

"Do It Yourself Homemade Plant Fertilizers."

Making your own nutrients should be exciting. I know I get all crazy when it comes to feeding my soil and you should too. When you uncap a bottle of your own nutrients, or feed with one of your fresh botanical teas, you experience a really cool feeling. That feeling is one of self-sustainability and pride. Sometimes I catch myself talking to the plants like pets... and feeding them better than I do myself.

I won't get too weird on you just yet, but if your plants are spoiled like mine are, then you and your plants will both love using homemade nutrients. It's like switching from Fast food to Super food!

Now it's time to decide which is best for you: Fresh vs. Fermented

Fresh Botanical Teas:

Utilizing The Water Soluble Constituents of Dynamic Accumulators

When you want the secondary metabolites, plant growth hormones, and nutrients of Dynamic Accumulators this is the way to go. When you know that your soil is already full of all the Major nutrients. These teas will supplement your grow and act as a booster to plant health and vigor without being overpowering. These typically use dried plant meals or fresh plants as the main source and will have small particles of the meal present in the water when used. Once the Botanical tea is drenched into the soil, the microbes will go to work on the particles and left over material from your fresh botanical tea, unlocking even more material. This method is often used because top dressing with straight plant material will often cause burning of the plant and unwanted problems, but a quick soak in water and you can now drench the soil with the strained water that is now full of the water soluble parts of the plant we were soaking. By doing this we can access living nutrients that aren't available in any bottled product.

Making a botanical tea typically involves using dried plant meal, but can also utilize fresh growing tips of plants. The desired plant material is then soaked for 24-72 hours and then used right away. Use of an air-stone to bubble the water is preferred but not necessary. It's mainly to keep the plant material in motion, so you could always just stir it every once in awhile. I will go into detail on the entire process soon.

Fermented Plant Extracts:

Most of the so called “organic” liquid fertilizers on the market are simply a fermented plant extract done on a commercial level. There are several reasons why making your own is better than buying the stuff on the Hydro-Shop Shelves.

- 1. You will have a better product for pennies on the dollar.**
- 2. You can hand select the plants being used. In that way you can make a special FPE for almost any situation, from Veg to Flower, and in-between.**
- 3. You can do this all cold without adding any high heat like most of the fertilizer companies do. Think of it like getting premium first cold pressed Olive Oil compared to cheap chemically extracted stuff.**
- 4. You won't have to add any preservatives whether natural or not, these preservatives harm the overall final product and you won't have to add any! Your home made FPE can sit on the shelf for up to 1 year and sometimes longer all on its own.**

“FPE” or Fermented Plant Extracts are one of the stronger forms of organic fertilizer available to any gardener. The final product should be used a dilution rates of 1:500 or 1:1000 and will be very strong.

Which Plants To Use? (This information applies to both methods)

Now that you understand the difference between Botanical Teas and Fermented Plant extracts better I want to share some information about the types of plant material you will want to use for your nutrients.

Most of the plants that I prefer to use fall under the category of Dynamic Accumulators.

Dynamic Accumulators are the heavy hitting plants that contain all of the major nutrients in them as extracted from the soil they grew in and the air that surrounds them. Some plants are even called “Hyper Accumulators.” Many of these plants grow fast and when they die, they release nutrients and nitrogen back into the soil to help continue the cycle. Here is a list of plants and the basic nutrients they contain within them. This list will help you in choosing what to do with a particular plant, or in finding a plant with a particular nutrient that you require.

[Download the Free Excel Spreadsheet –Click Here!](#)

Data Source:		http://web.archive.org/web/20130126052424/http://www.ars-grin.gov/duke/ http://www.ars-grin.gov/duke/												
		Macro (primary) nutrients			Macro (secondary) nutrients				Micro (trace) nutrients					
		(N)	(P)	(K)	(S)	(Ca)	(Mg)	(Si)	(Fe)	(Mo)	(B)	(Cu)	(Mn)	(Na)
Malva neglecta	Common Mallow	4,200												
Malva sylvestris	High Mallow	3,300	5,000			10,715			440					
Chenopodium album	Lambsquarter		36,833	87,100		33,800			250				250	
Amaranthus	Pigweed		10,082	73,503		53,333	6,616		1,527			19	2,406	
Urtica dioica	Stinging Nettle		6,800	37,220	6,665	33,000	8,600	6,500	418		36	15	172	491,400
Allium schoenoprasum	Chives		6,437	31,250		10,375	6,875		200				750	
Verbascum thapsus	Mullein		5,700			13,300		74	2,360				760	
Taraxacum officinale	Dandelion		4,583	27,569	3,300	13,000	2,500		5,000		125	12	130	5,278
Artemisia vulgaris	Mugwort		3,150	22,000	2,800	6,455			118			20	170	
Borago officinalis	Borage			67,210		5,005								
Trifolium pratense	Red Clover						8,100				23	18	464	
Helianthus tuberosus	Jerusalem Artichoke											30		
Chrysanthemum parthenium	Feverfew		39,385			5,810	2,400	46					81	48
Scutellaria lateriflora	Scullcap		21,800			4,550	1,130	48	250				47	160
Origanum vulgare	Oregano		18,647			18,794	3,016		598			9	47	205
Stellaria media	Chickweed		18,400		3,828	12,100	5,290	157	2,530				153	1,470
Equisetum arvense	Horsetail		18,000			24,000	4,370		1,230				69	560
Achillea millefolium	Yarrow		17,800			8,670	1,920	45					50	82
Cichorium intybus	Chicory		37,128			18,900	2,652		246					1,428
Salvia officinalis	Sage		24,700			17,957		31	305		41	8	31	1,080
Portulaca oleracea	Purslane				6,300									7,400
Oenothera biennis	Evening Primrose					23,400	3,900							
Thymus vulgaris	Common Thyme					16,700	4,360	202	1,508		48	9	79	1,490
Calendula officinalis	Calendula					30,400								
Rheum rhabarbarum	Rhubarb					14,400			250					
Rumex crispus	Curly Dock					10,000								
Symphytum officinale	Comfrey		242	1,870		1,980	77	1	1.3				0.6	12

The above table was created using [Dr. Duke's Phytochemical and Ethnobotanical Databases](#)

Using the Above table you will start to notice right away that plants contain very different levels of nutrients depending on what type of plant they are.

If you are hoping to make a Fermented Plant Extract for the flowering phase of growth what would you do?

I would probably choose Stinging Nettle, Mugwort, Dandelion, Chives etc. because the numbers they display in the Potassium and Phosphorus areas are off the charts. While it is important to have the basic Macronutrients that will create larger flowers, we cannot afford to forget about the secondary metabolites and other reasons to use a particular plant.

Here is another website to visit that will allow you to read more into each plant as you make a nutrient from it.

[Dr. Christopher's List of Single Plants](#)

If you have some time today, read about Comfrey, I think you'll be surprised how much that single plant has to offer for human health and plant food.

Just make sure that if you grow your own, you look into the Bocking 14 comfrey cultivar that won't take over your entire yard.

[Which Part of the Plant to use?](#)

Now that you know how to identify which plant to use, how do you choose the right part of the plant, and where do you find the plants?

Method #1:

Go on a nature walk around your house or somewhere nearby where there is an abundant amount of fresh and wild growing native plants. Choose an area where the plants are growing in healthy soil that way you can have confidence that there are many nutrients in the plant tips you end up cutting.

If you happen to notice a wild patch of Stinging Nettle, comfrey or really any fast growing healthy plants, then you should harvest them. But you won't need the whole plant. You only require the fresh green tips of the plant, the youngest and most tender part. There are several reasons to choose the growing tips. Some say that you should use the flowers if you want a flowering nutrient and use the green growth if you want a vegetative nutrient. You can decide for yourself by using the spreadsheet

I linked above. In the spreadsheet you will notice a number of pages on the bottom that you can select. In the sub-pages you will find the plant species broken down into parts of the plant. Sometimes the roots are best to use, sometimes the green growth is the best. Ultimately you will have to decide for yourself and experiment with what works in your garden. But from experience, most Korean natural farmers use the green growing tips of the plant.

Method # 2:

Go to the grocery store and purchase some organic veggies and fruit to use for your Fermented Plant Extracts.... This works if you live somewhere where there aren't many plants available immediately around you, or in winter when it's snowing and not many healthy young plants are growing.

Method #3:

Grow your own Dynamic Accumulators and harvest them whenever you want to make your nutrients. Grow them in fertile soil with plenty of nutrients and minerals for them to use.

Method #4:

Use a dried plant meal like Kelp meal, Comfrey Meal, Alfalfa Meal, Neem Meal etc.

Method #5: Slowly becoming my new favorite. Grow your own sprouts! And then use the sprouts to make your FPE or Botanical Tea. Try Alfalfa sprouts. They are awesome.

How to make a Botanical Tea

Items Needed:

5 Gallon Bucket with Lid

Fresh Pure Water

Plant Material to Soak

Optional Items:

1 or 2 Aquarium Air stones

Cheap Aquarium Pump

How to make:

Fill the bucket with 4 -5 gallons of water and toss in some plant material. Bubble the water or stir occasionally for 3 days. You can use a botanical tea after 24 hours if you require it. But it will only get stronger up until around 3 days. I typically don't want to go longer than 3 days because without fermentation it won't get any stronger and if fermentation is happening, I would rather use the Fermented Plant Extract Methods.

Here is an example of a recipe that I use all the time

Alfalfa Kelp Tea

1 Cup Alfalfa Meal

½ Cup Kelp Meal

Soak for 3 days in your bucket of water and use right away at full strength on full size plants and at ½ or ¼ strength on smaller plants. I notice an impressive boost of growth after applying this tea even 1 time. Strain before using and toss the left over alfalfa and kelp into your worm bin or compost pile!

How To Make Fermented Plant Extracts

- 1) We harvest the fast-growing leaves of plants such as comfrey, stinging nettle, mugwort, or vegetables just before dawn, when the growing tips are believed to have the highest concentrations of growth hormones. That is why I also recommend using Home Grown Sprouts.**
- 2) Dirt, insects, and other contaminants are removed by shaking or brushing. NO WASHING. Washing will remove many of the beneficial bacteria that we will require to get fermentation. (Use Lactobacillus Serum if you are using sprouts or meals etc.)**
- 3) The harvested vegetation is weighed and set aside.**
- 4) An equal amount, or up to 2/3 more, of high quality brown sugar is weighed out. Some will use Molasses.**
- 5) The vegetation is finely chopped and layered with the sugar in a clean crock or bucket.**
- 6) The material is then weighted down with a weight or “press.” Some use a brick, some use a black bag of water for a weight. (I don’t do this in small fermentation batches)**
- 7) We remove the press after 24 hours and cover the container with a breathable, natural fabric, securing it with a large elastic band. If you don’t have a breathable fabric then poke holes in your lid or don’t screw the lid on all the way.**
- 8) It is placed in a dark location. Ideal ambient temperature should be 65°–70° F.**

9) After about one week, the brown, syrupy liquid that accumulates is drained off and stored in a glass container in the refrigerator. (We understand it can be stored this way indefinitely but choose to keep it for 1 year at the longest)

10) Fermented Plant Juice can be used as a foliar spray, diluted at about 1:500 (about one ounce to four gallons) with water and other spray nutrients.

11) Apply foliar sprays only in the coolest parts of the day to be effective. In the past, we've felt that early hours of the morning were best.

Here is an example of a Miniature Fermentation project that Patrick over at gilcarandang.com was kind enough to blog about.

[GilCarandang.com](http://gilcarandang.com) Blog info:

I have two balconies in my little urban apartment. One holds my urban garden while the other is an eclectic mix of plants, animals, experiments and other weird stuff I'll talk more about later. In this space, I have limited plants to choose from. I won't end up with a kilogram of plant material to work with, more like a couple grams.

But even in my small farmyard, I've noticed some fast-growing weeds, and even cultivated them a little to make my "micro-extract". These fast-growing vines will be perfect for my growth promoter extract:



You want to select the fastest growing part of the above-ground plant – the tips. So now I select the growing tips:



Once I've cut a bunch of tips, I'll have a lot from each plant. Still nothing compared to what you would find on a "real" farm.



Now to put them in a little container. TIP: You can find little plastic containers pre-labelled at just about any pharmacy anywhere – specimen jars! They make perfect mini-fermenters



Now that I have all the plant material in the container, I pulverize it a bit to break down some of the tougher material . This step isn't necessary but I think it helps with extraction.



Add 1/3 part sugar, in this case molasses, the favorite sugar source of natural farmers here in the Philippines. I didn't measure this out, just eyeballed it. I'm a farmer! If it'll get the job done, it'll work.



Now add the secret sauce. You don't have to do this but it greatly speeds up/enhances fermentation if you do. Add a couple drops of lactobacilli serum. Don't need much at all especially in a container this size



Finally, fill with water. Fill to near the top, screw the cap on but don't seal it as some gas will form during fermentation. Then date and name it accordingly on the handy little label that came on the container.



This will be good for a few feedings later on when I need to fertilize and want to add some growth promoting hormones, enzymes, etc.

You can tighten the lid when you see bubbling stop after several weeks. You will also notice the smell as it finishes fermenting. It should smell a bit like vinegar. That is the acid that is a byproduct of fermentation. Here's what it looks like after 3 weeks:



This was stored in a dark place and just left alone with the lid cracked for 3 weeks. I checked it periodically, you will see the bubbles on the sides each time you check, signs that it is indeed fermenting. I would usually tighten the cap and give it a shake but this isn't necessary really. After 3 weeks (actually a lot sooner this time, but leaving it longer doesn't matter), you'll stop seeing bubbles on the sides, and the smell will be like alcohol/vinegar/sour – the fermented smell.

There you have it, your own little mini-extract! The whole process takes 5 minutes and I end up with a great product. I'll mix this with my homemade fish fertilizer, and use that on the garden when I want to feed in the future.

The fish fertilizer provides the Nitrogen while this extract provides the growth promotants. Great combination.

Here is a link to making the [Fish Fertilizer](#)

Those familiar with the Grow recipe will notice that I added water, where the recipe doesn't call for adding water. That's how I adapted the recipe for this small scale use. It will be a little more diluted than if I hadn't added water, but there wasn't enough plant material to do it that way. As long as you stick to the principles of the recipes, you can adapt them depending on your situation, like substituting pumpkin for papaya in the bloom recipe, or snails for fish in the fish fertilizer recipe.

Check out more cool stuff from Patrick over at GilCarandang.com

Supplemental Tools to use with Botanical Tea and FPE

Now that you are aware of the different methods available for making your own plant nutrients I want to touch on a few beneficial ingredients that can really ramp up the overall health of your plant and its productivity.

Aloe Vera:

You can use the Fresh Leaves, or you can use Freeze Dried Powder in 200x pure form. Aloe Vera has saponins and salicylic acid. When you are finished mixing up a fresh botanical tea I like to add about ¼ Cup of Fresh Aloe Vera Juice per Gallon of water. This will help keep the moisture in the soil and also increase the health of the roots and plant. Some growers report that Aloe foliar sprays help with intense heat and indoor lighting.

Coconut Water:

I will have a whole Blog Article about coconut water. But the coconut is basically a large drupe (Kind like a Seed) and the liquid inside has enough growth hormones and enzymes to support the growth of an entire baby tree... so it will have MUCH to offer your roots and plant in the soil. I like to use freeze dried organic coconut powder but you can easily purchase this as a young coconut at the health food store or asian market.

Ful-Power – A liquid Humic product from Bio-Ag

This product is one of the last bottles I'll use because making your own isn't exactly easy. Humic and Fulvic acids assist with the uptake of nutrients and are the building blocks of good compost and good soil. Using a liquid version FUL POWER from Bio-Ag you are adding an incredible boost to the efficacy of your Tea solution.

Example of how to use these add on products:

Alfalfa Kelp Botanical Tea:

1 Cup Alfalfa Meal

½ Cup Kelp Meal

Put into a 5 gallon bucket of clean water and let bubble for 36 hours.

Once finished add:

1 cup aloe vera juice

1 cup coconut water

5 oz. Ful Power

That recipe is a WINNER!

If you haven't already watched our video on how to make your own Lactobacillus Serum You should check it out!

How To Make Lactobacillus Serum

Click Here

Brought to you by:

<http://www.youtube.com/user/BuildASoil>

Conclusion:

Start making your own Botanicals and FPE's today!

Why would you ever go back to buying bottled nutrients again? The really cool thing is that these recipes only take a few minutes out of your day to make and use, especially once you have the science down. I really like to use a special tea at least once per week, but sometimes I only get around to it twice per month. Tinker with this information and work at it until you have your own recipes and concoctions. Just keep the principles the same and follow the basics. Ultimately if your plant is growing healthy, then we are only providing these supplements as a way to boost the overall yield and quality of our final product. When we give the our soil and plants the most stress free environment in which to produce fruit and flower, we will see a tremendous increase in productivity!!!

Please share this information with everyone you know and don't feel bad about editing the text or giving it away for free. Of course, if you sent them over to my website and had them register for our newsletter that

would make me really really happy! And then I will personally send them a copy of this Free Report.

Happy Growing,

Jeremy Silva

www.BuildASoil.com

855-877-SOIL

P.S. The ultimate goal of the No-Till Grow is to eliminate all of these nutrients and have a soil that is full of life, but in the beginning these recipes will serve you well. If you have questions about how to eliminate all of your supplementary fertilizers, feel free to email me personally at Jeremy@BuildASoil.com