A Special Interview with Mark McAfee
By Dr. Mercola

MM: Mark McAfee
DM: Dr. Joseph Mercola, DO

INTRODUCTION:

DM: Welcome everyone, today, we have with us Mark McAfee who is the founder of Organic Pastures. One of the largest producers of raw milk in the United States and clearly, one of the leaders in this industry and I thought it would be helpful for those who are not fully aware of some of the benefits and some of the details that actually go behind what it takes to produce raw milk to have Mark help identify those variables for us. So welcome Mark.

MM: Well, thank you Joe. It’s an honor to be on your show, thanks for asking me.

DM: Okay great. So, I guess we could start off. You know, if a person is trying to find raw milk, is it all the same? Can you help identify the characteristics that might distinguish it and how we would find the higher quality ones.

MM: I think we have to start at the beginning and that is basically there are two raw milks in America. There’s milk intended for people and there’s milk intended to be produced for pasteurization and they are so different. It’s very hard to even compare them because they’re so different.

But up until about 1950 or so, there was kind of a mutual respect between raw milk for pasteurization and raw milk for people and the doctors and regulators and the FDA and everybody kind of acknowledged that there was safe raw milk for people and there was raw milk for pasteurization.

But after that, World War II going forward, the jealousy of not being able to produce high value clean milk, kind of gave the pasteurized industry kind of about a real jealousy complex if you will and there has been kind of an oppression of raw milk for people since that period of time.

But in California and each State that allows the retail sale of raw milk, there are six States that allowed the retail sale including Connecticut, Maine, Pennsylvania, Washington, California and Arizona, each State sets up their own standards for raw milk and specifically, California which has its own special set of standards for raw milk for people you have to meet and exceed pasteurized milk standards without pasteurizing. That means you have to have very low bacteria count, less than 10 coliforms, no
pathogens. They have to test their pathogens to make sure there are no bad bugs. So it’s very clean milk.

We produce it an organic pasture based system and for the last 10 years, we have yet to find a bad bug in any of our milk. We test four or five times a week for pathogens. So, it’s just a completely different kind of milk, where you compare that to milk for pasteurization which comes from CAFO facilities, confinement facilities where they feed lots of grain, no pasture, and antibiotics were given in the feed and injected in the cows. As well as, BST hormones and other hormones, pregnancy inducing hormones, things like that. That just makes it an entirely different situation.

And that milk gets comingled with other milk from other dairies of similar kind and that milk gets all commonly (inaudible 2:26) raw milk for people, comes from grass-fed organic type environments that can never be comingled with other dairies. It comes from only one dairy. It’s bottled on the farm and sent directly to the store or bought directly at the farm or the buyer’s club or whoever that farm makes direct connections to the consumer. So you can see there are dramatic differences and that’s not even talking about the milk itself. I’m just talking about the kind of political structure that produces the milk.

**DM:** That’s an important distinction I think many of our listeners were not aware of. The challenge though as you mentioned is there are only six States that allow the legal sale of raw milk. So the bulk of the people listening to this are not going to have that available to them and they need to find producers of raw milk that fall outside that parameter which I would imagine are pretty specific and help to produce high quality milk.

So are there any guidelines used to identify solid high quality producers of raw milk that in States that aren’t certified. How would you recommend, or what would you recommend that they go about doing to make sure that it is high quality and not some of this, this isn’t just milk that hasn’t yet been pasteurized but actually hasn’t really been produced by the higher quality standards?

**MM:** That’s a very good question doctor and that really becomes a national challenge for us because at this point, if a State has not set a standard for raw milk for people, then it becomes kind of arbitrary and it lays at the feet of the farmer to develop their own standards to produce milk for people and in States that don’t permit the sale of raw milk or allow the sale let’s say on the farm only or through a cow share program, they have to establish their own standards. We get phone calls all the time. I would say at least two or three times weekly, we get calls from farmers saying, “How do I produce raw milk so it’s safe for people?”

You know, that’s a complex question because in every location, geopolitically around the country, I mean, if you’re in Maine, that’s going to be looked different than if you’re in Arizona because there are set of conditions, the environment that cows are going to be in will be let’s say wet and cold in the winter time versus hot and warmer.
You’re going to have to develop your own set of systems for each environment you’re in but in general the endpoint will be the same and that is you want the milk to be clean which means has a low count of bacteria but still all there. There still is a biodiversity, a hundred different kinds of bacteria at very, very low levels.

You want the milk to be quickly chilled. You want it to come from cows which are all naturally raised. If they’re not on pastures during part of the year then they need to certainly be on a protected environment where they can stay dry and clean and they shouldn’t be eating a lot of grain. If they have a little bit of grain that’s okay but I’m talking more than seven or eight pounds a day, you start changing the chemistry of what’s going on in the gut of the cow. And they need to be mostly fed forage, grasses and alfalfa, things like that to keep that pH in the room correct. So you have the right kind of bacteria in the fermentation of what’s going on in the digestive tract of the cow. That’s where bad bugs begin.

You also don’t want a cow that’s been given a lot of antibiotics because that causes the wrong kind of bacteria to dominate the gut of the cow. And you want the cow to be well cared for. So, those are the kinds of things you look for.

Generally speaking if a farmer is producing milk for people, he’s putting his entire reputation on the line but he’s going to make somebody sick. So, you look for somebody who does produce raw milk for people who takes a very personal dedication to doing it and he may even doing some testing, some pathogen testing as well. So bacterial testing, pathogen testing in the absence of regulation is kind of an important barometer I would say of whether this farmer is taking seriously the production of his raw milk.

That doesn’t mean that if you got somebody who is doing a really diligent job of what’s like four or five cows and doesn’t do testing but is really diligent isn’t doing a good job, they just can’t afford the intricacies of a big safety plan and lots of testing. I would say you can trust them as well but you’re going to have to go there and get to know the person and know that they’re not just a cavalier whatever hodgepodge kind of farmer that has got dirty act going on, you have to somebody who is very well organized, who is dedicated to hygiene and paying attention to details that is engaging himself in a responsible practice.

DM: And its particularly helpful guidelines, I like to learn about the antibiotics and many of our listeners may not be aware that 70% of the antibiotics used in this country actually go for animal husbandry so it’s a pervasive practice.

So would you recommend that someone who was interested in one of these non-legal States that allow for the sale of raw milk, that they ask for all of these questions or is there some priority to the questions.

I mean, because you’ve brought up a lot of points and just want to provide really practical guidelines that people can use to, you know, once they have identified the
producer because that’s the (inaudible 7:44) to identify the producer and how they would qualify them as producing a milk that would serve them and their family with health rather than make them sick.

**MM:** Well, we’ve come up with kind of a little list to look at, at www.RawUSA.org. Raw USA dot org kind of sets up some standards that we follow here at Organic Pastures Dairy which we think is pretty good.

I don’t want to say they’re exclusively the ones you have to follow but there are a good set of guidelines at least a starting point to take a look at when you go look at a farmer that’s producing raw mild that he intends to be consumed by people.

As far as priority is concerned, going to visit the farm is a very good starting point.

You can go to our website at www.OrganicPastures.com and see how the pictures of the cows and what we do and you kind of put that in mind’s eye picture in your mind as you go visit your farmer and say, okay, is his family drinking the mild themselves? Does he have other families coming to drink the milk themselves obviously. How long has he been doing it? Are the cows clean? Are they exposed to good bacteria? Are they laying down in pastures or are they laying down in dry environments are sun drenched so that the sun helps by the UV radiation killing bad bugs. What are the conditions the cows are in? Is the area wet, stinky, you know, lots of flies around, are the cows covered in manure.

These are just common sanitation kinds of questions.

Now, a cow is not a sterile thing which is clean. When we say a cow is clean, we mean that she’s biologically diverse, covered with bacteria that are normal for her when she’s clean. Meaning that she’s laying down in green pastures and has the right kind of bacteria in her body because that kind of bacteria is going to reflect itself in the milk she produces.

When a cow is covered in filth, lots of bad bacteria, stinks, is wet and cold and she doesn’t look particularly comfortable, that’s kind of a real wakeup call that this is not milk that I should be drinking.

You should have a cow that’s in a good condition that’s in the kind of environment and this goes back to the germ theory about what makes you sick in 1850’s of course between Claude Bernard and Mr. Pasteur which was the environment versus the bug and literally, you want to look for a cow that’s in the right environments and eating the right things so that her ecosystem is the right kind of ecosystem so that she’s producing healthy milk that has the right kind of bacteria in it.

You change that kind of environment to one that’s stinky and wet and cold and filled with manure and she’s fed a lot of grain, you’ve changed the conditions now and the wrong kind of bacteria are going to inhabit that and they’re going to end up in the milk.
and somebody is going to get sick. Especially, and this is really important, especially given that the general environment at the United States in terms of the American immune system is so depressed because with antibiotics and sterile foods and preservatives in foods, we don’t have any gut biodiversity left in our gut as a general statement in the United States.

So the next little bug that comes along whether it be good or bad could cause a real disruption in your immune system yourself and cause you to get sick.

So, as an American citizen going out and finding raw milk and you have a depressed immune system you know there is an exceptional challenge there. There really is. Where somebody who is searching out raw milk in California who has been raw milk before and their immune system is in pretty good shape, it’s little less of a problem. But if you got a really depressed immune system of the standard American going out and finding some bad milk from somebody who is intending their milk to be pasteurized, well you’re going out and begging them for milk, that’s kind of a marriage made in hell. That’s not a good thing at all.

And that’s where I see, I think a lot of the outbreaks happen is you see people doing research on the internet saying, “Oh, I have a really depressed immune system. I have common cold. I get irritable bowel syndrome. I got asthma. I got allergies. I need to fix that and raw milk they’ll say will fix it.”

But they don’t have raw milk in their area that’s safe. That’s intended for people so they go out and find a local dairy that takes pity on them and they buy raw milk from them and that milk is intended for pasteurization, that’s where you start seeing real problems.

DM: Very important distinction and I thank you really for providing really a spectacular set of guidelines to help people guide (inaudible 11:37) do their homework and do the due diligence. Now you only want to have to do it once, once they identify this farmer that someone that they can have a relationship with, where they continue to purchase them for many years hopefully. But, I’m curious as to how one would identify that the cow is exposed to a source of good bacteria. I just don’t understand how they would do that.

MM: Well, you don’t know for certain because bacteria are invisible but you can generally get a pretty good sense of the right kind of bacteria by knowing that the cow is in an environment which is biologically diverse and healthy. And what I mean by that is a pasture, one that doesn’t have a lot of manure or mud in it when it’s growing in live.

So the humic acid bacteria from the actual growth of the plants itself (inaudible 12:22) and you then you got the sun helping with the sun drenching of the environment that helps a lot and if she’s allowed to pasture and graze away from her manure to new greener pastures. That’s the natural sequence of what would have happened a hundred fifty years ago when mankind didn’t have big confinement facilities. They had cows on
pasture where they moved from pasture to pasture because that’s how they fed the cows. That’s how cows would stay clean is laying down on a green piece of pasture versus an old muddy one.

So that’s kind of a beginning. We look at that, I would say also, that if a cow is confined let’s say over the winter time and let’s say Maine or Connecticut or Pennsylvania, that that cow is allowed a place to lay down that is dry maybe some good chips or straw or something where she can stay fairly dry and fairly clean and that the farmer takes diligence to keep her clean. That’s a little bit more work to do but in the colder weather climates in Northern America, you kind of have to do some exceptional work to keep that cow in a set of conditions which are going to be safe to produce that raw milk for human consumption.

DM: You know just common sense when you think about it but a person like yourself who has been doing this for a good portion of his life has been really provides for these (inaudible 13:35) method to find these recommendations. Now, personally, another curiosity is that (inaudible 13:43) pretty harsh winters and those green pastures are not present all year round.

Unfortunately, as we’re recording this, it’s the beginning of spring and you know, the pastures are abundant in most of the country but certainly in the winter in most areas in the country that you just don’t have access to fresh growing grass so what you had mentioned earlier that it was wise to limit the amount of grain per day to 7 lbs a day or less. What do you recommend and encourage these cows to eat during the winter phase when you don’t have access to pasturage?

MM: Well, forage, dried alfalfa, timothy grass, other cut pasturage or forage that will be dried and then fed to the cow over the winter time is perfectly fine and the number 7 lbs of grain is an arbitrary number I came up with which is kind of an average of what I’ve seen between five and eight pounds or whatever but you want to have it limited, the other 40 lbs or 35 lbs of feed that the cow get should be mostly forage based.

Now, a cow only produces milk when she has an excess of energy because remember the first thing that’s going to happen on that cow is her (inaudible 14:45) is going to dry up if she doesn’t have enough energy so she can preserve herself. The same thing happens with human mothers who don’t eat well enough they’ll dry off the baby before they’ll hurt the mother.

So, a cow has to have that extra energy in order to provide milk to milk the cow. So, what I’ve seen in the northern climates has been kind of the hoop barn with the translucent canvas covers that allows sunlight to come through that stay kind of warm. Then they put bedding on the floor or maybe a compost bedding or manure compost bedding that’s dry and then they meticulously maintain that so the cows have a good dry place to lay down and that’s been a successful thing and that’s not the only way to do it but that’s one of the ways I’ve seen people successfully keep the sunshine on the cow, keep the cow protected from wind and rain, keep her out of the wet as well as
keep her in a dry place to lay down in the cooler climates before they get out to pastures in spring and summer and fall.

**DM:** Now just another quick question because I’m a city boy and virtually no experience on the farm, do cows lay down when they sleep?

**MM:** Absolutely. They love to lie down.

**DM:** Okay. I would think so but I wasn’t sure. So thank you for the help. Just a quick question on Organic Pastures, is that the largest dairy in the United States that produces raw milk?

**MM:** Actually, my research says that we’re the largest organic raw dairy in the world.

**DM:** Congratulations. That’s just great.

**MM:** I don’t actually want to be the biggest. I want to be the best. Being big isn’t necessarily good but being the best is absolutely good. You can’t cheat Mother Nature when (inaudible 16:20) raw milk.

**DM:** No, you can’t.

**MM:** That’s the big thing; you can cheat Mother Nature when you do pasteurized milk because your sins can be covered up with the heating and killing of the bacteria. Most of the time, I should say because there is more and more bacteria getting by the pasteurizer. But when you work with cows to produce raw milk, you can’t cheat. Integrity comes through whether you like it or not so you kind of have to make a pact with Mother Nature and work with the forces that are out there that are powerful and wonderful and we see those in the healing of immune systems and so on and so forth that were very powerful.

When you have that biodiversity reseeding the gut and recolonizing the gut but you can’t fool her. You have to work with her. And with pastures it really...pastures are optimal obviously because it helps the nutrition of the milk but if you don’t have a pasture in the winter time then you have to use some other kind of manmade contrivance that’s going to work with the cow to help her maintain her immune system and keep the right pH going on in the gut.

**DM:** I was in California last week presenting at David Wolfe’s Longevity Conference and looking forward actually to being able to purchase raw milk in the commercial growth (inaudible 17:21) or do that legally but I wasn’t there and I’m wondering if this is related to some of the fighting and fuss, market jealousy, and CAFO (Concentrated Animal Feeding Operations) systems or is that another issue going on?

**MM:** No I think that there are fast (inaudible 17:36) stores in California. Three weeks ago, they were carrying raw milk. Now there are about 340 or so. Whole foods as a
national policy not just California but all four States that they carry their raw milk in
decided to discontinue raw milk sales nationally and that impacted us about 55 stores or
so were discontinued in California a couple of weeks ago. So we have added back
another 15 stores or so to make up the difference in the key areas we hope we’re the
only vendor.

So there is plenty of raw milk in California and other stores and they go to a store
locator and find the store easily at www.OrganicPastures.com. You just put your ZIP
code in and it tells you the 10 closest stores you can buy (inaudible 18:11)

in your ZIP code and you’ll find the closest store to you. Now it maybe a few States
away but if you’re in a local State where it’s legal then you’ll be able to find the one
closest.

MM: In California alone, obviously, we can’t take raw milk across State lines. The FDA,
there is a rule against that. CFR 1240.61 that does not allow us to take raw milk across
State lines. So, it’s only in California a legal product at this point. I actually got into a lot
of trouble with the FDA a couple of years ago for selling pet milk nationally and
internationally. I settled a criminal complaint with them. Yeah, they’re pretty serious
about enforcing the Interstate Commerce Code.

DM: We can discuss that in a moment but one of the reasons we have you on here to
help people identify this what I believe is a phenomenal resource that people can use to
improve their health is that it’s good for you. I’m wondering, you are probably one of the
most qualified people to actually identify the reasons why someone who is seeking to
improve their health might consider raw milk as a resource for their diet.

MM: Well, you know it’s interesting; there are lots of parallels I can raise up. I’ll give you
some of the simple ones. Let’s go back about…

DM: If you can identify the qualities that raw milk has that make it a consideration for
many people to really take the extra effort and diligence because over 95% of the
States don’t make this readily available. So they have to do a significant amount of extra
effort to get it. Why would they want to go through that effort and why would they want
to consider incorporating it into their diet?

MM: Well there was really phenomenal research done back in the 1920’s and 30’s by
Dr. Weston A. Price. Those are in the raw milk, they really didn’t understand it. This
Western trained doctor, this dentist went around the world and looked at ancient
cultures that were not influenced by modern food (inaudible 20:46). The diets of these
ancient cultures that were not exposed to modern foods, processed foods with
preservatives and sugars and so on and so forth. In their diets, they had biodiversity,
lots of different kinds of bacteria, ate a lot of fermented foods. They had lots of enzymes
in their foods and they had a lot of good fats in their foods. That and there were a few
other things too. But the bottom line is, the American diet is devoid of good fats, all of
our fats are processed and hydrogenated and just not grass-fed high omega-3 (inaudible 21:50) omega-6 high CLA fats. We’re eating fake fats in the United States or grain-fed fats. So, the fats we have in the United States are not the kind of fats we ate a hundred years ago.

So, number one, that raw milk has the right kind of fats in it.

Number two, raw milk is a very enzymatically active food. There are lots of different kinds of enzymes including some very important ones like phosphatase enzyme which is aids and assists in the absorption of calcium in your bones and it also has a biodiversity; a hundred different kinds of bacteria at very, very low levels.

It also has the oligosaccharide sugars which help accompany those bacteria down into the gut and help recolonize and feed the bacteria as they recolonize the gut. Eighty percent of the human immune system is made up of the biodiversity of good bacteria in the human gut. So in America with our immune depression the way it is because we’re a sterile food nation with Purell and antibiotics and preservatives and (inaudible 22:43) everything else just kills everything. We end up with a really depressed immune system.

So its 80% of the immune system is the biodiversity of bacteria in your gut and these bacteria in the gut are decolonized and killed off by our culture and our behaviors in what we eat and how we treat ourselves with medical therapies with antibiotics.

Raw milk puts those cultures back in your gut. So it’s a very, very powerful immune system boosting food, it helps digest our food; it helps all kinds of other enzymatic things going on in our gut. It ends up building our immune systems. So, those people that have depressed immune systems that drink raw milk almost have a magical healing event in their life and it almost looks magical but it’s not. It’s just the basic human physiology of having the right kind of immune system functioning going on and raw milk is a simple way to access things that are missing in our diets.

Now, understand and note also that the 1800’s and early 1900’s when Dr. Price was doing his studies in evaluating people, not everybody drank raw milk around the world. The Eskimos did not but those Eskimos ate all the things found in raw milk in other words, fermented seal blubber and raw eggs from Tundra birds and so on and so forth, have the kinds of things found in raw milk in its natural form.

So, all cultures prior to 150 years ago, saw these kinds of things that are found in raw milk in their diets where the United States today and our First World sterile food, our highly processed food culture, we don’t have these things in our diet. So, it’s a way of bringing back into our diet those things critical for our immune system function and also building blocks of our bones and other tissues, and cholesterolis that are correct and fats. We also recognize that the CRP levels, the C-reactive proteins levels drop.
The measure of inflammation and infection in our bodies drop dramatically when you have the right kind of fats, the right kind of probiotics going on in your digestive tract. So, there are just a lot of really positive things that go on.

Interesting to note, that the FDA does not acknowledge what I’m saying here. They say that raw milk and pasteurized milk have precisely the same kind of nutritional values but they do not recognize that enzymes and probiotics values of bacteria and the right kind of fats are part of nutrition where we all, as humans, have to recognize and embrace the fact that nutrition is a holistic thing. It’s everything.

It’s not just a couple of parts in a food like a fat or a protein or a sugar, it’s everything around it. It’s the wholeness of the food which makes it good for us in terms of nutrition.

And the FDA someday, will hopefully come around and acknowledge the fact we should look at the whole of the food instead of just pieces of the food. Their assessments are partial and not complete. When you look at the complete assessment of food, raw milk is a rock star when it comes to dietary meaningfulness.

DM: Thank you for the explanation. I like to get a little more specific with that and maybe if you can identify the top nutrients that are typically available in raw milk that may not be in a person’s healthy diet. My understanding is that dairy is the primary source of calcium in the diet but raw milk might be providing the calcium in a particularly optimal type of matrix where it’s really perhaps one of the most ideal ways to get your calcium.

So that would be one and then of course the good bacteria and the probiotics which are a base that actually nourishes the growth so that they continue to grow and not just die in your colon.

And then the types of fats which I think the one that seems to be particularly deficient from the diet were the CLA, the conjugated linoleic acid. So are those the ones that you would agree with or there are others or maybe reprioritize them from your perspective.

MM: Well, enzymes. Look at lipase enzyme which helps to hydrolyze and absorb fats.

DM: Sorry to interject but these enzymes, they are present in pasteurized in milk but they’re all denatured so they’re absolutely nonfunctional and you will not get these in pasteurized milk.

MM: That’s correct. Enzymes are deactivated when you get above 120 degrees. By the time you get to 150, 160 degrees, almost all of them are completely inactivated and with UHT milk, everyone is absolutely activated because not all enzymes are killed off or inactivated.

At certain temperatures, they die off or they’re inactivated at certain different temperatures. So, as you go up to pasteurized temperatures, they’re nearly all
eliminated or all eliminated. So, enzyme function is really important and you get the lactase enzyme which is produced by the bacteria that recolonize the gut. That's not available where it is completely available in raw milk. So lactose intolerance is generally not a problem.

Although we find a few people here now that still have a little bit of a residual maldigestion with raw milk. Generally speaking over a period of a few weeks, most everybody can drink raw milk. That's a pretty important thing when you look at lactose intolerance which is a lactase enzyme issue. Other enzymes found in raw milk include the phosphatase enzyme which is critical for the absorption of calcium in the bone.

A lipase enzyme and then there is a bunch of other enzymes which are associated with food safety, like the lactoperoxidase and other things like lactoferrin and lysozymes and bacteriocins and those kinds of things which actually inhibit bad bacteria from growing in your gut as well as in the milk. So they're not only good for keeping the milk safe, they're also good for keeping your gut safe and that's just the enzyme side of things.

You look at fats; you have high omega-3s and low omega-6 ratios which is the beneficial ratio, the good cholesterol that are missing in our diet in America today. That comes from grass-fed cows and then like you said, the CLA, the conjugated linoleic acid which exclusively comes from grass-fed cows and those some of the fatty acids and there are many others as well.

On the mineral, the vitamin availability for vitamin C is there. The calcium is also interesting because it is there with all of its associated necessary elements around it including the enzymes, phosphatase and other enzymes which help and fatty acid is critical as well. So absorbing that calcium and actually putting it to use in the bone.

So it's the magic of the complexity of raw milk is more than the sum of dead parts.

Raw milk is a living food with its own immune system and its own interactive living, breathing organism in its own right.

When you consume it, it interacts with your body in a very fast acting way. Bacteria in the milk is key. There is a biodiversity of beneficial bacteria including all the families of lactobacillus. There are several coliform families of bacteria. Remember, there are 230 plus different kinds of E. coli. There is only two or three that are actually pathogenic. The (inaudible 29:10) they're actually beneficial for your gut. There is coliform. There is lactobacillus. There is bifido bacteria. Plus, there is all the environmental bacteria at very, very low levels as well which give you immunity to the environment which is good for your allergies.

There are elements found in raw milk which stabilize the mast cells. Mast cells that are part of the whole histamine response. Dr. Donald Fields here is Fresno and actually, who is the chief of medicine at the Children’s Hospital writes prescriptions for raw milk for kids who have a lot of problems with allergies and asthma and eczema to keep that
whole allergy response from flaring up because raw milk has the ability to stabilize the mast cells which release all the histamines.

So, raw milk is a fascinating thing. We really don't know much about it because it hasn't been studied very much because it’s been politically kind of ostracized and oppressed. An interesting thing here is they got a milk campaign which is the pasteurized milk (inaudible 30:03) out here in California which sells a lot of raw milk for most a lot of their milk.

They spent millions of dollars doing research on raw milk at UC Davis with Dr. Bruce German. And the conclusion of that research was stop processing the milk so much because the best thing, the heat is killing off the best stuff in the milk. Obviously, we don't see that in the news because that’s not what they want us to hear. But the bottom line is, our best scientists are telling us, "Hey, listen, the heat is screwing up the bacteria, screwing up the enzymes, screwing the fats, its messing up something that the good Lord made for us just perfect and we just have to clean up our act to make our (inaudible 30:37) from cleaning green farms and the milk will be totally fine.

You get them to a CAFO (inaudible 30:44) and that’s where the FDA basically says all the milk should be pasteurized because they’re talking about CAFO milk and they don’t give any kind of allowance for this other milk which is State (inaudible 30:53) regulated.

**DM:** I’d like to address now, a thorny issue in that (inaudible 30:59) shouldn’t be consumed by humans and there are two primary arguments and I’d like to address them separately. The first one is really for those who take a more natural perspective and their belief system is such that cows produce milk and should be given to calves. It is not designed for humans. It should not be consumed for humans. That this their general philosophical perspective and I'm wondering if you can address that one first and then we'll address the other primary objection to using milk.

**MM:** Absolutely (inaudible 31:31), you know its (inaudible 31:32). The whole question of why humans should be drinking milk is a good question. You know, if you take all the supermarkets away, so we don’t have full shelves all around us that we can go in any store and pick up any food we wanted at any time to allay our hunger, you are left in a place that you could starve very quickly. So supermarkets have brought that question to bear.

But if you look at Jamestown, one of the colonies that were established in 1630, the colonists, the citizens there in Jamestown in 1630 were starving to death. A hundred cows that are coming in from Europe on a ship saved their lives. We fail to understand that in early America, it was the cows that actually allowed us to survive. We can eat them if we got really hungry and obviously they produced milk for us during the winter time when there is no other food to eat.

They can make cheese and butter and cream and those other things which are very nutrient dense. Cows have four stomachs. So they can eat grass. We have a very hard
time eating grass because one stomach, we can’t digest the grass and make much energy out of it but cows have four stomachs and they also chew their cud. They are ruminants.

So they are literally they’re that animal between us and the sun. They are solar sun convertors. They take sunshine expressed as grass on the ground because the grass obviously grows when the sun hits the ground and water and grass grows. We can’t eat the grass but the cow can eat the grass and then we can eat what the cow provides to us and what the cow provides to us is very, very nutrient dense and very digestible by humans.

So if you take away the supermarkets, you’d beg for a cow or goat or sheep or a camel or a horse to be able to get that sunlight in that grass to be the food that you could eat. It’s kind of a modern day thing.

**DM:** I agree with that. Let me interject here because there is a potential area for just a refinement of some sort because obviously humans do eat plants and there are many vegetarians and vegans. It’s just that the plants that we eat are such that we actually have the enzymes that break them down but the cow doesn’t really have the enzymes to do it but because of their physiology, actual anatomy, they have a number of different stomachs and actually have bacteria in these stomachs that actually do have the metabolic machinery to breakdown the grass to energy that the cow utilizes to produce food for us.

Is that an accurate assessment?

**MM:** You’re exactly right, the cows have that ability to digest food through their enzymatic and bacterial function in their gut that we can’t. I don’t quite understand the whole vegan philosophy.

A lot of it is based on animal welfare issues and some of it is very well grounded because the way animals have been treated. But I’ve had so many vegetarians and vegans come to Organic Pastures Dairy and literally are converted because of the fact that they see the cow on a green grown grass pasture and they see they’re being treated really, really well and their whole issue about animal husbandry and practices is that their concerns are allayed.

One of the big problems that vegans and vegetarians have not so much vegetarians or vegans is the fact that they don’t have any good fats in their diet and their nervous system starts to suffer because the nerves need to have those good cholesterols and those good fatty acids to protect them, insulate the (inaudible 35:38) cells that are part of their nervous tissue protect the nerves.

The insulators are kind of shrinked and they don’t work really well. So you see people that actually have not had a good animal fat a long time, have some raw cream and boy I tell you, they start to relax and they go, “Oh my God, nirvana this is fantastic.” Their
body is craving these good fats that they have missing in their diet. So, I don’t know, there is kind of an interesting mutual political thing going on with animal welfare and it kind of goes over into the whole political environment of what food you should be eating. I’m one that believes in a balanced diet of all things not just eating one thing.

**DM:** Well, that’s a good point and I forget to frequently make that in my arguments with people who promote an all vegetarian diet is that yes, there are fats from the plant kingdom clearly maybe even the majority of fats come from the plant kingdom but there are other fats that are animal based, they really form a very functional complement to that and then if we exclude them from our diet, eventually, we’re going to develop a deficiency and suffer physiological consequences, so thank you for bringing that to our attention.

I’m wondering if you could comment also on the species issue. My guess is sort of implying from what you said, the argument would be that the concern that some people address is that milk from cows is designed for calves, it’s not for humans, but it sounds like there is a historical precedent in using cows to survive. So clearly it works even though it may not address the ideal issue. Obviously, the ideal milk for humans is going to come from a human. But you think there is enough similarity between the species that the proteins and the products are going to provide nearly very similar benefits.

**MM:** Well, Joe, I think you make a very good point because the last 60 years, I think a very good argument could be made that milk that’s been pasteurized certainly does not appear to fit any of the human profiles or needs.

It causes lactose intolerance. It causes bone density problems. It causes all kinds of problems. So when you’re talking about ‘just milk’ and that milk is pasteurized, I think that kind of morphs itself into a pseudoscience idea we have a philosophy that that milk shouldn’t mild shouldn’t be consumed for humans because look at all the problems it causes.

But we’re not talking about raw milk there.

When you look at raw milk, there is a wonderful match there.

You know, I am the first to say, all babies should be nursed by the mother if it were at all possible. Mother’s milk is absolutely the most imperative antibody rich, wonderful food for babies and babies that are nursed thrived but when mom is sick and tired of nursing the baby and the kid is going to be a little older, maybe a year older or whatever, six months, a year, a year and a half, and mom decides to wean the child, it literally is a car wreck.

When you look at the child’s immune development going from breast milk to a sterile some kind of a baby food, baby formula. The kids start to have ear infections, (inaudible 38:35) responses and all kinds of histamine problems and gut problems, irritable bowel. They have all these challenges whereas they go to raw milk from a cow; they generally
do not have any of those kinds of responses. In fact, we’ve seen this with Valley Children’s Hospital here locally where they had a child literally.

They had us respond emergency to the hospital to deliver raw milk because they had to have it for this child who is having such terrible gut cramps and gas cramps and colic and everything else the doctor said, “I need to have this kid on raw milk immediately.” And they did, they actually had us go over to the hospital and provided raw milk and this child within hours, was feeling a whole different way.

So when we talk about milk being mismatched for humans, I think we’re talking about pasteurized milk. You know, it’s kind of morphed into a philosophy that’s kind of a current paradigm philosophy versus raw milk which has been fed to people and the people that had contact with raw milk and availability of raw milk, historically, always had a distinct advantage, a competitive advantage over those that did not because the availability of it, the nutrient richness of it, and that fact that they have more density per cup of milk than perhaps some of other group of people (inaudible 39:40) because the milk was readily available, consistently available and available all year long versus somebody that would (inaudible 39:46) all year long some things that were less nutrient dense.

Dr. Ted Beals talks a lot about the competitive advantage that people have had when they have had raw milk in their diets and wouldn’t that be from cows or goats or sheep or horses or whatever, be a yak in outer Mongolia, they had a competitive advantage. Obviously, I love cow’s milk although I (inaudible 40:09) a lot of arguments about other milks as well.

But, the Indian culture, Hindus have said forever that the cow is the mother of the universe. That they are literally the…when mankind couldn’t feed themselves, the cows fed them. And there is a lot to that in terms of the history of man in the fact that they relied upon cows to feed them when they were starving.

**DM:** Interesting. Well thank you for addressing that. The other argument that I think is far easier to counter is just virtually all of the public health authorities and really what makes it such a challenge to acquire this phenomenal food as a source, maybe they didn’t go over the history of how this happened.

I have some idea but I’m sure you’ll have a greater expansion with far more detail as to how this crazy restriction got implemented and they’re requiring and mandating pasteurization for the protection for public from these pathogens which to me seems to be a result of poor farming practices that really raise the animals improperly in many places, in many times, mainly and as a result, changed the ecosystem in them and allowed that bacteria to proliferate and produced milk that could in fact get people sick.

So it really was a substitute for healthy farming practices it would seem and now it has become really the standard and authorities become very militant about restricting this to
the point where they are incarcerating people for violating these standards. So I’m wondering if you can comment on that.

**MM:** Joe, you’re so on it and that’s exactly right. The current set of conditions where you’ve got cows in confinement with the bad kinds of bacteria in that environment and the cows (inaudible 41:53) and subsequently getting the milk, that milk intended for pasteurization, the rules are very strict. They don’t want that getting into the general public because it’s going to make them sick.

Let’s go back 250 years ago at the foundations of America.

We’re very agrarian based. There were very few people in cities; everybody was out in the country farm and grass is where people were putting their cows. In fact, even in any city there was a town square where you pastured (inaudible 42:17) where you put your cows to pasture.

People drank pastured-based milk and you didn’t see people getting sick from that kind of milk 250 years ago. But as more and more cities got more and more cities got more and more dense and there was more and more need for feeding children and industrialization came to play, that water systems became a choking problem where you don’t have flushing toilets and more and more of the immigrants who came in had had tuberculosis, typhoid fever from non-flushing toilets and people’s feces being mixed with clean water, you couldn’t tell which water was which. Which is a disgusting mess in downtown America starting let’s at the 1820, 1840 going all the way through the 1800’s where we had this consolidation of populations.

And with that, we also had a rum embargo against Jamaica and that the story has been told a million times, I’ll tell it again. But we had a rum embargo against Jamaica, we could get our rum from Jamaica so America started making its own distillery system and those distilleries were located in downtown Boston, New York, Philadelphia and literally there were hundreds if not thousands of these dairies that would spring up right next to a big distillery and those distilleries would give the hot (inaudible 43:26) the distilleries grains to the cows to eat. And the cows were in lots of confinement much like today’s CAFO system by the way.

Cows were confined, were being milked by hand, nothing was clean, the cows are (inaudible 43:38) until they die and then they drag them out with a horse. It was just a disgusting (inaudible 43:42). And that milk was killing people, 40% to 50% of the children would that milk and people would drink that milk every year would die and that became the milk problem in the 1800’s which was in 1893 was finally ‘remedied’ by Mr. Strauss brought in a pasteurization (inaudible 43:59) early (inaudible 44:00) boiling technology which would basically boil the heck out of the milk and literally overnight, instead of 50% f people dying, only 10% of people died and those other 10% stopped dying in the 1920’s and 30’s when they fixed the water problem.
So milk was perfectly fine. It was agrarian, the cows were on green grass pasture but then when you confined the cows, fed them the wrong things and put them in little (inaudible 44:20) and milk them by hand and the buckets that were dirty and everybody has got TB and brucellosis and God knows what else and you didn’t have clean water, you got a real big problem.

And instead of cleaning up the milk or cleaning up the act of milking and the cow’s environment in which she was eating, they just pasteurized and they never went back to initially with pasteurization was temporary solution to a problem.

Well it became an industrialization revolution where you could extend the shelf life of the milk, get rid of liability, allow and confine the dairies to proliferate and now, it’s become indoctrinated by FDA PMO policy to pasteurize milk policy instead of having clean milk, you have dirty dead milk.

So, its solves the industrial complex issues, allows you to get super producers out of these cows, they’re producing 20 gallons of milk a day by giving them lots of grain, antibiotics, hormones, God knows what else, all confined on a really tight (inaudible 45:13) cows in a tight facility and get away will all kinds of ugly things and cheating Mother Nature and you have these pasteurizer which excuses it all but at the same time, you do two things; number one, you rob the farmer of the money.

The farmer no longer has any personal responsibility for the milk and he gets paid like dirt, worse than dirt for the milk. And number two, you cheat the consumer. And now, he has lactose intolerance and all kinds of histamine responses and all kinds of problems with the milk that’s produced through pasteurization.

So, it’s a long food chain with everybody taking the money out of the middle, the farmer is being literally, they’re committing suicide now because for three years the milk price have been so low and the consumers not wanting to drink raw milk anymore. Now they’re drinking soy and almond milk and rice milk and everything else. So it’s literally a paradigm and trouble of the disconnection between the farmer and the consumer and that’s not something that we’re doing here in California.

In California, we have a very short food chain between the farmer, myself and the consumer connected completely with me taking complete responsibility for the food safety. Me being completely paid for the milk well paid for the milk and the consumer being fully nourished and they’re overjoyed to get a fully nourished body and their immune systems are working.

So it’s like two incomparable food chains, one that is not working very well with Mother Nature at all, the other one, embracing Mother Nature completely.

DM: I heard this from you in a previous lecture. I think it’s a point that many people fail to appreciate is that with the pasteurization, most typically, you’re not going to get sick, you’re not going to get infection but what many people fail to realize is that those bugs
are still in the milk. They've been heated. They've been deactivated but they have not been removed. So you’re still going to be drinking them.

**MM:** Well that’s exactly right. If you have 50 dairies, all taking their milk into trucks and taking them into one big huge silo tank at a common free (inaudible 46:59) downtown, the milk, coming from those dairies, there may be a couple of those dairies doing an exceptionally great job but who cares, it doesn't matter because its comingled with everybody else’s milk that maybe not doing such a great job. Anyway the bottom line is all the milk gets put in one big tank.

The bacterial counts are very, very high. They never ever test for pathogens, for bad bacteria, at any time the production of pasteurized milk. They rely solely on the pasteurizer as a complete food safety step.

And just so you know, pasteurization is not an insurance of zero (inaudible 47:27) bacteria (inaudible 47:29) reduction of the initial levels of bacteria.

So you still have residual bacteria alive in the milk, number one; the ones that can get by the heat. So sometimes those are pretty tough little bacteria but other thing that happens is that you have very high bacteria counts, the bacteria goes to the pasteurizer, the pasteurizer does not remove that bacteria, it simply breaks open the cell membranes of that bacteria to kill it and the bacterial cell contents, the proteins are spilled out all over the place.

So what you got is this wasteland of all this broken up bacteria pieces that you drink and oftentimes people have a mucus response, they start coughing, and hacking and maybe they have teary eyes, or itchy skin or a rash or maybe they have bronchial spasm, they get asthma.

All those kinds of things happen from the histamine response of your body saying, “Wait a minute, let’s have the sanitation managers come out. Let’s get the mucus going here, break open the mast cells, (inaudible 48:18) immune response and sweep out all these bacteria.”

There are pieces of bacteria because the body doesn't recognize those as friend or foe, they see them as waste. They see them as dirt to be removed. And as a result, you have this whole histamine response that occurs with lots of people not everybody but many people have that histamine response when they drink pasteurized milk but they don’t have with raw milk. The bacteria in raw milk are the beneficial bacteria number one because we test for the bad bacteria to make sure it’s not there.

Number two, we got some cows that are on the right kind of conditions to produce beneficial bacteria but those bacteria recolonize the body and your body has kind of a friend or foe response. It gets to fight it off or become immune to it or recolonize it because your body is literally 95% of the cells in your body are bacterial or viral anyway. We’re bacteriosapiens. We need these bacteria to actually fortify ourselves to make us
complete as a human being. And that’s a whole other discussion but the bottom line is we need good bacteria to be healthy and raw milk can provide those bacteria to us in our immune system function will be great and enhances the result.

**DM:** So we clearly by mass outweigh the number of bacteria in us. But by numbers, they outnumber us ten to one I believe they range somewhere from 60 to a hundred trillion different bacteria in our system and we only have about 10 trillion cells. So, really that (inaudible 49:34) years ago their full philosophy of making people healthy was really balancing that good and bad bacteria and really seeking to minimize the fertilizer for the bad bacteria which I think is really the cause of many people’s health challenges.

We eat too many sugars and processed foods which nourishes the anaerobes, the fungi, the yeast, the bacterial growth that will cause disease and frequently is the ones that are in these dead milk and I think that’s a really a powerful image that many people might have is if they are consuming pasteurized milk is that they are getting these filthy deadly disease causing bacteria, they are just killed whereas if they’re getting raw milk, they getting have an image of it getting these health producing bacteria which are going to move them towards health and away from disease.

So it’s probably one of the more important benefits of drinking raw milk product that we think or consuming raw milk products.

**MM:** I couldn’t agree with you more and the other thing is how do you get full fat milk from the right kind of fats.

Fat actually helps offset the sugar that’s in the milk. When you drink a skimmed milk product, the fat is removed, you only get is a load of sugar. Especially when it’s pasteurized, you get a load of sugar and no beneficial bacteria. It’s just a sugar jolt to your body and its stresses your cells and has all kinds of problems over to the pancreas and enzymes and stress and all kinds of things when you’re drinking low fat skimmed milk that’s been pasteurized.

Raw whole milk has this balance of the good beneficial bacteria, digestive enzymes, the fats, everything is in balance in the whole form and you get that stress response in your body. It’s just a whole different food. It’s a whole food you know.

**DM:** As a farmer, you’re intimately familiar with the different systems that are out there to provide dairy products to us and I’m wondering if you can enlighten our listeners to these CAFO dairy systems and what that involves.

**MM:** Well, the universities across the United States are basically thought the next generation of American farmers to get big or get out. The whole mantra has been get big or get out.

Getting efficient, get bigger, get out. Learn how to use antibiotics. Use and learn (inaudible 51:50) hormones. Use the (inaudible 51:54) ethanol plants that produce
ethanol for our cars nowadays. Use those ethanol byproducts in distillers (inaudible 51:59) kind of like the 1800’s.

Through all that and then you do it very, very efficiently where you have 10,000 cows in a small (inaudible 52:07) ground and you mechanize everything and you have all these technology being used to get lots of milk out of your cows for short periods of time. You milk the cows three or four times a day.

The cows last 42 months or so, three and a half years before they’re butchered. They go off to be hamburgered at McDonalds.

That’s what’s being taught in our universities to our students. And the facility is basically a CAFO. It’s a confinement animal feeding operation (CAFO). And they have huge lagoons associated with them that often leach in the ground water. It screws up our groundwater because of the nitrates that go in and the other ureas and the various (inaudible 52:46) things that are in the waste byproducts of cows and also to cleansers that are used in the dairy, all leach in our water supplies. So they’re not good for the water supply.

They have tremendous amount of (inaudible 52:55) waste that come off all the methane gases and so on and so forth. They’re volatile in the environment which is not good either.

So, you flyover the south (inaudible 53:04). In fact they’re putting up a video (inaudible 53:07) showing me flying over these CAFO facilities showing this wasteland of brown dirt with not a (inaudible 53:13) grass anywhere. And then flyover Organic Pastures Dairy with all the grass. And it’s just a completely different world and you know what we do in Organic Pastures Dairies get carbon sequester.

I mean the grass is a wonderful (inaudible 53:35) laced with carbons are sequestered and carbon dioxide is eliminated. We go to these big dairies, they have (inaudible 53:31) created. They’re creating all kinds of problems with waste products that are getting in the environment not helping with eliminating carbons. They are not sequestering them.

So it’s working against Mother Nature versus for Mother Nature.

That’s the big conflict is are we going to work against Mother Nature and use antibiotics in our children and cause ear infections and asthma and all that kind of stuff. Or, are we going with Mother Nature and have healthy children using raw milk and good whole foods and actually develop a child which is working in concert with Mother Nature which is a healthy child. So it’s, are you going to fight with Mother Nature or are you going to make friends with Mother Nature. That’s the bottom line.

DM: Well, you presented some very compelling logical arguments for someone who might be on the fence about raw milk or concerned or a bit skeptical to seriously
consider incorporating this into their diet. In fact it’s hard for me to imagine someone who is committed to rational objective thought not to reach the conclusion this is something that they’re going to want to use for themselves personally and for their family.

So, if in fact a person who is listening to this has reached that conclusion and does not live in one of the States where it is legal to buy raw food at the grocery store, how would they go about identifying a source because I’m sure you get this question all the time and you know it is illegal to technically by Federal standards to transport raw milk across State lines so they have to find a local source which is probably not a bad idea anyway to support your local farmer. (inaudible 54:58) the crux of the question I’m asking is how do you identify the farmer…well, you actually answered the second part of the question earlier when you gave us the criteria on how you qualify the farmer once you found it, you may have to go (inaudible 55:13) you might have to go to half a dozen to find someone who meets the criteria that you’ve established.

**MM:** Well what I would recommend is go to a website called **www.RealMilk.com.**

**www.RealMilk.com** has literally a chapter by chapter listing of places across the United States, every State; many of the cities have a listing of where you can get raw milk locally across the United States.

And internationally, there are also connections as well. You just kind of have to network to find out where the raw milk is. In California, you go to **www.OrganicPastures.com** put in your ZIP code and find raw milk literally around the block. In other States you may or may not be able to do that.

You’re going to have to search it out but **www.RealMilk.com** is a great place to do that.

Also, there is a symposium coming in Madison, Wisconsin on the 10th and 11th of April is the Second International Raw Milk Symposium and it’s a powerful place to learn more about it.

If you anywhere near Madison, Wisconsin comes to see the Second International Raw Milk Symposium and there is a website with the same name. Its puts on by the Weston E. Price Foundation as well as the Farmer Consumer Legal Defense Fund and it’s a powerful way to understand all the issues going on for raw milk, understand the arguments being made.

I’ll be one of the speakers there. Literally it’s a freedom fight as well as a nutrition fight. I have to embrace a couple of people here.

Tom Vilsack, the Secretary of Agriculture for the USDA has said, “Get to know your farmer, get to know your food.” Raw milk could not be a better example of doing that. Get to know your farmer; get to know your food is a local thing. Wherever you have raw milk in the United States or anywhere internationally, you always see a wonderful wellspring, an upspring of growth in the economy, you have economic growth, you have
jobs, you have well-fed people, you have well-paid people, healthy children. Raw milk is a promise for the future in terms of localization of the economy and actually getting new money started into an economy that is kind of dead in the water and getting people healthy. So I would go to www.RealMilk.com and search out local stores.

DM: Well I couldn’t agree more. In fact, as we have this new healthcare legislation passed which really doesn’t do anything to get people healthier but really just promotes more of the same and inevitably will result in people getting sicker because they’re going to be relying on the conventional drug based model.

We’re going to require alternatives. This is clearly (inaudible 57:31) it’s a basis that someone can make to make sure that they don’t have to (inaudible 57:36). Unfortunately, the logistics of getting this material out (inaudible 57:41) likely will occur after that symposium in Madison, Wisconsin, so is there a place that people can purchase the audiotapes or find out the material that was presented at the conference?

MM: Yes, they’ll be available on the Second International Symposium Conference website.

DM: What’s the website again?

MM: Actually I don’t have it with me. I have remised at my duty today.

DM: So I really thank you for what you’re doing. You really are a pioneer. I had realized that you actually had created the largest producer of organic raw milk in the world. That’s such a phenomenal achievement and you’re really doing a lot more than you probably realize to facilitate a massive move towards health and a consciousness that’s really going to provide the resistance against disease and a whole variety of other complications by promoting this.

I mean, you’re very eloquent, articulator of the value of this work and this food and I thank you for you’ve done because you’re really done a great service for those of us who are really seeking

MM: Well, Joe thank you very much and there is a great website to go to its called www.CaliforniaRawMilk.org and it shows all the testimonials of people talking about how raw milk has affected their lives positively. www.CaliforniaRawMilk.org has nothing to do with Organic Pastures Dairy but it’s a great place to go visit other people that have great experience with raw milk.

So I really appreciate you having me on your show and I have the deepest regard for you guys. You do great work doctor and thank you for all that you do and leading with what you’re with alternative medicine, and complementary medicine and nutritional medicine because it’s where we got to prevent disease in the country.
DM: I couldn't agree more but it's a team effort we absolutely need leaders like yourself to help because it's a cooperative endeavor and we need the resources to achieve them and without the raw material we're never going to get it there. So thanks for everything.

MM: So true. Thank you so much doctor.