



## Introduction to New McDougall Book — The Starch Solution

The following article is the first chapter to my new book. Please read it with a critical eye and send your comments back to me at [drmcDougall@drmcDougall.com](mailto:drmcDougall@drmcDougall.com). You are welcome to share this with friends with copyright attached. This version was updated on 3-4-09

### The Starch Solution

This truth is simple and is, therefore, easy to explain. You must eat to live. But the choice of what you eat is yours. There is an individual, specific diet that best supports the health, function, and longevity of each and every animal. The proper diet for human beings is based on starches. The more rice, corn, potatoes, sweet potatoes, and beans you eat, the trimmer and healthier you will be—and with those same food choices you will help save the Planet Earth too.

My recommendation for eating starches puts glazed looks on people's faces, and many dismiss me as certifiably crazy. They think of starch as something used in the laundry to stiffen shirts. Starch brings back memories of pasty bland-tasting goop, and white, airy Wonder Bread. Most disturbing is that nearly everyone believes starches are fattening and nutritionally inferior foods. Fortunately, common knowledge is completely wrong and the proof is right before your own eyes.

The most important evidence supporting my claim that the natural human diet is based on starches is a simple observation that you can easily validate for yourself: All large populations of trim, healthy people, throughout verifiable human history, have obtained the bulk of their calories from starch. Examples of once thriving people include Japanese, Chinese, and other Asians eating sweet potatoes, buckwheat, and/or rice, Incas in South America eating potatoes, Mayans and Aztecs in Central America eating corn, and Egyptians in the Middle East eating wheat. There have been only a few small isolated populations of primitive people, such as the Arctic Eskimos, living at the extremes of the environment, who have eaten otherwise. Therefore, scientific documentation of what people have eaten over the past thirteen thousand years convincingly supports my claim.

Men and women following diets based on grains, vegetables, and fruits have accomplished all of the great feats in history. The ancient conquerors of Europe and Asia, including the armies of Alexander the Great (356 – 323 BC) and Genghis Khan (1162 – 1227 AD) consumed starch-based diets. Caesar's legions complained when they had too much meat in their diet and preferred to do their fighting on grains.<sup>1</sup> Primarily six foods: barley, maize (corn), millet, potatoes, rice, and wheat have fueled the caloric engines of human civilization.

### Starches Consumed Throughout History

Barley – Middle East for 11,000 years

Corn (maize) – North, Central, and South America for 7,000 years

Legumes – Americas, Asia, and Europe for 6,000 years

Millet – Africa for 6,000 years

Oats – Middle East for 11,000 years

Potatoes – South America (Andes) for 13,000 years

Sorghum – East Africa for 6,000 years

Sweet Potatoes – South America and Caribbean for 5,000 years

Rice – Asia for more than 10,000 years

Rye – Asia for 5000 years

Wheat – Near East for 10,000 years

### Our DNA Nails It

Based on our anatomy and physiology experts have long concluded that primates, including humans, are designed to eat a diet consisting mostly of plant foods. The natural diet of chimpanzees, our closest relative, is nearly pure vegetarian in composition; made up largely of fruits; and in the dry seasons when fruit is scarce, they eat tree seeds, flowers, soft pith, and bark; with termites and small mammals making an insignificant contribution to their nutrition all year long.

Recently, scientists have proven through genetic testing that we are designed to thrive best on one category of plant food known as starch. Human and chimp DNA is roughly 99% identical, but that 1% difference, which includes genes to digest much more starch, proved crucial for the evolution of humanity's earliest ancestors. Examination of the number of copies of the gene for the synthesis of the starch-digesting enzyme, amylase, has found an average of 6 copies in humans, compared to only 2 copies of this gene in other primates.<sup>2</sup> This genetic difference results in the production of 6 to 8 times higher levels of starch-digesting enzymes in human saliva. The limited ability of chimpanzees and others in the great ape family to utilize starch tied their species to the tropical jungles where fruits are abundant all year long.

Starches were a critical food source for the ancestors of early and modern humans. The ability to effi-

ciently utilize starch provided the opportunity for us to migrate out of Africa—to colonize the rest of the planet (to locations where fruits are plentiful only in summer and fall). Starch-filled tubers and grains act as storage units for concentrated calories that last throughout the winter, are widely distributed geographically, and are easy to gather. Their abundant calories also supplied the extra energy necessary for the brain to evolve from monkey-size to human-size (a three times difference).<sup>3</sup>

## People Are Starch-Eaters

People should be thought of as “starch-eaters;” just like cats are “meat-eaters.” Until recently, except for a small number of wealthy aristocrats, members of the human species have obtained the bulk of their calories from starch. After the mid 1800s with the creation of colossal wealth during the industrial revolution and the harnessing of fossil fuels, millions, and then billions, of people were able to eat from a table piled high with meat, fowl, and dairy, once available only to royalty. Look around you—the consequences are obvious—everyday people appear rotund like the kings and queens pictured in old paintings. Look a little further and you will discover the Starch Solution.

Starch is a “complex carbohydrate” made up of long chains of sugar molecules, stored in the plants’ parts for their future use. During the growing season, green leaves collect energy from the sun and synthesize sugars that are converted into tiny starch granules. The plants use this stockpile for survival over winter, to re-grow the next year, and to reproduce. Starchy plant-food-parts selected by people for eating are simply called “starches.” Tubers (potatoes, sweet potato, cassava), winter squashes (pumpkin, butternut, hubbard), legumes (beans, peas, lentils), and grains (barley, corn, rice, wheat) serve as organs for storing starch.

Green and yellow vegetables, such as broccoli, cauliflower, and asparagus, accumulate relatively little starch, and fruits are made up of simple sugars, not complex ones. All animal foods, including beef, chicken, fish, shellfish, eggs, milk, and cheese, contain no starch at all.

While easily providing the abundance of calories needed for winning marathons, starches do not promote excess weight gain. That is because the human body efficiently regulates carbohydrates from starches, burning them off, rather than storing them, when consumed in excess. How effective is our body’s regulation? Obesity has been unknown among billions of Asians with a wide variety of activity levels who have followed traditional diets based on rice. However, these people’s immunity immediately disappears when they switch to meals based on meat and dairy foods, because the human body unsuccessfully balances for excess fat consumption—storing these calories in the abdomen, buttocks, and thighs. The fat you eat is the fat you wear.

Starches are very low in fat (1% to 8% of their calories), contain no cholesterol, do not grow human pathogens, like salmonella, E. Coli, and “mad cow” prions, and do not store poisonous chemicals, like DDT and methyl mercury. Outside surface contamination, for example, from cow dung and pesticide sprays, may occur, but that is not a fault with the plants. Starch is clean fuel.

The carbohydrates abundant in starches pleurably stimulate the sweet-tasting sensory buds on the tips of our tongues. Here gastronomic enjoyment and satisfaction begin. Because of their natural rewarding properties—having great taste and nourishing calories—people refer to beans, breads, corn, pasta, potatoes, and rice as “comfort foods.” In addition to “clean and efficient, satisfying energy,” starches provide an abundance of other nutrients, such as proteins, essential fats, vitamins, and minerals. Some single starches, for example potatoes and sweet potatoes, are “complete foods” and can easily meet all of our nutritional needs alone. Grains and legumes are deficient in vitamins A and C. The addition of a small amount of fruit or green and yellow vegetable easily provides for these vitamins, making a diet based on these seeds (grains and legumes) sound.

## Unguided Wealth Stole Our Health

My parents lived through the Great Depression of the 1930s. My mother's family could not even afford to pay the rent on their apartment—the generosity of their landlord kept them from living on the streets of Decatur, Illinois. The sparse diet her family ate during these hard times was made up of turnips, rutabagas, and potatoes. My mother's painful memories caused her to make a promise that her children would never have to suffer as she did.

Growing up I ate eggs and bacon for breakfast, meat-filled sandwiches for lunch, and beef, pork, and chicken were the centerpieces of every dinner. All three of these starch-deficient daily meals were washed down with glassfuls of milk. The effects on my personal health were instructional. For as far back as I can remember, I suffered daily stomachaches and brutally immovable constipation. At age seven I lost my tonsils. I was often sick with colds and flu. My lack of endurance put me in last place in gym class. Oily skin and acne marked my face as a teenager. At age 18 an uncommon incident happened to me—I suffered a major stroke with total left-sided paralysis. My own mother called me fat in my early twenties (I was 50 pounds overweight). When I was 25, the abdominal pains became so intolerable, that I underwent exploratory surgery. My mother's wish was fulfilled; I never suffered as she did.

Her intentions were good ones; she fed our family based upon the best nutritional advice of the times—most of it provided to the public by the meat and dairy industries. Calcium and protein were worshipped as the nutrients most vital to any meal plan. Concerns about the adverse consequences of these animal foods on human health and the environment were recognized in these times, but largely dismissed by food industry-funded scientists as unimportant.<sup>4</sup>

## Dietary Change Is Terrifying.

Almost all of us were raised on meat, poultry, milk, cheese, oils, flours, and sugars. These items have provided most of our life-sustaining calories. To give these familiar foods up, in our minds, means starvation. This would be akin to asking us to stop breathing or to go thirsty—unbearable, if not impossible, tasks. I remember well my first experience with foods different from those I was raised on. Mary, my wife of 37 years now, was pregnant with our first child, Heather, in 1974. We were living on the Big Island of Hawaii at that time. Buzz and Susan Hughes, a couple we had met at our childbirth education class, invited us over for dinner. Susan had prepared a casserole of wheat and barley, a Caesar salad, vegetable side dishes, and a peach pie for dessert. The meal was tasty, but a drastic departure from my usual beef, chicken, cheese, egg, and ice cream menu. Even after second helpings my stomach was still empty of its customary fillings. On our drive home after dinner, I felt unsatisfied and actually believed that I would be unable to sleep through the night without “food.” I entered the front door of our house, which led directly to the kitchen with a well-stocked refrigerator. I eagerly opened the bottom bin where the sliced turkey was kept and made myself a Dagwood sandwich. After eating sufficient amounts of fat, protein, flour, and sugar, I slept well.

I adjusted mentally and physically after only a few more healthy eating experiences, and soon learned how much more tasty and satisfying meals based on masked potatoes, bean burritos, mu shu vegetables and rice, spaghetti and marinara sauce, and soups and breads are than meals based on animal muscles and lactation fluids. The Starch Solution is a simple switch: rather than getting calories from fat and protein, the primary fuel for people becomes carbohydrate. Instead of starvation, this change means fuller appetite satisfaction and radiant health. The more meat and dairy you replace with starch the trimmer and healthier you become—this is not an all or nothing proposition. This book is not about becoming a vegetarian or a vegan. However, when you are finished reading, your consumption of starch-deficient foods will plummet, along with excess weight, physical and mental suffering, and need for medications and surgeries.

## Expect Economic Shifts

The adoption of a starch-based diet by any sizable share of the world's populations will have major ramifications, because huge profits are at stake and industry will fight back. The food industries' goals have been, and always will be, to entice the consumer to eat more meat, poultry, seafood, dairy products, and processed foods because those are the high profit items. Rice, corn, and potatoes are plentiful, easy to grow, and cheap. Switching to a starch-based diet will not only affect the food industries, but will also drastically shrink the pharmaceutical and medical businesses by preventing and curing common illnesses, including obesity, heart disease, diabetes, arthritis, and intestinal disturbances ranging from heartburn to constipation.

Implementation of the Starch Solution may appear impossible because the hands of commerce reach into every area of politics, science, and education. The food industry employs to their advantage lobbyists, influence peddling, the revolving door syndrome, and massive agricultural subsidies. Their money corrupts medical doctors, dietitians, scientists, professional associations, and medical journals. With a donation, according to a memo from the American Dietetic Association (ADA), Coca-Cola becomes an "ADA Partner in the Association's corporate relations sponsorship program. The program provides Partners a national platform via ADA events and programs with prominent access to key influencers, thought leaders and decision makers in the food and nutrition marketplace."<sup>5</sup> The Oklahoma Beef Council (OBC) sponsored several American Heart Association (AHA) events in the spring of 2006 to communicate how lean beef easily fits into a heart-healthy diet.<sup>6</sup> The newly released 2006 AHA Diet and Lifestyle Recommendations by no coincidence include heart-attack-causing meat as part of a heart-healthy diet.<sup>7</sup> The American Dietetic Association and the American Heart Association are only two, among dozens, of respectable sounding organizations that you once believed in, who receive funding from food interests—and as a consequence they act as fronts for industry.<sup>8</sup>

Major universities, such as Harvard and Tufts, are also funded by food interests, and they perpetuate industry-favoring lies that keep the consuming public from making correct decisions about their diet.<sup>8</sup> For example, Tufts University's nutrition department (which receives funding from Procter & Gamble and Kraft Foods) tells the public, "Plant protein sources, although good for certain essential amino acids, do not always offer all nine essential amino acids in a single given food."<sup>9</sup> The scientific truth is all single starches and vegetables contain all eight essential and all twelve nonessential amino acids in amounts and arrangements that always meet human needs. The nutritional falsehood about "amino acid deficient plants" spread by industry-supported universities causes people to add artery-clogging meats and dairy products to their diet in order to get "complete protein." Almost no one can be trusted because so much money taints them.<sup>10</sup>

The food industries win over the public by an advertising campaign that convinces us that "a well-balanced diet" is best. Meaning that almost anything and everything that is sold in the supermarket should be part of the human diet. People should select from cat food (meat) to calf food (milk) and foods you would never feed your favorite pets, such as cakes, donuts, and candy bars, according to the food industry. They also divert our attention away from proper eating and the dangers of their products by providing unattainable solutions, like "exercise more" and "eat less" to lose weight. The rising epidemics of obesity and sickness worldwide, under the tutelage of the food industry, prove a more truthful answer is long overdue; and that is for the world's peoples to obtain the bulk of their food from one or more healthy delicious starches.

## We Know Better

Despite the deafening drone from big businesses, since the 1950s there has been sound advice to eat more vegetables, fruits, and grains, and to eat less fat from meat and dairy products. In the introduction to the 1977 report issued by the U.S. Senate Select Committee on Nutrition and Human Needs, Dr.

Mark Hegsted of the Harvard School of Public Health said: "I wish to stress that there is a great deal of evidence and it continues to accumulate, which strongly implicates and, in some instances, proves that the major causes of death and disability in the United States are related to the diet we eat. I include coronary artery disease, which accounts for nearly half of the deaths in the United States, several of the most important forms of cancer, hypertension, diabetes, and obesity as well as other chronic diseases."<sup>11</sup>

In 2002, the World Health Organization published a report on how the nutrition transition towards refined foods, foods of animal origin (meat and dairy products), and increased fats is causing the current global epidemics of obesity, diabetes and cardiovascular diseases and predicted that by 2020 two-thirds of the global burden of disease will be attributable to diseases mostly from diet.<sup>12</sup>

Because of our inability and unwillingness to respond to the truth we are now suffering the greatest health crisis ever known to humankind. Worldwide, 1.1 billion people are overweight and 312 million obese, 18 million people die of heart disease annually, more than 197 million have diabetes, and half of all people following the Western diet develop life-threatening cancers.<sup>13</sup>

### **The Western Diet Is a Planet-killer.**

The stakes are greater than a few billion fat, sick people. Marching side by side with mounting levels of human sickness are escalating environmental catastrophes due in large part to abandoning our diet of starches for livestock at every meal at every dinner table. According to the report, *Livestock's Long Shadow –Environmental Issues and Options*, released in November of 2006 from the United Nations Food and Agriculture Organization, livestock emerges as one of the top two or three most significant contributors to every one of the most serious environmental problems.<sup>14</sup>

For thirty-two years I have believed people would rise up and take action once they realized that the vast majority of human sickness and suffering in developed countries is due to eating animal and junk foods, and that the simple solution is to switch to a starch-based diet. The masses have remained quiet. For the past decade I have witnessed the growing epidemic of childhood obesity—a misery caused largely by the fast food giants. All this time I have waited for informed citizens to rise up in protest, or at the very least, to boycott the perpetrators of this child abuse. The sellers of easily procured beef burgers and milk shakes thrive, successfully uncontested by a single one of us.

Until now, inaction meant other people and their children became fat, sick, and died prematurely—somehow, we have been able to live with those immoralities. The truth is that most human beings find the destruction of fellow human beings, even little ones, acceptable. You can assume these same people will sit idly by and let the entire earth be destroyed. But we cannot let this happen, because this is our world, too. This time, failure to act means that we and our children will be lost, along with those who do not seem to understand or care.

An amazingly simple win-win opportunity stares us in the face: a global switch to a starch-based diet will solve the diseases of over-nutrition and put a big dent in global warming with one U-turn—since the up-to-now insatiable appetite for foodstuffs made from livestock (cows, sheep, pigs, and chickens), with abandonment of starchy plant foods, are at the root of both disasters. We must implement the Starch Solution.

### **Quick Paybacks with Starch**

A switch back to the kind of diet followed by most people who have ever walked this earth would have

enormous and widespread benefits. The Starch Solution could prevent more deaths in one year than have been prevented by all the antibiotics, diabetic pills, cholesterol-lowering statins, and blood pressure pills prescribed over the past half century. Not one case of type-2 diabetes has ever been cured with insulin, nor has any patient with coronary artery disease been cured by heart surgery; yet a switch to a starch-based diet has been proven to stop and reverse these as well as most other chronic diseases. The net toll on human lives saved in the first decade of implementing the Starch Solution would be greater than the lives lost by all wars fought in the 20<sup>th</sup> century in Western countries.

Abandoning meat and dairy foods would overnight result in more savings in fossil fuels than all the solar farms, windmills, and nuclear plants that could be built in the next three decades. Consider that most vegetable produce requires about two calories of fossil-fuel energy to cultivate per one calorie of food energy; with beef, the ratio can be as high as 80 to one.<sup>15</sup> Because livestock products account for 18% of greenhouse gas production, compared to 14% for all transportation, this simple, long-overdue diet change would have a greater effect on the rapidly approaching environmental apocalypse than would removing all cars from the highways worldwide.<sup>14</sup> For everyday food choices, consider that growing four pounds (1200 calories) of potatoes generates 14 times fewer greenhouse gases than producing a pound of beef (1200 calories).<sup>16</sup> Potatoes also provide much more food, health, and appetite satisfaction than beef at the same time.

Individuals can expect an immediate personal financial payback. The average daily cost of eating all 3 meals at fast food restaurants is about \$14 (US). On a starch-based diet you can easily feed yourself for \$3 or less a day. Your medical expenses can be eliminated in most cases and your personal productivity will skyrocket overnight.

### **Truth Is The Solution**

We are prevented from solving problems ranging from acne to species extermination by false information. Starch as our food source must no longer be vilified. Meat, poultry, fish, and dairy can no longer be exalted. Currently, past the age of 30, in Western countries, almost everyone is overweight, on medications and/or has risk factors, like high cholesterol or high blood pressure, which predict premature disability and death. Fat, sick people will have much greater difficulty solving the health, environmental, financial, and military problems threatening our existence. In addition to the obvious mental and physical impairments caused by their illnesses, their own dinner plates blind them to the right answers. Once a person learns the truth and switches to a starch-based diet then the solutions become clear. The solutions are so simple and easy to explain that a 7-year-old can understand that the cure for heart disease and restoring the oceans back to life are the same.

The goal of this book is to provide you with one big simple solution—a starch-based diet. That's all there is to it. You don't have to think "good" thoughts, worship weekly, run marathons, be blessed with hardy genes, or carry around lucky charms to solve your health problems and to make a sizable contribution to reversing the accelerating trends of environmental ruin. All you have to do is change the composition of the foods on your plate and eat. That's the Starch Solution.

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