ingredients you want are included, and ingredients you do not want, are excluded.



Humus is decaying vegetation in the soil. It is heavy black, porous, soft and pliable. Air and water enter its minute holes. Beneficial Bacteria eat it and break it down into fertilizer as their munching and digestion releases its nutrients. It breathes for the soil.

Every kind of humus has its own special ingredient to be released. Some humus was weeds with heavy phosphorus. Some was freshly mown grass or hay which possessed heavy nitrogen. Other decaying plants contained high potassium. They all contained various macro and micro minerals. Using several different kinds of decaying plants ensures a high level of humus and fertilizer throughout the growing season.

There are two ways to get humus into your soil. Mixing compost into soil is the best way but the quickest way is to plow old straw or such, 8" deep; using at least one scattered bale of hay, staggered every two meters' distance. After that, mulching will decay and be worked down by soil life.

Mulching covers a multitude of sins and prevents more of them by keeping moisture from evaporating quickly, and providing protection and food for a myriad of important little critters.

The importance of humus is stated thus: "You can never get enough humus." But, in reality, when you can walk in your wet garden without mud clumping to your shoes, you have enough.



So far, it's all been window dressing for the coming of bacteria... the life of your soil. Emphasis is on 'life.' They need the same as everything else which is alive: air, moisture, food and warmth. You have engineered a place for them to live in splendor... to dine sumptuously... that you may obtain their essential services. So, what do they do?

In a pinch of soil, where millions of them live, there are five groups of bacteria. But the one under discussion are the decomposers – of humus. Bacteria munching on the humus break it down and add enzymes for enrichment. Without bacteria, nutrients would not be available.

Bacteria in general, ward off their pathogens; fight other kinds of bacteria for space in your soil and kill diseases on plants' roots... if there are enough of them to overpower, that is. Dropping an extra bale of hay, or such, in your soil as you build its composition, or adding another few inches of mulch to the soil surface once or twice a year, pays dividends! Certainly, both kinds of bacteria profit from the extra food but the balance is on the side of beneficial bacteria – all other things being equal.



Aristotle the ancient philosopher, defined earthworms as 'The intestines of the earth.' And, it is said that Cleopatra used them to make the once barren Nile valley green and fertile. But, the Chinese headed her off centuries before, when they named one of their literary characters after earthworms. They called it "Angels of the Earth."

So, how can such seemingly puny little critters be so important?

Well... along with soil bacteria, they put the soil into the best possible condition for your plants to grow sturdily and productively!

As they tunnel through the soil, they ingest it and vegetating organic matter, and leave fertilizer called 'castings,' around your plants' roots. Castings contain significant amounts of NPK, vital micro nutrients, and pH modifiers, all in a highly soluble form.

As they tunnel, they aerate the soil so roots can penetrate easily and water can move within.

To reclaim hard, useless soil, wet the soil, toss bio degradable foods like banana peels, coffee grounds, garbage, manures, on wet ground, and top with several inches of straw and old dead plants which they will also ingest. Place handfuls of earthworms under the straw. Keep the soil and straw damp. A dried out earthworm is a dead earthworm.

On the other hand, do not allow your earthworms to drown in heavy rains. Remember, they are alive and need air. Cover this patch of ground during heavy rains. Prevent possible overheating of composting foods by mixing them with soil. Too much heat will cause your earthworms to leave.

Even if you never heard of Aristotle and Cleopatra, nor Charles Darwin who said something like "All good soil has passed through the intestines of earthworms," you will be amazed at what these tiny little critters do. So... don't kill them with harsh laboratory fertilizers! Check out bagged laboratory fertilizers for ingredients. Sometimes, ingredients are not listed so if you have a preference, ask about it. Read.

What's more, earthworms multiply faster than rabbits. Under optimal conditions, in six months' time, 10 pounds of earthworms become 1000 pounds of earthworms with the addition of a few thousand little white worm eggs incubating in your soil!

There are several methods to begin seedlings. Mexicans who use natural methods, take soil from the edge of tropical algae-thick water holes – algae possessing all properties of rich fertilizer with ease of breakdown. Some ancient cultures use available soil with old manures and humus incorporated into it. However, beyond that, each countryman uses the same system of growing seedlings with natural ingredients!

The enriched soil is dampened and flattened, smoothed over, squared off and semi-cut into small squares which become containers. Three seeds are dropped in the middle of each square and covered over lightly with soil. Keep them watered gently. Later when seedlings have grown into little plants, pluck the weakest two. Squares are broken off and dropped into the ground where eventual roots will be set deeply. Walla... no transplant shock!

Transplant shock makes your plant ill, weak. It suddenly has no root hair system to obtain food or water. It leans over in prostration and takes days to create a new system. At the two extremes, some plants never recover; the ones which do recover have taken extra time and are late with their crop.

But I am oriented to plastic or paper cups, filling them only half full to save labor and rich soil. Punch a few holes in the bottom for water drainage so roots don't drown. Toss loose enriched soil into cups and gently mash three seeds into the top. Loosely cover them over. I like to add a note of encouragement to them: "There you are!"

Keep the seed packet for its data. When the three seeds have well germinated, pluck the two weakest. A weak seedling makes a weak plant and poor crop.

Place the pots together in a sheltered but sunny place. Fertigate daily. That is, sprinkle gently with manure-or-compost-soaked-water which was diluted. The degree of dilution is not important and should vary, but if it's too strong, it will kill the seedling. Cover at night. For every degree of heat you keep, seeds will germinate that much faster. After they have grown to the rim of the cup, do not cover them.

The only problem which healthily grown seedlings get, is Damp Off. That is when healthy green seedlings just a few days old suddenly fall over from the base. They are being attacked by soil bacteria at the soil line. Certain kinds of bacteria are activated by their requirement of soil temperature, moisture, and not enough sun!

Immediately place them in longer periods of sun. Do not water them for a couple of days to dry up the bacteria's domain. Or water with a weak chamomile tea spray to start with to prevent Damp Off.

Before planting your garden, look on the back of the seed packet you saved, for "Days to Maturity." That amount of time specifies how many days you have to bring your crop to its full production with succulence. The seed is programmed to behave in this fashion. Beyond the specified number of days, your crop becomes tough, scant and small.

Observe also on the back of the packet, if your particular plant requires full sun, semi sun, or full shade. Vegetables generally require full sun.

If this is your first garden, take it easy on yourself, and plant loosely in accordance to what you think. If you find it was a mistake, you have discovered what to do to fix it. Mistakes are great to repair.

You may say to yourself, "I have no idea why the packet says that, so I am going to plant in my own way." I promise you the plant won't mind; I won't mind - it doesn't matter if we did mind, so dig a trough to make a row, knock the seedlings out of the cups, and set your plants apart from each other in the row. Set them deeply. Mulch. Water. While there may be much available fertilizer which you have put in the soil already, fertilizing every so often will provide spurts to the growth factor.



"Safe," they say on the bag. It's a poisonous pesticide. Why tell us it is safe? Nobody tells us drinking water is safe, or food is safe. So, how about using your own homemade pesticides? Pesticides made of food... like orange peels soaked overnight in water, pouring it off and diluting just enough to keep the odor intact. Pests dislike limonoids in the peels, and they leave. Try soaking shredded green pepper, red pepper, garlic. Be easy though, on some recipes. My first recipe of garlic spray not only killed the aphids, it killed the plant too. Plants are alive and need air and the garlic spray was too strong and suffocated them! Be creative and try your own recipe. Keep it fresh. Make only enough to use now! Strain, dilute and pour into a Flit Sprayer. Spray under the leaves, as that is where Mama Bug lays her eggs to hatch and eat your crop. To eat your crop was why she laid her eggs there.

Interplanting is another nonpoisonous method of getting rid of the competition. Bugs have uncanny sensitivity to odors they desire. Confuse them! Not that any method will get rid of all pests, including the poisons! That's why it is also good thinking to, "Plant one for Thee. One for Me. And one for the Insects."

Another method which happens by itself, is that cannibal insects will invade your garden for food. The most notable is the Praying Mantid which will eat mantids too, if other food is scarce. But if there is poison on the plants, it will kill them. And bees too, as a matter of fact... bees which are vital for pollinating crops as they gather pollen to eat, flitting from blossom to blossom and gathering poison to take back to their hives.

A rule of thumb should a plant become discolored... when the green color fades at the top, the plant is short on nitrogen. Soak a crumbled half cup of manure or a small handful of blood meal overnight in a liter size bottle, and sprinkle onto the ground around the plant for several days. Sprinkle enough for it to reach the roots which will siphon it up to the top of the plant.

If your plant is purple under the leaves or on the stem, it is short of phosphorus. Soak Bagasse [sugar cane by product] overnight and ditto. Ditto some more for brown crinkled leaf edges. That is a potassium deficiency. Add a little handful of wood ashes to a small sprinkler can of water and pour around the affected plant for several days

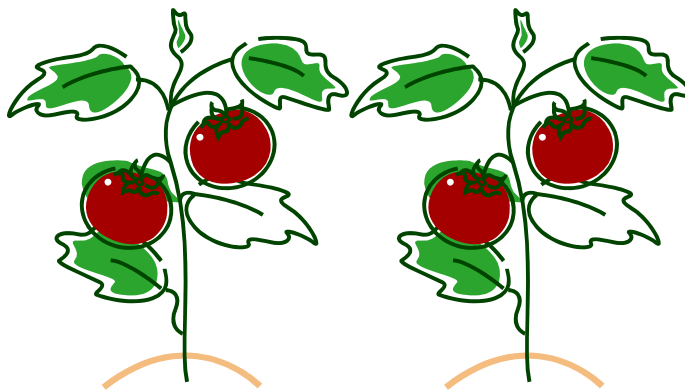
Sometimes, just watering your plant often enough will fix its problem. If there are enough nutrients in the soil, they cannot be used unless water carries them to the roots.

Many years ago, when it was the rage in America to 'talk to your plant,' there was a cartoon in which a lady asked the clerk for a plant she didn't have to talk to.

Little did she know that plants knew her better than she knew them... verified by all Green Thumbs and scientific testing.

I enjoyed communicating with my 2500 hybrid greenhouse tomato plants, grown in the ice and snow of North Carolina winters. Frequently and earnestly, I thanked them for being so luxuriant. Not that I hadn't help.

One day as I walked through, I mindlessly swung my arm which evenly snapped off a brittle, phosphorus-heavy branch with six yellow blossoms in one group. I turned to it and apologized with "Oops. Sorry I was clumsy! Be right back!" I ran into the house to get a roll of duct tape, lined up the rows of vascular bundles which carry water and nutrients up the stem from the root, and taped the branch back on. All six blossoms produced a baby tomato in their deep recesses. I pinched two blossoms off that group, as six blossoms in one group was too much to carry to maturity. In a few weeks I harvested four large luscious tomatoes from that branch which were included with 30 pound cartons sent to New York City's open air market.



What's in all the fresh, highly nutritious vegetables you have grown... is the biggest Power Pack money can buy! Although other biggest Power Packs which money can buy are necessary to eat with them to provide vital nutrition not found in each other.

In today's modern awareness of preventing, rather than trying to figure out how to repair, the prevention of diseases is uppermost. Phytochemicals are a natural part of fresh vegetables which possess naturally grown flavors, colors, and disease resisters which fight certain stages of specific diseases - all things being equal.

For example, sulphur in broccoli whisks away the cancerous cell mutant before it can invade healthy cells. Other Indole vegetables of cauliflower, cabbage and sprouts, prevent other numerous damaging activities.

Tomatoes possess thousands of phytochemicals.

A mug of orange papaya pulp or yellow pineapple juice contains digestive enzymes not found elsewhere.

But my favorite is chlorophyll, the green matter of vegetables...the prime cleanser which is crammed full of fiber, minute straw-like particles which stabilize, neutralize and add nutrients, like compost in the garden.

Select a few leaves of produce from your home garden, free of injurious pesticides but wash them anyway, and pack them loosely into a blender half full of water. Add raw and tasteless broccoli pieces for special brain food, any raw green vegetable and blend with 1/4 cup of honey. Pour into a pitcher. Add pineapple juice to taste, cover and chill. Walla! On an empty stomach, it's a cascade of mental and physical energy! Make it your recipe, changing ingredients to suit your taste and garden supplies. Phytos change color in a day, due to oxidation [exposure to air which eats into their nutrition] and become dingy and grim. Keep them fresh daily.

The Food Group of vegetables takes precedence while discussing important yields of your back yard garden. "The Major Regulatory Vitamins" are the B Complex which are rich nutrients of your garden, as are A and C. E is needed also but is hard to come by.

Most vitamins are interdependent. Only one is usable by itself. This is why it is important to get a varied diet. In addition, having a crisp green salad with your meal helps solve the problem of mono nutrition by providing a myriad of raw enzymes which are catalysts for foods. Raw fruit does the same.

B Complex is composed of eleven vitamins which do significant things like metabolize fats, provide a mental boost, work in the small intestine, close the gap between brain cells for quicker recall. However, there are other nutrients which do these things too. Abundant B Complex is found in all fresh, richly grown, green, yellow and red vegetables.

Vitamin A is likewise located in fresh or cooked vegetables of red color like red pepper and tomatoes, yellow colored food like corn; and green vegetables like Swiss Chard. Vitamin A is necessary for developing good color vision, night vision, and for health and repair of your skin inside and out.

Vitamin C may be a panacea! This is the one vitamin which is active by itself. In fact, it is like cement placed between bricks and stones of buildings... to hold them together! It does the same in your body. Without it, your nutrition is not held together and usable. Vitamin C is used by connective tissue in the skin, for healing of wounds and other. Vitamin C is found in the same vegetables which contain all other mentioned nutrients, and in oranges and limes. In connection, are BioFlavanoids which increase strength of small veins, the heart's rhythm, and are found in the white pulp of citrus fruit.

Vitamin E makes it possible to function with less oxygen, thereby increasing stamina and endurance. It prevents blood clots which can clog the heart, All Things Being Equal! Meaning, one cannot expect a few sudden doses of E to repair a damaged heart of years' duration even along with required muscle nutrients of potassium and magnesium. The requirements you are getting may just be enough, but should not be depended upon in that lagging venue. E is found in whole grains and seeds before they are milled and the oily section removed so it does not spoil flour on the shelf before it can be sold. After being milled out, it can be found in Wheat Germ at the Supermarket.

It is said that magnesium is Nature's tranquilizer. But without the other mentioned minerals, it could not function. Therefore, perhaps all are Nature's tranquilizers.

Calcium though, is the most abundant mineral in the body, or should be. Even with that high introduction, 98% of calcium is in the bones. Calcium helps regulate nerve transmission in conjunction with magnesium and help control muscle activity – in the heart too. It is found in dairy products, sardines, green leafy vegetables, broccoli, whole grains, nuts.

Magnesium acts similarly to calcium. It is a relaxant with the important additional function of conducting electrical impulses of nerves and muscles. It is involved in insulin secretion, as are other nutrients. It is located in the same foods as is calcium.

Potassium functions inside each cell of the body in conjunction with salt which functions on the outside of each cell. Together, they maintain water balance within the body in compatibility with healthy kidneys. The other most important function of potassium and salt is that they stimulate nerve impulses for the heart and other muscle contractions, as do other minerals. Potassium is found in the same foods as the other mentioned two, plus avocado, banana and cantalope. But the preferred source is BlackStrap molasses which is the final runoff of nutrients in the making of white table sugar.

Likewise, Phosphorus is required to blend with the above ingredients but must be in an acceptable ratio to them. Phosphorus is the most plentiful ingredient so its need is generally not mentioned in charts.

Zinc is required in lesser amounts but its uses are as vital! It contributes to at least 25 different enzymes which are involved in your digestion, and metabolism after digestion. It is a component of insulin; is the prime wound healer; is one of the sources of fetal development but needs to be in ratio with other minerals, not overdone. It is needed only in small amounts. While some plants synthesize parts of their food, zinc in plants we eat is directly related to the amount of zinc in the soil it grew in. Zinc is found in eggs, pumpkin seeds, sardines, sunflower seeds, wheat germ, whole grains.

You can know now that none of the above functions without each other. But here's the clincher! None of the minerals function without Vitamin D! It's a chain reaction. In addition, Vitamin D alone is necessary for a number of healthy activities within your body like providing an uplift to your Immune System.

Vitamin D comes from the Sun's Rays but with current atmospheric conditions and the rainy seasons, Cod Liver Oil is the best buy. Overnight results have been obtained with Cod Liver Oil bridging the gap of minerals!

Hippocrates is regarded as the father of medicine. Born in Greece, 460 years before Christ was born, his advice was, "Let your food be your medicine and your medicine be your food." It could make one wonder what kind of nutritionless junk food was around, over 2000 years ago, that he would make such a comparable statement. And why some present day doctors use his or similarly ancient Dr. Galen's advice to, "Do no harm to the patient," which is framed and hanging on their walls as they dispense pills with gross side effects. Not to say that some pills are not important, but that you should decide if you will take them. Choices may vacillate and seem vague. But now, it's your turn to take responsibility for your opinions. Life needn't be a happenstance.

A starting method of taking control of your needs is for you to decide what you need; not just routinely giving that decision over to another. If further input is required, get it and make your Best Judgment! Whether you agree or disagree with the new input, you can't go wrong by providing yourself with good nutrition.

Loss of digestion may in fact, be the major problem of an ill person, and needs to be considered as a possibility. One little example: when we are angry, we are tense, however imperceptible. Tenseness tightens up muscles and nerves which in turn cannot discharge targeted juices needed for digestion. This is not to say we should not be angry, or that it is possible to never be angry, but to know causes and consequences and answer our own questions.

When I was a child, Grandmother Miller often told we children, during a Sunday afternoon dinner with extended family relatives, not to let the sun go down upon your wrath. "Ephesians 4: 26," she always added [King James version]. King James' Bible translators said nothing about the reason, but Grandmother did. "It is bad for your digestion! Good digestion is the first to leave in an illness and the last to return when you are well." As she served up three greasy fried chickens – cultural-for-the-south in USA at the time. Nutritionless mashed potatoes because nutrients were peeled off; gravy; the inevitable peas; warmed Parker House rolls with a pound of butter laden with cholesterol; three gallons of iced tea sweetened with several cups of nutritionless table sugar, and four beautiful pies with browned, fluted crusts made of nutritionless refined flour. But our mouths watered.

Digestion is a lengthy process involving chewing food with a digestive enzyme located in the saliva, addition of six enzymes in the stomach and one from the pancreas in the small intestine. Churned and enzymed foods in the small intestine pass through a membrane to the blood stream where it circulates throughout the body and its organs. The brain is an organ and uses 60% of nutrients which are absorbed from the small intestine. Then, the large intestine absorbs water from fibrous residues of the small intestine. Isn't this a miracle of efficiency?

Grandmother Miller also said, "Pretty is as pretty does." That's the first beauty secret!

Hair... feed it and exercise it! Massage your scalp each day. Massage gently until it itches. The itching is a sign that fresh blood and air [food!] is being brought to your hair roots and brain cells. Itching will spread to the back of your neck, forehead, and temples and ears. Keep massaging until the itching disappears. Bringing fresh food to your head each morning provides an accumulating sense of WellBeing! New hair growth can be seen in one or two months and old hair is thicker and shinier. But in instances of long standing baldness, hair roots possibly may be dead. Zinc and protein are inherent ingredients of healthy hair - and fingernails! Zinc is located in sardines, mushrooms, nuts, and whole grains. Protein is a later subject.

Skin... Vitamin A is soothing for the skin - inside and out! So are Vitamin C, Calcium and Magnesium. Eat lots of green, yellow, and red foods - just 1/2 cup of red pepper contains a whopping 8000 IUs of A! Eat enough protein to create new skin cells. Wash out the pores of your skin. Pores are the breathing/sweating holes of your skin and get clogged up with microscopic soot, blowing desert dust and lint from bed clothes. Lightly scrub them with warm water - cold water closes the pores- and a softly rough washcloth with or without soap. Using a moisturizer in dry climates helps soften the skin. Expensive does not necessarily mean good. The idea of moisturizing is to keep moisture in. Not to be facetious, but lard does that the very best!

Eyes... eye sight and eye brightness is pretty much set for you but its health can be enhanced with Vitamin A which aids Night Blindness. Vitamins A, C, and E, are a combination which makes an anti oxidant which helps protect the retina from "Free Radicals," or non-food pollutants circling about in your body which were obtained from breathing polluted air, drinking polluted water, and eating additives in cans and boxes of purchased food.

Your genes provide special traits; they are an inherent part of you - inherited from your parents and their parents. That there are additional benefits to good health obtained when you control what you think when using positive reinforcement of acupuncture/ acupressure, meditation and their companions.

Only oxygen is more essential than water, by comparison of usage. Perhaps a brief explanation will suffice.

The very basics of your bodily functions are regulated by water... they cannot exist without the presence of water. Breathing, digestion, metabolism, waste removal and temperature control can be done only in the presence of water, or moisture, if you will. You can live around five weeks without much food, but only five days without water. It circulates continually in your blood, which is mostly water, and carries your new supply of food each day. Blood circulates through your kidneys 15 times to collect waste before it is excreted. Another miracle of efficiency!

Deep, undisturbed sleep, is the very best maintenance medicine... for a well person's health. You know the kind... when you awaken drowsily, stretch, and exclaim, "WOW! That was good! I slept like I was dead!" Sound sleep is absolutely essential to your health! When you have slept well over a period of time, you look relaxed. You feel relaxed. You feel good, look good. While you were soundly asleep, your bodily functions recharged and you are ready for the day. The need for deep sleep is so well known that Sleep Deprivation is used as a torture to break down a suspect's will; "To frazzle his nerves."

There are several methods of depriving sleep. Noise wakes you up and disturbs your God given cycle. Caffeine may keep you awake if taken too late in the afternoon [tea/ coffee/sodas containing caffeine]. Not getting enough carbohydrates in your evening meal, if you are an insomniac and it's hard to settle down for the night. Taking Tryptophan in the evening may relieve your condition and provide a sleep neurotransmitter to the brain which also relates to several kinds of behavioral problems, depression, PMS, anxiety.

This subject is confounding; the application of it is affective according to individual needs. Search the internet for the subject and apply it to your personal needs. But for easy to please conditions: tryptophan is found in milk, poultry, barley, brown rice [not milled white rice], fish, soybeans, peanuts, and notably, turkey!

Iron is the lone nutrient which carries oxygen throughout your body including to brain cells. It is at the center of each Red Blood Cell and gives it the red color. Without enough iron, you would be anemic... weak, puny, unable to maintain your usual thinking capacity although there are other reasons for that too. Sources of iron are meats, leafy green vegetables, fish, poultry, free range eggs, whole grains, dried fruit. A very high source of iron is thick and unsweet BlackStrap Molasses; not the sweet, runny, table molasses. BlackStrap is so full of nutrients that it is used as a tonic – diluted to start it.

Iodine is another loner. There is nothing to help it along, or to provide another source for it. It is mandatory for normal metabolism, the making of normal cells, and for providing enough energy in adults and children. Natural sources of iodine are scarce, being found only in seafood, and includes seaweed which is grown on the coasts of countries to sell for food and fertilizer in landlocked countries where seafood is a luxury and not part of a daily meal. In such landlocked localities, the only source of iodine is iodized salt!



This article on protein is mentioned only in passing as an adjacent source of fine health from your garden but it is as vital as nutrients from the garden. Actually, both sources provide nutrients not found in each other but are essential to cause our minds and bodies to function.

Complete Protein supplies all requirements for new growth, and the rebuilding of old and worn out body cells - each one of them! As protein is ingested, it breaks into 20 Amino Acids, each one providing a specific, vital activity. Eight of those 20 Amino Acids are essential, that is, they must be brought into your body by you. The others synthesize themselves from those eight.

Complete Proteins are meats, fish, poultry, eggs, dairy products, and soybeans; and provide the eight essential Amino Acids. Combining Incomplete Proteins in beans, legumes, with various grains like rice, or corn, or wheat, provides Complete Protein.

In addition to garden nutrition and protein nutrition, is the final food group, Carbohydrates, like bread, which supply energy.

Outside of the food groups but necessary for best health are Clean Air, Clean Water. Sound Sleep. Boiling Suspicious Water. Washing Your Hands frequently. Officials tell us that good health is 90% good sanitation.

And remember, your Maker has a Say-So in your Well Being!

THE END

**The saying is, "When all else fails, read the instructions!"
In our case... read Mother Earth's instructions.**

**So you ask, "How can we know what her instructions are?" The answer is:
by these two methods: [1] By what is NOT productive.
[2] By what IS productive.**

Under the method of what is NOT productive is famine, drought, erosion, and the poisoning of our planet and ourselves. These conditions are interrelated by ignorance, disinterest, greed, using without replacing, unawareness and ignoring the obvious.

But fortunately for us, our planet is adaptable as are we Human Beings and we can change it and ourselves through using methods of "What IS productive."

Therefore PRODUCTIVITY is the basic topic; all of it in context to what is handy, free, and promotes good health in ourselves, our livestock and our soil. It is the cycle of regeneration. It is the process of sustaining while producing optimum results.

There are 44 nutrients which are required for our best possible health. Some of these 44 nutrients are useful in finite proportions like 1 ppm. They are found in the food groups of carbohydrates, proteins, and vegetables... all of them originating from our soil... the grain and pasture we feed our chickens and livestock... the vegetables and roots we grow in our gardens... the eggs we eat... milk we drink from our cows, goats and camels.

So, how is a productive method implemented?

There are as many variations of implementation as there are people who implement! Meaning the method is adaptable! Meaning there is no specific way to do it. There is "Your best way," and "My best way." The entire idea is solely 'To put available nutrients into your soil.' Putting nutrients into your soil ensures their presence and with continued addition, prevents their loss throughout succeeding growth.

Different kinds of growth use up different nutrients, - rotation of crops becomes vital for that reason - and to help control pests which are harboring in the soil from previous crops. With crop rotation, when these pests crawl out of the soil, there will be no host plants for them to feed on.

But back to nutrients: Where do they come from? Answer. Each vegetable and root, protein and carbohydrate, is programmed by its seeds which came from its parent crop - to be high or low in certain ingredients.

Thus, we choose what we eat by knowing what the different foods contain. It is the growing of these foods which concern agriculturists. We want food to grow lush, rank, rife, large, colorful, tender, and delicious. In order to get them in these conditions, use the best fertilizer. Water to the depth of each root system, using a stick for deep measure, and mulch, in order to preserve water and maintain a soft soil condition for water to enter instead of running off so each root can penetrate quickly and easily as it searches for more nutrients to grow in.

The best choice of fertilizers is manures.

Manures contain a high amount of humus... like fiber which buffers soil problems, provides beneficial bacteria to eat nematodes which strangle minute roots, and holds moisture for bacteria and for root capillary activity. Manures vary in their NPK [nitrogen, phosphorus, potassium] content depending on the animal, where it grazed, what it grazed, so it is advisable to use this knowledge in using manures individually or mixing them together. This is useful when looking for ways to fix problems.

Manures should be gathered before it rains on them, should you be blessed with rain; and stored in loosely-woven feed sacks in a shed so that air will circulate, 2-3 months before using. 2-3 months time will get rid of ammonium odors. Ammonium odors kill or damage plants and roots. You want to use unleached manures so that when they are being watered or rained on, all of their nutrients will run off into the garden rather than down the road.

Another source of nutrients is garbage and other biodegradable refuse like rotting weeds. These lend themselves to sheet composting of large farm tracts and in the row of smaller gardens. Garbage is merely left-over food which is bio degradable.

For sheet composting, use a tractor or large crew of workers to push back the top foot of soil. Dump garbage or other bio degradable refuse in, up to six inches, and cover completely with soil.

For the small garden, mark off rows, dig down 18" in the row and shovel garbage in. Cover with soil.

Each method requires moisture in order for bacteria to live and multiply so they can mince the refuse into compost as they digest it and excrete it. Each method needs to begin 4-6 months before planting.

To prevent excessive evaporation of scarce water, mulching is essential and as it decays it adds more nutrients. Other sources of nutrients are refuse like high phosphorus from a sugar factory; nitrogen from blood meal in a slaughter house and bone meal in tankage; refuse from chicken farms including feathers which contain nitrogen and minerals; coffee grounds and tea leaves from restaurants; all of which when mixed together with or without manures are layered into the soil with or without spoiled hay to encourage the presence of humus and therefore beneficial bacteria. It all makes a fine compost!

Concerning the use of garbage... special care must be taken to prevent flies from breeding in it. Flies are a major cause of diarrhea which is the first killer of infants in Africa. Flies go anywhere. They walk around in trash, filth, disease and feces in latrines, and carry it all to our eyes, lips and our food which we ingest. Then we get diarrhea and our food runs out of us before it is digested and we do not obtain enough benefits of nourishment which could be the final cause of death. Decent sanitation is 90% of good health!

So, you need to get rid of fly breeding places. Cover latrines and watch to see if covers are tight enough that flies do not go in or out. Flies follow odors which the cover will not stop, so close it tightly to keep flies in or out. By getting rid of fly breeding places you get rid of flies in ten days.

Instigate a Community Sanitation Land-Fill, that is, dig a large, wide, hole. Collect dead animals which flies breed in, and garbage, and fill in that much of the hole with soil, saving other space in the land-fill for refuse to come. If you see a fly hovering, an odor is escaping. Toss more soil onto the spot.

Now you are ready to build a garden, using aforementioned ideas and supplies. Remember that we are implementing... that a little is more than none... mistakes are welcome so we know what not to do next time.

For a garden in the ground, add available nutrients and give time for them to biodegrade. You can see when refuse has become crumbly and usable – after bacteria has chewed it up.

A container garden on the ground, requires more effort but provides thicker cropping and longer results. The container can be built of concrete blocks, or rocks, or wood, to a height of 18". You should be able to reach to the center from each side so as not to step in it and trample plants and loose soil.

Ingredients of this garden can be approximately 1/3 old, unleached mixed manures; 1/3 good garden soil; 1/3 sand or poor soil. Mix well and toss into the container. Water only as it is absorbed so the rich nutrients won't run off.

Wallah! Your container garden is ready! With this rich mixture and the looseness of it, you can plant close together, forgetting rows and organization. Build a loose sunshade over it if needed. As you use up plants, replace those spaces with seedlings you are growing in a nursery.

Place at least four inches of thick mulch over the garden before putting plants in it. Nestle the mulch around the plants.

Watering plants can include fertilizing them too. It's called 'fertigation.' Toss a small amount of manures or compost into the bottom of a bucket, and fill with water. Stir and let brew for a day or so. Dilute to the color of weak tea; thence its name: 'Manure tea.'

Dribble the diluted tea on the soil, not on your plants. If you are really into your plants' lives - remembering what they need as being the same which all living things need: air, moisture, food, warmth - then watering once a day in the evening is great. Otherwise, three times a week may be okay if you have mulched well.

To protect your plants from insects which suck nutrients from your plants, or lay egg toxins on them, or eat them, you may hand-pick large bugs for a starter. To get rid of numerous smaller pests, use knowledge of insect survival.

Female flying insects have notorious smelling ability... up to miles of distance. It is their genetic planning to require corn, or beans, tomatoes, potatoes, etc. Many insects are named after their host plant as in Mexican Bean Beetle; or Corn Earworm or Squash Bug. The fertile female looks only for her host plant - her survival plant - to lay eggs under your leaves.

Those eggs hatch into cute little green worms - they are the larval stage of insects - the stage which does the actual damage! They begin eating your plants for their survival and the entire phase starts over. When the worms grow up and turn into the next generation of flying insects, they will lay eggs on your next crop. Here are some successful ideas on getting rid of them. Again, methods are varied. Pick yours or use several.

Insects are led by specific odors which are genetically bound into them. Blend your garden's odors so as to make them specifically imperceptible. Put large farm tracts into segments of odors. Make mixed segments of corn odors, tomato odors, pepper odors, onion odors, etc, so that all odors are blended, are unconcentrated, and insects' nostrils cannot locate specifics from a distance.

To confuse odors in the garden... use the method of disorganized planting - no rows - planting where there is a space. Plant marigolds around and inside the

garden, because insects dislike that odor. Marigold roots get rid of nematode infestations in the garden. Using home made insecticides gives positive results and does not poison our air, soil, and us. You may need to play with following recipes to get results that you want.

DDT is so poisonous it is banned in USA, the land of commercialism. Its poison is forever. Once a molecule of DDT is made, it never bio degrades, never wears out, never decays. Some of it gets into human fatty tissue and builds up as more is consumed on foods we eat. Some gets into reproductive systems and causes malformation in infants; although ingestion of DDT is not the only reason.

Its dangers were admitted by commercial aspects of USA when the American symbol, the Bald Eagle, could not reproduce. Shells of eggs it laid were so soft that eaglets could not survive in them. Now, eggs are incubated in laboratories. This... because eagles ingested insects and grain sprayed with DDT.

However, you can make your own pesticides! Tear up or bruise orange peel, and soak over night. Citrus rinds contain limonoids which out-right kill some insects and repel others. Pour off the water and drop a drip of soap in it to make the solution cling to leaves... and spray. A Flit sprayer is ideal for a garden. Be sure to spray under the leaves as that is where insect eggs are laid!

Other sprays can be made of onion, garlic, strong-odor weeds, neem seeds and leaves, red pepper, green pepper, tomato leaves. Play with these safe possibilities for potency.

The last highly functional asset to the farm or garden is the nursery; a certain place to start and maintain seedlings so that the strong can be chosen over the weak. Weak seedlings make weak production.

In order to prevent transplant shock - which reduces survival and delays maturation - sow seeds in a pan of soft soil and in 10-15 days transplant into individual containers to be fertigated daily. Crops suitable for the nursery are long term vegetable seedlings of tomato, pepper, cabbage, broccoli and papaya; and marigolds for insect repellent.

These ideas and methods are tried, true, proven, applicable, simple, inexpensive, and productive. So much so, that they have up-graded the course of existence for many people on Planet Earth. To start, it requires just a little today... more tomorrow when you discover how productive and complete it is.

THE END