

Changing the Food System from the Bottom Up

Analysis by [Dr. Joseph Mercola](#)

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STORY AT-A-GLANCE

- › Around the advent of the American Civil War, in the 1870s or so, is when they developed the technology to extract oils from seeds. Before then, the average LA intake was less than 5 grams a day, and likely closer to 2 or 3 grams
- › Eggs and bacon are two sources that, today, have very high LA levels, thanks to being fed an unnatural and PUFA-rich diet
- › The mainstream is so convinced that saturated fat is bad and PUFAs are good that they're now starting to use technology to turn the saturated fats in ruminant animals into PUFAs
- › Ashley Armstrong's farm, Angel Acres Egg Co., produces eggs that are low in linoleic acid (LA), as nature intended. On average, her eggs contain 17 to 20 milligrams of LA, which is about one-quarter of the LA found in conventional eggs
- › Armstrong has also started a new private member food system called Nourish Cooperative that offers milk, cheese, low-PUFA pork, low-PUFA chicken, and grass fed beef. Angel Acres Egg Co. and Nourish Cooperative both ship farm-fresh food right to your door

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The video above features an interview with return guest Ashley Armstrong, a certified personal trainer with a Ph.D., MS, and BS in engineering, and cofounder of [Angel Acres Egg Co.](#), which specializes in low-PUFA (polyunsaturated fat) eggs. On average, her eggs

contain 17 to 20 milligrams of linoleic acid (LA), which is about one-quarter of the LA found in conventional eggs.

She's also started a new private member food system that offers milk, cheese, low-PUFA pork, and low-PUFA chicken, called [Nourish Cooperative](#). Both ship farm-fresh food right to your door.

"One of my favorite topics is essentially just returning back to how food used to be made," Armstrong says. "One-hundred fifty years ago, the dietary linoleic acid (LA) was naturally low, so people would just go to the grocery store and their food options didn't have a bunch of linoleic acid.

It was, in my opinion, probably easier to source food back then. And now we're inundated with not just PUFAs from vegetable oils, but also from animal products as well, because some animals are just vehicles for vegetable oils. The statement that 'You are what you eat' has never been more true because of how much the agriculture industry has changed over the last 100 years."

Modern Diet Is Loaded with Harmful LA

Around the advent of the American Civil War, in the 1870s or so, is when they developed the technology to extract oils from seeds. Before then, the average LA intake was less than 5 grams a day, and likely closer to 2 or 3 grams.

Today, most people exceed that by the time they're done with breakfast. As noted by Armstrong, eggs and bacon are two sources that, today, have very high LA levels, thanks to being fed an unnatural and PUFA-rich diet.

Eggs and bacon are typically perceived as healthy food options, especially among carnivores, but what most are missing is that LA is a metabolic poison that impairs, if not destroys, mitochondrial function and, as such, conventional eggs and bacon are a recipe for ill health. The good news is there are ways to raise eggs and pork that aren't loaded with LA, which is what Armstrong specializes in.

"I think the best thing someone can do for their health is track their food on a chronometer for five days and just pay attention to the amount of PUFAs in their diet. If you can push that as low as possible, I think you're going to see improvements in your health pretty quickly," Armstrong says.

"And you can't achieve that going out to eat at restaurants. You can't achieve that eating a ton of nuts and seeds. You can't achieve that eating conventional bacon, conventional egg yolks, conventional drumsticks and things like that.

You have to really pay attention to the types of fat you're eating. It's kind of eye-opening that food sourcing really does matter in today's day and age, because the abundance we have in these high-PUFA, high-LA options is kind of alarming and frightening."

Fortunately, the word is starting to get out. There's now an app called Seed Oil Scout that identifies which restaurants cook their food in seed oils and which do not. Unless you go to a seed oil-free restaurant, you can be virtually guaranteed they're cooking in seed oil, because it's far cheaper than cooking in butter.

Why Healthy Eggs Are So Important

Chicken eggs are an enormously important part of our diet because they contain nutrients that are really difficult to get from other foods, choline in particular. Choline, found in ample amounts in organic, pastured egg yolks, was first discovered in 1862.¹

It was officially recognized as an essential nutrient for human health by the Institute of Medicine in 1998.² Since then, we've learned that choline has a long list of health benefits. For example, it's required for:

- **Healthy fetal development³**
- **Optimal brain function, memory and cognition**

- **Nervous system health** – Choline is necessary for making acetylcholine, a neurotransmitter involved in healthy muscle, heart, and memory performance
- **Cell structure** – Choline is needed for the synthesis of phosphatidylcholine, better known as lecithin, which is required for the composition of cell membranes
- **Mitochondrial function**⁴
- **Metabolism** (energy production)
- **DNA synthesis**
- **Methylation reactions**⁵
- **Cardiovascular health**
- **Liver health**, as choline is needed to carry cholesterol from your liver; a choline deficiency could result in excess fat and cholesterol buildup⁶

Research⁷ published in 2020 also concluded that choline has anti-inflammatory activity and can be particularly useful in those with insulin resistance and/or metabolic syndrome. And, while a choline supplement was good in this regard, eggs were far better.

Choline Is Required for Energy Production

Armstrong comments:

“In terms of maximal nutrients in square footage, I don't know if you can beat egg yolk. Mother nature designed the egg to protect the yolk because the yolk is the most precious part of the egg. The shell acts as a physical barrier to protect the yolk, and the egg white is very antimicrobial, antibacterial in nature to protect the integrity of the yolk.”

So the egg yolk is a nutrient powerhouse. It has all of the nutrients needed to grow a chicken. From this little yolk, an entire chicken is grown. How beautiful is that? It's incredible. It contains a large amount of B vitamins, and all of the B vitamins are necessary cofactors in the steps to produce energy in your body.

If you don't have enough of the micronutrients, if you're micronutrient deficient, your metabolism won't be as robust, because you don't have the necessary cofactors to generate ATP. Choline, I think, is one of the most important nutrients that a lot of people are deficient in. In carbohydrate metabolism, carbohydrate oxidation, choline is a necessary step in energy production."

Assuming you're not getting choline from other sources, you need to eat at least two, probably three and more, egg yolks per day. I eat six yolks a day, but only one egg white, because I work out and walk at least five to six miles a day. The more active you are, the more choline you need to support a higher metabolic rate.

Armstrong recommends trying honey cured egg yolk. Simply place the egg yolk in a glass container and pour enough honey over the yolk to cover it. Let it cure overnight. This will firm up the yolk a bit, making it less runny. You can just scoop it out of the honey, eat it raw, and then reuse the honey to cure more yolk.

Mad Science – Transforming the Fatty Acid Profiles of Animals

As explained by Armstrong, livestock are classified into two types – ruminant animals, which includes cows, lamb, goats, and deer, and monogastric animals such as chickens and swine (and humans).

Ruminant animals have a complex digestive system consisting of, typically, four stomachs. Their digestion involves a variety of microbes that help break down the food they eat. These digestive microbes also convert dietary PUFAs into saturated fats through a process called biohydrogenation. As a result, ruminant animal products tend to be lower in PUFA, even if they're fed a high-PUFA diet.

Monogastric animals have just one stomach, and whatever fats they eat is translated into their tissues. This is why conventionally raised chicken meat and pork are so high in PUFAs.

Unfortunately, the mainstream is so convinced that saturated fat is bad and PUFAs are good that they're creating technologies to manipulate the fatty acid composition in ruminant animals. In other words, they're using technology to turn the saturated fats in ruminant animals into PUFAs, which is nothing short of a disaster.

"That's why I think conversations like this are so important, to spread awareness and empower those who are in food production," Armstrong says.

"Our farmers need to be educated on why we need to go back to traditional farming styles, traditional feed programs, so we can return the natural fatty acid profiles that mother nature created."

While monogastric feed diets are already very high in PUFAs, conventional farmers are also using dried distillers grains (DDGs), made from the waste products of the ethanol industry, which is driving the PUFA content in monogastric livestock even higher.

"There are studies showing that for pigs fed DDGs, their fat composition has the same amount of PUFAs as canola oil. So we're literally transforming the fatty acid profile in our agriculture system for the worst," Armstrong says.

This wouldn't be quite as bad if it was given to ruminant animals, as they have the capacity to convert the PUFAs into saturated fat. Alas, they're giving it to monogastric animals like chickens and pigs, turning those foods into something that can only harm your health in the long run. Unfortunately, there are no regulations around the use of DDGs, so we don't know how much is being used, or who's using it.

Barriers to Healthier Foods

Equally unfortunate is that farmers like Armstrong, who understands nutrition and wants to raise animals right, are held back in more ways than one. She can't take advantage of government subsidized feed, for example. She also doesn't have the benefit of scale. She explains:

"The biggest obstacle is the feed, because the big feed mills are so efficient in what they do that they can bring in massive quantities of the feed ingredients at the same time. They have that economy of scale that is really hard to have at a single farm level.

We're not bringing in truckloads of feed ingredients at a time. And the more trucking that you have in creating your feed automatically raises the prices. Anyone involved in trucking knows how expensive trucking is right now. So if there's this system set in place where massive quantities of corn and soy are trucked in at the same time, and a bunch of feed is made at the same time, that's where you can cut a lot of costs.

That's good thing, that's advantageous. But right now, I don't have enough volume to push those types of economies of scale. It's just going to be more expensive as we're starting to grow and grow.

But the more farmers that we bring into our partnership ... if we develop hubs in our area and we can create those economies of scale a little bit better ... bringing feed to a general hub, that's where we can start to lower costs over time and can get more and more competitive with the prices at the grocery store.

If anyone were to log onto my website right now and see what the price per egg box is, they'd probably be a little bit alarmed, but I'm not making a ton of money on the eggs. It is my goal to lower the costs significantly over time. We are actively making steps towards that.

One thing, for example, is we're optimizing box dimensions so that we can get better shipping rates. Another thing is our feed, hopefully in the next couple months, will be delivered in semi-trucks with an auger arm. We've been doing feed bags for years now, and that's so expensive.

The fact that now we have the option of a semi-truck, that's going to save significant costs on delivery of the feed. Ultimately, at the end of the day, I think one of the coolest things that can happen is connecting feed crop farmers with livestock farmers.

We need people to grow our feed. I don't have enough land to grow the crops for our livestock. We're not going to have feed that's sprayed with pesticides. That's unacceptable on our end. So how can we have a network of row crop farmers working with livestock farmers to produce low-PUFA, low linoleic acid food grown as nature intended?

We're currently working on those steps behind the scenes, as well as to directly connect with the people growing the feed as well, because that's a very integral part of this ... We're just trying to replicate what mother nature did 100, 200 years ago.

It doesn't matter if the eggs are [labeled] 'organic;' if the chickens are still fed organic soy, it's still going to have high linoleic acid. Organic soybeans don't have low linoleic acid. A conventional and organic soybean is the same."

Livestock Guardians

If you want to raise your own chickens for eggs, you not only need to ensure you're feeding them correctly, but you also need to protect them from predators. I've had at least 50 chickens killed by predators. Armstrong has now hooked me up with a livestock guard dog, a Great Pyrenees puppy named Joy. We discuss the reason for using this breed in the interview. Of course, once you have a guard dog or two, you also need to make sure you're feeding them correctly as well.

“Feeding them what they are biologically designed to eat is very important so that they can function at their best and protect the chickens,” Armstrong says. “So, an integral part of what we do here, and this is just something that I started way back in the beginning when costs were so high.

How do I reduce costs in a way that doesn't sacrifice quality? And I was like, well, for some reason the butcher shop by me has a bunch of extra organ scraps because humans don't like organs and they've got meat scraps. So for the last two and a half years, I've gone every week to a local butcher shop, picked up beef meat scraps and beef organs ... that I feed to our chickens.

And the nice thing is that the livestock guardian dogs just munch right along the chickens. So, they get bones, they get calcium, they get all the connective tissue around the bones, they get the muscle meat, they get the organs.

And so that's an integral part of something that I'll try to set up for all of the farmers in our network – connecting to a local butcher because there is so much food waste. It allows the chickens to get a protein boost. It allows the chickens to get a nutrient intake boost, and it really helps the livestock guardian dogs as well.

I just go weekly to pick it up. I tip him and I also bring trash bags, and it's a great relationship because it costs the butcher money for garbage trucks to come take these scraps to landfill.”

Why Ashley Was Able to Make Such Brave and Courageous Choices

Ashley had been on a quest for health and wellness her whole life. She dabbled with various fad diets, but never was able to identify what truly resonated with her. While attending graduate school for her Ph.D., she chased a path in prosthetics, 3D printing and control engineering, believing it to be her passion.

Yet, deep down, she felt a disconnect, realizing she was more influenced by others' expectations than her own desires. Despite her initial excitement, a grand sense of fulfillment completely eluded her.

Her true calling came unexpectedly through her fascination with regenerative agriculture. Volunteering at local farms opened her eyes to a world where food production not only nourishes humans, but also revitalizes the soil and respects livestock. This newfound passion consumed her free time, igniting a Joy within her that academic pursuits never could.

Her story also illustrates the consequences of making similar choices. Not only did she radically improve the quality of her own life, but her choice allowed her to create a business that provides the finest commercially produced eggs in the United States. Her brand is Golden Nuggets because that is what they are.

They literally are golden nuggets of nutrition that are rarely available outside of growing your own chickens. Her eggs help people avoid one of the most potent metabolic toxins in their diet. So not only can you improve your own life by making brave and courageous choices, but you can also improve the lives of many others.

It is highly probable that her story will resonate very powerfully with you and offer both insight and inspiration as she describes her journey to reclaim her Joy.

By setting aside the advice of others to unearth her own truths, she embodies the essence of bravery and courage. Choosing to walk away from years of hard work influenced by the expectations of others, she exemplifies a profound example of someone rediscovering her Joy. It's difficult to envision a more fitting example of a return to Joy.

Very similar to Ashley, I also made a courageous and brave decision a few days after our interview that will have profound implications on the future exciting trajectory of this site. I suspect it will radically increase your ability to experience Joy.

In the video segment above, Ashley reflects on the timeline of her decision, considering how just a few years ago, her health was far from ideal. She struggled with mitochondrial energy production, and her body was in a low thyroid state. Your body prioritizes energy for essential tasks, and decision-making requires significant energy.

Your brain consumes about 20% of your body's energy despite being only 2% of its weight. Ashley simply would not have had enough cellular energy to supply her brain to make a decision like she did unless she improved her health. Factors like excess linoleic acid, estrogen and endotoxins were depleting her cellular energy, which is crucial for making energy-intensive decisions.

Her transformation underscores the power of nurturing your health to gain the energy necessary for making significant life changes. Avoiding dietary pitfalls like seed oils played a key role in this journey, enabling her to tap into a newfound capacity for brave decisions – a testament to the profound impact of regaining cellular energy on her ability to navigate life's choices.

It is my sincere desire and hope that you consider her journey to inspire and empower you to make similar choices in your own life and reclaim the Joy that you deserve. Imagine experiencing the nearly limitless Joy that Ashley has with her 1,000 chickens and four Livestock Guard Dogs below.

Transform Your Health – One Step at a Time



[Learn More](#)

Ashley and her sister Sarah have put together a truly groundbreaking step-by-step course called “Rooted in Resilience.” They have compiled what clearly is the best application of Dr. Ray Peat’s work on Bioenergetic Medicine that I have ever seen.

This has to be one of the absolute best values for health education I have ever seen. If you want to understand why you struggle with health problems and then have a clear program on how to reverse those challenges, then this is the course for you.

It is precisely the type of program I wish I would have had access to when I got out of medical school. I fumbled around for decades before I reached the conclusion they discuss in the course and share with you so you can restore your cellular energy production and recover your health.

- Select and eat the right foods to heal your metabolism and improve glucose utilization
- Balance your hormones to help reduce anxiety, weight gain, and sleep disturbances

- Use reverse dieting to increase your calories without gaining weight and tanking your metabolism, all while improving your energy levels
- Heal your gut for proper immune function, mood, and weight management
- Tweak your diet and lifestyle habits to improve your mindset and mental health
- Crush your fitness goals with ease and get your life back on track
- Master the most essential habits for health with bonus guides, including over 100 meal plans to take the stress out of meal time planning and shopping, and so much more!

Learn more about Rooted in Resilience here.



[Learn More](#)

Sources and References

- ¹ [Ann Nutr Metab. 2012;61\(3\):254-258](#)
- ² [Nutr Rev. 2009 Nov;67\(11\):615-623](#)
- ³ [Nutr Today. 2007;42\(4\):181-186](#)
- ^{4, 5} [Curr Opin Clin Nutr Metab Care. 2013 May;16\(3\):339-345](#)

- ⁶ J Biol Chem. 2002 Nov. 1;277(44):42358-65
- ⁷ Nutrients 2020;12(10):3120