

Back to Eden Gardening? Part ONE (Super Mulching)
Hell, I Just Want to Grow the Best Organic Veggies . . .
With the *Least* Amount of Work!
November 23, 2022

Alright let me get a few things out of the way, right off the bat. Yes, I did in fact survive on a deserted planet by farming in my own shit! Yes, it's actually worse than it sounds . . .

The other question I get most frequently is: When I was up there, stranded by myself, did I think I was going to die? Yes, absolutely. And that's one you need to know, going in, because it's going to happen to you . . .

At some point, everything's gonna go south on you . . . everything's going to go south and you're going to say, this is it. This is how I end. Now you can either accept that, or you can get to work. That's all it is. You just begin. You do the math. You solve one problem . . . and you solve the next one . . . and then the next. And If you solve enough problems, you get to come home. All right, questions?

~ Matt Damon in *The Martian* (2015) Movie

Farming in *shit*?

When I was growing up in Shanghai in the late 60s and early 70s, that's exactly what my parents, aunt and uncle did. I remember an amusing incident when I was around 4 or 5 years old. I was riding my tricycle and the son of my milk mother, who is slightly older than I, wanted to impress me.

In our backyard, there is an underground fermentation tank for human excrement and urine. We let the mixture ferment before taking buckets of that golden sauce and use as organic fertilizer on our vegetable gardens. The rectangular tank, open on top, is normally closed by a piece of wood board. The young boy decided to uncover the tank and jump over it . . . lengthwise. As soon as he leaped off the edge of the tank, he immediately plopped into this swimming pool of shit!

Imagine the surprise and the horror that I was experiencing at that moment! To this day, I still have no idea what he was experiencing at that same moment. I rode my tricycle as fast as my little legs could move to the front of the house where my mother, my milk mother and my aunt were sitting peacefully and chatting. Tried as I may, I couldn't get the words out of my mouth. I just pointed to the backyard . . .

Luckily, the fermentation tank wasn't too deep and we had an outdoor washbasin in the front of the house. The young boy, rescued from his embarrassing predicament and covered in fermented shit and pee, was washed clean of both.

That was a really fun day that I almost forgot until that Matt Damon quote above reminded me of it. I was really impressed.

If you haven't seen the movie, *The Martian* (2015), you should watch it. It's *Apollo 13* (1995) plus *Cast Away* (2000) with a whiff of *Iron Man* (2008) starring not Tom Hanks nor

Robert Downey, Jr. but Matt Damon. It's a great movie with a great message for these very trying times. Incidentally, it's probably the last time Hollywood featured China in a positive light. A watershed moment and historical marker in China-USA relations.

This article, however, is NOT about farming in shit.

This article is about gardening (and small scale farming) to grow the best vegetables and fruits with the least amount of work. However, there are no free lunches. But if we work wisely and lay the correct foundations at the beginning, gardening can be both fun and easy.

What we are going to talk about are two fantastic methods that allow us to grow *nutrient-dense* vegetables, fruits, nuts, grains, and trees with the least amount of human labor possible: (A) Super Mulching and (B) Rock Powder. However, due to the rather lengthy nature of both gardening methods, Rock Powder will be discussed in a future article (Part TWO).

Super Mulching Queen

The Queen of the Super Mulching method of gardening is Ruth Stout aka the "Mulch Queen". In the February/March 2004 issue of the Mother Earth News, Ruth explains her gardening method [bolded emphasis are all mine]:

*My no-work gardening method is simply to keep a thick mulch of any vegetable matter [hay] that rots on both my vegetable and flower garden all year round. As it decays and enriches the soil, I add more. The labor-saving part of my system is that **I never plow, spade, sow a cover crop, harrow, hoe, cultivate, weed, water or spray.** I use just one fertilizer (cottonseed or soybean meal), and **I don't go through that tortuous business of building a compost pile.***

***I beg everyone to start with a mulch 8 inches deep;** otherwise, weeds may come through, and it would be a pity to be discouraged at the very start. But when I am asked how many bales (or tons) of hay are necessary to cover any given area, I can't answer from my own experience, for I gardened in this way for years before I had any idea of writing about it, and therefore didn't keep track of such details.*

*However, I now have some information on this from Dick Clemence, my A-Number-One adviser. He says, "I should think of **25 [bales of] 50-pound bales as about the minimum for 50 feet by 50 feet, or about a half-ton of loose hay.** That should give a fair starting cover, but an equal quantity in reserve would be desirable." That is a better answer than the one I have been giving, which is: You need at least twice as much as you would think.*

<https://www.motherearthnews.com/organic-gardening/ruth-stouts-system-for-gardening-zmaz04fmzsel/>

It's a good thing that the Mulch Queen is not religious nor fanatical about her advice. Right off the bat, my experience with using baled hay (alfalfa) is that I needed 4 times her recommendation of 25 bales of 50-pound each (22.7 kg each) to cover an area of 50 feet by 50 feet (15.24 m by 15.24 m) to achieve a *compacted mulch* close to 4 inches (10 cm). When I say "compacted mulch", I mean I don't try to loosen the compacted hay taken from the hay bales when I place it on the ground.

In metric units, her above recommendation translates to approximately 2.5 kg of hay per square meter of surface area to get 20 cm depth of coverage (*loose mulch*). My experience is approximately 10 kg of hay per square meter of surface area to get 10 cm depth of coverage (*compacted mulch*).

Just to make sure that it's clear, Ruth's recommendation of starting out with 8 inches (20 cm) of *loose mulch* is equivalent to my 4 inches (10 cm) of *compacted mulch*. That's because loose mulch will settle and eventually compact over time.

Before she discovered this Super Mulching method, Ruth did what everyone else did (and are still doing) for almost 15 years: She hired a plowman to plow her gardens each year. Today, the plowman is the tractor. She used chemical fertilizers, pesticides and herbicides . . . the whole works of modern chemical gardening or farming. Then one day in an early April when her plowman was later again, a little voice from her asparagus plant told her that she didn't need to plow the soil . . . go ahead and just plant the seeds in the soil.

That's what she did and the rest as they say, is *herstory!*

Ruth Stout's amazing story and her fantastic vegetables are told in a rare YouTube documentary that I highly recommend everyone to watch:

<https://www.youtube.com/watch?v=GNU8IJzRHZk>

Back to Eden Film

If there is a Mulch Queen, then there is somewhat a Mulch King and his name is Paul Gautschi, a Swiss-German American. He is a religious nut. My sincere apologies to all the religious and nuts out there.

Mr. Gautschi discovered the miracles of using free wood chips, the chipped branches from pine and other trees which also includes greenery. His is an amazing story and a recent film was made about it called, "Back to Eden".

If you are religious, that's great. This film is made for you.

For those who are not religious, let me say a few words about Mr. Gautschi. He is an evangelical Christian and extremely religious. He basically turned his gardening method, which is a slight variation of Ruth Stout's gardening method, using wood chips instead of hay, literally into a religion and they made a film out of it. Some of the things he says, on and off camera, are utterly ridiculous:

He predicted that Jesus Christ was going to return in 2017. That worked out really well . . .

He says that in nature, the ground never freezes in winter because it's always covered . . . It's good thing that he lives in the Northwest region of the USA and not in Montana or Minnesota where I have survived for 4 and 2 years, respectively.

He says that when his wife, who is a nurse midwife, was in Russia, there were no green vegetables there. I guess those nasty, brutal Russians don't like spinach or broccoli like the late Bush Senior.

Now, having said all those negative things about Mr. Gautschi, the 2011 film "Back to Eden" actually gives very solid and scientific explanations on WHY and HOW covering the soil with a thick layer of wood chips (or hay or whatever that is organic) really works. I highly recommend everyone to watch it, and, if you need to, hold your noses or plug your ears when the religious lessons come on. Some people might get turned off by the heavy preaching and ***I want to make sure that everyone watches this film in its entirety:***

<https://www.youtube.com/watch?v=6rPPUmStKQ4> (English version)

https://www.youtube.com/watch?v=Nav7cYO5g_w (Spanish subtitles)

Hopefully, you have watched both videos in their entirety. Let's talk about the mechanics of Super Mulching.

Super Mulching Mentality

Before we dive into the mechanics of this life-and-death topic, I want to share with you a few rules of engagement that I call Chu's Three Commandments (CTC):

Don't turn these gardening methods into a religion.

Don't trust anyone's advice, but try and verify.

Don't give up if at first you don't succeed.

The 1st CTC is really about being flexible and not rigid in the application of these suggested methods. For example, if you need to *rototill* your gardens *initially* to get rid of the grass, then do it. The micro-organisms, unlike some human beings, are very forgiving. If your mulched gardens need watering, then water. If you need to use some fertilizer, like Ruth Stout using cottonseed or soybean meal, then add some. If you don't have access to wood chips, then use hay. If you don't have wood chips or hay, then use cut grass or pine needles. So forth and so on.

Be flexible.

The 2nd CTC is based on the premise, *trust but verify*. Most people in the West, especially in the USA, believe that the actor Ronald Reagan came up with that interesting phrase during arms negotiations with the Soviets. In truth however, that phrase is an old Russian proverb rhymes, *Doveryai, No Proveryai (Доверяй, Но Проверяй)*. For us, it means to try these methods and see if they work or not. If it works, great. If it doesn't work, maybe some adjustments are needed to make it work. And this leads to the third and last CTC.

The 3rd CTC means that you try and try and try until something works for you based on your local situation and climate conditions. Think of gardening to grow organic food as a life-and-death issue during these very trying times. Be ahead of the curve and the masses. Don't wait until the *Shitstorm* hits the fan before you start growing your own organic food. And remember, even if you have months or years of survival or storage food tucked away in your bunker, they will eventually run out. Then what?

Start growing your own organic food *now*.

Ok, we are ready to begin.

Super Mulching Benefits

I am not going to mention all the benefits that result from the Super Mulching method, except for the following:

One problem that you won't have to deal with anymore are the weeds and grass in your super mulched gardens, orchards, greenhouses, atriums, etc. Sure, you will have a few weeds here and there, but it won't be like before.

Regards to soil preparation, once you have prepared the ground by killing the weeds and grass for the first time, and then covered with mulch, you won't need to do this step ever again. You need to add more mulch as time goes by, but the annual soil preparations involving rototilling, double-digging, weeding, etc. are a nightmare of the past.

Depending on your local climate and growing environment, you may or may not need to water your mulched gardens. One thing is for sure, if you need to water, it will take much less water to grow your food than before. The mulch, especially the wood chips, act as a sponge that absorbs the dew and melted frost during cold mornings, and, of course, rainwater when it rains.

When it rains, the mulch will make a little bit of compost tea for the soil and the plants. You will discover that over many years of using this Super Mulching method, you will need little or no fertilizer.

During cold mornings, the upper layer of the mulch acts as an insulator for the lower layers, the soil and the seeds underneath. When the sun comes out during the day, the frost melts and the mulch absorbs the moisture. The soil and the planted seeds are somewhat insulated by the mulch from the freezing temperatures during these cold nights and early mornings.

There are many other benefits such as less garden pests, no more crop rotation, pH regulation, etc., and they are all extensively covered in the film, "Back to Eden".

Minimum Super Mulching Tools

According to both Ruth Stout and Paul Gautschi, a **garden rake** is probably the only tool you need after the mulch of wood chips or hay or whatever is placed in your gardens. I agree. So, a garden rake is a must have tool. A **wheelbarrow** is good to have around for moving things, but it's not absolutely necessary.

If you are going to use wood chips and assuming that you need to bring it from the source to your gardens, you probably need (1) a **snow or grain shovel** (shovel with a broad aluminium blade) and (2) lots of **banana boxes**. A snow shovel is great for shovelling wood chips into banana boxes. A regular flat-blade shovel also works. If you don't have either, just use your hands with a pair of working gloves.

Banana boxes (50 cm x 40 cm x 24 cm) are these heavy-duty cardboard boxes that are used to ship bananas all over the world. They are extremely handy for storing and moving things. They are great for transporting wood chips in cars and trucks. They make the handling of wood chips, from the source to your gardens, much easier, tidy and organized. I turn the top and bottom parts of a banana box into 2 boxes and cover the small openings at the bottom with a piece of thin cardboard.

Incidentally, in Patagonia Argentina, the locals use banana boxes to move all sorts of things. I use them for my dog's sleeping bed! Dogs love the well-defined space contained in banana boxes. I also use a banana box as my cat's litter box! In both cases, I put the bottom part of a banana box inside the top part to form a double-layered box with the opening at the top. For the cat's litter box, I use plain dirt and a regular plastic garbage bag as the bottom lining. Why pay for expensive and somewhat toxic cat crystals and other artificial cat litter when dirt is free and everywhere?

Super Mulching Materials

Based on the experiences of both Ruth Stout and Paul Gaultschi, and also on my own personal experiences, the following is a list of mulch materials, in descending order of preference (the best ones first):

1. **Wood Chips.** Wood chips are branches of pine trees and other trees chipped by a wood chipper or tub grinder. They should include some greenery like leaves, needles, etc. Wood chips are probably the best mulch material because of the ability of the small wood pieces to absorb and retain water. Mouldy wood chips are perfect for gardens.
2. **Hay.** Hay is “grass that has been mown, collected and dried for use as animal fodder”. It could be just plain grass that has grown to seed, i.e., grass that has bolted. More expensive hay include alfalfa, timothy, bermuda grass, oat, etc. Mouldy hay is perfect for mulch. The difference between *hay* and *straw* is that the former (hay) is a crop that is grown and harvested as animal feed. Straw “refers to the plant material that is left over after grains like wheat and barley are harvested”. Straws are the leftover stems. Straws are not as nutritious as hay, but they can be used as a mulch and are of a lower quality than hay, closer to saw dust below.
3. **Pine Needles.** Nothing grows under a blanket of pine needles! Actually, pine mushrooms grow very well under pine trees and pine needles. The only reason why “nothing grows in a pine forest” is because Mother Nature doesn’t plant potatoes et al. under her pine trees and pine needles. But you can. And I have.
4. **Cut Grass.** Mowed grass or tall grass cut by a *weed eater* is also a good mulch. However, cut grass tend to compact and is less nutritious than wood chips or hay.
5. **Saw Dust.** Great for mulching, but saw dust do not contain any nutrients.
6. **Anything Organic That Rots.** McDonald's french fries probably don't qualify, but everything else that you can find locally and from your kitchen that rots can probably be used as a mulch material.

How to Apply Super Mulching

Before putting mulch in your garden, you want to make sure the weeds and grass are removed or killed first. Those of the permaculture faith like to use cardboards or

newspapers to cover the weeds and grass, and then put the mulch on top. I find this method takes too much time, especially when you are growing survival food during emergencies.

I prefer the quick and easy way of using a rototiller (rent one) to initially till the soil to kill the weeds and grass. By the way, the precious micro-organisms will forgive you for disturbing their world, especially because you will be providing them with a much better and more natural ecosystem afterwards. Then, **I put the mulch on the newly tilled soil with a minimum depth of 4 inches or 10 cm for wood chips, compacted hay and pine needles. For loose hay and cut grass, I would suggest a depth of 8 inches or 20 cm.**

I cover the entire garden area, greenhouses and atriums in this manner.

When should you start doing the Super Mulching method? Autumn is a good time to start, but any time of the year is better than doing nothing. Five years ago would be the best.

How to Plant Seeds

Let me quote Ruth Stout from the Mother Earth News article listed above:

You plant exactly as you always have, in the Earth. You pull back the mulch and put the seeds in the ground and cover them [with soil] just as you would if you had never heard of mulching . . .

How far apart are the rows?

Exactly the same distance as if you weren't mulching — that is, when you begin to use my method. However, after you have mulched for a few years, your soil will become so rich from rotting vegetable matter that you can plant much more closely than one dares to in the old-fashioned way of gardening.

As to whether you should cover the mulch hole with mulch, it depends on what vegetable you are growing and the depth of the mulch. For example, with potatoes I would fill the mulch hole with mulch. For more delicate vegetables, I would cover the mulch hole with a very thin layer of mulch so as to ensure that the young plant can grow.

How to Grow Fruit Trees

If you are just beginning to plant fruit and nut trees in your orchard or garden, follow the normal instructions on planting them. One bit of advice: Select the biggest fruit and nut trees that you can find. Don't start with seedlings. Then, put as much mulch around them as you desire. The more the merrier.

If you have existing fruit and nut trees, just put as much mulch around them as you desire. The greater the diameter of the mulch around the tree, touching the tree trunk, the better it will be. Also, the deeper the height of the mulch, the better as well.

I have one cherry tree that is over 5 years old and I have a fenced area (chicken wire fence) around it that is 3.6 meters in diameter. The mulch of cut grass, pine needles, wood ashes, and wood chips is about 30 cm deep and it touches the truck of the cherry tree.

For apple, pear, plum, and other smaller fruit trees, I use a mulch diameter of at least 1 meter and a depth of at least 50 cm. The mulch touches the tree trunk and is held by a circular chicken wire fence of about 50 cm high.

If you need to water your trees, then water the mulch. With this amount of mulch around each tree, you can urinate on the mulch without worrying about diluting it. You can put all sorts of organic garbage and materials as compost on the mulch.

I call this method “camposting” because it looks like a camp fire but instead of firewood, it is made up of mulch. Basically, “camposting” is *composting in-situ*.

How to Plant Potatoes

It's been 48 sols [Martian days] since I planted the potatoes. So now it's time to reap and re-sow. They grew even better than I expected. I now have 400 healthy potato plants. I dug them up being careful to leave their plants alive. The smaller ones I'll reseed, the larger ones are my food supply. All natural, organic, martian-grown potatoes. You don't hear that every day, do you? And by the way, none of this matters at all if I can't figure out a way to make contact with NASA.

~ Matt Damon in *The Martian* (2015) Movie

Potatoes are the queen of survival foods. Just ask the Irish and the Germans.

However, unlike what Matt Damon did or recommended to do in the movie, *The Martian*, do NOT plant or reseed with the smaller potatoes (or pieces of potatoes). Plant the biggest potatoes that you have on hand (use organic ones, not the commercial ones). Think about it: If you want a bountiful harvest, which makes more sense to plant (1) big potatoes or (2) small potatoes or, God forbid, (3) small sliced potato pieces?!?

Potatoes should be the easiest survival food to grow, except for three things.

Conventional potatoes are grown in the soil that is not covered with a mulch. As such, conventional potatoes require a lot water. When the potato grows, it tends to rise and pop out of the soil. Then you have to put more soil or dirt to cover the exposed potato.

With the Super Mulching method, both problems are essentially solved, especially the second one. You plant a seed potato in the mulch just as you normally do. The spacing and the depth are basically the same as conventional potato planting.

First, you dig a small opening in the mulch with a spade or with your hands, then dig the soil and place the potato in the soil and then cover the potato with soil first, then with the mulch. You are done. If you use a mulch of at least 4” or 10 cm, you no longer need to earthen up the exposed potatoes, because as they rise, so does the mulch. No more exposed potatoes!

Potatoes grown using the Super Mulching method requires much less water than conventionally grown ones. Depending on your local conditions, you may even get away with no watering at all as Paul Gautschi can attest from his years of growing potatoes. However, if you need to water your potatoes, just water them.

The third problem has to do with frost during late spring or summer. If you live in a climate where the possibility or probability of frost appearing during cold nights or early mornings, when your potato plant leaves are already above the mulch, this is a big problem. The frost will kill the potato plant leaves. Once or twice if this happens during a season, your potato plants should be fine because they will re-grow. However, if the frost kills your green potato plants more than two times, there goes your potatoes for the season. Growing potatoes under these circumstances is extremely difficult.

One slightly expensive way to deal with this big problem is to plant your seed potatoes in greenhouses or solar atriums. That's what I do as I live in northern Patagonia where frost can appear in the middle of the summer.

One last lesson from the movie, *The Martian*, is when Matt Damon's indoor potato garden is destroyed by an accidental blowout, he almost lost all hope of survival. However, if Mr. Damon knew what I and many others know, he wouldn't despair and curse like he did.

Mars, like Earth, has tons of rocks. They are everywhere. The powder of a mixture of various rocks, grinded or pounded with a hammer into rock power, is one of the best organic fertilizers that Mother Nature can provide. Ever heard of the *Hunzas* and their use of the milky liquid melt from moving glaciers? This is one of the best organic liquid fertilizer in the world.

That is what we will discuss in "Back to Eden Gardening? Part TWO: Rock Powder" which will be my next article.

Conclusion to Part ONE

"And in the end . . . the love you take . . . is equal to the love you make . . ."

If we are going to survive this *Shitstorm* that is coming, we need to start growing organic food ourselves first, if we haven't already, then we need to share our food, our knowledge, our wisdom, and our comradeship with our families, friends and neighbours (the assholes notwithstanding!).

The last words of this article goes to Space Pirate, Matt Damon . . .

Every human being has a basic instinct: to help each other out. If a hiker gets lost in the mountains, people will coordinate a search. If a train crashes, people will line up to give blood. If an earthquake levels a city, people all over the world will send emergency supplies. This is so fundamentally human that it's found in every culture without exception. Yes, there are assholes who just don't care, but they're massively outnumbered by the people who do.

~ Matt Damon in *The Martian* (2015) Movie [deleted scene from the DVD]