

# Rancho Mastatal Updates

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## November/December 2011

This publication is progressively and quietly becoming a quarterly. Thank you to everyone for your patience in receiving our final 2011 newsletter and we apologize to those that have in the past looked forward to this bulletin every month or two. Other priorities and an ever-busy schedule will only allow us to get this to you 4 to 6 times each year. This said, with approximately one month under our belt since returning to Mastatal, everything is going super well. We presently have one of the most amazing groups of people we've ever assembled and we're looking forward to a tremendous year. Our continued focus on food production has produced ever increasing quantities of locally grown produce on the serving table each day and we're starting to hone in many of our systems to more efficiently deal with the constant influx of guests that we experience throughout the year. We of course could never do what we do without the amazing support that we regularly receive from our interns, workers, guests, friends, family and the community members of Mastatal. We've now officially been here for over a decade and the excitement we feel around the Ranch today is as strong as the first day we arrived in November of 2001. To appropriately sum up the last 10 years we'd need to find the time to write a novel, something that I've started to mull over and perhaps a project to come later in life. In the meantime, we've got a project list as long as any I've ever seen and a host of amazing undertakings on the docket for the new year. We'll do our best to keep you up to speed on our progress throughout 2012 and we hope that you enjoy this latest update. Write us with synopses of your lives when you get the chance. We love to hear from you.



*Chepo collecting fodder for the goats  
photo by Carolyn Monastra*

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## RM Program News: The EMF Debate

With a cell phone tower standing in the middle of Mastatal, it is hard to avoid thinking about the health effects of electromagnetic fields (EMF). But in general, there is silence around what is one of the most relevant yet complicated issues in health and science today. Nobody wants to hear about another cause of cancer, especially if it seems there is little we can do about it. But I hope to have brought together enough information here to open discussion about both the positive and negative implications of EMF. Taking precaution with regards to EMF does not require us to return to the Stone Age. In fact, it challenges us take a huge step forward in science and consciousness.



*Main House Sunset*

*photo by Carolyn Monastra*

Electromagnetism is one of the most ancient means of perception. Bees, birds, bacteria, sharks and many other organisms use magnetism to communicate and migrate. As for us humans, EMFs are created by enzyme reactions, the flow of ions and many other biological processes, which together synchronize our organ systems within a beautiful energetic web. Environmental EMFs may touch one node of the web and cause symptoms in another, affecting any or all of the immune, cardiac, and nervous systems.

But it is this powerful role of EMF that shines a bright hope in an apparently dark debate. Rigorously pursuing and pushing the boundaries of research on how EMF interacts with living systems could transform health care. Already practitioners in both conventional and holistic medicine are investigating and working with EMF to heal a wide range of ailments, from bone fractures to Alzheimer's disease.

But what does it mean to "push the boundaries" of EMF research? First of all, it means being aware and critical of current assumptions. International standards consider EMF exposures that incur temperature increases below 0.05°C (0.4W/kg) to be safe for workers and 0.01°C (0.08W/kg) for the public. This assumes EMF is safe as long as it doesn't heat biological tissue above a certain degree. However, there is increasing evidence showing that EMF can cause changes, such as oxidative stress, without inducing a change greater than 0.01°C in a living organism.

Many scientists will wait to acknowledge the nonthermal bioactivity of EMF until we know how it works. The problem is that conventional Newtonian science provides us no explanation. EMF illustrates emergent properties of networks that reductionist science will not find. EMF acts on the most basic level and causes distant symptoms that vary between individuals, obscuring linear mechanisms of causality and denying a one-cure-fits-all mentality. Instead, plausible mechanisms of action have arisen from system theory and quantum electrodynamics, which mainly teaches us the limits of our knowledge. Possibly the greatest gift that EMF research and education could give is driving the necessary paradigm shift to incorporate holistic therapies into our health care system.

Many supporters of current standards argue that "repeatability of results is a critical hallmark of

science" and therefore "no consistent evidence of harm" is effectively equivalent to evidence of no harm. Those who express serious concerns over EMF bioactivity are accused of pushing shoddy science.

When you look at both sides of the debate and current research, the current EMF standards does indeed indicate bad science, but of a different kind. Bad science can also result from holding the current scientific method and theories so tightly that we stifle its evolution. Look at the controversy ignited by Galileo's assertion that the Earth revolves around the sun. Or the thirty year delay in accepting that cholera is spread by contaminated water instead of air. We have to constantly check our assumptions against current observations, in order to avoid harm by acting upon incomplete knowledge. And right now, our predictions of nonthermal EMF activity do not match observations. This does not indicate, as some may argue, that the nonthermal activity is insignificant. Instead, inconsistencies in evidence have more likely arisen from the following complicating factors:

1. "Windows of sensitivity". We assume that higher magnetic intensities are worse. But, like many bioactive chemicals, the strongest effects of nonthermal EMF occur within a specific range.
2. Biological complexity. Variables include carrier frequency and modulation, polarization, intermittence and coherence, time of exposure, static magnetic field, electromagnetic stray fields, genotype, gender, age, physiological and individual traits, including immune status and oxidative stress, cell density during exposure, duration and timing of exposure, power density and specific absorption rate.
3. Chronic exposure. Epidemiological evidence today may be very different from what we will see in the next decade.
4. Modulated or pulsed EMF. These effects could be hidden by time-averaged methods.

As long as we ignore the health effects of nonthermal EMF, the public suffers the burden of providing proof in negative health cases. What can you do? Due to the advantages and prevalence of EMF, it's ridiculous to advise complete avoidance. However, you should and can avoid chronic exposures. This is especially important for children, pregnant women, or people experiencing symptoms of EMF hypersensitivity.

1. Use a tubed headset for your cell phone and bring back the corded phones in your home.
2. Limit children's exposure to EMF. Sources include power lines, cordless phones, mobile phones, security systems, computers, electric blankets and water bed, and digital clocks.
3. Turn off sources of EMF when you sleep. Make turning off your Wi-Fi as much of a habit as turning off the lights. Sleep is a crucial time for restorative processes in your body.
4. Test EMF exposure in your home: Gauss meters are available if you think you might be living at particularly high exposure levels.
5. Eat broccoli. Antioxidants help your body to prevent oxidative stress from EMF.

As for the cell tower in Mastatal, the first step could be to use a Gauss meter to measure what we have and start discussing what it means. WHO has recommended employing the precautionary principle in the case of EMF. More specifically, that means mobile phone operators need to consult the public and address concerns when installing a significant EMF source and that "monitoring should be especially strict near schools, and that emissions of greatest intensity should not fall

within school grounds" (UK-Parliamentary Independent Expert Group). Since EMF is invisible and its action leads to distant and delayed symptoms, public concerns are not going to be raised in time.

We need to raise awareness of EMF in living systems and start asking questions. The amount of information we can send around the world with a click of a button is astonishing. The acceptance of so many EMF-emitting devices without question, much less a sense of wonder, may be as much of a psychological disservice as flushing the toilet is to our perception of water. As wireless and nanotechnologies proliferate in our daily lives, we must remember that EMF is one of the most ancient languages on the planet. We should marvel each time we can hear a loved one's voice from around the world, at the invisible and inexplicable processes that allowed it to happen. But we cannot be so full of ourselves as to believe that humans are the first to communicate and navigate using different forms of EMF. As new technologies fill up the broad range of frequencies, the rest of the living world is affected. Ingenuity is not the only indicator of intelligence. We need enough humility to accept that the effects of technologies can spill out far beyond our scope of comprehension and enough love to put health before progress.

Nicole

### **Building Report: Building Soils and Growing for 120**

Many of us have experienced it. The sore feet and exhausted mind of cooking a meal for 40 plus people at the Ranch. During the high season the kitchen churns out roughly 120 meals a day. This is no small feat and arguably what we do best, with the cookbook popularity a reflection of this love, pride, and effort. To add to this, every day more and more food is coming from our gardens and orchards. But while we may have mastered preparing and serving 120 amazing meals a day, we are far from growing enough food for 120 meals a day.

The reality is that we will never produce this much food. Given our constraints of growing space, working hands, and time, as well as our learning curve in the realm of tropical food production, we recognize our limits. You can care for 20 beautiful Chive plants, but how much garlic or onions will those truly replace? One days worth at best?



*Mushrooms*

Given these factors, we are focusing our energy on scaling up what we know that works. We have five Okra plants that have consistently been giving us fruit for two years straight. Of course that amounts to a small dish at breakfast once a week. So we will be planting 100 okra plants. We will never produce enough tomatoes or cucumbers or eggplant to satisfy our desires, but we can produce huge amounts of perennial vegetables, fruit, and local staple crops. The goal of growing 120 meals

a day worth of food, may be impossible, but we are only a year away from growing all our own salad and cooking greens and five years away from harvesting all our own fruit.

This has led to a subtle shift away from garden experimentation, especially with western vegetables, toward planting large quantities of local cultivars and tropical species. Naturally this brings us full circle. Maybe we aren't accustomed to the texture of Malabar Spinach or the time consuming processing of Taro, but if we both want to cook for 120 and grow for 120, we must learn to use these crops in the kitchen and our accept them in our diet. We can continue to buy lettuce and potatoes from random suppliers or we can learn to process and eat what grows well here.

This is the second part of our challenge of growing food, and fortunately our kitchen has been and continues to be full of creative and open people who value real food. The next time you are in the kitchen, and a hungry crew awaits the sound of the conch, your feet will still be sore, but you may very well find yourself chopping up something from the gardens.

### **Conservation Update: No Fracking Way**

I took the opportunity to speak at the DEC hearings in Binghamton, NY on November 16. It was a powerful experience for me. Here is what I said to over 1,000 people who assembled at the Forum Theatre.

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I was born and raised in the Binghamton area as was my father who passionately practiced medicine in this region until his death 8 years ago. He spent his career healing and I believe would be distraught over the sickness that has overtaken many of us as we debate whether or not to poison our soils and water to enrich powerful business interests. A few years ago my wife and I were looking for a location in NYS to start a sister project to our successful sustainable living center based in Costa Rica. That was when I was first introduced to the term fracking and ultimately the issue that made us reticent about resettling in this region. The frustration, uncertainty and fear that we encountered when talking to friends here was dispiriting. Each year I've grown more concerned about and aware of the impact of hydraulic fracturing on communities and the environment and yesterday decided that I could not sit quiet any longer. To listen to the lies and rhetoric of large energy companies who will do anything within their power to squeeze the last drop of oil and the final cubic meter of natural gas from this planet has become an unrelenting source of anger and frustration. Their efforts are fracking communities across the state as residents feel compelled to take one side or the other. The millions being spent by energy companies to distort the truth should be enough for all us to say "no more".



*View from up high*

*photo by Brandy Ann Prietto*

People note and write about the strength of the people of this region as they get back on their feet after our second 100-year flood in 5 years. And yet we're told that we need to embrace gas companies that propose to further pollute our environment and contribute to ever more perplexing weather patterns that are putting at risk our very livelihoods. Visitors to the Southern Tier comment

on the region's beautiful rolling hills and forests as we lease them to those that intend to rape them. We take pride in our agricultural heritage yet sit idle as farms disappear by the dozens and farmers feel handcuffed and overcome by the temptation of high prices offered to them for their precious land by energy companies. Big energy tells us that without them, their lofty social goals and their jobs that we'll never achieve economic or energy security. We are subject to this onslaught of misinformation as we're pressured by neighbors, businesses, and industry to destroy our patrimony for short-term gain. We watch as we're told that we need to choose between the destruction of our environment and the bankruptcy of our economy when in reality economic health and a strong environment are not mutually exclusive. We need more than ever to develop sound strategies that can heal both the financial system and our watersheds.

At our sustainable living center in rural Costa Rica we capture methane from the breakdown of human and animal waste to cook with in order to reduce our dependence on imported propane. Methane, or natural gas, to us is a resource that we're able to produce with the simplest of non-polluting technologies. A \$500 methane digester will provide us with cooking gas for decades. The process of hydraulic fracturing, another way to access methane, is a polluting, industrial technology and the antithesis of our small digester. Instead of improving our environment and quality of life it threatens to poison my daughter and contributes to erratic weather patterns.

Natural gas reserves have existed under the Marcellus Shale for millions of years. We are being coerced to believe that we must drill tomorrow. And if not tomorrow, then the next day, as some sort of yet-to-be defined clock is ticking. In geological terms the decades that we should take to get this right is but a blip on the screen. Our short-term, short-sighted view is instigating poor decision and policy making. The gas would not go anywhere while we took a long-term, long-sighted approach to assure that our most precious resource, water, is being protected at all costs. We cannot survive without water. And we cannot keep our future generations healthy if we poison it with cancer-causing chemicals. We can indeed survive, and I argue thrive, without irresponsibly extracting and burning excessive amounts of polluting methane.

We must take advantage of the momentum that's been created by the delay of the Keystone XL Tar Sands Pipeline and the various Occupy movements throughout the world. This may be the last chance that we get to have our voices heard. This is our time. Concerned citizens stopped the Keystone XL Pipeline. We can stop hydraulic fracturing in New York State. Protests do work. Stand up and exercise your rights. Democracy now!

## **Farm Facts: Building for Permanence in a Transitory Culture**

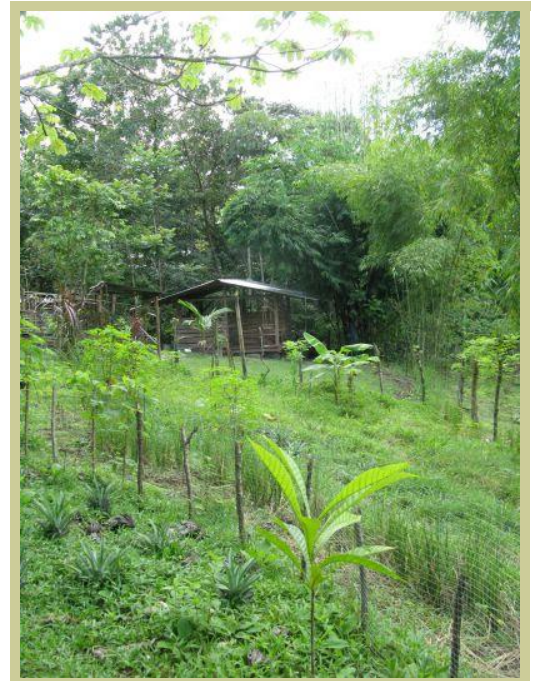
I have returned to the Ranch three times now. It has become a transitory, migratory pattern in my life. Experiencing Mastatal in this manner keeps everything fresh and new. I become filled with butterflies and excitement as I arrive in Puriscal and find my place on the bus, giving hugs or handshakes to the now familiar faces. I feel that I am joining in a long culture of returning Ranch residents, one that has created a fascinating historical narrative seen in every piece of furniture, the shaped landscape, and the language we use ("no touchy" carries on). Without a doubt this makes the Ranch special, but it also adds challenges to the work many of us have taken on: building permanent food systems.

Much of my energy is being put into building our food systems. When I last left in April, LAURA and I, with the help of many busy hands, designed and planted a number of perennial growing spaces. We put a lot of thought into how these could be maintained while we were away. We wrote instructions, drew up maps, led work parties with new volunteers and interns, and generally tried to create permanent systems that could withstand the transitory culture of the Ranch.

Even in my short trips to the Ranch I have seen over and over garden beds planted, objects built, and systems designed that when I returned were either non-existent or in disarray. This especially applies to food production. If you built a sturdy table five years ago here, you can rest assured it is still being used, but how many people have put love into growing food and building soil during their time here, only to have their efforts slowly worn down by the tropical sun and rain?

Over the last year and a half the Ranch has transitioned from building infrastructure to growing food as a primary focus. Because of this we must begin spending more energy on the tedious tasks of documentation, organization, mapping, etc. for those that come after us. The current state of the world (i.e. resource scarcity, energy demand, and climate change) demands that we as a human culture begin thinking once again in Long Time, seven generations down the road. We are planting trees, imagining the children of Mastatal harvesting the fruit. We are building systems, a culture, and a narrative with decades in mind. We are building for permanence in a transitory culture. This is our great challenge, both here at the Ranch, as well as the world at large.

Scott Gallant



*Goat house garden and orchard*

## Community Stories: Ranch Favorites

Here are some Ranch favorites put together by our Fall caretaking crew.

- Blue morpho butterflies
- Having a home away from home
- Picking the greens for salad
- Pooping with a view, pooping with a purpose
- Jumping at the waterfall
- Skunking Livi in cribbage
- Holding hands in circle before dinner
- Open air living
- Visits from Jorge with his magical chocolate
- The phoenix arising from the ashes of the cob oven
- Walking back from the river in my swimsuit when it's pouring rain and I've just had a number of beers
- Wonderful creations from leftovers
- Tapa dulce
- The wonderful world of fermentation
- Substitutions (tapa dulce for sugar, soy oil for butter)
- The people the people the people
- Costume parties
- Bamboo structures
- Getting the lucky hot solar heated shower
- Sunshine and blue sky after many days of rain
- Learning from each other
- Permaculture and the buildings
- Seeing people relax reading their books in the hammocks
- Garden work parties
- Sunday night dinners at the soda made by Chepo and Lily
- Soccer Sunday plus jungle "short cut" home with no machete
- Having Sundays off
- Experimenting in the big kitchen
- Goats, chickens, ducks (rest in peace)
- Being able to jump in on projects and helping out
- Running the board at morning meeting
- Kefir, helps me poop
- A wood shop in the jungle
- When it's 5:13pm and the light makes everything turn peach
- Pico's handsome face
- The trails and the birds
- Sleeping in the trees
- Helping Kattia cook
- The multitude of the plants in such a small area
- Learning about the plants in zone 1



*Mary and Moi*



- Making compost tea
- Baking bread
- Fairy lights

### **Intern/Guest Gossip: Buenas**

Here is the latest news dans le journal  
If you take a bus from Puriscal,  
then you should stop in Mastatal.

You will be welcome at the Rancho,  
As an intern, a guest or a voluntario,

Get ready in the morning,  
Before you hear the bell ringing.

Open your eyes in the garden,  
For better meals in the kitchen.

Compost your remains for the chickens,  
And get your eggs in all seasons.

If you wonder about sustainability,  
Ask for a tour to the Bio D,  
Have a seat there and take it easy.

When you hear the conch shell horning,  
that is to say lunch is coming.

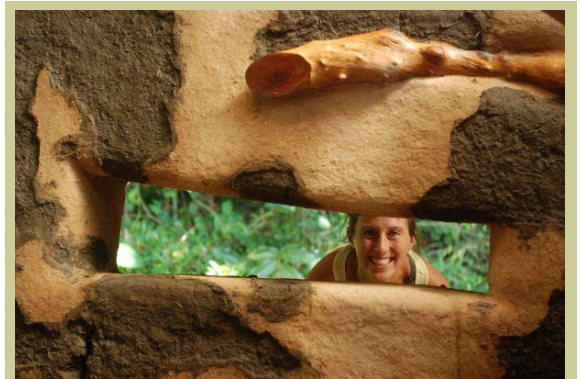
En serio, take it todo tranquilo.  
Walk down to the rio, check it out, it's so bueno!

Share a dinner with the community,  
It's gonna be very tasty.

Have a good sleep in the bamboo,  
You will see, your dreams come true.

Pura Vida

Pres and Chet



*Michelle on the set of the Flintstones*

## Comida Corner: No-Knead Bread

Since Lissa Eidelman turned us on to this recipe, we've passed it on to dozens of people. Now, we'd like to share it with everyone as we've rarely gotten a response as positive as this one has generated. If you're intimidated at the thought of making your own bread, try this easy recipe and become a believer that even you can make an amazing, beautiful hearth loaf of bread.

Adapted from Jim Lahey, Sullivan Street Bakery

Time: About 1 1/2 hours plus 14 to 20 hours' rising

3 cups all-purpose or bread flour, more for dusting  
1/4 teaspoon instant yeast

1 1/4 teaspoons salt

Cornmeal or wheat bran as needed.

1. In a large bowl combine flour, yeast and salt. Add 1 5/8 cups water, and stir until blended; dough will be shaggy and sticky. Cover bowl with plastic wrap. Let dough rest at least 12 hours, preferably about 18, at warm room temperature, about 70 degrees.

2. Dough is ready when its surface is dotted with bubbles. Lightly flour a work surface and place dough on it; sprinkle it with a little more flour and fold it over on itself once or twice. Cover loosely with plastic wrap and let rest about 15 minutes.

3. Using just enough flour to keep dough from sticking to work surface or to your fingers, gently and quickly shape dough into a ball. Generously coat a cotton towel (not terry cloth) with flour, wheat bran or cornmeal; put dough seam side down on towel and dust with more flour, bran or cornmeal. Cover with another cotton towel and let rise for about 2 hours. When it is ready, dough will be more than double in size and will not readily spring back when poked with a finger.

4. At least a half-hour before dough is ready, heat oven to 450 degrees. Put a 6- to 8-quart heavy covered pot (cast iron, enamel, Pyrex or ceramic) in oven as it heats. When dough is ready, carefully remove pot from oven. Slide your hand under towel and turn dough over into pot, seam side up; it may look like a mess, but that is O.K. Shake pan once or twice if dough is unevenly distributed; it will straighten out as it bakes. Cover with lid and bake 30 minutes, then remove lid and bake another 15 to 30 minutes, until loaf is beautifully browned. Cool on a rack.

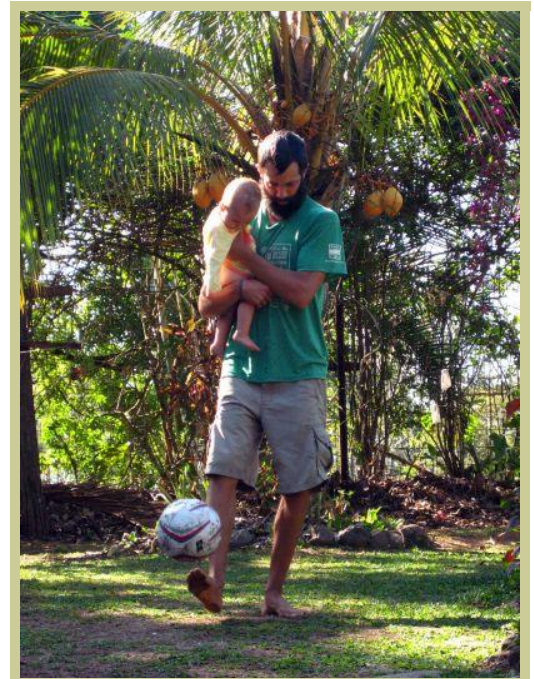
Yield: One 1 1/2-pound loaf.



*Freshly baked bread from the Mastatal cob oven  
photo by Claudio Pinzauti*

## **Futbol Follies: Starting the Year Off Right**

Los Galacticos started off the year right with a big Saturday night victory under the lights in Vista de Mar against the powerful home team. Coming in to the game, rumor had it that our opposition had not lost a game in 20 tries. This undoubtedly bloated figure did not bely the fact that we would most likely have a fight on our hands and a big challenge if we wanted to return to Mastatal with a victory in our first game of the new year. Mastatal fans came out in force with a multi-car caravan making its way down the bumpy, moonlit road to Vista de Mar. After a 1.5 hour bone-jarring journey, the game was almost cut short after an inauspicious start with two fights breaking out before the shortened first half came to an end. With the score tied 1-1 and both first half goals generating a lot of controversy, the young referee was replaced by a town veteran and the game settled in at the start of the second half with both teams immediately starting to create some good opportunities. The tie was broken on a set piece when Alex found Timo with a perfectly placed ball that ricocheted off of the latter's forehead and soon after in to the back of the net. The defense and goalie stood stunned for a brief moment as Mastatal celebrated their newfound advantage. The game remained tied for the next 20 minutes before Christian added a security goal that allowed Los Galacticos to settle back a bit and tighten up their already tough defense. The 3-1 score was a solid victory for los amarillos and appeased the large traveling crowd. We played a cohesive and energized second half which was enough to get the job done against a good team. The celebrations continued well in to the night with a new year of Mastatal futbol underway.



*Former Division I Soccer Player Red showing Sole the ropes*

Mastatal hosted a domingo deportivo the following day which succeeded in raising a fair bit of money for both the girls and boys teams. We plan on playing often this dry season and will be sure to keep you updated on soccer news throughout the year.

## **Inspirational Impressions: Helen Keller**

"I am only one, but still I am one. I cannot do everything, but still I can do something. I will not refuse to do the something I can do."

-- Helen Keller

Abrazos,

The Ranch Crew