



ML's Greenery in Motion 2021 Newsletter



"In the past, we have asked one thing of our gardens: that they be pretty. Now they have to support life, sequester carbon, feed pollinators and manage water." [and still work for us!]— DOUG TALLAMY

Welcome to spring and the beginning of the 2021 growing season. Everyone I know can't wait! It's been a LONG winter after a LONG year...

It's interesting what one learns year to year in the gardens. Many folks are into flowers and many into vegetables. Both can bring joy and color into your yard.

This past year, for a variety of reasons, we opted for more veggies and less flowers. We often mix the two and did this year as well as the mix of textures and colors can add interest (depending), but definitely tilted the vegetable way.

This year we'll be focusing on adding more flowers to the mix for more color. We discovered that the front of the house actually grows a fabulous bed of chard, but for some reason or other never found ourselves eating it. It continues to amaze Margherita just how much color can add life and interest to the yard even though, come late summer, watering is just not something she gets into. We also had a challenge of *Verbena bonariensis* (a self-sowing annual that's EXCELLENT at supporting insects of all kinds) grow super big at the front of the garden so you couldn't see the perennials behind it. Given the nectar it provides to BBB late in the season, we left it, but it won't be there this year. In addition to more color, there will be more tomatoes, less squash, more potatoes (nothing beats home grown).

There's also an awareness that we need to plant more drought/heat tolerant varieties this year because last year was dry, and we're actually running a bit dry so far this year.

Last fall, in a socially distanced and masked event, *we rebuilt the 10-year-old Hugelkulture Bed 1 half-way* – and then finished it over the next month. We're really looking forward to growing great potatoes on it this year as it settles in for the next 10 years of its life.

Just to make life interesting this year, and not altogether planned, our doe herd will be producing more spring babies than summer babies. That's what happens when a buck gets unexpectedly in the herd. Our duck flock is doing well and our new additions are coming into lay. My sister-in-law made a cute video of them coming in for the night. Check it out on the website.

Who knows what this season will bring...life seems to be ever changing these days. Last year's newsletter focused on curiosity. Over the past year you've taken that to heart and asked questions. Now it's time to look forward...

ML, Margherita and the farm family at Woody End Farm



Now to the nuts and bolts of the newsletter – I usually have a lot of growing oriented details, but this year seems to lend itself to a more philosophical tone – perhaps due to the year we’ve all just survived!

It really is a marvelous world we live on once we stop to see it. One thing Covid did do was force/allow many, many, many people to do exactly that...and the wilder world adapted and crept (or strode!!) back in from some of the edges that humans have driven it to... No one, absolutely no one knows where we’re going to end up...how much of the “before times” come roaring back. How many of the changes of the last year will sustain through time...

There is power and challenge in the word **Potential**: a simple definition is “currently unrealized ability”. Tie that to **Perspective** – how one sees and evaluates the world – and you have an interesting philosophical point of contact with your own decision tree. Hidden in that decision tree is the human capacity for **CHOICE**. This is true for all parts of life but for these pages we’ll see how this applies to the world of plants.

A Perspective on the Potential in Plants

▪ Plants have a huge potential for production whether it’s wood, flowers, fruits, green leaves or all kinds of tubers. John Kempf of Advancing Eco-Agriculture has the best descriptions of this – very clear and easy to grasp. “Production *potential* is outlined in the DNA, but the *capacity* is determined by the plant’s environment – and is the gardener’s responsibility to manage”. Again, the

A landmark study on the topic [of food quality] by Donald Davis and his team of researchers from the University of Texas (UT) at Austin’s Department of Chemistry and Biochemistry was published in December 2004 in the *Journal of the American College of Nutrition*. They studied U.S. Department of Agriculture nutritional data from both 1950 and 1999 for 43 different vegetables and fruits, finding “reliable declines” in the amount of protein, calcium, phosphorus, iron, riboflavin (vitamin B₂) and vitamin C over the past half century. Davis and his colleagues chalk up this declining nutritional content to the preponderance of agricultural practices designed to improve traits (size, growth rate, pest resistance) other than nutrition. *Scientific American* April 2011 – and its worse now!!! (me!)

element of **CHOICE**. Genetics can provide the potential framework, but the environment clothes the scaffolding, and this is true for absolutely all living structures.

- In general, plants don’t need humans to grow. They adjust their DNA’s potential to the carrying capacity that their roots feed back to the plant – take a look at all of your healthy weeds! High production plants on the other hand – plants highly selected for specific traits, absolutely need your support and will die quite quickly without it.
 - *Plants don’t lie – they can’t. A tomato can produce deep into the autumn through light frosts and still taste great – or it can die from neglect and energy drain after the first flush of fruits.*
 - All of this means that it’s the gardener’s decisions (and preparation and support!!) that allow the selected plants to thrive.

Speaking of the potential for change and the reality of **CHOICES**...as you know, I have a strong commitment to healthy flowers, gardens and nutrient dense foods tied to healthy local ecosystems. Therefore, I wanted to begin this year with a look at what’s happened to agriculture over the last 40 -50 years (actually over 200 years!), and where we might be able to go now. I’m hardly the only one looking at this information. It’s a topic on many an educational program. *That was one of the values of COVID...the time to find and process some new perspectives.*

COVID exposed the real weaknesses in our national food system. On top of the abuses to both man and beast (which should **NOT** be forgotten!) there is the incredible drop in basic food

nutrition (see sidebar) and the creation of the Fast-Food Nation that we all depended on – until it wasn't there anymore. We had to relearn basic home economic skills like – cooking!!! Wow – what a challenge – and it really was because we didn't have the option of eating out when we were bored with our own cooking. Thank God that restaurants could pivot and provide access to some of our favorites!

You'll see several quotes in what follows but I'm not putting in footnotes 😊 This is a newsletter after all – and not a dissertation – although this does cruise close! However, if anyone **wants** the background on anything that follows, I'll be more than happy (and I do mean that!) to provide additional information. You really wouldn't believe how much information is out there. The thrill of it makes getting up in the morning possible (as does the reality of a horse who will chew her way out of her stall if ignored once the sun comes up!)

“The place to improve the world is first in one's own heart and head and hands, and then work outward from there.” —
Robert M. Pirsig,

So, how did we get to where we are with our food supply?

We're moving against a tide established at least 175 years ago when the massive move west began and the prairies became farms. The early settlers had already stripped most of the value out of New England's fragile woodland based soils... That move was further anchored by the development of the supermarket in the early 1900's. Then WWII's armament factories created the first readily available pesticides and chemical fertilizers, cheap food from “somewhere else” exploded and the world changed again.

This encapsulated history matters because it's the backbone/backdrop to where we find ourselves today. It holds the outline of our complete divorce from our food supply, the drastic ecological and human cost of



industrialized farming and the even more damning drop in food quality from that point on. We can paste as many patches on that as we want but unless we start from that basic understanding, we won't make any long-term changes that can persist because of their own value.

This means a change in the mindset/mental model of people who live in our towns. There's a need for policy changes at the federal, state and local levels and that requires time and energy commitments from all kinds of people. Long-term success of local food production is going to come down to one-on-one contacts and personal choices until we've succeeded in developing such a vibrant local food economy that that personal touch isn't needed anymore. How can you step up? What can you contribute?

The **Get Big or Get out** mantra for agriculture (Earl Butz, 1973 Secretary of Agriculture and the “patron saint of Fast-Food Nation) is derived from the **Bigger, Better, More** mantra that came out of WWII (Lewis Mumford). This last has been the driving force of our culture for as long as all of us have been alive (75+years!!). It's all we know. That mindset allowed for an incredible explosion in “ease of living” and an accompanying explosion in “stuff” and with that came massive climate disruption with the accompanying deterioration of ecosystems, communities and personal health.

This mind set is all about size and efficiency, regardless of cost to external factors (like the environment, employees, communities and other similar issues) and those external costs were never included in the cost of the products and food that we all so happily purchased. Food was cheap!! A reality that

was never before found in human organization – but at what long term costs???

This drive to **Get Big or Get Out** was THE driving force behind the commodity crop explosion of corn and soybeans, confinement chicken, beef and pork production and the creation of the industrialized food system that actually has very little of food value in it –it is cheap only in the price it is sold for.



This is an incredibly expensive system that needs massive capitalization (and government support! – remember those government policies) and many, many mid-western farms are now over 2000 acres and being held more and more by investment corporations creating even more aggregation of farm land with even more removal from consequences of farm decisions made in that vacuum. This leads to a farming model more like a bolts and widgets production center rather than a source of sustenance for humanity. It completely disregards the reality that it harvests the very thin skin of biology that actually allows us all to live on this planet.

Take a look at this brief analysis from Mark McAfee from *You Vote with Your Food Dollars*, May 2020

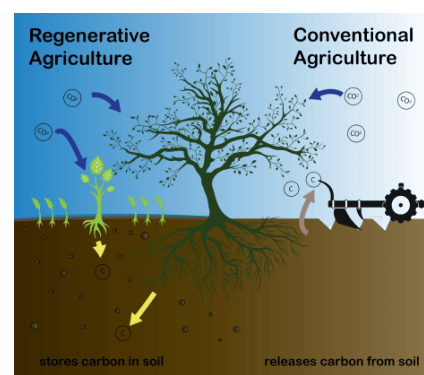
“America must make a decision about its fate. Food systems are very much a part of our America. Will America thrive, be resilient and adapt to threats? Will America continue to become even more economically, environmentally, and immunologically compromised and depressed? Or will America embrace smaller local farms who produce nourishing whole foods? Will America embrace disease-prevention and whole food nutrition? Will it

build or suppress its innate and adaptive immune systems?

Each dollar spent on food directs America’s future. Where we direct our food dollars is a very personal question. Will we have healthy children or not? Will we take personal responsibility for our own health with whole food nutrition or will we continue to vote for “Get Big or Get Out”? ... Let’s invest in illness prevention with farm-direct local, unprocessed, whole foods that build our immunity [and our communities!!ml]. It’s a personal gut microbiome choice. Let’s adapt and become resilient. The alternative is a dead end.”

Regenerative Agriculture/Local Food Production

As a bright point – there are more and more farmers looking to a Regenerative Agricultural approach to their decisions that is starting to have an effect. They’re taking the health of their entire farming entity into account and looking to “improve the diversity, quality, vitality and health of the soil, plants, animals and people.” (Christine Jones). Personally, this is where I spend my time and energy – even applying these principles to the managed landscapes and gardens that I work on.



Aside from all of the massive health problems associated with industrial agriculture, being efficient

might not be the best way if there’s any kind of hiccup. Hyper-efficiency is a fragile way to do things because there’s no room to maneuver – no buffer in the system. That’s left us incredibly vulnerable to this sudden turn brought about by a microscopic actor called Covid19. Witness what happened this

last year – and supply lines are still messed up.

This is where support of local food production comes in; a subject that has interested me more and more. New England (and Massachusetts to be specific) farms don't lend themselves to commodity production. We're NOT Iowa or Kansas – (and don't want to be!) although many farmers look to that model because it's what's supported at the federal level (that's where the farm safety goes to – you've heard of the farm bill??? – all of that support goes to the big Mid-west farms. Very, very little makes to the small/mid-sized farms).

There are moves afoot all over the region to strengthen and increase local food production. I thought it might be helpful to look at some of the structural points that are being looked at. Take a look at this list – and, should you find an idea that fascinates you!!!, let me know and you can join a group of people who are working hard on new possibilities.

Objectives (Interests/Ideas) to work on to create a local economic structure for local food, fiber, and forest products:

- ✧ identify, contact and interview every food aggregation (collecting and dispersing) model past or present working in our extended region.

- ✧ create an educational/ exposure network to link the communities to their food supply so that there is a sense of connection with that food supply. “Know your farmers!”

- ✧ support the producers...if there is no locally grown food then there is no locally grown food, period. Buy from farm stands, CSAs, farmer's markets...

- Provide additional training and support just like the “big guys” get but scaled for smaller operations.

- ✧ outline how ALL existing state and federal programs could be



INTEGRATED – not siloed- to make this local food economy work.

- ✧ create Agricultural Agents (like Conservation Agents) that are attached to each town (with towns “sharing” an agent just like the Con Com agents are shared).

Looks like a nice short list, doesn't it? Not much to it...HAH!!!! But I do think we have a chance for change – only a chance but one of the best chances we will have in our lifetimes.

One of the best (and worst!) things about being a human being is that we can CHOOSE (the ONLY species that can!!!) to change – change our choices, change our focus, change our world...The choices we made 100 years ago DON'T need to be the choices we CHOOSE today.

How do you make all of this land use and cultural analysis real in your world?

For starters: Whenever you can, buy a locally produced anything. I totally understand the appeal of home delivery that EXPLODED during Covid but now that Covid is easing back seriously consider supporting your local producers instead. Human beings are actually a biological

The thing that we tend to forget when we study entrepreneurs only as engines of job creation, profits or other quantifiable markers of economic growth is that every entrepreneur is a person, with hopes, dreams and feelings. Their businesses are intricately tied into the fabric of their communities in a way that numbers simply can't capture.

These are the entrepreneurs who matter now, more than ever. Not the ones on the covers of magazines, not the billionaires and recipients of venture capital checks, whose products we may use, but whose lives are distant and entirely removed from the day-to-day of our communities. ... if we lose our barber, the fruit store on the corner or the plumber who saved us in a flood, we will have lost a piece of ourselves.

David Sax is the author of the forthcoming book, “The Soul of an Entrepreneur.”

miracle that needs contact with other living beings in order to thrive (we've all heard the isolation nightmares over the last year). The only way to create a community where most thrive is to INVEST in it – invest your time, your money, your emotion – whatever you have to invest... even a friendly hello can do wonders and ANYONE can provide that...



Our local Chamber of Commerce states that for every dollar spent at a locally-owned business, 48 cents out of every dollar stays in the local economy. For every dollar spent at a chain business, 14 cents stays in the local economy. For every dollar spent on-line, 0 cents stays in the local economy. Think about what that means for all of our Amazon purchases this last year – and Margherita and I used Amazon too. Sometimes you just have to...but...there are consequences.

Central MA Producers

So, let's bring a focus briefly to our local region and the steps needed to make land use and cultural analysis real in yours and my world. Think about your local region (which for most reading this newsletter is the northern towns of Worcester County, Massachusetts). What makes it unique – gives it its claim to fame?

North Central Massachusetts is often thought of as “the hole in the donut” or the place in Massachusetts that is “unknown”. We're not “the valley” or “Metro-west” or the Cape etc. Stereotype maps of Massachusetts mark us as the place where “there be dragons”. Our farms produce the vegetables and meats, eggs and cheeses that we all like to eat, but they also produce hay, honey, maple syrup, and more...in short - we have much of the world of agriculture in microcosm grown right here on the central upland, an area of streams and plains with gentle hills. The hills are all that remains of our area's ancient mountains (used to be higher than the Himalayas – but not in OUR

lifetimes!!!) and that local production would be much more so if local support could be counted on.

Think about the word “*terroir*”. A very nice French word most often used to define wines... but... it's really a word that describes the geographical and ecological factors that affect crops of all kinds. An incredible thought about how that affects the foods that you eat! In fact, farming of any kind is a combination of the natural conditions of a region and how human society interacts with those conditions. Making the most of one's land is the common goal of all farmers and the heart of the notion of *terroir*. The cool thing here is that courting a full expression of *terroir* also supports a wide range of systems that can fight climate disruption, protect natural resources and grow healthy and tasty food...

After this little mental excursion, it's time to find out what it takes to grow food. Many of you already garden but, if you don't grow your own food, you can support those who can grow what you can't. If you understand what it takes to grow a quality plant then you're more likely to support those who can do exactly that so you don't have to!!! Talk to your food providers and get to know them as part of your community. That's the start of a beautiful local economy!



Cultivars and Seed Selection

And, since we've brought up “Grow Your Own” – let me introduce you to the whole world of cultivar and selection... One of the glories of growing your own fruits and vegetables is that you get the chance to grow the kinds of food that *you* (and your family!) like to eat. Do you like crunchy lettuce or soft Bibbs. Red peppers, orange, horns, bells –

each has a different taste and texture. Explore. Once you've made that decision then the world of cultivars opens up – and what a world it is!! I think the best time of year is the time spent prowling through the seed catalogs. It's so much better than a trip to the candy store!! I do try new varieties every year – just can't resist – but most of the plant list is of varieties that we've grown, like the taste of and know are reliable producers. I use about 10 different seed sources and each company offers its own special pull. Some companies I use once and not again, because seed quality matters as well. If the seed doesn't germinate well, it doesn't matter if the variety is a good one. Take the time to watch which seeds leap up first, tag those – they have the greatest inherent energy. Tie that energy to you well-crafted garden soils and stand back. You'll have the best production and best taste you've ever had!



Take Seed Saver's Exchange – one of the biggest and oldest of the heirloom seed companies. That's where we discovered *Peppers Buran* (and the mice ate ALL of the

seedlings – best laid plans...) and *Chervena Chuska* and they're now part of the backbone of our personal pepper production (although we always try new ones!!). *Buran* is a 3 lobed small bell pepper that ripens well and tastes good both green and ripe red. *Chervena Chuska* is a horn pepper – thinner skinned – that ripens quickly to a most delicious red pepper that can be used for almost anything.

Then there are the squashes – and what a group THAT is!!! *Buttenuts* are still our favorite, but we grow the smaller versions like *Nutterbutter* and *Butterscotch*. We also grow *Black Futsu* (High Mowing Seed) – a massively productive squash that lasts in storage until the following June and tastes as good then as it does in January. And we still try new ones like *Tromboncino* – a surprisingly tasty Italian variety that can be eaten green like a zucchini or allowed to

ripen to a deep gold and used in the winter. ALL varieties of Italian squashes seem to taste great – check out *Costata Romanesco*!

How about the cucumbers? Now that's a prolific group...it took way too long to figure out the depth of this group... *Alibi* is one we plant every year, *Sir Crunch a Lot* (long name!) is exactly what it says it is, all of the Persian (or European) group have tender skins – and all cucumbers are water and fertilizer hogs. They need to be fed and watered almost as if they were part of your family (which they kind of are...).

And then there are the greens – in all of their very *GREEN* glory! This is a group that we all KNOW is good for us – and some of us like them and some of us eat them because we should and some of us just won't touch them... This is where variety becomes essential – and you'll have to experiment to find the ones that work best for you. All greens need a quality soil but don't need as much overall nutrition as the reproductive (seed producing) veggies – what they really need is steady soil moisture so mulch them once they get going and irrigate, irrigate, irrigate! Every time they dry out, they get a bit more bitter and stringent on the tongue...that taste so many are not fond of!!

I could keep going as all of us can – there are the tomatoes (check out ALL of the colors!!), the eggplants (look again to the Italians), the beans, the onion family and all of the flowers – so MANY flowers. There are generalists and specialists in all of these groups. Generalists can produce something almost anywhere. Specialists NEED care in order to provide their crops.

Here's something to be aware of...every time selections for color, size, disease and insect resistance are made those decisions lead to a reduction in other parts of the plant's genome and potential. The best plant to describe this is *Viola tricolor*...at its wildest derivation, it's our common Johnny Jump up – super easy bi-annual, self-sowing, tolerates heat and drought (up to a certain

point) that needs very little from any human. At the other extreme there are the Swiss Giant Pansies. Marvelous, huge flowers that require a decent garden soil, steady soil moisture (not too much, nor too little – that Goldilocks ideal) and steady fertilizer. And there are 100's of varieties in between. Which works best for you?

“Making everything politics, totally distorts our ability to read reality.” And to do that with Mother Nature is particularly reckless, because she is the one major force in our lives that is totally independent of our will. And if you think you can spin Mother Nature, the slap in the face that she will give you will be heard all across the world.” Moshe Halbertal

Climate and all of its snarly issues:

You might have noticed that soil moisture was mentioned quite a bit in the list of plants to try – especially critical for the greens, celery relatives, and cucumbers.

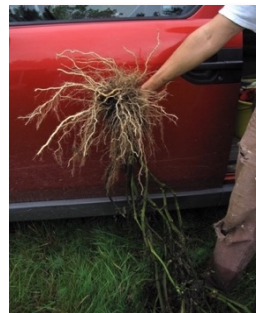
First things first – climate weirdness is real. I truly don't care what the cause is because managing it is the core challenge of the day. Cast your mind back over the last few years and you'll see a pattern of intensifying weather oscillations. By that I mean – when it's wet, it's WET and when it's dry, it's DRY. And that dry is very often accompanied by high Canadian winds. Those winds are often so dry that they would challenge desert winds! That's A LOT of stress for your plants. It means that irrigation is essential and often not effective depending on when it's used and what conditions follow its use.

Check out these on-line publications from the USDA- <http://climatesmartfarming.org> and <https://www.climatehubs.usda.gov/sites/default/files/AdaptationResourcesForAgriculture.pdf> They outline what's happening in our region. Some of this you'll already know – some will be new...

Winters are different, shorter but with intense bursts of winter weather...mid-Nov

through mid-Dec last year – winter and then we rinsed it all away for Christmas. January was open and not too cold – quite workable really. And then February struck – and stuck...cold, snow, rinse and repeat. Spring is getting earlier. I used to start work in late April -now it's late March or early April! And work goes much later into the fall. Perhaps the biggest change is our summers – they're warmer, much drier with drying winds (see above) and when the rains come, they come in a flood. This heavy pulse of flood and drought is likely to be THE defining change that MUST be managed (at least here in New England) – true for anyone engaged in working with either crops or livestock. In particular, high NIGHT temperatures cause the really damage especially combined with hyper dry air. We now run fans at night in the barn to move air through to cool the animals in the worst of the heat of July and August... and plants need the night cool as well in order to recover and use their day time produced sugars to create growth. Can't run fans over the gardens...or can we???

What this really means is that the quality of your soil is the critical asset of your property. Why soil? Because a healthy soil can absorb huge amounts of water, hold it and release it slowly through time– and in the process help to cool plants and animals in the evening hours as the heat of the day releases against the structured ground. Our hugelkulture [HK] beds can absorb a 2" rainfall with no soil movement – at all - and the HK's can go 6-8 weeks without irrigation once the plants have settled from planting.



Here's what a tomato looks like in early October after cleaning down an HK bed – look at the size of the roots radiating out from the original pot roots (the smaller thinner roots just in front of Lisa's hand).

This was a very healthy (and tasty!) plant and had recovered very well from the initial transplant into the bed. Use every autumn's clean down to examine the quality of your garden's roots. It's the only time that you'll be able to check them all out easily.

Why are HK beds mentioned? Because the construction of such a bed is guaranteed to create a garden that can sustain itself during climate weirdness. All of the details that go into building an HK bed can be teased apart and used to create other stabilizing systems as well.



Creating Your Own Nutrient Dense HK Beds

And, in case your curious, here's the basic outline (you can check out the details for building your

own on the Greenery in Motion website on the Raised Bed page.

HK beds are versions of the mid European concept of mound culture – piling up woody plant debris, covering it with compost, manure or other organic material and planting in the middle of it. It could also be looked at as a take-off on the concept of nurse logs – burying logs near stressed trees in order to provide both a source of nutrients for beneficial fungi associated with trees and water for both the fungi and the tree roots as the logs decay.

Just a quick reminder that **Nutrient Dense Farming** is a way of looking at food production that maximizes the health of the food produced and thereby increases the health of who or what -ever eats that food. It uses the tenets of organic, ecological, biological, bio-dynamic, re-mineralization and other kinds of farming & gardening to produce the best quality food and it documents that vitality through independent tests like brix readings and other test instruments coming soon. I'll be experimenting with one this summer and will have it at the farmer's market.

The HK beds at Woody End Farm start with the basic mound approach and add the concepts of nutrient density crop growing to create (we hope!) biologically active, water managing, minerally dense, low maintenance beds. We use some direct investment in materials (loam, minerals etc.) a minimum investment in equipment (hired use of a tractor with a front-end loader) and with the end result of maximum production level per developed square foot. The beds should be able to

If you do decide to try making one of these beds (or a version thereof!) make sure to *leave it to either "cook" over the winter or **wait at least 6 weeks** from the building of the bed to the using of the bed.* You're creating a wickedly active microbial explosion when you build this bed and it takes time for the newly emerging system to cool and stabilize. Over time, these beds tip to fungal activity and become very stable but, if you plant too soon, your poor plants will burn out their roots as they try to make heads or tails of the surging bacteria!

Chloramine and chlorine in water – a thought...

You know I believe in the "magic" of Humates in the garden. Here's a marvelously dense definition: "Humates are a natural result of the process of



humification, in which organic matter is formed from the remains of plant and animal life over a period of thousands of years. ... These mineral deposits (humates – often a soft brown coal called leonardite) are then extracted from the earth for use in agriculture and other industries." Wikipedia Humates can add tremendously to the overall health of your garden. In exploring the problem of chlorine in the water for an urban client, I discovered you can neutralize chloramine and chlorine by mixing $\frac{1}{4}$ cup of humic acid per 50 gallons of water, agitate

and let stand. Incidental watering won't need the treatments – some chlorine is needed by plants anyways and healthy soil microbes build back fast.

This step is more essential in times of drought (lots of treated water being dumped onto root systems) or when containers are fully grown at the end of the season and require very frequent watering.

Soil Health – Take the underwear challenge!

So how do you tell how well your soil can buffer the flood/ drought pulses? Look at its structure! Crumb structure! See the little



granules? Looks kind of like cake crumbs and this structure is totally the result of soil macrobes and microbes of all kinds – but especially earthworms, bacteria and fungi – the magic makers in our “managed” soil systems.

Now for the challenge:

It takes 2 months for healthy soil to completely eat a brand-new pair of cotton under-wear. Can your soil do this???

In fact, you can easily “plant” a pair of underwear in your yard in July and “harvest” it in September and see if all you have left is the elastic edges. Congratulations if you do!!

Westminster's Farmer's Market hosts a contest July-Sept on who's garden can eat the most cotton from a pair of underwear. Should you decide you'd like to compete then “like” the Westminster Farmer's Market's Facebook page (that's where we promote the market) or let me know and I'll let you know when the contest is on.

You can also pound a can down into the ground leaving 2-3” exposed (depending on how brave you're feeling!), and fill it to the brim. How long does it take to sink into the

ground? If it takes more than ½ hour for ½” to sink in then most of the heavy rains on your site will run off, not sink in...

Now that we all understand that managing the soil for drought/flood pulse control is critical for managing climate weirdness – what does that mean for our communities with all of their frantic building? Every town in the middle part of Massachusetts is building up fast! Another outflow from the Covid changes that started before the virus but has intensified as the “work from home” realities have pushed people to find larger housing with more open space (we're not so sure we like crowds anymore!! Although I never did!!!!).

Remember how I mentioned that I take the concepts of Regenerative Farming ideas into managed landscape applications? Well, here's something else I've been noodling on for years since managing for healthy soils underlies everything from my perspective.

Have you ever watched a new house go in? Since there's an explosion of house building in every town in the region, you probably have. Granted that we need housing – but at what ecological cost? We have a series of new houses here in town that have managed to overtax the aquifer that their wells were tapped into and they ran out of water last year. How about the fundamental change in the surface flow of water that has led to a whole new set of rules and regs (Storm Water Management Regulations) coming from the state to minimize and mitigate that flow? How about the complete destruction of the soil ecosystem that was in place before the construction equipment arrived?



As you've read in earlier newsletters,) soil carbon is essential for any kind of carbon management (like CO2 removal! – read the sidebar!) – never mind any kind of soil structure and ecosystem integrity (SOIL is alive – DIRT is dead!). Now, think about all

As the largest terrestrial carbon sink, which stores three times more carbon than the entire atmosphere, soil offers a vast repository with immense, untapped capacity. Since the beginning of agriculture, food production has removed about half, or 133 gigatons, of the carbon once stored in agricultural soil, and the rate of loss has increased dramatically in the last two centuries, creating a large void to be filled. Restoring this carbon stockpile would sequester the equivalent of almost one fifth of atmospheric carbon, bringing greenhouse gas concentrations nearly to pre-industrial revolution levels and making soil less erodible. Let's be realistic—we're not going to restore 133 gigatons of carbon any time soon. But working toward this goal could be a centerpiece of a multifaceted plan to address both erosion and climate change. Jo Handlesman, March 2021 Scientific American (remember that earlier side bar? -same magazine 10 years later...there is A LOT going on whether we choose to act or not!!!)

of that sand that surrounds the new houses covered with 3" or less of "top soil" and planted to grass (a contractors mix at that!! - blue grass and rye – water and nutrient demanding!!). Then watch the irrigation systems get put in – and watch the wells go dry....

Because a functional soil system is essential for a healthy community and planet, perhaps it's time for a different approach...



This next is more than a bit of a stretch! Introducing A FUNCTIONAL SOIL ACT!

We need a new way of looking at soils in all of our human activities – especially in the home construction, managed landscape world that most of us inhabit. This concept is framed as an act because wishing doesn't make something like this happen! (reference those storm water bylaws, rules and regs...) It may be unfortunate that we need to codify change, but it is a way to ensure processes shift on a state wide level. New Mexico passed their version – the NM Healthy Soil Act in the spring of 2019. If New Mexico can do it then so can Massachusetts????

A Functional Soil Act would protect and support the state's soils and the public interests those soils serve including:

- water infiltration to aid in flood and drought control,
- the maintenance and further development of productive farms and forests,
- carbon stabilization and sequestration,
- expansion of healthy local food supplies,
- and the support of healthy communities.

The restoration of soils to established standards of soil structure and quality after construction is the backbone of the work that needs to be done. The listed public interests are protected by establishing a definition of terms, requiring a careful review of proposed new construction to require procedures for stabilizing damaged soils, developing and funding training programs for the evaluation and management of functioning soils and support for research into continued ways to stabilize the state's soils.

This act is predicated on several key points:

1. Massachusetts has a stated goal that outlines the projected challenges to the state due to climate changes.

<https://www.mass.gov/files/documents/2018/09/18/SHMCAP-September2018-Executive-Summary.pdf>

2. Soil underlies every single project in the state and much of that soil could be

returned to a functional nature after construction and act as an asset to the local ecology. Any open area can be managed with knowledge and support to become an asset in managing weather extremes (drought and flood). Open fields, lawns with structured soils that allow for water infiltration, woodlands and forests are essential for localized water stability. Droughts and floods cost local municipalities and the state \$\$\$\$.

“We have entire blocks of people who project their thinking no further than tomorrow night. This leaves most decisions for the society to people who make decisions without some idea of the long-term consequences involved. By way of contrast, I view the farmer who wants to leave the land in better shape when he leaves it to the next generation has become the role model for civilization.” Charles Walters, *Acres, USA – everyone should check out the Acres, USA magazine and website!!!*

Land managers are the essential link to the land and they include the participants below and the effects of construction on all of them.

- Farmers/Forest managers
- Homeowners
- School campuses of all kinds
- Hospital campuses of all kinds
- Commercial buildings with open surrounds
 - Cities and towns: parks, street edges.
 - Federal, State and municipal public lands
 - Transportation – DPW’s, highways,
 - Solar Fields and Wind farm fields (and the effects of construction – often unbelievably damaging...)
- 3. Compaction and lack of soil structure (and the soil life needed to produce that structure) is the key problem that underlies all aspects of soil management in a human driven system.
- 4. Soil carbon, soil microbe diversity and plant leaf health can all be measured. Measurements are needed to clarify

results of both damaging and mitigating practices. What can be measured can be changed. Positive measurements can be rewarded and supported. The healthier the plant/soil system becomes the healthier everything becomes.

There you have it – a different way of looking at things like soil and construction.

As mentioned earlier, the one huge difference between humans and other animals is the ability to choose. I think that it’s an excellent use of that ability to choose to work towards positive change in all of our communities. Just in this newsletter, there are 6 projects that are mostly positive (always complex – the future – *Yoda*) and they need all of the help they can get! No worries if they don’t interest you!!! These are some of the projects that are close to my heart. Pick projects of your own and get involved. Everyone always says “I don’t have the time.” Or “I don’t know what to do.” A community is only as strong as the people who stand forward to build it...so hold your nose...AND JUMP!!!! Everyone knows how to dog paddle...swimming will come later!

Greenery in Motion – Seedling and Plant orders 2021 - Buying plants by appointment only, except at the farmers’ market:



If you’ve previously ordered from us:

We’re limiting custom orders this year to those people who’ve ordered in the past. There are only two of us pulling orders (my sister and me) and last year was a mad house that we’d like not to repeat! We’re not an Amazon fulfillment center and have no interest in becoming one 😊



However – we are adding some...

Open Greenhouse days:

We're always open on Memorial Day weekend, 5/29 (9am-3pm) and 5/30 (12-3pm).

We're also going to be open on June 5th, 12th, and 19th Saturday mornings, 9am-12pm for general plant shopping **by appointment only**. This is a much more traditional way of buying plants – you find what you're looking for and it's yours! A true **Back to the Future** kind of thought!

And while you're visiting the greenhouse, you can check out goat babies... 15 years ago (we grew up with a dairy goat herd), we brought goats back to the farm - Nigerian Dwarf goats to be specific - and we're very proud of what we've been able to accomplish with them. We chose the breed because it was small but had an excellent reputation for quality milk. We've found them to have wonderful personalities, truly excellent milk, an ability to eat all of our invasive plants and to clear our stone walls –win/win/win! Here are our latest milk stats from DairyOne - composite milk results 12/10/20 butterfat 8.62, protein 5.30, SCC 125 - email us for explanations.

We have does (and each year's babies) from excellent registered milk production lines for sale.

And then there's the...

Westminster Farmer's Market

Every Friday afternoon, 3:00-6:00pm, May 7th-August 27th, you can find my booth tailing down on the South side of the market. I'll have a wide selection of veggie and flower plants and can handle some special orders from there.

As always, the plants are inoculated at seeding/planting time and again before they're picked up. The goal is to send the plants out with the best start on their external digestive system as we can manage – got to get those microbes working from the very first contact with the soil ☺

Pricing:

Supply chains are still challenged – I'm sure you're surprised to hear that! That means that there is no slack and no break in prices for early orders or tonnage...so...fertilizer prices will be higher this year as will the plants themselves. I won't have the final price for the fertilizer until after this newsletter goes to print

One last check list for getting the best out of your garden – for your sake and the sake of your local ecosystem...

*Remember to feed the plant's digestive system microbes first...

*Extra “meals” will be needed from July 15th on for top quality plant production whether you're growing veggies for the family or flowers for the eye and beneficial insects. Use liquids to speed efficacy.

*Autumns have been DRY lately – that's the time that local pollinators set themselves for the winter. Water and fertilize your flowers to give them a last chance at fresh pollen and nectar.

Now – let's grow on in 2021!!!

