

## **My theories on microbe technology as a plant food source.**

### **Chapter 1.**

Although not planned and all of a sudden I have decided to write a book on my views and on the mentioned microbe technology as a plant food source to be appearing here at my blog at really no specified time. Just if you will when I have ample time and feel like endeavoring into that subject. As mentioned being unplanned and spontaneous the lay out of this manuscript may seem a bit erratic but I will try to keep it's arrangement as organized as possible.

For chapter 1 I think that we will begin with general principles on how a microbe to the smallest unit of a microbe ecosystem interacts and plays it' s role within the ecosystem of the vegative species of life proceeding first with how a plants actual interaction with the microbes ecosystem as a source of nutrients work.

As according to scientific research and theory when a plant gets hungry per say it releases a hormone of sorts from it's roots which subsequently attract the microbes in the area to the area of it's roots so that the access to the by products produced by the microbes interaction within their ecosystem are more readily available.

And then subsequently produces an ecosystem of a food chain whereat the microbes use the components of the lured released as a food source for themselves subsequently giving them the resources needed for a larger population and subsequently benefitting the plant life with more abundance of the nutrients produced by the microbes interaction in their ecosystem and to extents as theorized by people notable in this field aid the soil by eliminating certain unfreindly pollutions with their nano like activity.

It's theorized that an over use of chemical fertilizers that are designed to feed the plant directly thru roots of which most are could disrupt the natural cycle of a vegative life feeding habits by eventually eliminating the for the lack of better words the hormonal/chemical release factor of the vegative life by the direct feeding of the nutrients thru the roots of the plant meaning with the nutrients of the chemical fertilizer readily available at the roots the plant no longer has to find it's food per say so it stops releasing the said hormone from it's roots. It is also theorized that with no need of the microbes of and as such and with a lower food source available to them they stop living in the soil and subsequent a damage to the ecosystem of the soil itself.

I mentioned the smallest unit of the microbe ecosystem earlier but i think that in light of the factor that there may be more involved than that of what I can see with my limited equipment I think I will keep the microbe variables general and undefined per say as to how many and types of microbes may be involved in the system, per say the actual definitive aspects of size, potency, age etc. but will mainly focus on as I have been their function within the great mechanisms of the foliage species

and how to use microbe technology to benefit your plant life and the sources from where to derive a balanced base stock from which to proplagate a microbe ecosystem; but will tell you that the ecosystem of a microbe organism consist of various types of microbe organisms that surrender themselves to natural aspects of a wild kingdom whereat there are both the predator and the prey species that summize the nutrients used by the plant. Shucks they

have probably been around since the day vegetative life started appearing on the earth and needed a food source and have probably intertwined their existence within the evolution cycle where they appear doing their part within the great mechanisms involved in the said ecosystem or if you prefer gear in a big machine.

Having briefed upon the general aspects of a vegetative life ecosystem and the microbes organism's part within that system I think that the 1st chapter has now come to its end having concluded the objective mentioned and that it is time to move on to

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## **Chapter 2. Microbe sources.**

There are actually several different sources from where a base microbe stock can be acquired from the use of a natural material such as worm castings, kelp, rice and some pre fabricated versions that can be acquired on the market all of which have claims of producing certain types of microbes that are to certain extents beneficial to plant life.

Not having tried all the varieties and their combinations to produce a certain type of microbe pool I don't feel as though that I am qualified to make an assessment as to their effectiveness on a plant but do feel as though I am qualified to assess that most plants derive their nutrients from an area within the reach of their roots and are accommodated by the natural cycle of the ecosystem in that area and the microbes produced by that ecosystem of which some of the sources used as a microbe base may in fact produce microbes that may be beneficial to a plant to the extent intended by that microbe but does it really make a difference. You could probably produce wonderful microbes with some kelp but I say where do you find kelp microbes inland growing naturally in the ecosystem of that soil. You don't. What you might usually find in terms of microbes beneficial to a plant are microbes derived from decomposing foliage, worm castings, rotting flesh and some other sources not listed.

There are also some other aspects involved on how a plant acquires its nutrients that are based on global climate changes and the evolve of a weather system such as wind storms carrying plant beneficials from if memory serves me correct from Africa to the Amazon rain forest which in turn subsequent a chain reaction to a systematic effect upon the contents of our stateside weather to include the nutrients carried and accumulated by that chain reaction of which once again if memory serves me correct the main nutrients carried by those "winds" were those types that could be measured using scientific methods.

I think one of the best balance base source for microbes are worm castings derived from worms which can be found in most soils. As according to science the only measurable onboard nutrient with worm castings is 1% nitrogen all the other usuals such as potassium and phosphate register 0; but darn there is something in worm castings that effect plants the way worm casting do

Although different in their quality and the actual effect that they may have on a plant depending on how farmed and etc. worm casting do indeed prove to be of a positive compliment for vegetative life.

As mentioned the quality/grade of worm castings can differ greatly producing microbes with a

potency correlative to the worm castings quality. Having touched upon the variety of sources from where microbes can be derived of which more information as to the different combinations of base materials and there objective can be found on the net using the search configuration "worm tea" I think that we will move on to

### **chapter 3 - Applying microbes to your plants.**

The actual application of microbes to your plants can be just as easy as the usual manner at which you water your plants dependent upon the microbe base used whether a concoction that you brewed from several ingredients or whether the application of some type of fertilizer or other amendment to a soil there are a variety of ways to actually apply microbes. but of which I think that we will focus mainly on my favorite base for microbes which are worm castings or for you not familiar with that terminology basically worm castings are worm doo doo.

A microbe source that can be applied by mixing it into the soil or by orchestrating a liquid solution that could be used in the same manner as you would normally water your plants.

As mentioned previously not all worm castings are the same and may vary greatly in their potency and quality theoretically due to the manner at which farmed.

I personally construe that worm castings can probably be graded with a quality as you would meats and etc. as per the schedule that follows:

A = Vegetation displays vigorous growth and good signs of health with deep colors within a seven day time period.

B = Vegetation displays good signs of health with deep colors within a seven day time period.

C = Vegetation displays good signs of health with deep colors within a 30 day time period.

D = Vegetation does not necessarily display any signs of a changed physical disposition unless extremely unhealthy but is nutritionally content and maintained with the necessary nutrients for plant survival.

As to knowing what grade a casting supplied by other farmers and vendors may be i think that trial and error may be the course to that answer although for the most part I am willing to bet that most castings you can buy in bulk are outdoor farmed castings and probably average a "C" grade quality.

While we are on the subject let us briefly touch upon the different methods at which worm castings are farmed beginning with:

1. Outdoor farmed worm castings.

A. Worms are on a special diet and the castings are protected from the elements of weather.

B. Worms are on a special diet and the castings are not protected from the elements of weather.

C. Worms are on an unprocessed food diet and the castings are not protected from the elements of weather.

## 2. Indoor farmed worm castings.

- A. Worms are on a special diet and the castings are contained within a covered area that allows for a fermentation of the worm castings but not to the extents of the microbes hatching.
- B. Worms are on a special diet and the castings are not contained within a covered area.
- C. Worms are on an unprocessed food diet and the castings are not contained within a covered area.

Please note that the special diet applied probably varies thru out the worm cast and worm farming industry and will more than likely play a big part in the potency of the completed product.

As for the application of worm castings as a microbe source for your plant as mentioned there are several ways to accomplish such a task such as:

- 1. Mixing the castings directly with the soil - entails the direct application of certain amounts of casting to an area and then sowing the castings into the soil.
- 2. Mixing the castings with water and then watering plants as usual.
- 3. Brewing a worm tea.

Other than that of brewing a worm tea the first two application methods are pretty much self explanatory with the amounts used usually specified by the vendor.

A worm tea entails the brewing of an organic matter over a period of a week or longer in order to multiply the existing population of microbe organisms from the present count into a population of millions if not billions thereby increasing the area coverage and allowable potency of the massive dose produced by the increased population of the microbe organisms.

There are actually several methods at which to brew a worm tea of which a very simple method can be found at my web site at the address <http://correspondence-etc.com/tea.html> or you can browse the net for more information about the different ingredients and methods used to concoct a microbe brew.

Well I think that just about concludes this chapter on how to apply microbes to your plants and coming soon will be chapter 4 The different methods at which to use my favorite user friendly worm casting product - Wayne's microbe rich 100% organic plant foods. See ya then.

## **Chapter 4. Plant Behavior Concepts.**

Rather than elaborating upon the different methods and types of The before mentioned plant food I think that i will first touch upon the theories of plant behavior relevant to different exposures to the elements of nature to include nutritional exposure to the extent of when does a plant acquire nutritional satisfaction or if you will "when is a plant full and not hungry anymore.

We can feed a plant massive amounts of plant food if so allowed by the plant food used but the question remains how much of that plant food is the plant actually using - could less be applied and acquire the same results or can more be applied to accomplish a larger plant and fruit of which the main variables involved although not the only variables involved are the aspects of light exposure.

As according to science the more light that is available the more a plant can accomplish it's transitions such as photosynthesis and otherwise therefore rendering a plant unto limitations as to how much food it will process as per the light exposure mentioned therefore the satisfaction of the plant being 'full' would differ thru out the light exposures involved.

How can we truly tell when a plant is full. Are there any indicators in the plants growth cycle that would signify such satisfaction other than the process of trial and error using probably several plant species and types of plant food.

The plant may seem very healthy and producing large fruit but could it produce an even larger fruit with the ample light exposure and quantity and quality of plant food used.

Unfortunately unless equipped with the right resources to measure such matter those questions could for awhile remain a mystery. Upon the cellular level a scientist would need to be able to measure growth activity in correlation with the light exposures and foods used.

Touching upon some of the main conditions needed to set the course for the plants previously mentioned "full" state other main variables involved are:

1. Soil - a good soil is:

- a. Has good drainage quality but retains moisture.
- b. Is not muddy and compacted.
- c. Pre treated with amendments or self treated with amendments when reusing as soil or when using other than a market soil as a root area growth area just to hold the plant up. (more on this later under methods)

2. Container size - The larger the container the more area there is for root growth therefore allowing for a larger plant. Some variables involved are as follows:

- a. Plant species - how large is the plant genetically capable of growing. If the plant has a large growth genetic ability a larger container would be recommended to curtail the limitations of root area and growth that a smaller container would unless of course the objective is to control the physical disposition of the plant in regards to height and width, bushiness etc.
- b. Container type: Although not crucial to the end results of the plant but may play a part in it's final disposition; the type of container whether plastic, whether tin or whether a composition of biodegradable materials a container may to certain extents have an effect on the plant mainly I construe during times of an actual plant transfer into other areas and/or containers by alleviating the root stress that would be caused by a plastic or other than a biodegradable container when the plant is removed from the container to transplant it; in contrare to a biodegradable container that is inserted directly into the soil without first having to remove the plant.. the alleviation of the stress that a plant may encounter may have a dramatic effect on a plant's growth cycle. One of the main objectives of effective plant growth is to keep the plant from suffering too much stress such as soil getting dry and the plant having to search for water; lack of nutrients in the soil rendering the plant unto a condition of having to search for food using it's root system that may already be to certain extents stressed by the limitations of the container. But there again to certain extents stress is good for us it wakes up in the morning, it keeps us on our feet. It is when it turns to distress that it becomes bad for us and I am willing to lay odds to certain extents that may apply to plant and other life as well meaning to certain extents an application of stress to the plant might very well be a help especially if an out door plant whereat stalk size and other strengths are necessary to combat the elements of nature such as the wind. I guess the big question would be when is the appropriate time to apply that stress summarized with probably a question left answered

by the environmental variables involved.

3. Lighting: A crucial part in the growth of a plant the lighting involved dictates to what extent a plant can proceed with it's regeneration (photosynthesis & otherwise) of food sources into a viable nutrient for the plant summarizing the more light available the more the plant can process and transpond into the viable nutrient mentioned and then thereagain rises the question when is it that a plant has reached it's state of being full and stops per say eating. Can the "full" state of a plant that is grown in the tremendous light of the natural day and sunlight be measured in terms of can it eat more and perhaps produce a larger plant and/or fruit. is there enough light available to produce even more of an effect within the plants regenerative structure or is there such a lack of light that the plant is diminished and subsequently limited in it's regenerative ability.

Lighting to certain extents also effects the biological clock of the plant implementing certain stimulations such as the spring blossoms when the days are longer or perhaps a fall blossom effect when the day light hours are shorter as the correlative plants bloom there seed pods for the next springs use.

Considering all the lighting options available both natural and sold on the market the science of light application as mentioned plays a big part in the growth of a plant.

More details as to the actual growth cycle attributable to different species of plants can be found by searching the internet.

Well having touched upon some plant behavior concepts unless I think of anything in between now and the release of the next chapter I think that i will move on to as previously planned; The different methods at which to use my favorite user friendly worm casting product - Wayne's microbe rich 100% organic plant foods. See ya then.

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## **Chapter 5. Methods of use - Wayne's microbe rich 100% organic plant foods.**

Processed from a grade A+ worm casting that I especially farm for the purpose of making my plant food the selections available can be applied using several methods of which following as according to the selection type are some of the methods at which to implement this user freindly worm casting product as a food source for your plants.

1. Microbe brew tablets: Purposed for the objective of a plant food source using a direct application of proplagating microbe organisms produced by the balanced based stock of organisms contained in a microbe brew tablet by "brewing" the tablet over a period of time in order to increase the massiveness of the dose applied at the time of plant feeding. see <a href="http://correspondence-etc.com/tea.html" target="\_blank"> how to make a microbe brew </a> for instructions on how to acutally make a microbe brew using Wayne's microbe rich 100% organic microbe brew tablets.

After completing your brew some application methods are as follows keeping in mind that the soil will have have to be somewhat moist in order to maintain the microbes:

### **A. Plants house and outdoor.**

1. Slightly moisten container soil if dry before applying brew.
2. apply approxiamatley 2-3 shot full glasses of the brew to containers 1.5 gallon and less and approxiamatley 4-5 shot full glasses of brew to containers larger than1.5 gallon and less



than 3 gallon. You could simply saturate the soil without the concern of hurting your plants but with house plants you may not necessarily want a vigorous growth such as with a fruit bearing plant; that massive of a dose would not be necessary noting that the microbes will continue to prolagate in the soil.

For containers larger than 3 gallons use the amount necessary to saturate the soil 1/4 to a 1/2" deep and then water to saturate/moisten the rest of the soil keeping in mind that the more microbes that are planted the more the center points from which the microbes will continue to propagate the microbe population currently present.

#### B. Fruit bearing plants and trees to include other than fruit bearing trees.

For the most part the objective sought for in a fruit bearing plant or tree is to produce a larger fruit with the appropriate care usually compensating for soil deficiencies when rendering this care using various forms of amendments to include chemical and natural fertilizers of which several if not most especially natural manures and chemicals when not used correctly can harm a plant so the limitations construed by such amendments would also limit the extent to which a producer can experiment with and strive for that larger fruit of which fortunatley with the plant food that I produce the limitations are non existent so thereby are the boundaries of quantity experiments also dissolved leaving a producer/plant grower/farmer more leniency when trying to accomplish that larger fruit the only known limits are that as according to the actual potency of the nutrients produced by the microbes; thereby I construe that the more plant food the better when trying to accomplish a larger fruit once again limited only by the other environmental variables involved and some previously mentioned. As follows are some reccomended doses when applying a microbe brew to your regular trees and to your fruit bearing trees and plants. Rather than defining the diameter size of a tree in the course of accomadating an appropriate dose of brew the trunk reference to be used will be that of:

1. Small Trees: One gallon of microbe brew solution placed around the trunk base.
2. Medium Trees: 2.5 gallons of microbe brew solution placed around the trunk base on each side of the tree = 5 gallons per tree.
3. Large Trees: 5 gallons of microbe brew solution placed around the trunk base on each side of the tree = 10 gallons per tree.

The dose applied can be added to or taken away from depending on the condition of the soil whether extremely packed and clogged for a good saturation into the soil surrounding the tree or whether loose and airy allowing for a non resistive saturation into the deeper parts of the soil; and also depending on the objective as to the prefered accomplishment of a larger plant and/or fruit remembering that the main idea is to saturate the soil with an ample amount of microbes to accomadate the larger plant life and also keeping in mind that they will continue to prolagate in the soil.

In summary for the most part the dosage applied to either indoor or outdoor plants can be experimented with without the concerns of hurting your plants.

A Tip: You do not have to necessarily use 1 microbe brew tablet per gallon when brewing multiple gallons keeping in mind that the microbe proplagate by splitting into two or more parts. An ample dose for a 10 gallon microbe brew to compound a brew saturated heavily with microbes would be about 5 one gallon microbe brew tablets you could use fewer tablets or other microbe stock material but the microbe saturation would not be as heavy in a five day period as would the reccomended 5 tablets per 10 gallons of brew or you could brew the concoction longer to allow for more microbe proplagation or you could use existing microbes to recontinue a brew but there may come a period when the microbes per say get older and start to lose their potency a time period of which I am not sure of but am willing to lay odds according to some minor experiments a thirty day period would not be too long.

Sometimes I myself use a 35 gallon trash can to make my microbe brew of which as according to the time frames mentioned you could use 17 or less tablets to concoct a 35 gallon brew that you can centrally feed your plants from. Keep in mind anything over a one week brew will more than likely have to have an air source added to it to keep other unwanted microbes from forming.

Another Tip: use a hose attached bottle feeder to spread microbes thru out your yard. Any measureable onboard nutrients such as the 1% nitrogen confirmed by sceince may become diluted but the microbes themselves will be planted and will continue to do their work in your yards soil

2. Powdered. Purposed as a user freindly worm casting product which can be used as per the instructions on the back label at one packet per gallon - shake well and then water your plants trees as usual and the powdered form of the casting product will seep into the porous area of the soil. the same watering schedule shown with the microbe brew tablets should be used on trees at one packet per gallon of water or you could also brew the powder at about 2-3 packets per 5 gallon of mixture but the brew tablets would prove to be more cost feasible At 2-3 tablets per 5 gallons of water.

3. Turd: Purposed as a user freindly quick acting worm casting product which can be used as per the instructions on the back label at one kidney bean size pinch per 1/2 gallon of water - shake well and then water your plants as usual and the diluted mix will be absorbed into the soil and the undiluted particles will seep into the porous areas of the soil and begin their work from therein.. Reccomend slurry first for a better dilution into the water. the same watering schedule shown with the microbe brew tablets should be used on trees at two kidney beans per gallon of water or you could also brew the "turd" material at about 4-6 kidney bean size chunks per 5 gallon of mixture but the brew tablets would prove to be more cost feasible At 2-3 tablets per 5 gallons of water.

### **Some other concepts of use:**

1. Powdered version as an inline food source for farm fields with large watering systems. Perhaps gravity fed coupled inline.
2. Microbe brew tablets/pellets of various size scattered in a farm field while plowing for farms that rely on rainfall as a watering system which should in turn amend a farmfield for a growing season as long as there is some rainfall or other water source and also as thus far summarized dependent on the actual pellet size.
3. Microbe brew tablets/pellets of various size scattered in a farm field while plowing for farms that would like to fortify the nutrition content of their soil with this concept in addition to the inline watering system.
4. Turd piece in an auto dispenser that connects to garden hose and sprinkler for lawns and small farms. ( I actually have a prototype of this that I use in my own yard and am considering manufacturing some for sale. Be sure to check back now and then if interested.)
5. Microbe solution filled into a watering truck to treat large areas.
6. Turd solution filled into a watering truck to treat large areas.
7. If I think of any more I will get back to you.

Other than some cost variants that may be involved I see nothing but positive results subsequenting from the concepts mentioned above that is treating the soil with a naturally occurring element that will help to maintain a plant, lawn or farmfield as well as the ecosystem of all the appendages that may be involved with the inclusion of a matter into the soil.

Thank You

Wayne

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The end ?

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