

# Solar Harvest Farm

Food and Energy - Produced with Conscience



## 2017 Spring Newsletter

Fellow Connoisseurs of Food Raised in Sunshine,

April 13, 2017

The season is once again young and brimming with optimism. Amidst the extremes of an ever-changing climate, it's anyone's guess as to how long this optimism will last. We all have to eat so we sally forth, once again shaking the cup and rolling the dice!

As most understand, it would be irresponsible for us to delve into any discussion about food without illuminating the influential periphery. Whereas I have typed many lines to this effect, I have admittedly done so with haste. This year's newsletter is basically an unedited, seat-of-the-pants rendition that should have been critiqued for grammar and clarity. I suppose you could deduce that this is how I look without makeup. :)

Teasers: Pricing; More Beef!; Pastured Chicken - in June; Butcher Shop Options; 2016 Trials & Tribulations; Projects; Growing our own Nitrogen; More Solar ; Local Solar Group Buy; Butcher Shop Bottlenecks; The Corporate Alter; Water Wars; Glyphosate (Roundup) Food Residues; Defining Non-GMO Labeling; Freedom Ranger Comparison Refresher; Cowspiracy Rebuttal; The Forgotten Potential of Glass.

### 2017 Seasonal News & Changes

Once again, no price increases for 2017! Better yet, Grassfed Beef pricing is now offered at a nice reduction for those willing to commit to a whole beef. There's a reason I've offered this reduction and I don't yet know for certain that this will be offered in future years. Our additional acreage acquired in 2012 is now very productive thus allowing us to offer more beef. Historically, each season's beef offerings have sold out in as little as two weeks. Aside from customer-requested changes, it's been rare to have beef available beyond Memorial Day. My concession for a whole beef is rooted in the knowledge that I will now have to commit myself to reallocate valuable peak-season time to marketing this additional beef. The price reduction creates an incentive for you to find others to split a whole beef. Of course, if you want it all to yourself, you still get the price benefit without the additional work of finding others!

**Pastured Chicken Available in June!** Adapting to the extremes of climate change has forced its way to the front of the line. While settling into a well-rehearsed farm management groove might provide a warm-and-fuzzy, it is now clear that adaptation is imperative to survival. While this will now be our fourth season after the pastured poultry switch from Cornish Cross to Freedom Rangers, we've yet to find stable ground. The heat and drought of 2016 would've had serious implications to either breed. Nevertheless, in spite of improvements made each season, the 2016 Freedom Ranger weights were unacceptable. We want to impress upon you that we are making aggressive changes to rectify this problem. We are well aware of the Cornish-Cross yardstick that many of you have no choice but to measure us by. We raised Cornish-Cross on pasture for a long, long time and had become very successful in obtaining AVERAGE dressed weights of over five pounds. While I won't rehash the reasons for the change to FR's, as this has been covered extensively in previous newsletters, I will remind you of this: It is egregiously unnatural for chickens to grow this fast. We ask for your patience and understanding as we juggle the intricacies inherent to Freedom Rangers amidst the implications of climate change. While we are not established as a CSA, in which customers assume the same direct risks as the farmer, we are hoping that all of you are willing to keep some skin in the game by continuing to support this truly unique enterprise through these trials. No, we cannot yet provide assurance of obtaining those big, meaty birds. Yet based on our own experience as well as feedback from many others, whereas the weights have been less than desired, the quality as perceived through the dinner experience, has remained exceptional. Like other grassfed meats, cooking lower and slower remains key.

To mitigate mid-summer heat concerns, we'll start brooding these chicks several weeks earlier this season. This does create a problem on the other end, that being the extreme likelihood of having young birds in the field amidst freezing temperatures. I will be building and installing a barrel stove in one of the field shelters to provide supplemental wood heat. I'm hoping that one large shelter will be enough as we normally don't jump-the-gun by spreading the birds out too soon anyway. The cold side of the season has even greater potential for detrimental mortality and performance problems, especially if cold is combined with wet and clammy. Cold adolescent chicks will pack tightly to steal each other's heat, ultimately leading to multilevel pile-ups. To the extreme, the potential exists to lose hundreds of chicks in one bad overnight situation. Cold, wet and clammy, on the other hand, creates the vector for pathogen proliferation which in turn induces the scenario in which the pathogens consume a substantial percentage of daily gain. We HAVE to

prevent both circumstances by keeping the birds warm, draft-free, high and dry throughout these inevitable weather sessions. "If" we are successful in managing these risks throughout the early end, we are much more likely to be successful in providing you with heavier dressed weights. Short of moving the flock into air-conditioned quarters, there is almost nothing we can do to stimulate appetite amidst the summer heat as we experienced in 2016. This is the Goldilocks dilemma as we seek out the sweet spot of not-too-hot and not-too cold.

### Custom Butcher Shop Update

In addition to Harry Hansen's and Detjens, we're once again offering Lake Geneva Meats as an option! For 2017, Lake Geneva Meats is available for July beef and late October pork. Their location east of Lake Geneva on Hwy 50 is favorable to an ever-increasing number of our farm's supporters.

### Looking Back - 2016 Summary

Our big story for 2016 was the summer-long drought - a drought which very few people knew of. Our farm's location turned out to be in the bulls-eye of a narrow oval-shaped area which missed out on almost all the rain. This drought, in concert with perpetual sunshine and heat, set the stage early for a problematic season. As I've talked with others at various locations, the area effected ranged from East Troy to Wind Lake and Mukwonago to the north side of Burlington. By July, our cool season grasses were completely dormant. It was frustrating to continually witness downpours to the north and west dissipate around our area. It happened so many times as to give the impression of an invisible atmospheric barrier.

It wasn't just the forage that suffered. Like we humans, heat and appetite are inverse to each other. In a pasture environment, consumption requires heat-producing exertion adding insult to the fact that food is energy - energy that produces body heat. Instinctively, every animal on the farm reduced their consumption. Weight gain through August was well below expectations. The first casualty was the pastured chickens followed closely by the July beef harvest. By mid August I was begging the butcher to go long on swapping the earliest pork harvest. Fortunately it is much easier to move out than it is to move in. Regardless, the logistics of moving so many orders was expensive. We are grateful to have such a cooperative and understandable customer base as we rescheduled everyone successfully over several alternative harvests.

The bottom line hit the hardest were the pastured chickens, coming in three quarters of a pound below expectations. This completely disincentivized this enterprise for the season. The July beef weights were also far below expectations. As is the case with all weather-related farming ventures, weather anomalies induce additional labor and expense while at the same time diminishing income. Mother Nature can be a sadistic taskmaster when she get's PO'd. I'm reminded of that old Chiffon margarine commercial... *It's not nice nice to fool Mother Nature!*

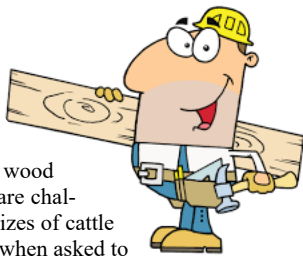
Whereas the chickens and July beef were literally impossible to resolve, we were left with the task of creativity for salvaging all of the Autumn harvests. We were successful in producing anticipated weights for the remaining beef and pork. This was accomplished primarily by giving up all our hay fields for beef grazing and forage for the hogs. We also reestablished our former drought acreage which had



not been used for three years due to wet conditions. I had been helplessly watching nature reclaim this former laborious 2012 drought project. Between the rapid growth of woody vegetation, fallen trees and persistent deer damage, all four wires were down, broke or tangled. I approached this rework project with a feeling of futility only to discover that, one wire at a time, it wasn't as bad as it looked. Three days labor was invested for the reward of 10 additional acres replete with shade, grass and abundant browse material. We weren't going to break any daily gain records in this environment, but then again, the cattle would be comfortable while holding their own.

With the grazing rotation now extended with the added acreage provided by the drought pasture and taken from the hay ground, the non-grazing rest period increased substantially allowing regrowth. By Labor day, all this was in the rear view mirror, the rains returned and temperatures were less harsh. Our weights were reasonable, yet accomplished with the sacrifice of our entire hay crop. However, that gloomy cloud hanging over our heads cleared somewhat as October and November unfolded. The unusually warm and long Autumn brought the cool season grasses back out of dormancy. Our new crop of calves grazed on high quality pastures well into December, effectively paying back about a third of our lost hay production.

**Project Status** As many will recall from recent newsletters, the redesign of our handling and loading facilities has been a priority. Handling an increasing number of livestock amidst the diminishing availability of family members induced this need for safe, efficient facilities. In short, this translates to strategically placed heavy wood posts and steel gates. To avoid redundancy, we are challenged by our diversity as we need to handle all sizes of cattle and hogs, both species behaving very differently when asked to pass through these facilities. The most extreme example is the fact that cattle will herd tighter and tighter as they feel pressure. Conversely, herding hogs is like herding cats! Couple this every-pig-for themselves mentality with their notorious "pig-headedness" produces excellent fodder for YouTube entertainment. It's a weird thing...that people like to watch other people chasing hogs. I'd presume this is because all too often, the hogs win! Yet while loading hogs that are not accustomed to confined facilities can be challenging and time consuming, aside from the concern for having your knees hit hard from the side, for the most part, it's relatively safe. Cattle on the other hand, can swing from passive to spontaneous combustion at the drop of a hat with the end result being busted facilities, livestock on the road or someone hurt, potentially bad. There's never any turning back. When things go wrong, it always happens so fast that you never knew what hit you, never saw it coming and certainly, can't do a darn thing to stop it. The longer a person lives through these spontaneous moments - an animal attempting to bust through a fence, jump over a gate, a family member getting charged or kicked and watching them go down - one asks themselves as they imagine this happening "what would I give at the moment that this happened, to have prevented this from happening?" It seems to be human nature that we always wait until someone gets hit by a train before we finally agree to spend the money on crossing gates. After all, why in the world would we spend money on crossing gates if no one's ever been hurt?



The facilities at the Forty were modified to accept reality. Even without the knowledge learned from the likes of Temple Grandin or Bud William's *Bud Box* concept, I believe every person handling cattle discovers on their own that cattle being pressured always want to circle back to exit where they entered. Yet there are many other non-animal variables that also influence a layout. In a nutshell, my first layout subordinated some of the cattle psychology to the needs of the truck and trailer - specifically keeping the truck and trailer on gravel OUTSIDE of any muddy, messy paddock. Perhaps I was influenced by an earlier event in which a Hereford decided to do some "bodywork" to my pickup truck. Regardless, three words: That was stupid. The cattle wouldn't move through as they couldn't double back to the location where they entered. The winning layout put the cattle psychology as primary. The reward: Move them slowly into the box, step back, watch them walk directly into the trailer. Yes, someone always has to be at some risk high-tailing behind the caboose. If someone is not charging in behind the last animal, keeping the line tight, the first animals in the trailer will try to double back. This final moment cannot be avoided - the slamming of the trailer door. This moment represents two seconds of pure luck and adrenaline. In exchange for this smooth animal loading, we put the truck and trailer at risk of getting stuck as they had to be positioned inside a potentially muddy paddock. If/when it happens that heavy rains occur amidst a loading date, we'll have to plan to pull the rig out with a tractor. All-in-all, still a reasonable tradeoff.



## Nitrogen - Make or Buy? (An Ongoing Farm "Project".)

Mother Nature can be a sadistic ole bag! Of the air we breath, a whopping 78% is nitrogen. Nitrogen is essential and integral to amino acids, proteins and chlorophyll - which is obviously essential to photosynthesis. Photosynthesis manufactures plant life and the oxygen we breath. Yet atmospheric nitrogen is INERT. Sadistic indeed!

The chloroplast's in plants cannot gain access to this essential atmospheric nitrogen without assistance from some uniquely qualified covalent-bond-breaking specialists. Up until 1909, those nitrogen bond-breakers existed exclusively in the natural world. Yet even in 1909, we'd only been able to identify the source of these natural "nitrogen fixers" for a few decades. The primary natural nitrogen fixers are small animals - microbes that live in the soil. Lightening is the other natural phenomenon capable of breaking nitrogen's triple covalent bonds.

1909 was the game-changer for nitrogen fixation. This was the year that two chemists - Haber and Bosch - developed the fossil-fuel dependent industrial process that conventional agriculture still uses today to synthesize ammonia from hydrogen and atmospheric nitrogen. Sodium nitrate, ammonium nitrate, ammonium sulfate and urea are manufactured by various reactions involving oxygen, nitric acid, sodium carbonate or carbon dioxide. These components put the "N" in the NPK plant growth philosophy. The "N" component is then blended with Phosphorus and Potassium fertilizers, each of which is offered in various formulations as sulphate's and/or chlorides.

This is a simplistic generalization, yet even in this simple form, the liabilities of NPK agronomy become apparent. Most notably, whereas the supply of atmospheric nitrogen is almost limitless, the fossil-fuels essential to the Haber-Bosch process are indeed limited and non-renewable. Transcending this depletion of natural gas via fracking as well as the coal required for vast amounts of necessary electrical energy, lies the collateral damage induced on society and environment by the acquisition, defense, extraction and distribution of these finite resources. The former concern is more prone to effect future generations. The latter imposes itself on society in the here-and-now.

Less obvious is the fact that many of these fertilizers are sulfates or chlorides, salt and chlorine being detrimental to soil microbes. Here we expose the treadmill: Soil microbe populations are diminished with each application of NPK agronomy ultimately inducing complete dependence on expensive, limited synthetics.

## The Alternative? Grow Your Own!

This philosophy represents the demarcation line between agribusiness and organic agriculture. Since the inception of this farm in 1993, we have never applied NPK agronomy to our acreage. From the environmental and societal perspective, we're not complicit to the ever-increasing demand for fracked natural gas. Hence, we are not removing Triassic carbon from the ground to be burnt and converted into atmospheric CO2. Nor are we complicit in the numerous collateral aspects associated with fracking. Toxic carcinogenic fracking fluids contaminate surface water, groundwater and adjacent properties. Just ONE fracking well will now consume 4 - 9 million gallons of fresh water. Taking the average, picture all the water in 10 Olympic pools - all the water that 18,000 American households use in one day. There are tens of thousands of fracking wells (some sources claiming 300,000). Does it matter when ONE is already too many? Frack Sand mining - to which Wisconsin is the number one supplier - burdens locals with health, quality of life and infrastructure constraints. On the world stage, the accelerating demand for fossil fuels continues to induce war, death and instability by the destruction of families as refugees of oil-rich territories.



**Growing your own nitrogen** requires a farmer to be cognizant of two primary biological participants. First, recognize that there are soil microbes capable of "fixing" atmospheric nitrogen. Second, we need to create an overall microbe-friendly environment while at the same time feeding these microbes the food they like - legumes - the specific types of forage plants with favorable root systems.

The goal is to maintain pastures to contain about 40% legumes. There are dozens of options to consider amidst varieties of clovers, alfalfas and vetches, each with their own preferred soil conditions. Over a period of 5-10 years, the impact of weather extremes and pasture management gradually diminish this legume population. In order to continue growing our own nitrogen, a farm needs to interseed a fresh seeding of legumes at a rate which will reestablish a 40% stand. We do save the expense of purchasing fossil-fuel nitrogen for the tradeoff expense associated with interseeding. Meanwhile, the carbon stays in the soil as both the purchased seed and no-till interseeding do not induce a photosynthetic imbalance - as occurs when mining and burning Triassic-period carbon.

## The Art and the Science of growing your own nitrogen

converge amidst a wide array of variables. Even with just 100 acres to work with, this small farm contains a dozen different soil types, each of which imposes decisions in regards to water retention, soil biology and resultant plant adaptability. This is often where idealism succumbs to reality as every soil type has different potential. To some degree, we can influence changes in the soil to reach ideal conditions. Yet other soils remain limited. In our case, these limits are primarily influenced by the anaerobic conditions that accompany heavy, water-logged soils at the beginning and end of each growing season. Whereas this is a liability in April, May, June, October and November, these heavier soils have been saviors amidst the Dog Days of July, August and now even September.



**Rejuvenating pastures** has been, and will continue to be, an ongoing “project” on a farm that grows it’s own nitrogen. We are now utilizing two different types of “no-till” seeders. The extreme climactic events that we are now forced to work in have created entirely new challenges. The interseeding I did in 2016 was all completed prior to the unforeseen full summer-long drought. While we did finally see some evidence of seed establishment in October, (because of the abnormally warm Autumn), we unfortunately lost a year’s worth of experimental results as we must now wait through this 2017 season to evaluate the best varieties vs the soil types these varieties were planted in. We used the Brillion Till N Seed for the 2016 interseeding, which had proven itself worthy in previous conditions. The drought that immediately followed this seeding demonstrated a liability inherent to this style of seeder, primarily because it stirs the full width to a depth of about one inch. This, as opposed to a conventional no-till drill which functions utilizing three successive implements. The first slices grooves in the soil seven inches apart, the second opens and deposits seeds in the groove followed by a press wheel which firms soil over the seed. What happened was that the drought conditions amidst stirred soil heavily favored the natural seedbank which ultimately out-competed our domestic seed for limited resources. This would be all well and fine if these were plants which made for good forage.

Ultimately, interseeding is a perpetual struggle both with and against nature. The soil already has all the seeds it needs to cover itself as well a commensurate array of soil biology which is complacently content with the conditions these wild plants induce. Sometimes it’s the other way around in which the microbes influence the diversity of plants. Yet we selfishly need to produce food - food that is both desirable and nourishing to the animal which consumes it. Ideally, we’re aiming for the perfect, diverse blend of clovers and grasses which are compatible with a specific soil type. The more diversity the better. Legumes at 40% amidst six or more varieties of grasses provides the best hedge for feeding soil microbes what they need to fix nitrogen, free-up and transport nutrients and sweeten the forage - because every animal loves sweetness as much as we do. But just like a parent recognizing that their kids won’t be healthy on sweets, we also have to provide a blend of forage which balances protein and energy. Performance and health suffer when this is imbalanced, disrupting the gut biome, creating excessive gas and even taxing the liver. Of course plant “diversity” is also a bulwark against pathogen and pestilence. But turning the table, lets not forget the natural perspective. Many wild seeds persist to this day because of the allelopathic tools in their genetic toolbox. These seeds utilize biochemical warfare, either to expedite their own beneficial growth, or, to the direct detriment of their competition. This biochemical tool is further enhanced by the strength-in-numbers that accompanies their apparent quest for dominance. Once you know this and witness this insidiousness in the field...it’s actually kinda’ creepy to walk through! Just because we don’t possess the *receiver* capable of *hearing* these plant *conversations*...doesn’t mean they’re not communicating with each other. To a fault, we’re a very arrogant species.

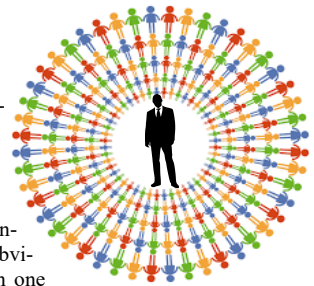
**Two Additional Solar Arrays** are already in the works, this in addition to the 8.2kw grid intertied array on the barn and the 1.5kw battery-based system that powers the house. We are adding 2.0kw to the home array and 0.6kw to the “Forty”. The home array has been taxed powering all the water-pumping and electrical needs associated with the cattle, hogs, brooding, pastured poultry and egg layers. Any surplus PV energy created during winter months will be put to work heating water and air. PV costs have dropped to a level in which PV-direct heating can now be considered as a viable option to enhance existing passive solar and efficiency concepts already inherent to our farm’s structure. The smaller solar array for the Forty will be used to pump water.



**Solar Aside:** A SE WI group is currently educating and implementing photovoltaic installations via the economies of group purchasing. Visit <http://www.swsgb.solar>. A link can be found on our farm’s website. Info sessions in May. Local opportunity is knocking... Open the door!

## Parting Thoughts on the Bigger Picture

For millennia, philosophers, poets and songwriters have instilled the admonition that *no man is an island*. As this year unfolds, I’m sensing this exhortation should be tugging at our collective conscience. Something is dreadfully wrong, not just in the engineered partisan left v right context, but more deeply disturbing, in the context of what it means for all of us to be human-beings participating and mutually benefiting as a progressive society. Yet in spite of the obvious recognition that we are indeed dependant upon one another, it is equally apparent that many are unaware, indifferent or even contemptuous toward this inter-societal dependency.



More than ever, individuals are dependent upon others in society for virtually all of their basic needs, yet intolerant to anyone or any thing which does not benefit them personally. An influential number have gravitated inwards towards complete selfishness. This what’s-in-it-for-me mentality discredits and disparages anything that isn’t a personal need or isn’t personally understood. This societal nadir becomes egregiously unbecoming, not just due to this selfishness, but because we’re now willing to subject our own children to the readily perceivable consequences induced by self-centered actions.

It’s been said that *society grows great when old men plant trees whose shade they know they shall never sit in*. Certainly, society does indeed still plant trees. But these trees are specific trees - in specific places - with specific speed - inducing specific shade - for specific people. And when these specific trees are cut and sold, our society’s specific old men secede from this very society, the bounty that could have been - self-consciously should have been - recirculated back into that very society from which these old men were given refuge to prosper.

What happened to our old men? (And yes, it is still predominantly old men making these decisions.) They live their entire lives enjoying society’s benefits - the freedom - the infrastructure - the luxuries - yet now stridently feel it is their proprietary prerogative to expatriate the essential fertility necessary to sustain their own society.

The expression *don’t eat your seed corn* has literal roots amidst the history of our still nascent agricultural society. Had our forebearers failed to heed this advise, few of us would exist today. Yet saving seed is naturally contentious for it demands the prescience that we forego consumption of a substantial percentage of resources in spite of immediate human needs to consume those resources. As agriculture has evolved to our modern variant providing such abundance, so too has the aphorism, as the contention now evolves from logistics to that of ethics: Not only are we eating our seed corn, we’ve now allowed it to be hoarded and controlled by a very small percentage of societal participants.

Out of the philosophical context and into reality, *seed corn* is not metaphorically relegated exclusively to agriculture but to the inclusiveness of all essential resources. Formerly sequestered deep in the earth for 200 million years, ancient Triassic carbon is depleted in less than 200 years - an instant in geologic time - it’s spent gasses received as a massive dump into the atmosphere, overwhelming any possibility for balance of the contemporary carbon cycle. The prerogative of control over water exists amidst the highest concentration of fresh water in the world, this sanctioned private control being granted along auspices similar to eminent domain. Just three corporations control 53% of seed, ten controlling 73%. Proprietary GMO corn and soybeans account for 80% and 93% respectively, of all corn/soybean acres planted, this seed being controlled by just four corporations. Four companies control 80% of the beef market. Four companies control 60% of the poultry market. The top 20% of agricultural producers receive 86% of farm subsidies. Amongst all wage earners, .1% control almost as much wealth as the bottom 90%.

In this post-Citizen’s United world, it is futile to debate these concerns on the basis of left/right ideologies. With the exponentially deep corporate pockets now legally influencing all aspects of society, what then, is the way forward? The answer lurks deep within the human spirit. Yes, we care about our corporate jobs and the performance of the corporate stock market, but transcending this is our mutual concern for our children’s future. We know we have to plant those trees whose shade we know we’ll never sit in. We know this will require a change of priorities. Yet in this *taxed enough already* political environment, do we have the willpower to induce change for the sake of our children?

An inspiration exists amidst the legacy of 1930’s Americana. Look around. It’s EVERYWHERE. For 80 years, we’ve been riding on FDR’s shoulders - sitting in FDR’s shade. Amidst our worst depression, we built expansive infrastructure - dams, bridges, tunnels, roads, airports, courthouses, high schools, libraries, post offices, city halls, fire departments, electrified rural America, created Social Security, gave purpose to the young through the CCC, provided backbone for “weekends” and protected our savings via the SEC, FDIC and Glass-Steagall.



The aspirations of one-man-entrepreneurialism and induced job-creation absolutely could not reach fruition on a private island. The personal energy spent on creative thinking is derived - indeed *extracted* - from the energy of society. In essence, a job-creator is someone who has relinquished personal involvement in obtaining life-sustaining physiological and safety needs. Without the benefits of society, entrepreneurialism would be little more than a dream, relegated far below the pangs of hunger, warmth and security. While jobs are indeed being created from the aspirations and creative intellect of individuals, a multitude is responsible for the womb in which this development is nurtured - producing their food, procuring their energy, pumping their water, educating their children, building their shelters, putting out their fires, protecting them from theft and violence, curing their sickness, cleaning their toilets, hauling away their wastes and defending the flag of their country.



Even though corporate-speak now trumps constituent-speak, we still possess the power to change the market through the purchasing and voting decisions we collectively make. Yet for the moment, we are in the most unflattering human predicament in which we are only able to politically induce human empathy by first manipulating corporate apathy.

Meanwhile, we desperately need to work to invert the present corporate hierarchy. We're worshipping at the alter of job-creation - humanity and environment be damned. We no longer name our gathering places after influential human-beings or historical sense of place. We've apathetically accepted the absolute absurdity of corporate personhood, our legislation now indifferent to social or environmental concerns. We - function - without - conscience.

I'm at the age where I've begun to ask myself an important looming question: In spite of the success that this family farm enjoys at this moment, would I feel comfortable coaxing the next generation into accepting the reigns? The answer is far from a firm yes. In effect, the few farms such as ours, successful as they may be, are implicitly grandfathered as vestiges of otherwise unallowable non-conformance to *industry* standards. Industry, via industrial farm organizations, DATCP and the likes of ALEC, has been litigiously ruthless in disallowing others to share "their" market, yet insidiously savvy in passively allowing existing holdouts to simply die of attrition. Consumers, as the only affront to industry, haven't risen to the alarm, choosing instead to repeatedly hit the snooze button. The collective response demonstrates apathy or indifference to the impact that all this selfish snoozing will have and already is imposing on our current population of young adults.

The end game is that young people can't afford to farm in almost any capacity. Adjusted for inflation, Millennial's wages are a mere fraction of those received by Baby Boomers when they were in their 20's. In simplest terms, it takes a \$50 bill in 2017 to buy the same thing as \$20 bill bought in 1982. Anyone willing to spend five minutes with an inflation calculator will instantly recognize the hopeless dilemma that far too many young people are literally trapped amidst. A Boomer's trip down memory lane is easily refreshed by sitting down with their annual SS statement and web inflation calculator. A lot of us were earning \$35,000 in the mid 80's. We were living comfortably but by no means affluently. That same level of comfort now requires \$80,000, yet a good many of Millennial's with BS degrees are lucky to earn \$50K at this same age. This point always seems to need clarification: *Calculating the effects of inflation, a typical 25 year old in 1985 was earning \$80,000 a year.* The correlation to the copious financial needs necessary for a young 2017 upstart farmer should be immediately obvious. Furthermore, it is not rational to expect everyone to aspire to be the next Bill Gates or Mark Zuckerberg nor does society *need* any more than a handful of these innovators. We now have 8 billion early-birds going after a handful of proverbial worms. Get in line. We haven't seemed to recognize that most people are *happy* when they can earn enough to live reasonably comfortable, paying their bills with a little left over for fun. It's not the coveting of other people's wealth. It's a playing field which allows a living wage for the vast majority that require a living wage. This equates to a minimum \$50,000 salary yet the vast majority of remaining jobs - *which society deems essential* - pay half this salary. If we want a recipe for perpetual violence and dependency, we need not change anything.

There are just two types of farmers left in this country: Those who inherited a farm; Those who purchased a farm with 20th Century earnings and/or accumulated from off-farm income. Both types are largely represented by people in their mid to late 50's. Both of these farmers entered the occupation with one or both of the following advantages that Millennial's cannot replicate: Palatable ratio of land prices relative to society earnings; Substantial cash and 401K savings earned amidst 20th Century wage and benefits protocol.

Adding it up: Millennial's are forced to spend most of their earnings on the basics. An increasing number go without healthcare or pay for their own - which has the potential to consume one third to even half of earnings. 401K contributions are decreasing or simply not offered. Without this head-start and retirement seed money - as was enjoyed by Boomers either via inheritance or superior off-farm income - upstart farming is now a recipe for financial failure. Now couple this with industry's control of markets and the dynamic influence of climate change. Granted these risks exist for us today, yet we at least had the luxury of accumulated 20th Century wages and benefits to fall back on.

What's the point of belaboring all this now that a new world economy has precipitated so much of this? Isn't it redundantly *preaching to the choir* to discuss this in an alternative farming publication which is read exclusively by like-minded alternative farming supporters? The brush stroke being so broad, it's not that simple. The ideological demarcation line is represented by an individuals opinions pertaining to the societal implications of Citizens United, partisan Gerrymandering, Campaign Finance Reform, the explicit legislative influence of ALEC and the perceived role of humanity in altering the climate.

Differentiating fact from opinion, it is factual to state that each one of these subjects have induced epic change within our society. The perspective of opinion is introduced when we ask ourselves if these epic influences are compatible with a free and democratic society. Asking that another way: Can our children thrive amidst the evolution of these influences? How much should you or I care *if I already got mine*? If we do care, have we/will we inform and vote for candidates intent on resolving these epic concerns?

Or, will we yawn and hit the snooze button one more time?

It starts to sound like the typical partisan divide until the reader is reminded of the platform this farm and writer are standing on. We are unrelentingly independent. We produce food and energy locally. We take responsibility for our own actions, producing this food and energy with conscience towards environment and human-beings - present and future. We don't pass the buck. We don't kick the can. We don't play games with your perceptions. We don't subject you to fast talk and small print. We don't know where the FSA office is. We don't accept subsidies. We have no need for a Farm Bill, per se. In every respect, we are off grid, requiring no government assistance while at the same time not just mitigating the collateral burden on society, but offering and implementing real-world solutions to societies most pressing concerns. Yet to the establishment, many of which promote themselves as champions of *less government, more liberty*, we are viewed, potentially, as illicit producers of food & energy.

If farmers continue to be legislated out of processing and marketing - where 84 cents of every food dollar is earned - then the 16 cent leftovers will continue as the sanctioned paradigm of farm dependency and industrial conformity.

No time to lobby your legislatures?

Join the Wisconsin Farmer's Union.

They will passionately present these issues on your behalf.

[www.wisconsinfarmersunion.com](http://www.wisconsinfarmersunion.com)

You don't need to be a farmer to join. But recognize this reality:

If your fork is reaching out directly to a small farm...

a farm which is 100% dependent upon your fork...

you ARE farming.

**P**ick the primary reason you support this farm:

Locally-Produced; Food Safety; Health & Nutrition; Eating Experience; Antibiotic Resistance; Chemical Residues; Non-Point Pollution; Groundwater Contamination; Water Conservation; Family-Farmed; Animal Husbandry; Locally-Produced Solar & Wind Energy; Carbon Sequestration; Soil Preservation; Peace-of-Mind; Peace on Earth.

While this last one remains hopeful surrealism, all others are tangible.

You pick your main reason for supporting decentralized, diversified alternative farming - all the other PRICELESS benefits tag along.

Seems surreal to resolve so many concerns on a local level?

Pinch yourself...it's REALLY happening right here at Solar Harvest Farm.

We're providing *Locally-produced solutions to Globally-induced problems.*

"We" means all of us - as Producers and Supporters alike.

We couldn't do this without each other...

Because not one of us *is an island.*

From our Family to Yours,

**THANK YOU** for being part of this!

*Steve, Michelle, Richie, Sheri & Sarah*



# Solar Harvest Farm

2017 Harvest Schedule for Pastured Meats & Eggs

Keep on your refrigerator for future reference!

www.solarharvestfarm.com



**Pastured Chicken** Certified Organic Feed Price: Qty: 3-9 \$4.49/lb Qty: **10-19 \$4.29/lb** Qty: **20 + \$3.99/lb**

Whole chickens typically 4 - 5 lbs dressed available fresh (NOT frozen) on the dates noted below in green. Here's how to obtain:

- 1). Choose a date in which you will be available to pickup your order.
- 2). Email us to reserve your order. (Or call if you don't have email.) Also tell us if you want livers, hearts or gizzards. (Note: Priced at the same rate as the chicken.)
- 3). Mark it on your calendar!

**Freedom Rangers!**

Arrive on the designated date and time with ample cooler space and ice. To assure availability it is best to reserve your needs well in advance.

However, because openings sometimes occur at the last minute, feel free to inquire at any time.

Volume pricing requirements: Picked-up on time; Single payment per order. (The incentive for us = less transactions and a reduction in people who forget to come!)

**Pastured Eggs** Certified Organic Feed Price: \$6.00/dz (Equates to approx \$3.30/lb) 2dz min order. Pickup Mon. thru Sat.

**Grassfed Beef** Rotationally-Grazed Price: Quarter Beef \$5.49/lb Downpayment: \$100/Qtr

Half \$5.29/lb\*

**Whole Beef \$4.99/lb\* New!**

**Pig-Happy Pork** Certified Organic Feed Price: Half Hog \$3.99/lb Downpayment: \$100/half

Whole Hog \$3.69/lb\*

**Compare! We utilize forage & Certified Organic Feed!**

**Raising More Every Season To Meet Demand!**

\*Volume discounts available provided that the order, deposit and final payment are under one name. (Please handle splits between individuals internally amongst your participants.) Pork/Beef pricing is based on hanging wt. Processing costs are extra with estimates listed on the next page.

Our livestock do not receive hormones, medicated feed or rendered by-products. **The feed provided to the chickens and hogs is CERTIFIED ORGANIC by M.O.S.A.** In addition, the chickens and pigs consume respectable amounts of our organic forage.

Our Grassfed beeves are raised on their mother's milk and pasture for the first 7-8 months before weaning onto a winter diet of hay and organic mineral. In spring the beeves are then finished exclusively on our rotationally-grazed pastures. The hay we make is organic however we must also purchase hay, some of which is not organic. Unlike row crops, purchased hay is never sprayed with herbicides or pesticides. As we work towards the goal of obtaining more land for making hay, we expect to diminish purchased hay accordingly.

Our soil fertility is enhanced via direct animal impact as well as our own compost. Mineral consists of Icelantic Kelp, Redmond salt, rock mineral and microbials. We do not use the standards of diesel fuel nor toxic insecticides for fly control.

**Organic electrical energy is produced on site via Solar and Wind power.**


**Calendar Details:** GREEN dates are picked up directly at the farm during the listed timeframe. The Sept 16 and Sept 30 dates utilize Detjens of Watertown as the butcher. Most people request that we bring these orders back to the farm. However, if Watertown is better for you, simply tell us and we will arrange for you to pickup directly. If you do decide for direct pickup in Watertown you will have a wider window of pickup date options. The dates in BLUE are for orders to be picked up directly at the butcher. If there are two butchers listed, tell us which butcher you prefer when you submit your order. The BLUE dates shown represent the ESTIMATED BEGINNING of pickup options. Your actual availability date will be communicated to you by the butcher at which time you typically have two weeks to retrieve your order.

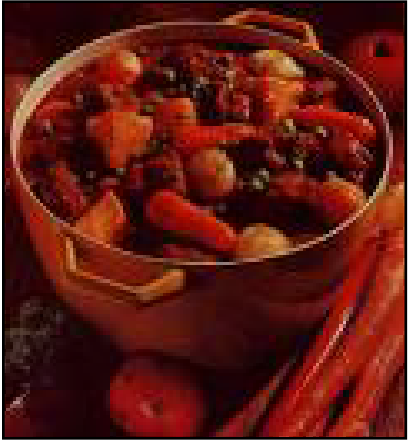
June	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
		19	20	21	22	23	Chicken Pickup 1-3 pm At Farm 24
	25	26	Chicken Pickup 4-6 pm At Farm 27	28	Chicken Pickup 4-6 pm At Farm 29	30	

July	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
	2	3	Holiday	Hansen & Lake Geneva Beef Pickup Begins 5	6	7	8
	9	10	Chicken Pickup 4-6 pm At Farm 11	12	Chicken Pickup 4-6 pm At Farm 13	14	Chicken Pickup 1-3 pm At Farm 15

September	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
	10	11	12	13	14	15	Beef & Pork 10-Noon At Farm 16
	24	25	26	27	Hansen's Beef/Pork Pickup Begins 28	29	Beef & Pork 10-Noon At Farm 30

October	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
	8	9	10	11	Hansen's Beef/Pork Pickup Begins 12	13	14
	15	16	17	18	Lake Geneva Pork Pickup Begins 19	20	21

Typical Costs for Half and Whole Pork				2017
Item	Hanging Wt x \$/lb	Meat \$ to Farm	Processing \$ to Butcher	Total Cost Estimate
Pork - Half Hog	90 lbs x \$3.99	\$359	\$89	\$448
Pork - Whole Hog	180 lbs x \$3.69	\$664	\$179	\$843
<b>Typical Yield From Half Hog</b> (Double for Whole Hog.)				
Cut	Lbs	<p>Because of natural variations, you will be asked if you prefer large, medium or small with final costs commensurate to your decision.</p> <p>Pork halves range from 70-120 lbs. Range potential of Total Pork Cost: \$350-\$680 Beef quarters range from 90-160 lbs Range potential of Total Beef Cost: \$560-\$990</p> <p>2017 July Beef will once again be approximately 25% heavier than the estimate below. If you prefer more beef, request the July harvest!</p>		
Ham	16			
Shoulder Roast	10.7			
Ground Pork	10.2			
Chops	9.4			
Bacon	6.5			
Loin Roast	5			
Pork Hocks w/meat	4.2			
Spare & Baby Back Ribs	3			
Neck Bones w/meat	2.5			
Liver (for liversausage)	2			

Typical Costs for Quarter and Half Beef				2017
Item	Hanging Wt x \$/lb	Meat \$ to Farm	Processing \$ to Butcher Detjens - Hansens - Lake Gen	Total Cost Estimate Detjens - Hansens - Lake Gen
Grassfed Beef - Quarter	120 lbs x \$5.49	\$659	\$75 - \$89 - \$98	\$734 - \$748 - \$757
Grassfed Beef - Half	240 lbs x \$5.29	\$1270	\$145 - \$169 - \$192	\$1415 - \$1439 - \$1462
Grassfed Beef - Whole <b>NEW!</b>	480 lbs x <b>\$4.99</b>	\$2395	\$290 - \$338 - \$384	\$2685 - \$2733 - \$2779
<b>Typical Yield From Quarter Beef</b>				
Cut	Lbs	<p>* Processing costs vary by butcher. The lower price is Detjens. Detjen orders are typically brought back to our farm for convenient local pickup. However, you may pickup directly in Watertown if you prefer.</p> <p>Hansen's &amp; Lake Geneva orders are all picked up directly at the butcher. The Schedule page illustrates the respective butchershop dates.</p> <p>Orders picked up directly at the butcher have the advantage of greater flexibility due to their regular store hours. Orders picked up at the farm must be picked up exclusively between 10am to Noon.</p> <p>These are all reasonable ESTIMATES that represent just <u>one of many ways</u> the butcher can cut your order. If you have a preference, feel free to discuss your specific needs with the butcher.</p>		
Ground Beef	27.8			
Chuck Roast	16.7			
Sirloin Steak	7.1			
Round Steak	6.1			
Soup Bones/Misc	5.8			
Club Steak	5.5			
Rump Roast	4.6			
Sirloin Tip Roast	4.6			
T-Bone Steak	3.8			
Boneless Stew	2.8			
Liver	2.5			
Porterhouse Steak	1.6			
Round Roast	1.3			

**Sticker shock? You are buying a year's worth of meat at one time!** Even if you bought the lowest quality meats from the supermarket, the equivalent cuts would cost \$1100 for a half of beef, \$450 for a whole of pork. Know that approximately 12% of the weight of supermarket pork is injected brine solution. You are paying "meat prices" for this brine liquid. We don't do this! We also can't and don't compete with mass-produced supermarket meats in just the same way that mass-produced meats cannot compete with our quality, nutrition and sustainability. However, if you were buying individual packages from the natural or organic meat case, our prices will save you money - and in almost all cases, provide you with a superior product!

Main point: When buying in bulk from our farm, the prices shown above are not THE added expense to your budget. The added expense is revealed by subtracting the cost of supermarket confinement meats from the cost to purchase our local pastured meats. When dividing this difference over 365 days, most people recognize this to be affordable, valuable and indeed essential.

Doesn't matter... You still need to spend less? Ask for a smaller weight! Overall costs are directly proportional to the hanging weight. Please see the potential range illustrated above and request "small".

\*The processing costs includes the fees associated with slaughter, cutting, wrapping, smoking and curing. Your order will be custom cut per the cutting instructions that you provide. If you've never done this, don't worry as the butcher will walk you through this effortlessly. We will also coach you prior to the harvest date. You may instruct the butcher to provide additional services at your own added expense. Examples of these added services include sausage making, patties, additional slicing or smoking, deboning, cryovac etc. Cost vary at different butchers. The range we have illustrated is typical. Your actual costs may be more or less depending upon the requests that you make of the butcher.

Please note that a the nature of making ham, bacon and some sausage involves the addition of curing agents, spices and flavorings that may or may not be to your satisfaction. For those concerned, ask the butcher if they offer a sausage variety without MSG. If you are inclined, please make a point to ask the butcher the ingredients at the time you provide your cutting instructions. If you have questions you'd like answered before you place your order, please contact us or the butcher directly. For a revealing perspective on nitrates, please read <http://www.solarharvestfarm.com/Nitrates.pdf>.

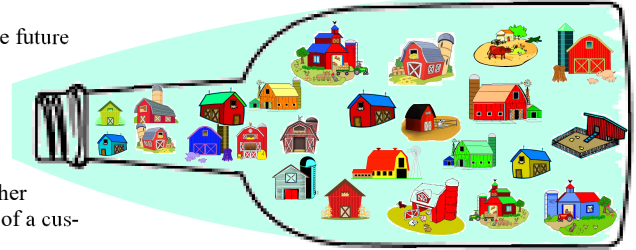
We have raised these animals to provide the purest qualities available anywhere. To avoid the integration of undesirable ingredients, many people take their pork trimmings as pure ground pork and make their own sausage patties. It is easy, delicious and best of all, contains no additives other than spices. Penzeys offers many sausage seasonings. Refer to [www.penzeys.com](http://www.penzeys.com) for examples. If you prefer not to have your hams cured, you will receive "fresh hams" in their pure form. These are pork roasts "to die for" in the crockpot, tender and juicy! Or simmer some with your favorite BBQ sauce, serve with rice or on a bun and the kids will love you - (even more)! Bacon is the exception. If you don't have it cured, it's called side pork which is quite different from smoked and cured bacon. If you take the ground pork and fresh hams in their natural forms, you receive the pure meat from this farm while saving the expenses associated with smoking and sausage making, (typically sausage adds \$1.50 per pound to whatever quantity you elect).

Freezer Space Required: Quarter Beef: 2.5 - 3 cubic feet. Half Pork: 2.5 - 3 cubic feet Visualize this: Picture 3 to 4 full size paper grocery bags for each quarter beef or half of pork.

# All Bottled Up

We continue to feel a worrisome squeeze being induced by the heavy demand for custom butchering services imposed upon a dwindling supply of providers. While maintaining rapport with as many shops as geographically possible does nothing to diminish this imbalance, it seems prudent to avoid putting too many eggs in one basket - especially when an opportunity is favorable for customers.

Yet the long-term prognosis reveals this concern to manifest itself as THE limiting impediment to the future potential of farm-to-fork. Farm-to-fork (FTF) competes for this limited capacity, not just with other farms, but also with the butcher shops own needs, hobby farmers, hunters, and from July through September, the total inundation of preferential capacity awarded to County Fair livestock - a captive customer base comprised primarily of hobby farms. A full-time farmer who recognizes the absolute economic necessity to schedule a full trailer of livestock - defined as 12 beef or 25 hogs - is now dealing with 10 month lead times. Of course, as you or I would do if we owned a high demand butcher shop, prices for custom processing are increasing rapidly and now represent a significant proportion of a customer's total cost.



The nature of niche markets represents the willingness of some people to prioritize specific qualities above price alone. This willingness has limits. As a result, any overall price increase imposed upon these tenuously contemplative consumers is being captured by the processor, effectively washing out this potential for the farmer. This has become a new conundrum for FTF consumers and farmers alike. We recognize the essential role of local custom processors. Like any other business, future growth is commensurate to the income potential. Thus, in order to entice others to put themselves at risk as a custom processor, reward must be commensurate to this risk. Discussions with existing processors reveals the expense of unpalatable red-tape now built into food safety regulations. As is the case with small scale farming, regulations are drafted and legislated in the interests of agribusiness. There is little, if any acknowledgement regarding food safety benefits correlated to reduced volume, density and occurrence. Hence, the entrepreneur contemplating a new custom processing facility with weekly capacities of 40 cattle and 60 hogs is held to the same standards as a corporate slaughter plant, which in that same week will slaughter 35,000 cattle or 140,000 hogs. Additionally, vacated existing facilities cannot be purchased by surviving custom processors without rebuilding/upgrading to meet current regulations. To paraphrase the effect: Spend the money; increase capacity to justify the expense; relinquish perceived status as niche market; default to market which competes with conventional margins; fail. There appears to be no middle-ground market. You either compete with the likes of Tyson and Smithfield on volume alone or participate in a consumer-driven micro-niche.

I strive to provide accurate information in these newsletters, yet short of jumping into the fray, projecting hard numbers is next to impossible. The information I have gleaned is admittedly somewhat fast and loose, learned from intermittent discussions with several custom owners, all of whom are always pressed for time, yet willing to divulge bursts of frustration when this topic is put before them. The answer I've received from these owners is the same. They claim a new facility would cost several million dollars - an expense which cannot provide a return based on the lower volume which literally personifies their niche.

**The Bigger Picture. Begging the Questions:** *What are the food safety ramifications associated with volume, speed and frequency? As a consumer, do you prefer processing conditions which prevent contamination, or, processing conditions designed to allow sterilized collateral contamination as a necessary byproduct of efficiency?*

The answers, from the perspective of our legislative/political system, are displayed amidst mandated Administrative Code, created under the guise of consumer safety amidst the influence of vested industrial interests. It is for this reason that Citizen's United, Campaign Finance Reform, Gerrymandering and ALEC are all interjected into these newsletters. Industry is drafting legislation. Out of concern for reelection contributions, our legislators are drafting law - often verbatim - from these industry-written drafts.

The DATCP vehemently proclaims, with authority, that pathogenic contamination and disease are indifferent to volume, speed and frequency. Yet outside the political sphere, our vast understanding of biology, pathogens and disease vectors clearly illuminate the irrefutable influence induced upon livestock and processing by the attributes of volume, speed and frequency.

As the gatekeeper deciding which foods are safe for your family, your decision is one of Offense or Defense.

Offense: Methods designed to mitigate pathogens via biologically-optimized volume, speed and frequencies.

Defense: Methods designed to chemically sterilize expected collateral contamination via industry-optimized volume, speed and frequency.

**Plain straight talk: Manure Happens.** (Please...substitute the *real* word for greatest effect. In this context, it is indeed non-vulgar and appropriate).

**Manure** happens to be in the intestines of all livestock. **Manure** happens to find it's way onto the exterior of livestock. When a high volume of fast growing livestock are confined perpetually in an unnatural high density environment - **manure** happens to feed pathogens. When these same livestock are processed at optimized industrial speeds, **manure** happens to land on the meat. When some meats are brine injected, **manure** happens to be pushed deeply into the meat.

We can prevent **manure** from happening on the farm and the processor by limiting volume, speed and frequency.

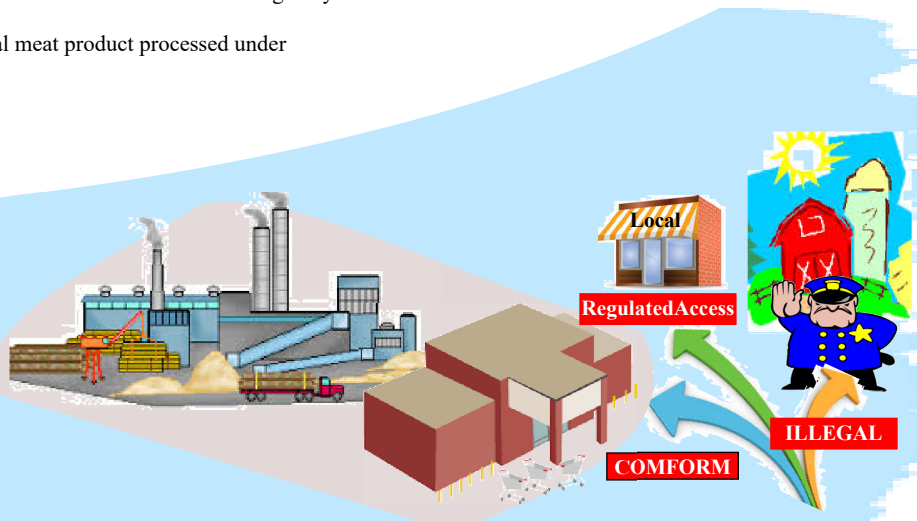
Or, as the DATCP has sanctioned, we can all eat **manure**, as long as the **manure** has been technologically sterilized.

The latter represents the potential that exists within every conventional meat product processed under the industrial guise of food safety. Your *choices* remain:

- 1). **On-Farm Processing: Illegal**
- 2). **Local Custom Processing: Regulated towards Extinction**
- 3). **Supermarket: Conform to Sanctioned Industrial Standards**

**Constituents** are not approving these actions. Our WI/IL legislators aren't listening to constituents because constituents don't fund their reelection. The ONLY way to stop this is to overturn Citizen's United, implement Campaign Finance Reform and follow Iowa's lead on non-partisan Redistricting.

**Takeaway:** There's strength in numbers, yet the minuscule number of smaller scale farmers and shop owners alone cannot induce change. Change will require an overwhelming noise induced by legions of consumer constituents demanding action on Citizen's United, Campaign Financing and Non-Partisan Redistricting.



# Glyphosate (Roundup) Residues Never Tested

With 9.4 million tons sprayed worldwide, the most ubiquitous herbicide in human history had NEVER been tested by the FDA or EPA prior to February 2016's published findings - this on the heels of WHO's unanimous 2015 cancer research proclaiming glyphosate to be a probable human carcinogen. Government testing for Glyphosate residues has already been put on hold, reportedly amidst methodology confusion and disagreement. Yet respected independent laboratory research has found glyphosate residues on at least 70 common fruits and vegetables, deriding the former implications correlating glyphosate primarily to row crop production. Glyphosate residues have also been found in processed foods such as Cheerios, Ritz crackers, cereals, chips, honey and baby food.



Monsanto stridently insists that their extensive testing demonstrates glyphosate to be safe for humans and the environment. Monsanto earns \$5 Billion a year from glyphosate-based products.

Monsanto and others are currently developing and marketing the next generation herbicide compatible with their genetically modified seed offerings. This next-gen herbicide is a blend of glyphosate and 2,4-D, being necessary due to the increasing natural response of plants to resist glyphosate ultimately creating superweeds. Astute readers may recognize 2,4-D as the 50:50 ingredient with 2,4,5-T known as Agent Orange. Likewise, there has been no routine testing of 2,4-D by the FDA.

Numerous independent studies have revealed not just the presence of glyphosate residues on food, but also the presence in human urine and breast milk. The breast milk claim has been hotly debated. I will quote directly from the Washington State University study which countered the claim as false. "The study detected neither glyphosate nor any glyphosate metabolites in any breast milk sample, even when the mother had detectable amounts of glyphosate in her urine." How reassuring to learn it was only found in urine.

Take a breath from all the dizziness associated with conflicting science. Who should you believe? How can you unbundle the selfish profit motives potentially integral to the "science?" One answer is to simply observe the stunning visual effects of what agribusiness calls "burn-down". You may also witness this effect wherever your county road crew sprays around signs and bridges. In the food-producing fields, burn-down is the equivalent of scorched earth - the visual essence of death. Ask yourself if it is reasonable, logical, rational to subject our food and environment to a chemical with such devastating impact on cellular life. Of course the industry rebuttal will chastise us for failing to recognize that humans don't possess the same enzymatic pathway. While perhaps this industry admonishment demands an Erin Brockovich moment, it may just as well be a ruse.

Regardless of the independent studies stipulating glyphosate as an endocrine disrupter and probable carcinogen, there is less contention of the collateral damage that glyphosate induces in the environment. Glyphosate is a chelating agent. As such, it binds to different elements in the soil, effectively changing the availability of essential elements. Glyphosate is also detrimental to some forms of beneficial soil bacteria and fungi. The microbial imbalance induced by glyphosate creates winners and losers resulting in pathogen proliferation and plant disease. The unintended consequences - the death or diminished well-being of natural biology - reduces the nutritional uptake into the food product leading to what some have referred to as an *empty harvest*. Is it the direct effect of the chemical which causes human disease, or, the indirect effects associated with decades of consuming nutrient-deficient foods?

There are two fundamental attributes which are essential to agribusiness. The first is Haber-Bosch fertility. This essential attribute is 100% dependent upon a contentious and finite supply of fossil fuels. The other is glyphosate. It's efficacy is diminishing with it's public reputation, in spite of extensive corporate PR spin. Yet the deck has never before been stacked so favorably in favor of corporate interests. It is unlikely that vested interests will allow remaining herbicides to be regulated to the extent of pesticides. The fact that Atrazine has not yet been banned as well as the resurrection of 1940's elixirs such as 2,4-D demonstrates the effectiveness of corporate speech via Citizens United and the unbridled campaign finance dollars precipitating from this landmark decision.

How did we conclude that all of these former miracle products at right were unsafe for human-beings and the environment?

The reality is that WE were the test subjects.

It takes several generations for bioaccumulative and teratogenic attributes to reveal probable or irrefutable causation. Corporate science is both unwilling and unable to endure this wait. In some cases, this corporate impatience is understandable. In far too many other instances, probable or direct causation was suspected or even explicitly known, yet covered up to protect shareholder equity.



## A Walk Down Memory Lane

"Nicotine is addictive. We are, then, in the business of selling nicotine, an addictive drug." (Phillip Morris, B&W 1963)

"We don't accept the idea that there are harmful agents in tobacco." (Philip Morris, 1964)

"Doubt is our product since it is the best means of competing with the "body of fact" that exists in the mind of the general public.

It is also the means of establishing a controversy... If we are successful about establishing a controversy at the public health level, then there is an opportunity to put across the real facts about smoking and health." (Brown & Williamson Smoking and Health Proposal 1969)

"Let's face it. We're interested in evidence which we believe denies the allegations that cigarette smoking causes disease." (Philip Morris, 1970)

## The Smoking Guns are now almost inconceivable amidst unlimited opaque spending.

Yet straight from the horse's mouth the contemporary crux of our moral dilemma is revealed:

"Global capital doesn't have a social conscience. It will go where the returns are."

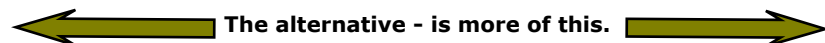
Kevin Sharer, former head of biotech giant Amgen 2017

**Government Campaigns are Nourished by Corporate Interests. Human Interests are Nourished - Literally - by Food & Environment.**

**The bad news:** We - as caretakers of our families - are on our own.  
**The good news:** We already possess the ultimate weapon.

**We ARE the Market.**

Our collective spending induces corporate social conscience. Corporate behavior WILL follow - like a lost puppy - but only if we lead.





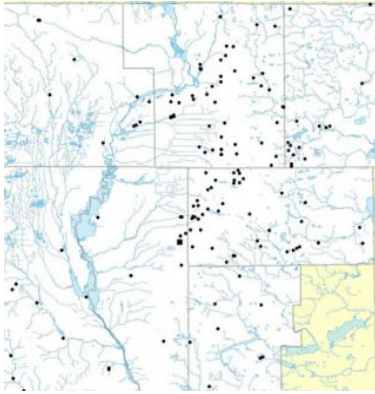


# Wisconsin's Water War

## A Legislative Line-in-the-Sand

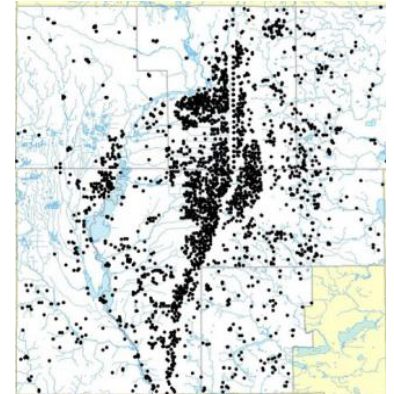


Via SB76/AB105, the Wisconsin legislature is prepared to grandfather current high capacity well owners with perpetual water rights with no periodic DNR review of likely collateral implications to shared aquifers, lakes or streams. The primary intent is to remove governmental barriers which prevent expeditious well repair. However this legislation is devoid of any language requiring periodic review by the DNR. As such, this legislation will create a water usage system in which grandfathered high capacity owners can pump infinite volumes of water in perpetuity with indifference to the effects on conventional neighboring wells, interconnected lakes and streams.

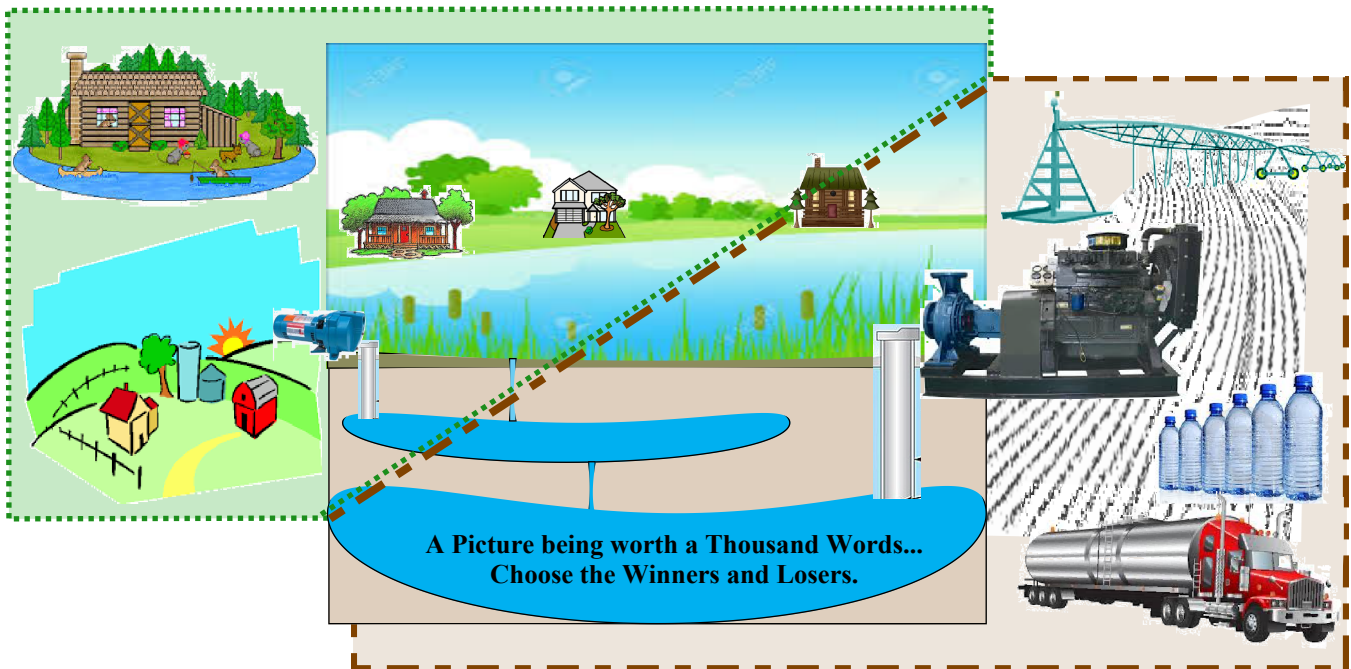


High Capacity Wells 1950's

Whereas this legislation will impact the entire state, the Central Sands area represents the front line of Wisconsin's current water war. These irrigation-dependent sandy soils are used to grow potatoes and canned vegetables. The map on the left illustrates the number of high capacity wells in this area in the 1950's and on the right the same area 50 years later. The fact that lakes in this area are now reduced to little more than a wetland is grounds for the correlation/causation battle currently being fought between industry and private property owners. Of course industry is also a property owner, sometimes represented by a large corporation, other times by a large farm owned by a single family. The industry in this area is well organized and represented by the WPVGA - the Wisconsin Potato & Vegetable Growers Association, a group which has lobbied heavily for it's creation and passage. Private residents who oppose the bill have done so out of fear of the loss of their water source as well as the actual loss of lakefront property. Integral to this fear lies the concurrent political activity which has in effect eviscerated the staffing at the DNR such that the safeguards promised appear as mere lip service.



High Capacity Wells 2000's



Readers are encouraged to visit the WPVGA website to witness the expense this lobbying group has appropriated for their own special interest legislation. Their Water Commercial spins the argument with the statement that "trees use more water than vegetables," apparently hoping that the listener does not recognize that no one utilizes high capacity irrigation to water forests. Incredibly, the WPVGA site boasts of "sustainability" while at the same time being quoted in the farm paper: "A grower can lose a crop in 24 hrs if a well fails and cannot be quickly repaired or replaced." The corollary to CAFO agriculture is immediately recognized given that CAFO pork producers can lose all their hogs in 24 hrs when the fossil-fuel powered ventilation system shuts down. Once again, the use of the word sustainable being partnered with unfettered consumption of finite resources. While the Central Sands is indeed center stage, high capacity well concerns have also been revealed amidst the Lake Beulah/Phantom Lake watershed as well as a recent application near Burlington. Given the ramifications correlated to the potential for future control of water leaves one to consider that some may already be posturing for these future rewards. It would be remiss to fail to at least mention the aquifer contamination currently occurring along Wisconsin's Niagara Escarpment., currently represented as a battle between CAFO and individual rights with the same correlation/causation argument.

Pause to reflect that this is happening in Wisconsin, the state endowed with perhaps the highest concentration of fresh water on the planet. Wisconsin boasts of 15,000 lakes, 82,000 miles of streams and rivers, 200 miles of Mississippi River shoreline and 1000 miles of Great Lakes shoreline. If we're fighting over water HERE, it takes little imagination or pedigree to envision the future. Clearly, this is not a viable method for "Feeding the World".






# Truth-in-Advertising

USDA FSIS Labeling Regulations Perception vs Reality Added as of 2017: "NON-GMO"

Corporate ethics aside, there exists one very legitimate reason to rake this muck:

*If the majority of consumers believe the label is reality, then reality will never be obtained by the majority of consumers.*

Test yourself! You've seen it written on the label. What did you perceive? What do you now think of reality?

Label	USDA Legal Description	Common Loopholes	Reality
<b>All Natural</b>	Product containing no artificial ingredient or added color, minimally processed -meaning that the product was processed in a manner that does not fundamentally alter the product. The label must include a statement explaining the meaning of the term natural (such as "no artificial ingredients; minimally processed").	Antibiotics allowed. High density .85 sq ft/bird. No sunshine. No fresh air. No natural outdoor diet.  The facility on the right is sold with the label stating: All Natural, No Hormones, No Steroids, No Injections Amish-Raised.	
<b>Non-GMO</b>	A food that does not contains genetic material that has been modified through in vitro DNA techniques and for which the modification could not otherwise be obtained through conventional breeding or found in nature.  Exceptions allow some products containing 3rd party approved mixed ingredients to claim Non-GMO labeling in spite of GMO's being integral to said mixed ingredients.	Non-GMO crops are sprayed with herbicides, pesticides and fungicides. The only difference between Non-GMO and GMO crops is that the seed is a conventional hybrid. The only way to avoid GMO's and chemicals is through Organic methods.	
<b>Free Range</b>	Producers must demonstrate to the Agency that the poultry have access to the outside.	Producers attach small porches to the side of confinements. A small door left open meets the letter of the law. Chickens raised and fed indoors are scared to venture out. Chickens never step foot on soil nor pasture. Same as cage-free, except cage-free doesn't pretend to allow outdoor access.	 
<b>Organic</b> (As pertains to livestock husbandry. Organic feed labeling requirements are extensive and extraneous to this subject of livestock husbandry.)	There are no restrictions on use of other <b>truthful</b> labeling claims such as "no drugs or growth hormones used," "free range," or "sustainably harvested."	The interior of a Certified Organic Free Range egg laying facility is shown at right. Outdoor access is shown above right. Never outdoors. Never step foot on soil. Never consume pasture. Certified organic feed: yes	
<b>No Hormones</b> (pork or poultry)	Hormones are not allowed in raising hogs or poultry. Therefore, the claim "no hormones added" cannot be used on the labels of pork or poultry unless it is followed by a statement that says "Federal regulations prohibit the use of hormones."	This loophole is the least harmful while at the same time being the most egregiously dishonest. Producers have not been allowed to give hormones to poultry or pigs for over 35 years. When a company's labeling openly boasts about having No Hormones, they have engineered a calculated deceit. The consumer perceives goodness above and beyond other producers who are thus imagined to be using hormones. The marketing department is relying on consumer ignorance to obtain a premium. Further embellishing the deceit, some companies state No Hormones & No Steroids, which, in the context of animal husbandry, are one-in-the-same. Bragging about raising chickens with No Hormones is comparable to bragging about making ice cream without onions. The difference is, everyone knows that absolutely nobody mixes onions with ice cream.	

If consumers continue to perceive that *Free Range* means *pasture*, how can the farm that truly pastures survive?  
If consumers are seeking a product superior to conventional, isn't *pasture* the most important element?

# A Tail of Two Chickens

## Freedom Rangers



*Progress...*

*is perceived from a Vantage Point.*



## Cornish Cross



*What is good for One,  
may not be good for All.*

*Reconciling this Contradiction  
is the Hallmark of a  
Progressive Society.*

### Assets

- Excellent foragers.
- Friendly disposition.
- Normal chicken body proportions, with ample, but not excessive distribution on breast, legs, thighs.
- Not prone to unnatural growth-induced ailments.
- Genetically "normal". Defined as such due to the fact that this breed can exhibit normal chicken behavior, live a normal chicken lifestyle, enjoy a normal chicken life span.
- High degree of mobility allows Day-Range housing. Chickens have free range access to large pasture area, ranging far, returning to shelter at will.
- Day-Range shelters remain stationary eliminating heavy, ergonomically damaging physical labor.
- Fewer large, heavy shelters are anchored, mitigating severe weather casualties.
- Day-Range shelters are deep bedded. Bedding freshens and raises birds above grade.
- Chickens sheltered above grade remain above water during normal, expected heavy rains.

### Liabilities

- Much longer growth period (10-12 weeks).
- Greater feed consumption.
- Smaller finished weights. 4.5 lbs in 12 weeks.
- Higher hatchery costs.
- Habitual customer finished size expectations.

### Assets

- Incredibly rapid growth.
- Common to achieve 4 lb dressed weights at 6 weeks conventionally, 5 lbs in 8 weeks on pasture.
- Fulfills common consumer expectation for heavily proportioned breast meat.
- Best feed conversion.
- Lower hatchery costs.
- Lowest cost for consumers and producers.

### Liabilities

- Incredibly unnatural rapid growth.
- Prone to cardio & skeletal complications.
- Body proportioning is un-chicken like. Huge feet, enormous breast. Full sized birds waddle.
- Incapable of reaching sexual maturity/normal lifespan.
- Genetic selection derived exclusively from just three breeding lines.
- Genetic traits are selected for confinements.
- Beyond 6 weeks, unwilling/unable to walk more than 10 feet without resting limiting forage capabilities.
- At 8 weeks, largest birds exhibit purple combs/waddles, wheezing for breath after short movement.
- Ineffective in Day-Range system.
- Pasturing method limited to floorless shelters.
- Floorless shelter method imposes high physical demand upon human bodies.
- Portable design requirements exacerbate storm damage.
- Birds remain on grade during rain storms subjecting them to inundation.

What you see is what you get, right? Yet consumers "see" a chicken only as a carcass wrapped in plastic. For the past 60 years, that carcass has been the supernaturally meaty Cornish Cross. Few remember what "chicken" looked like prior to this "progress". Yet some of us who produce this food are entrusted as the eyes for the consumer. After all, farmers subsist with the animal while it is still a chicken. Consumers subsist with the protein derived after all it's chicken-ness has been removed. Our mutual conundrum is this: If protein is the final objective, does it really matter how we get there?

Truth be told, the Cornish Cross produces more meat on less feed. Cornish Cross has virtually redefined our expectation of "chicken". Industry - you-and-me Capitalism- entices us to shine the spotlight on this virtue, pocket the savings - then look away. Yet we should have a responsibility to step back - way back - to observe any historical ramifications induced by this virtue as well as extrapolating this trajectory into the future. The impetus was, is, and will continue to be *speed*. Market forces - the dance between producer cost and consumer thrift - will perpetuate this cycle. These days, the gold standard personifying "chicken" is a genetically centralized, ultra-hybridized, sparsely feathered, outlandishly breasted, waddling bird which was never intended to live beyond 6 weeks. Yet the fickle environment found on pasture requires 8 weeks. We have a square peg in a round hole. We've made it work by rounding the corners. To some degree, we've rationalized. Yet I can't help but wonder if this centralized genetic line is, unbeknownst to it's three owners, recklessly out of control. One of the hallmarks of Organic is genetic diversity. Yet we are all complicit with this one. The Cornish Cross genetics are everywhere - a chicken monoculture. We've wandered a long, long way off the path.



With assumed thanks to Leonardo Dicaprio for opening Netflix doors, this film by Animals United Movement has found an audience of millions. The viewer is made to believe that the film's writers are concerned primarily with the human induced aspects of Climate Change. Yet the gross distortion of facts reveals the true motive to be directly in line with AUM's mission: The complete elimination of all forms of animal agriculture regardless of paradigm.

The blatant and egregiously inaccurate attacks on grassfed beef demonstrates that animal rights groups accurately recognize pasture-based livestock as a formidable obstruction in converting the public to veganism. Locally farmed and harvested cattle, hogs and chickens share the same acreage, living on sparsely populated farms amidst their natural environment while eating their natural diet. Their interaction with soil bacteria and perennial forages coalesce to induce carbon sequestration in the soil while at the same time mitigating the need for diesel, fossil-fuel-based fertilizers, herbicides and pesticides. Coupled with farm-produced alternative energy, pasture-based farming is the most aggressive and practical paradigm available to us right now in mitigating Climate Change. Based on the tactics used in this film, the AUM's only recourse was to falsify data.

In fact, this debate about eating animals has nothing to do with opinion and everything to do with the reality of the world we evolved and continue to exist within. Yes, yes, yes, if we possessed the supreme power to rearrange the biological underpinnings of our natural world such that soils did not require biology to create fertility, then this utopian world put forth by the likes of AUM would be possible. Of course, we'd assume also that the wildlife too would have evolved in this same utopia without the innate desire to eat each other and - US.

This page is NOT an attack on the vegan diet. Clearly each one of us has a right to eat as we choose. It is also clear that a vegan diet is beneficial to some people. This page addresses the intentional dishonesty used by some vegans to extrapolate a preconceived outcome, and most importantly, the total disregard of the climate, social and geopolitical implications if all 8 billion inhabitants converted to veganism.

**This really isn't a human decision. We have just two choices for fertility: Biological or Chemical.** On anything other than a micro scale, biological activity is naturally mandated by animal interaction. A devout vegan could indeed compost their own body waste while expertly integrating this body waste with kitchen scraps and yard clippings. This could provide enough fertility for one person to grow the wide variety of plants necessary to exist on a vegan diet. It will however also require a chamber pot and a substantial investment of time as well as being inherently at risk by natural forces. The alternative is to let someone else grow their vegetables. That farm requires fertility on a much larger and more practical scale. There are three options for this farmer: Direct animal fertility; Indirect animal fertility; Haber Bosch fertility coupled with chemical pesticides, herbicides and fungicides. Unbeknownst to all but the most astute vegan, indirect animal fertility is utilized by many small-scale organic vegetable farmers as a means of avoiding industrial fertilizers and chemicals. Simply put, a significant percentage of the farm's acreage is rotated into a perennial legume, effectively taken out of vegetable production for many years creating an unfunded mandate of sorts in that the expense of seeding is not followed with the income of harvest. Because this type of farm does not keep it's own livestock, the farm has no use for the legume. The remedy is to rent these rotated acres to a neighboring livestock farmer. The livestock farmer receives fodder for the rental fee. The vegetable farmer receives payment for the acreage taken out of production while at the same time biologically inducing nitrogen, breaking the pestilence cycle and sequestering carbon in the soil. Something similar occurs with most urban farms who create fertility by composting wastes from city supermarkets and restaurants *with indifference to any prior animal association*. Another urban farm method utilizes vermiculture using either the same discarded food wastes, or, placing the worm beds directly below caged rabbits or laying hens. Cowspiracy did not ask these questions of their urban farmer either due to ignorance, or more likely, the simple fact that the answer would undermine their preconceived conclusions.

Of course the conventional option - that being the methods used to produce the vast majority of vegetables - is the Haber-Bosch/Herbicide/Pesticide/Fungicide method. This method trades biological nitrogen fixation and nutrient transfer for fossil fuel-derived "plant food". In doing so, imbalance and death are induced in the biological soil life, effectively creating rogue pathogenic organisms and pestilence, which must then be killed with chemicals that further exacerbates damage to biological life, including human biology via food residues and environmental degradation.

As pasture-based organic farmers, we actually have more in common with animals rights activists than we do with conventional farmers. This is part of the reason that so many conventional farmers despise organic farmers. Yet as organic farmers, we live in the real world. We know how all that abundance in the grocery store and farmer's market was produced. We know what is required to produce safe and nutritious food in a manner which sequesters carbon in the soil. We recognize the extreme environmental degradation that occurs with the use of fossil-fuel based fertility - agronomy technology based on a finite supply of ancient carbon-dense materials which ultimately ends up as atmospheric CO2. This film's conclusions are based on emotional ideology - certainly not well researched facts.



This former farmer is articulate and passionate in his efforts to stop all forms of animal agriculture. His statement is strident and assertive. His prior experience with chemicals and a feedlot made him sick, forcing him to reevaluate the effects of his actions, ultimately becoming an outspoken advocate for animal-free organic farming and veganism. He speaks passionately and accurately about the incredibly cruel conditions associated with conventional agriculture. He recognizes the safety and quality of organic farming yet refuses to accept any role for animals in organic farming. Amidst all of his writings and discussions, he fails to discuss how organic vegetable farming can sustain fertility without direct or indirect involvement with livestock. Yet to him, chemicals are also out of the question. I've read and listened with great interest to the views of articulate animal rights advocates such as Mr. Lyman. I am convinced that not one of them understands what would happen to our ability to feed all 8 billion of us if we eliminated both chemical agronomy and animal agriculture.

<b>"If We All Switched to Grassfed Beef" Cowspiracy vs Reality</b>		
	<b>Cowspiracy Claim</b>	<b>Reality</b>
<b>Acres Required per Head</b>	<b>10</b>	<b>2*</b>
<b>Yrly lbs of Beef per Person</b>	<b>209</b>	<b>36**</b>
<b>Water to Produce 1 lb Beef</b>	<b>2500</b>	<b>30***</b>

### The Supreme Irony of Cowspiracy's Climate Changing Conclusion?

Pasture-based diversified livestock farming actually sequesters carbon in the ground. Chemical agriculture mines ancient carbon from the ground, ultimately releasing this carbon into the atmosphere as CO2. Farming with neither chemicals nor animals rapidly oxidizes carbon from the soil into the atmosphere.

In this last scenario, not only is there *no free lunch* - but soon, no lunch at all.

*The integration of alternative energy with pasture-based diversified livestock farming IS the Climate Change Panacea available NOW.*

\* Includes acreage for hay. Southerly latitudes could reduce acreage needs to 1 acre per head. Gamechanger: On a diversified livestock farm, laying hens, meat chickens and hogs all share this same acreage with beef cattle.

\*\* Based on actual data for this farm family of five. We produce eggs, chicken, pork and beef symbiotically on the same acreage. Consequently, ourselves and our customers require less beef.

\*\*\* Includes gestation and butcher shop usage. Unrecognized is the fact that 3 gallons/head/day are urinated back to soil microbes, promoting growth as urea and water.

*The moment we want to believe something, we suddenly see all the arguments for it, and become blind to the arguments against it. -- George Bernard Shaw*



# Glass

Pondering our Energy Future...  
we Look Right Through it.



## In one day, **ONE** Square Foot of Glass...

will produce 1400 Btu's of heat under clear skies or 600 Btu's of heat under average conditions.

Amidst typical winter conditions, 400 sq ft of glass produces the same Btu's from sunshine as produced from a typical fossil-fuel furnace.

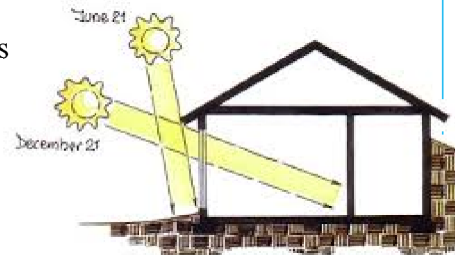
**If by some imaginary twist of fate, humanity had just now discovered the heat trapping characteristics of glass, it would induce an Energy Revolution.**

Instead, we yawn, roll our eyes, pull the curtains and reach for the thermostat - effectively sending an order to excavate more coal, drill more offshore oil, frack more natural gas, and leverage more foreign resources - even if it requires the removal of entire mountaintops, millions of gallons of permanently toxic water, destruction of ecosystems and perpetual defense spending.

The finite nature of the energy behind that thermostat, light switch and industrial fertilizer spreader WILL reach depletion. Sooner or later, we'll HAVE to change. Yet we've now demonstrated with clarity that we've chosen to kick-the-can to our children.

### Energy Produced *from Thin Air* on this Farm on a Sunny Winter Day...

- 82 kilowatt-hours of Electricity from Photovoltaics
- 6 kilowatt-hours of Electricity from Wind
- 500,000 btu's of Heat from Passive Solar.



### The Energy used by a Typical American Home on the same Winter Day...

- 30 kilowatt-hours of Electricity from Coal
- 400,000 btu's of Heat from Natural Gas, LP or Oil.

**Over the course of a lifetime, the average household will pay the utility more than a QUARTER OF A MILLION dollars for electricity alone.**

30 years ago, the experts said "solar energy won't be viable for another 20 years."  
They're still saying the same thing 30 years later.

**Who benefits when we continue to believe this fallacy?  
Who loses... and at what irreversible expense?**

