

COW MILK

NATURE'S
MOST
PERFECT
FOOD



DR. SAHADEVA
DASA

COW MILK

Nature's Most
Perfect Food

By
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Dedicated to....

His Divine Grace A.C.Bhaktivedanta Swami Prabhupada



So from the cows, the milk. And from the milk we can make hundreds of vitaminous foodstuff, hundreds. They're all palatable. So such a nice animal, faithful, peaceful, and beneficial. After taking milk from it, if we kill, does it look very well? Even after the death, the cows supply the skin for your shoes. It is so beneficial. You see. Even after death. While living, he gives you nice milk. You cannot reject milk from the human society. As soon as there is a child born, milk immediately required. Old man, milk is life. Diseased person, milk is life. Invalid, milk is life. So therefore Krsna is teaching by His practical demonstration how He loves this innocent animal, cow.

~ Srila Prabhupada (Lecture , Los Angeles, December 4, 1968)

Preface

Milk is one of our most ancient foods. It is also one of the most controversial ones. This controversy is a recent phenomenon. It stems from our disregard for animal rights and the impact of processed milk on human health.

Opponents of milk are right when they point out the abuse of dairy cows and the extreme processing the milk undergoes.

At one time, milk was one of the more natural processes in farming. A bull would impregnate a cow—an actual bull, before the age of artificial insemination. She was pregnant for nine months and then a baby cow was born.

Afterwards, from the calf's birth, the farmer would milk the excess dairy by hand, for drinking, butter and maybe cheese. That's it. But with the rise of factory farming, milk is now a most unnatural operation. Today's average dairy cow produces six to seven times as much milk as she did a century ago.

Should we blame the milk or ourselves for this mess?

And our mishandling of food is not confined to milk alone. Most of our food now is industrially farmed and processed. Industrialization has destroyed our food.

And the result is not very difficult to perceive. According to a study published in *The Lancet*, we are living in a sick world. More than 95% of us are ill. Over 95% of us have health problems, with

over a third having more than five ailments. Just one in 20 people worldwide (4.3%) had no health problems in 2013.

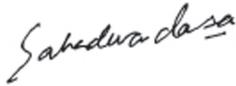
The findings come from the largest and most detailed analysis to quantify levels, patterns, and trends in ill health and disability around the world between 1990 and 2013.

Happiness lies first of all in health. Failing on health front means we fail on every other front. A thing is judged by the result. All our technological, scientific advancement and all the talk of development is hogwash. Because it's killing us and it's killing the planet.

We have no idea what we're doing. Life is really simple, but we insist on making it complicated. Life is only as complicated as we make it and it's so easy to make life complicated.

What has worked for countless generations will work for us also. There is hardly any need to reinvent the wheel.

Let us get back to good ol' milk. Milk has always stood for motherhood and for life.

A handwritten signature in black ink that reads "Sahadeva dasa". The signature is written in a cursive, flowing style with a horizontal line under the name.

Dr. Sahadeva dasa
1st January 2013
Secunderabad, India

1.

Milk

Needs No Introduction

Milk is a white liquid produced by the mammary glands of mammals. It is the primary source of nutrition for young mammals before they are able to digest other types of food. Early-lactation milk contains colostrum, which carries the mother's antibodies to its young and can reduce the risk of many diseases. Milk contains many other nutrients and the carbohydrate lactose.

Milk is nature's most perfect food. It provides the greatest variety of nutrients in a very dense food package.

The females of all mammal species can by definition produce milk, but cow's milk dominates commercial production. In 2011, FAO estimates 85% of all milk worldwide was produced from cows.

The composition of milk differs widely among species. Factors such as the type of protein; the proportion of protein, fat, and sugar; the levels of various vitamins and minerals; and the size of the butterfat globules, and the strength of the curd are among those that may vary.

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Donkey and horse milk have the lowest fat content, while the milk of seals and whales may contain more than 50% fat.

Throughout the world, there are more than six billion consumers of milk and milk products. Over 750 million people live within dairy farming households.

Source

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Whale. Encarta.

2.

Milk - A Dietary Staple

Since The Dawn of Time

There are a large number of facts pointing out that drinking milk is natural, and has been a natural part of our society for thousands of years. Researchers are finding a lot of evidence confirming that milk has been part of human existence since the dawn of time.

It is true that the dairy cow has played and continues to play a very vital role in human society.

The Vedic tradition is centered on worship of Krishna, the “cowherd boy,” and the cow as “Mother.” India’s ancient Vedic culture has existed on cow’s milk for tens of thousands of years.

Humanity and cows have been together as far back as we know. Milk and dairy products are not chiefly a Western (i.e. European) invention, but dairying can be found in all cultures and civilizations. Our bovine friends co-existed with our ancestors as a source of nourishment and nutrition, in all times and in all places.

Traces of dairy farming have been found in many different cultures and civilizations. Advances in technology now allow us to find residues of milk in ancient pottery shards. Evidence of our reliance on cows as a source of nutrition can be found in ancient civilizations like Greek, Roman, Egyptian, Sumerian, and Vedic and also in places like Scandinavia and Africa. Early peoples were very dependent on cows, and relied on them heavily for a source of nourishment.

According to a discovery by the United Kingdom's University of Bristol and first reported in the scientific publication *Nature*, the researchers did a chemical analysis to find that ancient pots were used as cheese strainers around 7,200 years ago.

In a sense, cows fostered the development of the human race. They have been our real foster mothers for generations. We as the human race are really indebted to the cow and its contribution in feeding and nourishing us.

After all, the promised land as described in biblical text is a land flowing with milk and honey. In the Qur'an, there is a request to wonder on milk as follows: 'And surely in the livestock there is a lesson for you, We give you to drink of that which is in their bellies from the midst of digested food and blood, pure milk palatable for the drinkers.' (16-The Honeybee, 66). The Ramadan fast is traditionally broken with a glass of milk and dates.

Every Vedic rite requires milk. It is an indispensable ingredient in the ceremonial bathing of the Deities.

The importance of milk in human culture is further attested to by the numerous expressions embedded in our languages, for example, "the milk of human kindness". In ancient Greek mythology, the goddess Hera spilled her breast milk after refusing to feed Heracles, resulting in the Milky Way.

For centuries doctors have encouraged milk as a source of calcium which strengthens the bones and teeth. Children were administered the drink at schools across the world.

There is something magnetic about this white, creamy, natural beverage that is a pre-requisite for well-loved delicacies like cheese, cakes and ice-cream. No one can deny that milk is one of the most important features in a child's formative years, as well as the major provider of nutrition as we grow older.

There are a whole host of positive health attributes that dairy brings to the table. The cornerstone is its calcium-building attributes for bone health. Scientific studies have also found that people who consume dairy in their diets have lower blood pressure, reduced body fat, less incidence of colon cancer and even fewer kidney stones. These studies have all been published in highly regarded scientific journals.

Dairy is in demand around the globe. As consumers' incomes grow, they immediately turn to dairy protein. It is estimated that by 2020, two to three times the annual milk production in the United States will be needed to meet growing consumer needs around the globe. Countries such as India, China, Pakistan, Brazil, Russia and Mexico will be the highest growth areas for dairy product consumption. People in these countries have come to know and appreciate the dairy products in human diets lead to healthier humans, especially in growing children.

Seemingly milk in today's culture is looked at as being old fashioned, or even unhealthy, but it wasn't long ago that people for generations before recognized milk for what it really was – A healthy, healing food. Milk was known to cure many ailments that still plague people today.

Milk was known as a healing food that cured people of many common diseases. Milk was known to cure rheumatoid arthritis, edema, ulcers, indigestion, low thyroid function, congestive heart failure, asthma, hay fever, appendicitis, gallstones, infertility, narcotic habits, anemia, insomnia, migraines, acid stomach, eczema, tuberculosis (in its early stages).

If that isn't convincing enough, there are groups of people, like the Massai in Africa, that have existed for thousands of years with milk as one of the primary and main components of their diet. Believe it or not, these people are among the healthiest people in the world.

Source

Corey A. Geiger, managing editor, Hoard's Dairyman, Fort Atkinson, Wisconsin.
Stephen, The dairy Guy, Nov 14, 2014

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3.

Milk

Generally Refers To Cow Milk

The females of all mammal species can by definition produce milk, but cow's milk dominates commercial production. In 2011, FAO estimates 85% of all milk worldwide was produced from cows.

Human milk is not produced or distributed industrially or commercially; however, human milk banks collect donated human breastmilk and redistribute it to infants who may benefit from human milk for various reasons (premature neonates, babies with allergies, metabolic diseases, etc.) but who cannot breastfeed.

All over the world, cow's milk is so ubiquitous that it doesn't even need a description. Whether poured on breakfast cereal or enjoyed alone as a cold glass of milk, this beverage has become a staple in the world's diet that can be enjoyed year-round.

In the Western world, cow's milk is produced on an industrial scale and is by far the most commonly consumed form of milk.

Commercial dairy farming using automated milking equipment produces the vast majority of milk in developed countries. Dairy cattle such as the Holstein have been bred selectively for increased milk production. About 90% of the dairy cows in the United States and 85% in Great Britain are Holsteins.

Aside from cattle, many kinds of livestock provide milk used by humans for dairy products. These animals include buffalo, goat, sheep, camel, donkey, horse, reindeer and yak. The first four respectively produced about 11%, 2%, 1.4% and 0.2% of all milk worldwide in 2011.

In Russia and Sweden, small moose dairies also exist.

According to the US National Bison Association, American bison (also called American buffalo) are not milked commercially; however, various sources report cows resulting from cross-breeding bison and domestic cattle are used for milk production.

Nine out of every ten glasses of milk consumed by people come from cows.

Some other milch animals are described below:

Water Buffalo - Water buffalo produce half of the milk consumed in India.

Goat - Some people find goat's milk easier to digest than cow's milk. Fat globules in goat's milk are smaller than in cow's milk.

Reindeer - The fat content of reindeer milk is 22%, six times as much as cow's milk. It is the only source of milk for Laplanders and others in Arctic and Subarctic areas, because no other dairy animal can survive in such a cold, hostile environment. It takes two people to milk a reindeer - one to do the milking and the other to hold the reindeer's horns.

Horse - For centuries, Mongolian warriors made a dried-out concentrated paste from horse milk. When they were on the march, they added it to water and drank it. Horse is still a popular source of milk in modern Mongolia. In southeastern Russia, people use horse milk to make a slightly alcoholic drink called kumiss.

Sheep - Milk from sheep has twice the fat content of cow's milk. Sheep milk is used to make French Roquefort and chevre cheeses.

“The cow is the foster mother of the human race. From the time of the ancient Hindoo to this time have the thoughts of men turned to this kindly and beneficent creature as one of the chief sustaining forces of the human race” – W.D. Hoard

Camel - In the hot desert, camel milk lasts longer than other types of milk. It can last for seven days at 86 degrees Fahrenheit (30 degrees Celsius), and will last for three months when properly refrigerated.

Yak - In the cold mountains of Tibet, people make yak butter tea. It tastes like a salty, creamy soup that has been whipped to a froth.

The term milk is also used for white colored, non-animal beverages resembling milk in color and texture (milk substitutes) such as soy milk, rice milk, almond milk, and coconut milk. In addition, a substance secreted by pigeons to feed their young is called “crop milk” and bears some resemblance to mammalian milk.

Got Milk? Only If It Comes From A Cow, Group Argues

Got milk? The National Milk Producers Federation in USA says you don't, if it is soy, rice or almond milk.

For the second time in 10 years, the federation has written to the Food and Drug Administration asking that the term “milk” be reserved for cow's milk, although it's OK with also using the word for goat, sheep or water buffalo milk — any of the various “mammalian lacteal secretions.”

The federation says the FDA should require that plant-based beverages be labeled something else, noting terms such as “drinks,” “beverages” or even “imitation milk.”

The FDA is “letting the bastardization of dairy terms proliferate,” says federation spokesman Christopher Galen. The group has even launched a Facebook page: “They Don't Got Milk.”

The National Milk Producers group filed its first protest letter about the term “soy milk” in 2000 but received no answer. In a subsequent letter to the FDA, the Soyfoods Association argued that as long as the word “milk” was qualified by “soy,” consumers wouldn't be confused.

Various Types

Milk products are sold in a number of varieties based on types/degrees of

- additives (e.g., vitamins),
- age (e.g., cheddar),
- coagulation (e.g., cottage cheese),
- farming method (e.g., organic, grass-fed).

- fat content (e.g., half and half),
- fermentation (e.g., buttermilk),
- flavoring (e.g., chocolate and strawberry),
- homogenization (e.g., cream top),
- reduction or elimination of lactose,
- mammal (e.g., cow, goat, sheep),
- packaging (e.g., bottle),
- pasteurization (e.g., raw milk),
- water content (e.g., dry milk)

Source

By Elizabeth Weise, USA TODAY

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4.

Fresh Grass to Fresh Milk

A Life Giving Miracle

Cows are basically living, breathing bio-converting engines. This is yet another reason to be thankful for cows. They convert grass, a low quality food source, into a very high quality food source. That is why ancient cultures valued cows so much.

Our world is full of grass and other vegetation but we can not digest a single blade of it. Our bodies cannot convert plant fiber into the type of nutrients we need. We lack essential amino acids to break down the components found in grass.

Aside from the digestion issues, a second problem with grass as a food source is the mastication. Grass contains silica, an abrasive which quickly wears down teeth. Grazing animals have teeth that are adapted to continually grow, replacing the worn tooth surfaces quickly.

Cow's digestive system is amazing though. It can breakdown the insoluble fibers our bodies cannot digest and convert them into a "complete" protein with all the essential amino acids our bodies need and that too in a highly absorbable form.

Without the bio-converting power of cows, grasslands and plains would be just scenic landscape.

The nutrition cows produce can not be compared to any other food. Milk is a complete package of nutrition.

Unique Digestive System

Unlike most mammals the cow has four stomachs not just one, the rumen, the reticulum, the omasum, and the abomasums.

When a cow grazes grass or eats other fodder she swallows it half chewed and it goes to the first stomach, the rumen. In the rumen digestive fluids and bacteria soften the grass and when it is ready it moves naturally to the second stomach, the reticulum.

In the reticulum the grass is formed into small lumps called cuds. After awhile these cuds return to the mouth and the cow then chews each for about one or so minutes. When the cud is swallowed it goes to the third stomach, the omasum.

In the omasum the cud is broken down and nutrients from the grass are absorbed into the blood stream of the cow. The remaining cud then passes to the fourth and final stomach, the abomasums.

In the abomasums grass is broken down even further by digestive fluids and from there it passes into the intestine, where the nourishment continues to be absorbed into the blood stream.

In the cows udder is where the final miracle of milk making takes place. The udder has four identical sections and each section has a teat. In the udder the cow process her blood and transforms it into nutritious milk.

The transformation of fresh grass to fresh milk is indeed a life giving miracle.

Source

Stephen, The Dairy Guy, Dairy Moos.

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5.

You're Drinking the Wrong Kind of Milk And We're Not Talking About Soy or Almond, Either.

By Josh Harkinson

An emerging body of research suggests that many of the 1 in 4 Americans who exhibit symptoms of lactose intolerance could instead be unable to digest A1, a protein most often found in milk from the high-producing Holstein cows favored by American and some European industrial dairies. The A1 protein is much less prevalent in milk from most Guernsey, and all of Asian and African cow breeds where, instead, the A2 protein predominates.

"We've got a huge amount of observational evidence that a lot of people can digest the A2 but not the A1," says Keith Woodford, a professor of farm management and agribusiness at New Zealand's Lincoln University who wrote the 2007 book *Devil in the Milk: Illness, Health, and the Politics of A1 and A2 Milk*. "More than 100 studies suggest links between the A1 protein and a whole range of health conditions"—everything from heart disease to diabetes to autism,

For more than a decade, an Auckland-based company called A2 Corporation has been selling a brand of A2 milk in New Zealand and Australia; it now accounts for 8 percent of Australia's dairy market. In 2012, A2 Corp. introduced its milk in the United Kingdom through the Tesco chain, where a two-liter bottle sells for about 18 percent more than conventional milk.

The A1/A2 debate has raged for years in Australia, New Zealand, and parts of Europe, but it is still virtually unheard of across the pond. That could soon change: A2 Corp. recently announced plans to offer its milk in the United States in coming months.

The difference between A1 and A2 proteins is subtle: They are different forms of beta-casein, a part of the curds (i.e., milk solids) that make up about 30 percent of the protein content in milk. The A2 variety of beta-casein mutated into the A1 version several thousand years ago in some European dairy herds. There are two genes code for beta-casein, so modern cows can either be purely A2, A1/A2 hybrids, or purely A1. Milk from goats and humans contains only the A2 beta-casein, yet not everyone likes the flavor of goat milk, which also contains comparatively less vitamin B-12—a nutrient essential for creating red blood cells.

The A1 milk hypothesis was devised in 1993 by Bob Elliott, a professor of child health research at the University of Auckland. Elliott believed that consumption of A1 milk could account for the unusually high incidence of type-1 diabetes among Samoan children growing up in New Zealand. He and a colleague, Corran McLachlan, later compared the per capita consumption of A1 milk to the prevalence of diabetes and heart disease in 20 countries and came up with strong correlations.

A 1997 study by Elliott published by the International Dairy Federation showed A1 beta-casein caused mice to develop diabetes, lending support to the hypothesis, and McLachlan remained convinced. In 2000, he partnered with entrepreneur Howard Paterson, then regarded as the wealthiest man on New Zealand's South Island, to found the A2 Corporation.

Starting in 2003, A2 Corp. sold milk in the United States through a licensing agreement, but pulled out in 2007 after it failed to catch

When my in-laws moved from India to the United States some 35 years ago, they couldn't believe the low cost and abundance of our milk—until they developed digestive problems. They'll now tell you the same thing I've heard a lot of immigrants say: American milk will make you sick.

- Josh Harkinson

on. Susan Massasso, A2 Corp.'s chief marketing officer, blamed mistakes by the company's US partner, but declined to elaborate. But now the market dynamics may be changing in A2 Corp.'s favor as compelling new research on the A1/A2 debate grabs headlines in the Australian and UK press.

When digested, A1 beta-casein (but not the A2 variety) releases beta-casomorphin7 (BCM7), an opioid with a structure similar to that of morphine. Studies increasingly point to BCM7 as a troublemaker. Numerous recent tests, for example, have shown that blood from people with autism and schizophrenia contains higher-than-average amounts of BCM7.

In a recent study, Richard Deth, a professor of pharmacology at Northeastern University in Boston, and his postdoctoral fellow, Malav Trivedi, showed in cell cultures that the presence of similarly high amounts of BCM7 in gut cells causes a chain reaction that creates a shortage of antioxidants in neural cells, a condition that other research has tied to autism. The study, underwritten in part by A2 Corp., is now undergoing peer review in the *Journal of Nutritional Biochemistry*.

The results suggest that drinking A2 milk instead of A1 milk could reduce the symptoms of autism, Trivedi says, but, he adds: "There's a lot more research that needs to be done to support these claims."

Researchers without ties to A2 Corp. are also lending increasing support to the A1 hypothesis. One peer-reviewed study conducted at the National Dairy Research Institute in India, published in October in the *European Journal of Nutrition*, found that mice fed A1 beta-casein overproduced enzymes and immune regulators that other studies have linked to heart disease and autoimmune conditions such as eczema and asthma.

The leading explanation for why some people but not others may react poorly to A1 milk implicates leaky gut syndrome—a concept that got its start in alternative medicine circles but has been gaining wider traction in the medical establishment. The idea is that loose connections in the gut, like tears in a coffee filter, allow rogue proteins such as BCM7 to enter the body and run amok. The body brings in immune cells to fight them off, creating inflammation that manifests

as swelling and pain—a telltale symptom of autoimmune diseases such as arthritis and diabetes, and autism.

Though many adults may suffer from leaky guts, the condition is normal in babies less than a year old, who naturally have semi-permeable intestines. This may pose a problem when they're fed typical cow-milk formula. A 2009 study documented that formula-fed infants developed muscle tone and psychomotor skills more slowly than infants that were fed (A2-only) breast milk.

Researchers in Russia, Poland, and the Czech Republic have suggested links between BCM7 in cow milk formula and childhood health issues. A 2011 study implicates BCM7 in sudden infant death syndrome: the blood serum of some infants that experienced a "near-miss SIDS" incident contained more BCM7 than of healthy infants the same age. Capitalizing on those findings, A2 Corp. also sells an A2-only infant formula in Australia, New Zealand, and China.

The mainstream dairy industry in the United States may be more interested in the A1/A2 debate than it lets on. For example, US companies that sell bull semen for breeding purposes maintain information on the exact A1/A2 genetics of all of their offerings. And breeders have already developed A2 Holsteins to replace the A1 varieties typically used in confined agricultural feeding operations. "There is absolutely no problem in moving across to A2 and still having these high-production cows," says Woodford, the *Devil in the Milk* author, who has in more recent years worked as a consultant for A2 Corp.

But the transition to A2 milk would take a bit of money and a lot of time—probably about a decade, Woodford believes. "The mainstream industry has always seen it as a threat," he says, "whereas another way of looking at it is, hey, this can actually bring more people to drinking milk."

The heirloom A2 cow breeds tend to be hardy animals adapted to living on the open range and not producing a ton of milk, but what they do produce is comparatively thicker, creamier, and, many people say, a lot tastier than what you'll typically find at the supermarket.

"People taste our milk and they say: 'Oh my gosh, I haven't tasted milk like this since I left home,'" and came to America, says Warren

Taylor, the owner of Ohio's Snowville Creamery, which has been phasing out A1 cows from its herds. For the time being, the switch to A2 milk "is going to be for the small producers—people like us," he adds. "It's just a part of our responsibility."

Source

By Josh Harkinson

Mar. 12, 2014, Mother Jones

Keith Woodford, Devil in the Milk: Illness, Health and the Politics of A1 and A2 Milk

A2 milk author breaks his silence, David Williams, Weekend Review, NBR, December 13, 2012

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6.

Cow Milk

The Original Superfood

Pure Nutrition In A Glass

Milk is one food for which there seems to be no adequate substitute. Man uses milk of many animals as his food. The cow is the most important of all these animals as supplier of food. However, buffalo and goat milk are also used by some communities.

Nutritive Value

Milk is a complex mixture of lipids, carbohydrates, proteins and many other organic compounds and inorganic salts dissolved or dispersed in water. The most variable component of milk is fat followed by protein. The composition of milk varies with the species, breed, diet, lactational period and interval between milkings.

Cow's Milk (per 100 gms)

Nutrient	Amount available
Protein	3.2 gm
Fat	4.1 gm
Carbohydrate	4.4 gm
Energy	67 Kc
Calcium	120 mg
Phosphorous	90 mg
Iron	0.2 mg
Carotene	53 mg

Thiamin	0.05 mg
Riboflavin	0.19 mg
Niacin	0.10 mg
Folic acid	8.5 mg
Vitamin C	2 mg

Milk has a very good quality protein and the biological value is over 90. Though milk contains only 3 – 4% protein, due to the rich quality of protein and the amount that can be ingested and the presence of other nutrients, makes it indispensable. Lysine is one of the essential amino acid which is abundant in milk protein. Cheese, Khoa and dehydrated milk powders are concentrated forms hence contain high amount of nutrients per unit.

The fat of milk is easily digestible. It contains linoleic acid (2.1%), linolenic acid (0.5%) and arachidonic acid (0.14%). Dairy foods are a major source of calcium because of significant amount of minerals present. In addition dairy products contain other nutrients such as vitamin D and lactose which favour calcium absorption.

Milk is not only used as such but many products, fermented and non-fermented are used in cookery.

Health Benefits

Cow's milk, the basis for all other dairy products, promotes strong bones by being a very good source of vitamin D and calcium, and a good source of vitamin K--three nutrients essential to bone health. In addition, cow's milk is a very good source of iodine, a mineral essential for thyroid function; and a very good source of riboflavin and good source of vitamin B12, two B vitamins that are necessary for cardiovascular health and energy production.

Cow's milk is also a good source of vitamin A, a critical nutrient for immune function, and potassium, a nutrient important for cardiovascular health. Milk produced by grass fed cows also contains a beneficial fatty acid called conjugated linoleic acid (CLA). Researchers who conducted animal studies with CLA found that this fatty acid inhibits several types of cancer in mice. In vitro (test tube) studies indicate this compound kills human skin cancer, colorectal cancer and breast-cancer cells. Other research on CLA suggests that this beneficial fat may also help lower cholesterol and prevent atherosclerosis.

Calcium--A Mineral For A Lot More Than Strong Bones

Cow's milk may be best known as a very good source of calcium. Calcium is widely recognized for its role in maintaining the strength and density of bones. In a process known as bone mineralization, calcium and phosphorus join to form calcium phosphate. Calcium phosphate is a major component of the mineral complex (called hydroxyapatite) that gives structure and strength to bones. A cup of cow's milk supplies 29.7% of the daily value for calcium along with 23.2% of the DV for phosphorus. Building bone is, however, far from all that calcium does for us. In recent studies, this important mineral has been shown to:

- Help protect colon cells from cancer-causing chemicals.

- Help prevent the bone loss that can occur as a result of menopause or certain conditions such as rheumatoid arthritis.

- Help prevent migraine headaches in those who suffer from them
- Reduce PMS symptoms during the luteal phase (the second half) of the menstrual cycle.

- Help prevent childhood obesity.

- Help overweight adults lose weight, especially around the midsection.

Help Prevent Childhood Obesity

A prospective study published in the December issue of the Journal of the American Dietetic Association gives parents yet another reason to regularly include low-fat dairy products such as low fat cow's milk in their children's healthy way of eating given the rate at which childhood obesity is rising in the West: consumption of calcium-rich foods was found to be negatively correlated with body fat. According to the New England Journal of Medicine, childhood obesity has reached epidemic proportions in the U.S., with the number of overweight children more than doubling in the last three decades, and the International Obesity Task Force recently reported that in the UK, childhood obesity is already three times higher than it was just over 10 years ago.

In this prospective longitudinal study, researchers at the University of Tennessee assessed the height, weight and dietary intake of 52 children (27 girls and 25 boys), starting when the children were 2

months of age and following them for 8 years. Dietary calcium and polyunsaturated fat intake were negatively related to per cent of body fat, while total dietary fat or saturated fat intake and amount of sedentary activity (hours/day) were positively correlated.

Earlier studies have also reported a negative association between calcium intake and body fat accumulation during childhood and between calcium intake and body weight at midlife. Each 300 mg increment in regular calcium intake has been consistently associated with approximately 1 kg less body fat in children and 2.5-3.0 kg lower body weight in adults. Taken together these data suggest that increasing calcium intake by the equivalent of two dairy servings per day could reduce the risk of overweight substantially, perhaps by as much as 70 percent. The current study's lead author, Dr. Jean Skinner, advised that children should be encouraged to regularly eat calcium-rich foods, such as low fat milk and yoghurt and to increase physical activity. In addition, Dr. Skinner recommended that carbonated soft drinks and other nutrient-poor beverages be restricted since children's intake of carbonated beverages and other sweetened drinks was found to be negatively related to their calcium intake.

Trim Your Waistline

Trying to lose weight, especially around the midsection? A study published in the April 2004 issue of *Obesity Research* suggests that eating more calcium-rich foods, especially low fat dairy foods such as cow's milk, yogurt and kefir, may really help.

In this study, 41 obese subjects, 32 of whom completed the study, were divided into three groups and put on diets designed to result in the loss of one pound per week for 24 weeks. All diets contained the same number of calories and were designed to provide subjects with a calorie deficit of 500 calories per day.

The first group received a low (430 mg/day) calcium diet. The second group got the same diet with enough supplemental calcium to bring their daily intake up to 1200 mg. And the third group ate a diet with enough dairy foods to provide about 1100 mg calcium each day. At the conclusion of the study, the low calcium group had lost almost 15 pounds, the high calcium group 19 pounds, and the high dairy foods group 24 pounds. Plus, fat lost from the midsection

represented an average of 19% of total fat loss in those on the low calcium diet, 50% of the fat lost in those on the high calcium diet, and 66% of the fat lost in those getting their calcium from dairy foods.

Calcium-rich Dairy Foods Boost the Body's Burning of Fat After a Meal

A study published in the December 2005 issue of the American Journal of Clinical Nutrition not only shows a calcium-rich diet is associated with fat loss but may help explain why.

Normal-weight women ranging in age from 18-30 years were randomly assigned to a low (less than 800 mg per day) or high (1000-1400 mg per day) calcium diet for 1 year, and the rate at which their bodies burned fat after a meal was assessed at the beginning and end of the study.

After 1 year, fat oxidation (burning) was 20 times higher in women eating the high calcium diet compared to those in the low-calcium control group (0.10 vs. 0.06 gram per minute).

The women's blood levels of parathyroid hormone were also checked and were found to correlate with their rate of fat oxidation. (The primary function of parathyroid hormone is to maintain normal levels of calcium in the body. When calcium levels drop too low, parathyroid hormone is secreted to instruct bone cells to release calcium into the bloodstream.)

Higher blood levels of parathyroid hormone were associated with a lower rate of fat oxidation and lower dietary calcium intake, while lower blood levels of parathyroid hormone levels were seen in the women consuming a diet high in calcium, who were burning fat more rapidly after a meal. So, it appears that a high-calcium diet increases fat oxidation, at least in part, by lessening the need for parathyroid hormone secretion, thus keeping blood levels of the hormone low.

Dairy Foods Protective Against Metabolic Syndrome

Including milk and other dairy products in your healthy way of eating may reduce your risk of metabolic syndrome by up to 62%, shows the 20-year Caerphilly prospective study involving 2,375 Welsh men ranging in age from 45-59. Researchers have proposed that conjugated linolenic acid (a healthy fat found in greatest amounts

in dairy foods from grass fed cows) may improve insulin action and reduce blood glucose levels.

Practical Tip: Enjoy a pint of milk and/or a serving of yogurt, cottage cheese or cheese daily. Men who drank a daily pint of milk in the Caerphilly study reduced their risk of metabolic syndrome by 62%. Regular consumption of other dairy products, such as yogurt and cheese, reduced metabolic syndrome risk by 56%.

Dairy Foods' Calcium Protective Against Breast Cancer

When French researchers analyzed the dietary intakes of 3,627 women using five 24-hour records completed over the course of 18 months, those with the highest average dairy intake had a 45% lower risk of developing breast cancer than women with the lowest average intake. When only pre-menopausal women were considered, benefits were even greater--those with the highest average dairy intake had a 65% reduction in breast cancer risk.

Analysis indicates the calcium provided by dairy foods is the reason why. Increasing calcium intake was associated with a 50% reduction in breast cancer risk for the whole population, and a 74% reduction for pre-menopausal women.

Practical Tip: If you are allergic to dairy foods made from cow's milk, you may be able to tolerate those made from goat's or sheep's milk. You can also increase your calcium intake by making sesame seeds; spinach; blackstrap molasses; and collard, turnip or mustard greens, regular additions to your healthy way of eating.

The calcium supplied by cow's milk also plays a role in many other vital physiological activities, including blood clotting, nerve conduction, muscle contraction, regulation of enzyme activity, cell membrane function and blood pressure regulation. Because these activities are essential to life, the body utilizes complex regulatory systems to tightly control the amount of calcium in the blood, so that sufficient calcium is always available. As a result, when dietary intake of calcium is too low to maintain adequate blood levels of calcium, calcium stores are drawn out of the bones to maintain normal blood concentrations--which is where vitamin D, with which cow's milk is fortified--comes in.

Vitamin D Ensures Calcium's Availability

Although typically categorized as a fat-soluble vitamin, vitamin D actually functions more like a hormone than a vitamin. Calcitriol, the most metabolically active form of vitamin D, works with parathyroid hormone (PTH) to maintain proper levels of calcium in the blood. In addition, calcitriol participates in the regulation of cell proliferation, differentiation, and growth, which suggests that vitamin D may play a role in the prevention and treatment of various cancers. A cup of cow's milk supplies 24.4% of the daily value for this important vitamin.

More Help for Bone Health

The vitamin K provided by cow's milk is also important for maintaining strong bones. Vitamin K1 activates osteocalcin, the major non-collagen protein in bone. Osteocalcin anchors calcium molecules inside of the bone. Therefore, without enough vitamin K1, osteocalcin levels are inadequate, and bone mineralization is impaired. A cup of cow's milk provides 12.2% of the daily value for vitamin K.

It's not just its calcium and vitamin K that makes milk a bone-friendly food, cow's milk and fermented milk products such as yogurt also contain lactoferrin, an iron-binding protein that boosts the growth and activity of osteoblasts (the cells that build bone). Not only does lactoferrin increase osteoblast differentiation, it also reduces the rate at which these cells die by up to 50-70%, and decreases the formation of osteoclasts (the cells responsible for breaking down bone) thus helping to prevent or reverse osteoporosis. In addition, lactoferrin also increases the proliferation of chondrocytes, the cells that build cartilage. For building bone, enjoying both milk and yogurt seems a good idea since lactoferrin's effects were found to be dose-dependent, stimulating an up to a 5-fold increase in osteoblasts at higher doses.

Dairy Foods Better Than Calcium Supplements For Growing Girls' Bones

For young girls going through the rapid growth spurts of puberty, getting calcium from dairy products, such as cow's milk, may be better for building bone than taking a calcium supplement, suggests a study published in the November 2005 issue of the American Journal of Clinical Nutrition.

Finnish researchers enrolled 195 healthy girls aged 10-12 years and divided them into 4 groups. One group was given supplemental calcium (1000 mg) + vitamin D3 (200 IU) each day. The second group received only supplemental calcium (1000 mg/day). The third group ate cheese supplying 1,000 mg of calcium each day, and the fourth group was given a placebo supplement.

At the beginning and end of the study, DEXA (dual-energy X-ray absorptiometry) scans were run to check bone indexes of the hip, spine, and whole body, and the radius and tibia were checked by peripheral quantitative computed tomography. At the conclusion of the study, girls getting their calcium from cheese had higher whole-body bone mineral density and cortical thickness of the tibia than girls given supplemental calcium + vitamin D, supplemental calcium alone, or placebo. While the researchers noted that differences in the rate at which different children naturally grow might account for some of the differences seen in bone mineral density, they concluded: "Increasing calcium intake by consuming cheese appears to be more beneficial for cortical bone mass accrual than the consumption of tablets containing a similar amount of calcium."

A Good Source Of Protein

Cow's milk is a good source of low-cost high-quality protein, providing 8.1 grams of protein (16.3% of the daily value for protein) in one cup. The structure of humans and animals is built on protein. We rely on animal and vegetable protein for our supply of amino acids, and then our bodies rearrange the nitrogen to create the pattern of amino acids we require.

Dairy Products Protect Against Gout

Gout, a common type of arthritis whose onset typically involves the big toe, has been linked to eating foods high in purines (organ meats, meats, shellfish, herring, sardines, mackerel, anchovies and Brewer's yeast). A study published in the March 2004 issue of the *New England Journal of Medicine* confirms that eating meat or fish increases the chances of developing gout, but adds a new point of protective data: eating more dairy actually decreases gout risk.

Purines, one of the nucleic acid building blocks of DNA and RNA, contribute to gout since they are metabolized to form uric acid, which if produced in excess, can deposit in joints causing pain, redness and swelling.

In addition to eating lots of meats and fish high in purines, consuming too much alcohol, saturated fat, refined carbohydrates and simple sugars can also increase the risk of gout. Alcohol increases the rate of uric acid production and also impairs kidney function, thus slowing the excretion of uric acid. Consumption of refined carbohydrates, simple sugars and saturated fats-all of which promote obesity-also result in increased uric acid production and decreased excretion.

Not surprisingly, in this study, in addition to men eating the most meat and purine-rich fish, both obese men and those drinking alcohol also had more gout.

The study, an analysis drawn from data collected during the prospective Health Professionals Followup Study on 47,000 adult men, revealed that among those who ate the most red meat, fish or seafood of any type, risk of gout was increased by as much as 50%. In contrast, risk of contracting gout decreased with increasing intake of dairy products. Men consuming the most dairy products cut their risk of gout by almost 50%! Although some vegetables like beans, peas, lentils, asparagus, cauliflower, spinach and mushrooms are also high in purines, no association was found in this study between eating purine-rich plant foods and an increased risk of gout.

B vitamins for Energy and Cardiovascular Protection

Cow's milk is a very good source of riboflavin and a good source of vitamin B12 . Both B vitamins are important for energy production. Vitamin B12 plays a pivotal role as a methyl donor in the basic cellular process of methylation, through which methyl groups are transferred from one molecule to another, resulting in the formation of a wide variety of very important active molecules. When levels of B12 are inadequate, the availability of methyl groups is also lessened. One result of the lack of methyl groups is that molecules that would normally be quickly changed into other types of molecules not only do not change, but accumulate. One such molecule, homocysteine,

is so damaging to blood vessel walls that high levels are considered a significant risk factor for cardiovascular disease.

In addition to its function as a methyl donor, vitamin B12 plays an essential role in the production of red blood cells and prevention of anemia, is also needed for nerve cells to develop properly, and helps cells metabolize protein, carbohydrate, and fat.

Riboflavin (vitamin B2) plays at least two important roles in the body's energy production. When active in energy production pathways, riboflavin takes the form of flavin adenine dinucleotide (FAD) or flavin mononucleotide (FMN). In these forms, riboflavin attaches to protein enzymes called flavoproteins that allow oxygen-based energy production to occur. Flavoproteins are found throughout the body, particularly in locations where oxygen-based energy production is constantly needed, such as the heart and other muscles.

Riboflavin's other role in energy production is protective. The oxygen-containing molecules the body uses to produce energy can be highly reactive and can inadvertently cause damage to the mitochondria and even the cells themselves. In the mitochondria, such damage is largely prevented by a small, protein-like molecule called glutathione. Like many "antioxidant" molecules, glutathione must be constantly recycled, and it is vitamin B2 that allows this recycling to take place. (Technically, vitamin B2 is a cofactor for the enzyme glutathione reductase that reduces the oxidized form of glutathione back to its reduced version.) Riboflavin been shown to be able to reduce the frequency of migraine headaches in people who suffer from them.

One cup of cow's milk supplies 14.8% of your daily needs for vitamin B12 and 23.5% of the DV for riboflavin.

A Good Alternative Source of the Omega 3 Fat, Alpha Linolenic Acid

The results of a new research project conducted at the University of Aberdeen, Scotland, confirm that organic milk is a good source of omega 3 fats. When compared to conventional milk, organic milk was found to contain up to 71% more omega 3 and to have a better ratio of anti-inflammatory omega 3: pro-inflammatory omega 6 fatty acids. The scientists believe the more natural diet of organically fed

cows, which is rich in red clover, resulted in the animals' production of milk much richer in omega 3.

Sally Bagenal, Chief Executive of the UK's leading organic dairy foaming cooperative, OMSCo, said, "This research confirms the potential health benefits of switching to organic milk and cheese - particularly for those groups who don't consume the recommended amount of oily fish." Drinking just 10 ounces a day of organic milk provides approximately 10% of the UK's DRI for the omega 3 fat, alpha-linolenic acid. Organic cheese is an even better source, with a matchbox sized piece of organic cheese providing up to 88% of the RDI of this omega 3 fat.

Promote Healthy Thyroid Function

Cow's milk is a very good source of iodine, which as a component of the thyroid hormones thyroxine (T4) and triiodothyronine (T3), is essential to human life. The thyroid gland adds iodine to the amino acid tyrosine to create these hormones. Without sufficient iodine, your body cannot synthesize them. Because these thyroid hormones regulate metabolism in every cell of the body and play a role in virtually all physiological functions, an iodine deficiency can have a devastating impact on your health and well-being. A common sign of thyroid deficiency is an enlarged thyroid gland, commonly called a goiter. Goiters are estimated to affect 200 million people worldwide, and in all but 4% of these cases, the cause is iodine deficiency. One cup of cow's milk 39% of the daily value for iodine.

Few people are aware that clean, raw milk from grass-fed cows was actually used as a medicine in the early part of the last century. That's right. Milk straight from the udder, a sort of "stem cell" of foods, was used as medicine to treat, and frequently cure some serious chronic diseases. From the time of Hippocrates to until just after World War II, this "white blood" nourished and healed uncounted millions.

Clean raw milk from pastured cows is a complete and properly balanced food. You could live on it exclusively if you had to. Indeed, published accounts exist of people who have done just that. What's in it that makes it so great?

- McFadden, B., The Miracle of Milk- How to Use the Milk Diet Scientifically at Home

Vitamin A

Vitamin A is critically important for the health of epithelial and mucosal tissues, the body's first line of defense against invading organisms and toxins. The epithelium is a layer of cells forming the epidermis of the skin and the surface layer of mucous and serous membranes. All epithelial surfaces including the skin, vaginal epithelium, and gastrointestinal tract rely upon vitamin A. When vitamin A status is inadequate, keratin is secreted in epithelial tissues, transforming them from their normally pliable, moist condition into stiff dry tissue that is unable to carry out its normal functions, and leading to breaches in epithelial integrity that significantly increase susceptibility to the development of allergy and infection.

So, when our vitamin A levels are low, we are much more susceptible to infections such as recurrent ear infections or frequent colds, or we may wind up with an immune system that is overactive, leading to autoimmune diseases like rheumatoid arthritis. In fact, low vitamin A levels in Third World countries are blamed for the huge amounts of complications and deaths due to childhood diseases like measles. When children in these areas are given adequate amounts of vitamin A, the number of deaths from these illnesses drops dramatically, just one demonstration of the importance of vitamin A for strong immune function. Drink a cup of cow's milk, and you will receive 10.0% of the daily value for vitamin A.

Protect Your Heart With Potassium

An important electrolyte involved in nerve transmission and the contraction of all muscles including the heart, potassium is essential for maintaining normal blood pressure and heart function. . A one cup serving of cow's milk provides 10.8% of the daily value for potassium.

Dietary Calcium Does Not Promote Kidney Stones

Doctors in the U.S. have routinely recommended that people who have had kidney stones avoid calcium-rich foods since most kidney stones are largely composed of calcium. One important downside of this approach has been an increased risk for osteoporosis as calcium is critical for maintaining healthy bones. Fortunately, research now suggests that exactly the opposite advice is the best way to prevent

kidney stones. In older women and men, those consuming more foods rich in calcium and potassium, and drinking lots of fluids, have already been shown to have a lower risk of forming kidney stones.

The most recent study, published in the April 2004 issue of the *Archives of Internal Medicine*, looked at the effect of diet on kidney stone formation in younger women. More than 96,000 women in the Nurses' Health Study aged 27 to 44 years participated in this 8-year study. Those who ate the most calcium-rich foods were found to be 27% less to form kidney stones compared to those who ate the least.

While taking supplemental calcium did not appear to increase risk, it didn't lower it. Other dietary factors that lowered kidney stone formation risk were eating foods high in phytates—a chemical in high fiber foods such as whole grains that binds minerals (37% risk reduction), drinking lots of fluids (32% risk reduction), and eating animal protein (16% risk reduction). Eating foods rich in sugar (sucrose) raised risk of kidney stone formation by 31%.

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7.

Is Milk Still Milk?

Today's Milks Aren't Milk At All. They Are "Reconstituted Milk-Flavored Beverages."

In The Name Of Safety, Our Most Ancient Food Has Been Changed Almost Beyond Recognition.

Most of us consume milk. We put it on cereal and make shakes out of it. We give it to our children by the glassful and encourage women to drink it throughout their adulthood.

But to Northern Californian dairy farmer Ron Garthwaite, these milks aren't milk at all. They are "reconstituted milk-flavored beverages."

Garthwaite runs Claravale Dairy in Watsonville, a farming community south of Santa Cruz. His 60 cows are the last of California's 1.4-million herd providing milk that, aside from filtering, goes straight from cow to bottle.

"We don't add anything to it," says Garthwaite, "and we don't take anything out of it."

The result is slightly golden, exceptionally rich and almost sweet. At its freshest, it has a perfume of hay. When it is left to stand, a full head of cream rises to the top of the bottle.

It reminds us that milk is variable. Change the cow to a Brown Swiss, a Welsh Black or an Ayrshire and put that animal on grass instead of dried hay and the milk would change, becoming less

creamy, more flowery, ever-varying. Old-time farmers will say they can tell where their cows have been grazing by the taste of the milk.

By contrast, the milk we buy in supermarkets will be uniformly white. Its cream won't rise. And a lactic perfume will be detectable only if the milk is boiled. Chances are it will have come from Friesians, the black and white Dutch breed prized for the volume, rather than the quality, of the milk they produce.

This Friesian will typically have been kept in herds of about 800 cows and fed not grass but standardized mixes of grain, minerals, old citrus, alfalfa and nut husks. Today, according to UC Davis estimates, about a third of the herds in California are treated with hormones to increase production.

The milk will be standardized, fortified, pasteurized and homogenized. Translated, this means that it will be taken apart and put back together again, not always in the same proportions. Then it will be cooked and emulsified.

Is it still milk? It is the milk we know. Garthwaite says that he runs Claravale Dairy to keep alive the memory of milk Americans knew right up until World War II: raw milk. It is a kind of milk that is on the brink of extinction.

The End of Milk As We Know It

Milk from the factory farms can only be described as white blood where cows are artificially inseminated and given hormones to produce 100 pounds of milk a day. This is several times more than they would produce naturally. As a result, a huge percentage of dairy cows suffer from mastitis, a bacterial infection of the udders. Since this milk is still considered drinkable, the blood and pus from their infections, along with massive quantities of antibiotics, ends up in the milk on supermarket shelves. Many times milk turns pink when blood gets mixed with the milk due to infections and over milking by machines. This milk is turned natural white by adding chemical whiteners.

The minute you start to process your milk, you destroy Mother Nature's perfect food. You can live exclusively on raw milk, especially milk from nature's sacred animal, the cow. We have no sense of the sacredness of our animals today. Instead, we have an industrial system of agriculture that puts our dairy cows inside on cement all their lives

and gives them foods that cows are not designed to eat—grain, soy, citrus peel cake and bakery waste. These modern cows produce huge amounts of watery milk which is very low in fat.

Milk from these industrial cows is then shipped to a milk factory. Emily Green wrote an excellent article in the *LA Times*, August 2000 about milk processing. Milk processing plants are big, big factories where visitors are not allowed. Lots can go wrong in these factories. The largest milk poisoning in American history occurred in 1985 where more than 197,000 people across three states were sickened after a “pasteurization failure” at an Illinois bottling plant.

Inside the plants all you can see is stainless steel. Inside that machinery, milk shipped from the farm is completely remade. First it is separated in centrifuges into fat, protein and various other solids and liquids. Once segregated, these are reconstituted to set levels for whole, low-fat and no-fat milks; in other words, the milk is reconstituted to be completely uniform. The butterfat left over will go into butter, cream, cheese, toppings and ice cream. The dairy industry loves to sell low fat milk and skim milk because they can make a lot more money from the butterfat when consumers buy it as ice cream. When they remove the fat to make reduced fat milks, they replace the fat with powdered milk concentrate, which is formed by high temperature spray drying. All reduced-fat milks have dried skim milk added to give them body, although this ingredient is not usually on the labels. The result is a very high-protein, lowfat product. Because the body uses up many nutrients to assimilate protein—especially the nutrients contained in animal fat—such doctored milk can quickly lead to nutrient deficiencies.

The milk is then pasteurized at 161 degrees F by rushing it past superheated stainless steel plates. If the temperature is 200 degrees the milk is called ultrapasteurized. This will have a distinct cooked milk taste but it is sterile and can be sold on the grocery shelf. In other words, they don't even have to keep it cool. The bugs won't touch it. It does not require refrigeration. As it is cooked, the milk is also homogenized by a pressure treatment that breaks down the fat globules so the milk won't separate. Once processed, the milk will last for weeks and months, not just days.

Milk Allergies

Many people, particularly our children, cannot tolerate the stuff that we are calling milk that is sold in the grocery shelves. And you can see why. It starts with cows in confinement, cows fed feed that cows are not designed to digest, and then it goes into these factories for dismantlement and reconfiguration.

The protein compounds in milk have many important roles, including protection against pathogens, enhancement of the immune system and carrier systems for nutrients. However, like the proteins in grains, the proteins in milk are complex, three-dimensional molecules that are very fragile. The pasteurization process deforms and denatures these proteins. When we drink pasteurized milk, the body mounts an immune response instead of deriving instant nourishment.

Real Milk

Real milk is nature's perfect life-giving food which builds strong bone, healthy organs and a strong nervous system. But it is illegal in many countries to sell fresh milk, called raw milk. Many farmers are languishing in jails for selling fresh, raw milk.

Humans consumed raw milk exclusively prior to the industrial revolution and the invention of the pasteurization process in 1864. During the industrial revolution large populations congregated into urban areas detached from the agricultural lifestyle. Up until that point, individuals and families owned their own cows, goats and other livestock and milked them on a daily basis.

Pasteurization was first used in the United States in the 1890s after the discovery of germ theory to control the hazards of contagious bacterial diseases. Initially after the scientific discovery of bacteria, no product testing was available to determine if a farmer's milk was safe or infected, so all milk was treated as potentially contagious.

Regulation of the commercial distribution of packaged raw milk varies across the world. Some countries like Canada, Australia and most parts of US have complete bans, but many have partial bans that do not restrict the purchase of raw milk bought directly from the farmer.

For example, Food and Drug Regulations Act, 1991 of Canada says, “No person shall sell the normal lacteal secretion obtained from the mammary gland of the cow, genus *Bos*, or of any other animal, or sell a dairy product made with any such secretion, unless the secretion or dairy product has been pasteurized by being held at a temperature and for a period that ensure the reduction of the alkaline phosphatase activity so as to meet the tolerances specified in official method MFO-3, Determination of Phosphatase Activity in Dairy Products, dated November 30, 1981.”

Source

By Emily Green, Times Staff Writer

Milk, Ken Hively / Los Angeles Times

Scott Wilson, The Times news research library

Inside the Milk Machine: How Modern Dairy Works

By Mark Kurlansky on March 17, 2014

The Big Business of Dairy Farming: Big Trouble for Cows, June 11, 2007, Lorraine Murray

Effect of Some Modern Dairy Industry Practices on the Free Fatty Acid Content of Milk, Ohio State University, 1958

8.

Longer Life for Milk Drinkers

British Researchers

Research undertaken by the Universities of Reading, Cardiff and Bristol of UK has found that drinking milk can lessen the chances of dying from illnesses such as coronary heart disease (CHD) and stroke by up to 15-20%.

In recent times milk has often been portrayed by the media as an unhealthy food. The study, led by Professor Peter Elwood (Cardiff University) together with Professor Ian Givens from the University of Reading's Food Chain and Health Research Theme, aimed to establish whether the health benefits of drinking milk outweigh any dangers that lie in its consumption.

Importantly, this is the first time that disease risk associated with drinking milk has been looked at in relation to the number of deaths which the diseases are responsible for.

The review brought together published evidence from 324 studies of milk consumption as predictors of coronary heart disease (CHD), stroke and diabetes. Data on milk consumption and cancer were based on the recent World Cancer Research Fund report. The outcomes were then compared with current death rates from these diseases.

Professor Givens explains: "While growth and bone health are of great importance to health and function, it is the effects of milk and dairy consumption on chronic disease that are of the greatest relevance to reduced morbidity and survival. Our review made it possible to

assess overall whether increased milk consumption provides a survival advantage or not. We believe it does.”

Findings clearly showed that when the numbers of deaths from CHD, stroke and colo-rectal cancer were taken into account, there was strong evidence of an overall reduction in the risk of dying from these chronic diseases due to milk consumption. They certainly found no evidence that drinking milk might increase the risk of developing any condition, with the exception of prostate cancer. Put together, there was convincing overall evidence that milk consumption was associated with an increase in survival in Western communities.

The reviewers also believe that increased milk consumption is likely to reduce health care costs substantially due to reduced chronic disease and associated morbidity.

Professor Givens concludes the report thus, “There is an urgent need to understand the mechanisms involved and for focused studies to confirm the epidemiological evidence since this topic has major implications for the agri-food industry.”

Srila Prabhupada wrote about impact of milk on human longevity, decades before these findings came out, in his purport to Srimad Bhagavatam (8.6.12), “Milk is compared to nectar, which one can drink to become immortal. Of course, simply drinking milk will not make one immortal, but it can increase the duration of one’s life. In modern civilization, men do not think milk to be important, and therefore they do not live very long. Although in this age men can live up to one hundred years, their duration of life is reduced because they do not drink large quantities of milk. This is a sign of Kali-yuga. In Kali-yuga, instead of drinking milk, people prefer to slaughter an animal and eat its flesh. The Supreme Personality of Godhead, in His instructions of Bhagavad-Gita, advises go-raksa, which means cow protection. The cow should be protected, milk should be drawn from the cows, and this milk should be prepared in various ways. One should take ample milk, and thus one can prolong one’s life, develop his brain, execute devotional service, and ultimately attain the favor of the Supreme Personality of Godhead. As it is essential to get food grains and water by digging the earth, it is also essential to give protection to the cows and take nectarean milk from their milk bags.”

Of course, milk from modern dairy operations is no milk at all. As we have seen, it's loaded with antibiotics, hormones and other chemicals. It's pasteurized, homogenized and what not. It's not given by the cow out of affection for the calf. It's squeezed out of her after artificially impregnating her. She never gets to nurse the calf in her short, miserable life. It would be more appropriate to call it her blood rather than milk.

Source

Longer Life for Milk Drinkers Say British Researchers

University of Reading (UK), July 25, 2009

Longer Life For Milk Drinkers, Study Suggests, July 24, 2009, Science Daily

9.

India - The Land of Milk And Honey

Now A Land of Hunger And Death

Adulterated, Toxic Milk Is Killing The Nation

India's food safety regulator found 68 percent of milk samples from cows and buffalo to be contaminated with additives such as fertilizer, bleach and detergent.

Cows may be sacred in India, but their by-product - milk - evidently is far from it.

During testing by the country's food safety regulator, 68 percent of milk samples from cows and buffalo were found to be contaminated with additives such as fertilizer, bleach and detergent.

The study, conducted by the Food Safety and Standards Authority, found that the milk was also "diluted with water or sweeteners, fat, non-edible solids, glucose and skimmed milk powder to increase volume. "Addition of water not only reduces the nutritional value of milk but contaminated water may also pose health risks," the study says. However, the presence of the bleaching agent hydrogen peroxide and the fertilizer urea "are far more serious," the report notes, and can lead to gastroenteritis and other intestinal ailments.

The regulator blamed a "lack of hygiene and sanitation in the milk handling." Dirty water comes with the increased risk of hepatitis infection. Synthetic milk is also becoming common.

Commonly used adulterants are: caustic soda, urea, detergent, chalk, animal fat, neutralizers, hydrogen peroxide, sugar, starch,

glucose, formalin and vegetable fat. Sorbitol is used as a thickening agent.

According to The National, India is one of the world's biggest producers of milk but struggles to meet domestic demand.

A national grid links more than 700 Indian cities and towns to the milk producers in the villages. The processing and distribution of milk starts with dairy farmers across villages in India, who bring their daily supplies to a local collection center in their village.

The paper quoted one farmer from Binaural in the state of Uttar Pradesh as saying: "We don't even know what we are drinking anymore. The milk the dairy farmers give to the collection centers in their respective villages is fair and good. But it is the greed of manufacturers, and because demand is so high, that they don't care about who drinks the milk and can add all these additives." The states of West Bengal, Orissa, Bihar, Chhattisgarh and Jharkhand fared the worst, The National wrote, with not a single sample passing the tests. In the national capital Delhi, 70% samples failed the test.

"These are very harmful to the heart, liver and kidneys, and is specifically dangerous for pregnant women and the foetus," says Dr Nutan Desai, a gastroenterologist at Fortis Hospital, Mumbai.

The samples were collected randomly and analysed from 33 states totaling a sample size of 1,791. Just 31.5% of the samples tested (565) conformed to the FSSAI standards while the rest 1,226 (68.4%) failed the test.

These samples were sent to government laboratories like Department of Food and Drug Testing of Puducherry, Central Food Laboratory in Pune, Food Research and Standardization Laboratory in Ghaziabad, State Public Health Laboratory in Guwahati and Central Food Laboratory, Kolkata, for testing.

Meanwhile, India's second largest state milk federation body, the Karnataka Milk Federation, has been forced to withdraw its full cream milk from the market because it found that vendors were using water to dilute the milk and later adding starch to thicken it.

This shows the trade off between the risk of getting caught and the reward of profits is skewed heavily in favour of the latter. The government must focus on raising the risks to the adulterer. One way

of doing this is by hiking the penalty, including making it analogous to attempt to murder in some cases.

These toxic chemicals are particularly harmful to the children. Phenomenal growth of health care sector in India can be attributed, at least in part, to this. It also explains why India has the highest number of malnourished children, even more than Sub-Sahara Africa. Problem is further exacerbated by the government policy of encouraging slaughterhouses and beef export. Now a dead cow fetches more money than a living one. India in 2012 became the world leader in beef export. Also due to lack of draught animals and cow dung manure, agriculture is dying off. Every year, close to 40,000 farmers commit suicide and many are abandoning field work to work as labourers or coolies in cities.

India's Cows Producing 'Toxic' Milk

Cows in India are producing contaminated milk because they are allowed to eat garbage in the street.

India's neglected holy cows are producing toxic and contaminated milk because they eat garbage while wandering the streets unsupervised, according to lawyers for one of India's top milk-producing states.

The claim was made in India's Supreme Court where judges ordered all of India's states to impose life imprisonment sentences for those convicted of contaminating milk.

Milk has a revered place in Indian spiritual life, which is one of the reasons cows are regarded as sacred.

But despite being worshipped, many cattle owners allow their cows to wander throughout India's roads and cities where they graze on rubbish dumps and eat plastic bags and other waste products.

When they return to their dairies their milk is adulterated with paint, detergents, caustic soda, urea and shampoo, the court heard.

"Cows have started eating plastic and paper besides grass and green leaves when they are sent to graze," one lawyer said.

Justice K.S Radhakrishnan said he was so concerned about the scale of adulteration that he had not taken milk in his coffee for two years.

Lawyers for the Uttar Pradesh government, where dairies are prized for their creamy milk, revealed that in tests carried out in 2012-2013 more than a quarter of 4,500 samples were found to contain detergent,

starch and artificial whitener. In more recent tests after August last year more than one third of 613 samples were contaminated.

They found the scale of contaminated increased significantly in the weeks before festivals when people give milk-based Indian sweets as gifts.

Offenders are liable to a maximum of six months imprisonment but can pay a 1,000 Rupee (£10) fine instead.

Another judge, Justice Vikramjit Singh said the law's teeth had fallen out "after drinking adulterated milk". The court said offenders should be given life sentences and state governments should improve monitoring with random checks.

Source

Kounteya Sinha, Times of India, Jan 10, 2012

Dean Nelson, New Delhi, 31 Jan 2014

DNA, 24 December 2014, Arvind Walmiki

NDTV, Press Trust of India, November 10, 2012

NDTV, Agence France-Presse, May 29, 2012

Times of India, Umesh Isalkar, TNN | Apr 29, 2015

Dinesh Sethi, The Indian Express, August 5, 2015

10.

How Milk Helped America Win Its War For Independence

By Stephen, The Dairy Guy

Milk was a big part of early America, and played a role in their fight for independence. Little did they know that they were using nature's optimal muscle recovery drink.

Milk in Early America

It's rarely talked about because there are things in life that we take for granted. One of those things we often take for granted, is food. What were those early American's eating and drinking and did it make a difference.

While the British redcoats and Hessian soldiers were eating their rancid imported foods, the American soldiers were drinking fresh milk. Is this why the American's won the war for independence, we'll probably never know, but I'm sure the boost of healthy fat, muscle building protein, vitamins, and the array of health enhancing bioactive compounds played a large role in the health of the warriors of independence.

Milk in Colonial America

For the colonial Americans, dairy products were part of the local culture. Cows were in every one of the 13 colonies, and the inhabitants

included dairy as a major part of their diet in the form of fresh milk, butter, and cheese.

Early settlers in the new world imported large amount of cattle from Europe. Cattle were imported directly to Virginia, Massachusetts, New York, New Hampshire, Delaware, and possibly southern New Jersey, from the colonizing European countries. The initial mass importations of cattle from Europe into the North American colonies ceased about 1640. From that date to the American Revolution the cattle needs of the colonies were taken care of through intercolonial trade, or through trade with the Spanish colonies in the Western Hemisphere.

Owning a cow in those days was like owning a car today, nearly every family had one. It was one of the best ways to have a stable source of nutrition and offered an extra opportunity to sell any excess milk or dairy products. "Originally, English dairies were part of the house, not a separate building. That plan seems to have been followed early on in Virginia. There's often a room called a dairy or dairy chamber that is a part of the house during that time period."

Milk - Even In The Beer

Because of the prevalence of milk and dairy products in the diets of early American, milk was used in a variety of ways. In those days, milk (or cream) was combined with alcoholic beverages (ale, sack) and standard beverages (coffee, tea)

One popular beverage was called Posset which is a beverage of hot milk mixed with hot beer. Apparently it was all the rage back then.

"Possets were all the rage in the later Middle Ages, and survived unto the nineteenth century, but are no longer heard of. They were a warming concoction of hot milk mixed with hot beer, sherry, etc., sugar, and various spices, good for keeping the cold at bay in the days before central heating. The source of the word is is not known, although some have suggested a link with Latin posca, a term for a drink made from vinegar and water."

Another type of beverage was called syllabub. Syllabub was a creamy desert type of drink that combined white wine with milk or cream. It was usually eaten as a desert drink.

George Washington's Army Rations

Those early Americans obviously knew about the nutritional benefits of milk as milk was a big part of the rations allocated to the American army.

Shortly after George Washington was elected Commander in chief, the Continental Congress created a Commissary General of Stores Provisions. Some of the earliest legislation fixed the components of the Army ration and was passed on November 4, 1775. A ration is the allowance of food for the subsistence of one person for one day. This first ration provided the following components:

16 oz; beef	6.8 oz.peas
18 oz. flour	1.4 oz. rice
16 oz. whole milk	.1830 oz. Soap
1 qt. spruce beer	.0686 oz. candle

In case you wanted to know, it is likely the soldiers were drinking milk that was locally sourced

The Milk Advantage – 16 oz. of Milk/ day As A Recovery Drink

The milk included in the ration has proven to be one of the best foods for active soldiers. Compared with our present dietary requirements, their ration provided more calories, twice as much protein, an adequate supply of all minerals and vitamins.

A study on milk's role as a recovery drink shows that drinking 16 ounces of milk is optimal for muscle recovery after exercise, and helps to maintain muscle performance during the recovery period. Those men were drinking the best thing for their bodies.

The study showed that – “Approximately 20g of protein is needed to maximize muscle protein synthesis after exercise.” This volume of milk also provides about 30g of carbohydrate, which is necessary to help replenish muscle glycogen stores. Milk has been proven to be an effective rehydration drink. Consuming milk after training can help to alleviate symptoms of exercise-induced muscle damage, including delayed-onset muscle soreness and reductions in muscle performance.

Compared With The British Army Rations

When it came to food, the British soldiers didn't live off the enemy's country like a Napoleonic army, but had to import most of their food supplies to the New World. Food supplies were not abundant in the colonies as America was still sparsely populated, and most inhabitants were hostile. As a result, they imported the majority of their supplies from the British Isles.

One of the main challenges the British encountered was keeping their army fed. When France declared war upon England, there was difficulty in transporting supplies from Great Britain to the forces in New York. Spoilage was also rampant, and the quality of food the British were receiving was often rancid, or rotten.

Overall the ration was similar to the American soldiers but minus the fresh dairy:

- 24 oz. Flour or Bread
- 16 oz. Beef
- 8 oz. Pork
- 8 oz. Pease
- 1 oz. Butter
- 1 oz. Rice

Historians note that the quality of food the British were receiving was so poor, it cannot be understated.

Provisions were frequently so poor in quality they were absolutely inedible even by hungry redcoats. The commissary generals complained again and again of moldy bread, weevily biscuit, rancid butter, sour flour, worm-eaten peas, and maggoty beef.

Conclusion

So what contributed to the winning of the War of Independence? Many have noted that Americans were full of inspiration and fighting for high ideals such as Independence, and Freedom. But there are few people who note the fact that this glorious Army was also including milk in their daily rations.

While the British were dealing with rancid butter, moldy bread, and maggoty beef, these soldiers were enjoying nature's perfect muscle recovery drink, optimizing their muscle performance, and recovery.

Are we claiming that milk was the reason we won the war of Independence, absolutely not, but as one of history's greatest military geniuses notes:

“An army marches on its stomach,” - Napoleon

Milk was probably one of this army's greatest allies in the war for Independence.

Sources:

By Stephen, The dairy guy -Jul 1, 20150

The Introduction Of Cattle Into Colonial North America - G. A. Bowling, Department Of Dairy Husbandry, West Virginia University, Morgantown

Michael Olmert, Cool, Calm, Clean, Dairies were the most elaborate of outbuildings, and the cleanest, Colonial Williamsburg, CW Journal, Winter 2005-6

<http://www.foodtimeline.org/christmasfood.html#syllabub>

Effect of volume of milk consumed on the attenuation of exercise-induced muscle damage.

Cockburn E1, Robson-Ansley P, Hayes PR, Stevenson E.

The Organization Of The British Army In The American Revolution

Chapter IV, <http://www.americanrevolution.org/britisharmy4.php>

11.

Fresh Milk

Keeps Infections At Bay: Study

Infants fed on fresh cow's milk rather than processed milk are less prone to infections, a pan-European study has found. Researchers recommend the use of alternative processing methods to preserve the protectants found in the natural milk.

The study, led by Professor Erika von Mutius, Professor of Pediatric Allergology at Ludwig-Maximilians-Universitat Munchen (LMU) in Germany, found that fresh cow's milk protects young children from respiratory infections, febrile illness and inflammation of the middle ear.

As untreated cow's milk may itself contain pathogenic microorganisms and could pose a health risk, the researchers argue for the use of processing methods that preserve the protective agents present in raw milk.

The study initially recruited 1,000 pregnant women who were asked to document their children's diet and state of health at weekly intervals during the first year of life.

"Among children who were fed on fresh, unprocessed cow's milk the incidence of head colds and other respiratory infections, febrile and middle-ear inflammation was found to be significantly lower than in the group whose milk ration consisted of the commercially processed ultra-pasteurised product," said Georg Loss, first author of the paper.

Ingestion of farm milk reduced the risk of developing these conditions by up to 30 per cent, and the effect was diminished if the milk was heated at home before consumption.

Conventionally pasteurised milk retained the ability to reduce the risk of febrile illness, while exposure to the higher temperatures used in Ultra-high temperature processing (UHT) eliminated the effect altogether.

Importantly, the positive impact of raw milk could be clearly separated from the confounding effects of other elements of the children's nutrition, researchers said.

"The effects of diverse milk treatments are presumably attributable to differentially heat-resistant components present in fresh milk. Compounds that are sensitive to heating seem to play a particularly important role in protection against respiratory-tract and ear infections," said Loss.

At the end of the first year of life, blood samples were obtained from the children enrolled in the study, and tested for biochemical indicators of immunological function.

Infants fed on unprocessed milk were found to have lower levels of the C-reactive protein, which is a measure of inflammation status.

"Other studies have shown that higher levels of inflammation are related to the subsequent emergence of chronic conditions such as asthma and obesity. Consumption of unprocessed milk may therefore reduce the risk of developing asthma," Loss said.

The study was published in the *Journal of Allergy and Clinical Immunology*.

Source

Pediatric Allergology, Fresh milk keeps infections at bay, München, 10/20/2014
PTI, Berlin, Oct 21 2014, The Financial Express

12.

Study Suggests

More Dairy Less Diabetes

Diets rich in high-fat dairy products could protect against Type 2 diabetes, researchers say.

People who consumed eight or more servings of cream, high-fat fermented milk, yogurt, cheese, or butter had a 23 percent reduction in their risk of developing Type 2 diabetes compared with people who consumed one serving or less. This association did not hold true for low-fat dairy products or fats derived from meat. [EASD, Abstract 62]

“The decreased risk at high intakes of high-fat dairy products, but not of low-fat dairy products, indicate that dairy fat may at least partly explain observed protective associations between dairy intake and Type 2 diabetes,” said lead researcher Dr. Ulrika Ericson, of the Lund University Diabetes Center in Malmö, Sweden.

“Our observations contribute to clarifying previous findings regarding dietary fats and their food sources in relation to Type 2 diabetes.”

Ericson and colleagues included a modified diet history from 26,930 patients aged 45-74 years who were part of a Swedish cohort to study diet and cancer.

Over 14 years of follow-up, 2,860 incident cases of Type 2 diabetes occurred. Greater high-fat dairy intake was linked to a lower risk of Type 2 diabetes while those who did not consume much dairy did not see those benefits.

For specific foods, ≥ 30 mL/day of cream reduced Type 2 diabetes risk by 15 percent, 180 mL/day of high-fat fermented milk reduced Type 2 diabetes risk by 20 percent.

Low-fat dairy consumption was not associated with decreased risk of Type 2 diabetes.

High meat intake was associated with increased risk of Type 2 diabetes no matter what the fat content, though high-fat meats increased the risk of Type 2 diabetes less than low-fat meats (9 percent vs 25 percent).

“Our findings suggest that, in contrast to animal fats in general, fats specific to dairy products may have a role in prevention of Type 2 diabetes,” Ericson said.

The results suggest that when it comes to diabetes risk, not all fats are created equal. Dairy fats may actually provide protection against the disease.

If you're wondering, “eight portions” of high-fat dairy in this study is the equivalent of about six ounces of whole milk or a little over one ounce of whole cream per day. That's about two and a half tablespoons of cream in a cup of coffee.

At the very least, these results add to a growing list of findings suggesting that fat may not deserve the dietary arch villain label it has carried for decades.

This study was published in the journal *Diabetologia*.

Source

Oct 2014 , Radha Chitale

Forbes, Sep 15, 2014, David Disalvo

Rebecca Smith, Medical Editor, The Telegraph, 16 Sep 2014

13.

Milk - A Miracle Food and A Heavenly Nectar

The Lifeline of Any Civilized Society

Mughal Emperor Akbar once asked his Hindu minister, “Which milk do you think is the best?” The minister replied, “Buffalo milk, Sire!”

The answer surprised the Emperor, “How foolish! Everyone knows the cow’s milk is the best.” The minister explained, “Sire, You asked about milk and I correctly replied that it’s buffalo’s milk. I would have mentioned cow if you had asked about elixir because cow gives no milk but elixir.”

Milk is a complete food. It is so loaded with nutrients that one can survive simply by drinking it. With abundant supply of milk, there is no need for any animal killing and no possibility of diets being deficient in any way.

Up until recently, wandering mendicants in India would stand at the door of the first household they found in the morning. Milk was so plentiful that the householder would immediately offer a pound of milk fresh from the cow. The mendicant would drink it and wander away. That took care of his eating program for the day. A pound of fresh milk is sufficient to supply an adult with all the necessary nutrition. In earlier days, saints and sages practically lived on milk. In India poorest of the men had a few cows, each delivering ten or twenty quarts of milk. No one hesitated to spare a few pounds of milk for the mendicants and other guests.

Srila Sukadeva goswami, the celebrated speaker of Srimad Bhagavatam, followed this simple program of life:

*nunam bhagavato brahman
grhesu grha-medhinam
na laksyate hy avasthanam
api go-dohanam kvacit*

O powerful brahmana, it is said that you hardly stay in the houses of men long enough to milk a cow. (*Srimad Bhagavatam 1.19.39*)

Srila Prabhupada explains how generations of highly evolved beings simply survived on milk,

“Because in those days in the jungles there were many hermitages. Those who wanted to live secluded life in the jungle, in the forest, they would have their home, very small cottage, and their means of living was milk and fruit. They would get fruits from the trees, and the kings would sometimes contribute some cows.”

“So that was sufficient for them. To have some milk from the cow and get the fruits from the trees in the jungle, that was sufficient. That is sufficient still. Anywhere, any part of the world, you can live without any economic problem, provided... There is no question of “provided.” Anywhere, you can keep a cow. There is no expenditure. The cow will go out and eat some vegetables and grass, so you haven't got to spend anything for the cow. And when she returns, she gives you milk, nice milk. We are trying to introduce this system in our New Vrindaban scheme. We are keeping there cows, and that place is in Virginia, Moundsville. It is about three miles away from any city or any citizen approach. But they are living very nicely, depending on some vegetables, fruits, and cow's milk. So actually, a man can live very peacefully and healthy life. Not only peacefully. If you are healthy, if your mind is equilibrium, then naturally you are peaceful. So that was a system for the sages and hermits, they used to live on cow's milk and fruits.” (*Lecture on Srimad Bhagavatam, 2.3.17, Los Angeles, July 12, 1969*)

14.

Milk Is Lot of Hard Work

Cows only have bottom teeth. They swipe their thick, coarse tongue over a swathe of grass, curl it around and chomp it off using the teeth and a hard pad on the upper jaw. With this quick, efficient action, a cow can graze quite happily for about 10 hours or so a day, walking forwards past the eaten graze to fresh grass further afield.

They need long grass for this action to work, and hence the pasture needed for cattle is longer than that for sheep. Sheep and wallabies can compete for very fine grass, particularly over winter, when many cows in cold climates are put on dry food, such as hay. When a cow isn't eating, she's probably chewing her cud, masticating food that has been through two stomachs and is partially digested, before depositing it in the next stomach. All up, a cow has four stomachs and can make 40,000 chewing motions in a day.

These things probably aren't that interesting to your average person. But to some, these are obsessions. Watching the animals eat. Seeing how much time they spend lounging and chewing their cuds.

Cows Turn Pastureland Into Useful Food

When a cow takes a bite of grass, she doesn't waste much time in chewing it; that might interfere with her next bite of grass. Instead, she swallows it then takes another bite and she will worry about chewing later.

After a lengthy time spent grazing, the cow will eventually lie down and chew her cud. Her complex stomach will sort the feed she has

already ingested into that which needs to be chewed and that which has already been.

I know it sounds disgusting. Chewing food that has already been eaten; I must be kidding, right? It would most certainly be disgusting if the cow wasn't a ruminant, but she is and she most certainly enjoys it. You have never seen an animal more content than a cow chewing her cud.

To the cow, chewing her cud is heaven on earth. When she chews her cud, she grinds the fibrous feed material into a pulp so that the microorganisms in her rumen can do the work of digesting it. Without the process, the grass couldn't be digested.

When the cow swallows her cud, it goes back to the rumen to be mixed and sloshed around to ensure complete digestion. Then, the remainder passes out of the rumen to finish the digestion process.

You may notice as you see the cows grazing that they are allelomimetic. That means each animal does the same thing as those nearby. Social animals display this behaviour. When cows graze, they are either all standing and grazing, or all lying down and chewing their cud, with the exception of some cows that have anti-establishment tendencies.

We really should be thankful for cows for their ability to take otherwise useless grass and turn it into food for people. It has been said that cows are the foster mothers of the human race and I have to believe that is true.

Source

Matthew Evans

Dr. Bill Croushore

(Dr. Croushore is a veterinarian with White Oak Veterinary Clinic in Berlin, Germany.)

15.

Milk - A Product of Love, Affection And Happiness

Happy Cows Produce More Milk

According to researchers at Newcastle University, happy cows produce more milk, and calling cows by personal names makes them happier.

Cows, Like Us, Want To Be Called By Name!

A study by the university's School of Agriculture, Food and Rural Development, involving 516 farmers across the UK, found that cows that are named and treated with a "more personal touch" can increase milk yields by up to 500 pints a year. The study, published in the journal *Anthrozoos*, found farmers who named their cows gained a higher yield than those who did not give their cattle names. Dairy farmer Dennis Gibb, who co-owns Eachwick Red House Farm outside Newcastle, said he believed treating every cow as an individual was "vitally important".

Own Personality

Farmer Dennis Gibb says "They aren't just our livelihood, they're part of the family. We love our cows here at Eachwick and every one of them has a name. Collectively we refer to them as 'our ladies' but we know every one of them and each one has her own personality."

Dr. Catherine Douglas, who led the research, says: "What our study shows is what many good, caring farmers have long since believed. Our data suggests that, on the whole, UK dairy farmers regard their cows as intelligent beings capable of experiencing a range of emotions. Placing more importance on knowing the individual animals and calling them by name can, at no extra cost to the farmer, also significantly increase milk production."

More dairy cows are dying, but treating them as individuals instead of groups could help because each cow has an individual personality.

The same survey indicates that the single largest cause of cow death as reported by producers was lameness or injury (20 percent), followed by mastitis (16.5 percent), calving problems (15.2 percent), and unknown reasons (15 percent).

These surveys emphasize treating cow as a sentient being with unique personality traits. If treated well, cows can deliver a lot. There are many dairy operations where loving care has made all the difference.

At ISKCON center in Mayapur, India, they treat cows kindly. It's true for many places in India but the Krishna devotees have created an old age home for cows that really does it right. In West Bengal, as else where in India now, older dry cows are neglected and let off in streets or sold off to butchers. The Krishna center in Mayapur invites the farmers to donate their dry cows to them. On arrival, the devotees give each cow a name, her own stall (with name painted overhead) and play melodious prayer songs through overhead speakers all day long. Guess what happens? The cows start giving milk again. So much milk that it provides for all the yoghurt, butter and milk needs of the entire community, with surplus to sell.

In another instance, Baba Sri Bhadariya Maharaj is doing a commendable work in the desert area of Pokhran, India. His ashram provides shelter to nearly 20,000 stray cows. Sick, old and injured cows are brought from far off places but loving and tender care turns them into healthy, milching cows again. Baba is providing free milk and butter milk to the travelers in the desert.

After all, milk is produced out of affection and giving milk is a motherly function performed out of love for the offspring.

Sweet Music for Milking

As per psychologists at the University of Leicester, UK, who played music of different tempos to herds of Friesian cows, dairy cows produce more milk when listening to relaxing music. They believe farmers could get an extra pint from their charges by playing classical music or slow numbers in the cowshed.

Beethoven's Pastoral Symphony was a big hit in the milking shed. But when rowdy numbers, like Mud's Tigerfeet and Size of a Cow by Wonderstuff, were played, there was no increase in milk yield.

Dr Adrian North, who carried out the study with colleague Liam MacKenzie says, "Calming music can improve milk yield, because it reduces stress."

Some farmers already play music to chickens, as there is anecdotal evidence that it reduces stress.

Dr North took the lead when he saw many farmers believe that music can boost milk production.

Cows are sedentary creatures. They like to eat grass, stand still and occasionally moo. And they don't like to rock. However, they do seem to enjoy calming pop ballads. However, faster songs seemed to trouble the animals, slightly reducing their milk yield.

A 10 Year Old Boy Solved The Weak Milk Production Problem

Daniel McElmurray from Hephzibah, Georgia, recently won first place in a regional science fair for a project on how music improved milk production in cows.

After hearing his dad, Earl complained about weak milk production from their 300 cows, the 10-year-old student at Goshen Elementary in Augusta helped solve the problem with a prize-winning science fair project.

He tested the effects of classical, country and rock music on the cows.

Daniel says he and his dad like to listen to music while they milk the cows, without giving the cows much say in the selection.

Turns out rock is their least favorite. After listening to Lynyrd Skynyrd, Shania Twain and a selection of classical music, the cows

proved they prefer classical to country and rock by producing 1,000 pounds more milk.

He received a special award from the American Society of Mammalogists, an organization that supports the study of mammals.

Human Society Is Prosperous When Cows Are Happy

In the bygone era in India, cows outnumbered people. There was immense wealth and prosperity in the country. An advanced civilization flourished here. Agriculture and dairy formed the basis of Indian economy and both were dependent on the cow.

Srila Prabhupada gives the glimpses of that golden era in a lecture:

Now here is very important word, that payasodhasvatir muda, udhasvatir muda. The cows were very jolly because they can understand whether they are going to be killed or not. Because they have got, they're animal, they have got sense. I have seen in your country, almost all cows are crying. Because in the beginning, all the calves are taken away and slaughtered in their presence. Perhaps you know. So what is the position of the cow? I have seen when we purchased some cows, the calves had already been taken away. The cow was crying, regular tears were gliding down. So they can understand that... Who cannot understand? Suppose if you are taken to the concentrated camp? Just like the Germans did. What is the meaning of concentrated...? That you'll be killed after some days. So how can you be happy? If you are already informed, condemned to death, and kept in a concentration camp, will you be happy? Similarly, when these people take these cows to the slaughterhouse, animal stock room, they can understand. Very recently, about few years ago, some..., that animal stock store was some way or other broken and all the cows began to run... Perhaps you know. It was published in the... And they were shot down. Shot to death. They were fleeing like anything, that "We shall save ourselves."

So if the cows are not happy, if they are always afraid, that "This rascal will kill us at any moment," then how they can be happy? There was no such thing. Therefore it is said: muda. Muda. Happy. And as soon as the cows are happy, you not only get sufficient milk, but the pasturing ground, I mean to say, ground, becomes moist with milk. So much milk supplied. Here it is stated, payasa udhasvatir muda. Yes. There is another description. Formerly, Krsna's cows, when they were passing on, the whole road will be moistened with milk. Milk supply was so sufficient.

Simply manufacture butter, milk products, dahi... Distribute. Krsna was distributing amongst the monkeys even: "Take," the monkey, "come on."

So by Krsna's grace if we actually become dharmic, follow Krsna, the milk supply will be so profuse that everyone, even the animals can take the butter and yogurt. That is wanted. That is civilization. Produce sufficient quantity of grains, let the milk, cows, supply sufficient quantity of milk. All economic question solved. There is no use of industry. No use of man's going fifty miles to work. No, there is no need. Simply land and cows. Here is the statement. Kamam parjanya, vavarsa parjanya sarva-kama-dugha. Everything you'll get from the land. Even luxury articles. What can be more luxurious article than the jewels? The jewels are also produced. The medicine is produced, the minerals are produced, gold is produced, diamond is produced from the earth. Sarva-kama-dugha. You get everything. Make your civilization very perfect, very luxurious simply by satisfying Krsna. This is Krsna consciousness movement." (*Lecture, Srimad-Bhagavatam 1.10.4 -- Mayapura, June 19, 1973*)

Reference

Discovery News, Arthur Neilson, Feb 11, 2013

The Associated Press, Don Robertson, March 15, 2003

The Augusta Chronicle, Preston Sparks , March 12, 2003

16.

Why Milk Has Gone Sour

Tasteless, Stripped Of Nutrients And Churned Out By 'Battery Cows' Who Never See A Blade Of Grass

By Graham Harvey

On the Reading estate where I grew up in the early 1950s, our milk was from a local dairy.

Our two pints of silver top would arrive daily on the doorstep, each with a thick band of yellow cream stretching one-third of the way down the bottle - a sure sign that the cows had been grazing up to their hocks in clover-rich grassland.

In those days, full-fat milk was considered a 'protective food', one that would keep you fit and free of disease.

All I know is that my brother and I invariably squabbled over who was to get 'the top of the milk' on our breakfast porridge.

The dairy had been set up by a local farmer in the 1920s.

Then, as now, milk producers were being crippled by rising costs and the meagre prices paid by powerful dairy companies.

Entrepreneurial farmers responded by setting up retail rounds in nearby towns and villages in a bid to make a better living for their families.

Though the pre-war economy was deep in recession, it was a period of expansion in the British dairy industry.

By the time my brother and I were racing each other to the morning pintas, our Berkshire dairy was supplying half the town.

Everywhere in Britain — outside the biggest cities — milk was mostly local and from cows spending most of the year grazing fresh green grass.

Since then, dairy farming has changed beyond recognition. During my 40 years as a farming journalist, nine out of ten dairy farms have gone out of business.

I've known dozens of farming families who've been forced to put their beloved herds under the auctioneer's hammer — families who loved their animals, cared for the countryside and took pride in the fine food they produced.

Today's milk business is dominated by a handful of large supermarkets and processing dairies, all slugging it out for a share of the action.

The farmers who survive the inevitable war of attrition are forced to squeeze more and more milk from their over-worked cows.

Even then they struggle to earn a living from the job. No doubt classical economists view all this as a triumph of efficient food production.

Milk is plentiful and cheap, with supermarkets frequently using it as a loss-leader in their battle for market share. Low-fat milk was on offer at just 32p a pint in Tesco recently.

Whether we consumers truly benefit from the dairy revolution is open to question. The nutritional quality of most supermarket milk wouldn't hold a candle to the pinta delivered to our doorstep all those years ago.

Many dairy farmers, in their bid to drive down costs, now keep their cows off pasture, feeding them instead on high-energy cereals and maize, and on high-protein crops like soya.

Herds are getting bigger, and some farmers are choosing to keep them inside for much of the year or even all of it. US-style mega-dairies — in effect, battery-farmed cows — are now threatened for the British countryside.

Professor Ton Baars, a global expert on the health qualities of dairy foods, says milk produced this way contains lower levels of key disease-fighting nutrients, such as omega-3 fatty acids, vitamins and the anti-cancer substance CLA.

From a health point of view, the best milk comes from cows grazing fresh pasture in which there are plenty of clover plants and deep-rooting herbs such as plantain, dandelion and chicory.

In fact, the very milk enjoyed by earlier generations before the arrival of supermarkets and the EU common agricultural policy.

Even the supposed benefits of low-fat milk are now being challenged.

A number of scientists claim it's sugar and refined carbohydrates that are to blame for modern diseases like diabetes and heart disease, not saturated fat — especially when the fat is from natural sources such as cattle grazing clover-rich pasture.

They point out that even whole milk contains only four per cent fat, hardly making it a fatty food.

And apart from calcium, many of the most valuable nutrients such as omega-3s, CLA and vitamin D are in the fat fraction most of us throw away.

Cows Now Forced To Produce Twice The Volume Of Milk

It's not just consumers who are worse off. Farmers' relentless drive for cost savings has put increasing pressure on the long-suffering dairy cow.

She's now forced to produce twice the volume of milk provided by her 1960s forbears, and it's taking a heavy toll on her health, fertility and lifespan.

No wonder actress Joanna Lumley has taken up the cudgels on behalf of dairy cows.

She's heading an animal rights' campaign aimed at giving them the sort of protection in European law that's provided for battery hens.

One of the key guarantees she's seeking is the animals' freedom to graze fresh pasture, at least in summer.

With Britain's hard-pressed dairy farmers on the streets demanding a better deal, there's a clear need for a new vision for dairy farming.

“Open-Air Dairying”

Fortunately we have a perfect model from history — the epic story of a forgotten food hero of 90 years ago.

In the early 1920s, farm prices crashed following the mini-boom in agriculture that accompanied the First World War.

Dairy farms were particularly hard hit, with many going to the wall.

But an innovative farmer-inventor called Arthur Hosier came up with a revolutionary idea.

He would keep his cows out in the fields permanently, so saving the heavy labour costs and disease risks associated with putting them in sheds for part of the year.

To make the system work, he designed a mobile milking platform through which cows could be milked in the field.

It was equipped with generator, refrigeration plant and vacuum pipeline to take the milk direct from cow to churn without coming into contact with the air.

Hosier's friends thought he'd gone off his head when he bought a big stretch of Wiltshire downland and covered it with cows at a time when many dairy farmers were going bust.

But the intrepid pioneer went on to make his fortune by selling quality milk direct to the public. Because his costs were low — and there was no middleman — it remained affordable to most people, even in hard times.

Out in the open air, his cows stayed remarkably free of disease, including TB which was rife among dairy herds of the time.

His milk was certified so pure by the county medical authority that a lot was sent direct to London hospitals for patients too sick to tolerate everyday milk.

So successful was the system that by the early 1930s several hundred farmers had adopted 'open-air dairying'.

But with the coming of the Milk Marketing Board in 1933 — which guaranteed a market for milk — farmers lost their entrepreneurial edge. Hosier was bought out by one of the big dairies, and his revolutionary system forgotten.

Today a handful of new pioneers are rediscovering its benefits for consumers and their own profits.

In Dorset two young farmer-entrepreneurs — Tom Foot and Neil Griggs — have established a new outdoor herd producing pasture-fed

milk. They've designed mobile milking units based on the principles of Hosier's model.

In Somerset new farmer Nick Snelgar is developing a mobile milking-and-processing plant for use by small herds.

His aim is to bring back local, grass-fed milk across Britain. He hopes it'll also create new business opportunities for young people in rural areas.

Between the wars, hard times for milk producers heralded a new golden age for dairy farming.

At the same time it put a wonderful, nutritious food on the doorsteps of austerity Britain.

I, for one, can't wait to experience once more the rich, creamy taste of real milk.

Source

Graham Harvey, 12 July 2012, The Daily Mail

Author of The Carbon Fields

17.

Cow's Milk

Good For Newborns

Mothers who feed their babies cow's milk in the first 15 days of life may be protecting their children from dangerous allergies later on, says a new study.

“Women who regularly (daily) introduced their babies to cow milk protein early, before 15 days of life, almost completely eliminated the incidence of allergy to cow milk protein in their babies,” says Prof. Yitzhak Katz of Tel Aviv University's Department of Pediatrics, Sackler Faculty of Medicine.

Babies on a cow milk diet for 15 days were almost completely protected from developing Cows Milk Protein Allergy (CMA).

CMA can cause rashes, respiratory problems, shock and even death.

Although the exact amount is still unknown, the paediatrician suggests a single bottle-feed at night for those mothers who are breastfeeding.

If not exposed earlier, he suggests waiting until the child is one year old to introduce cow's milk into the diet.

The findings are reported in a recent issue of the *Journal of Allergy and Clinical Immunology*.

Source

ANI, Jul 15, 2010

18.

Cow's Milk Kills Stomach Cancer Cells

And Offers Treatment Hope

Cow's milk has anticancer properties that can kill stomach cancer cells, offering a new hope for treatment of the disease.

Stomach cancer, or gastric cancer, can be very difficult to treat as it is often not detected until it is at an advanced stage. In 2008, there were 5,178 deaths from stomach cancer in the UK, making it the seventh most common cause of cancer death.

Researchers in Taiwan have identified a peptide fragment derived from cow's milk that exhibited a potent ability to kill stomach cancer cells.

They found the peptide, called lactoferricin B25 (LFcinB25), could kill these cells in laboratory cultures.

Wei-Jung Chen, from the National Ilan University, said: "Gastric cancer is one of the most common causes of cancer-related mortality worldwide, especially in Asian countries.

Potential Treatment

"In general, the main curative therapies for gastric cancer are surgery and chemotherapy, which are generally only successful if the cancer is diagnosed at an early stage. Novel treatment strategies to improve prognosis are urgently needed."

The researchers found that after an hour of exposure to cancer cells, LFcinB25 migrated to the cell membrane. Within 24 hours, the

cancer cells had shrunk and had lost the ability to adhere to surfaces. At later stages, the cells died.

Researchers also found that a protein, known as Beclin-1, enhanced the cancer-killing properties of LFCinB25.

The protein, normally involved in tumour growth and degeneration of neurons, sped up the process after exposure to the peptide.

"Optimisation of LFCinB using various strategies to enhance further selectivity is expected to yield novel anticancer drugs with chemotherapeutic potential for the treatment of gastric cancer," Chen said.

Source

By Hannah Osborne, November 8, 2013, International Business Times
Elsevier, Research & Journals, Philadelphia, PA, November 7, 2013

Bathing in milk has been a popular beauty regimen among women for thousands of years. Milk contains lactic acid, a member of the family of alpha-hydroxy acids (AHAs), which break down dead skin cells thereby allowing the skin to rejuvenate itself more quickly. AHAs also act as moisturisers by taking humidity from the air and helping skin absorb this moisture. Legend has it that Cleopatra indulged in milk and honey baths daily. Poppaea, wife of Roman Emperor Nero also enjoyed milk baths. Pliny the Elder wrote in his Natural History that it was Poppaea who started the tradition of bathing in milk and she would travel with 500 nursing donkeys so she could take milk baths to keep her skin smooth and supple. In recent times, milk baths and other milk products like bath salt, soap, hand and body lotions as well as whitening products are popular. Recipes can be found for milk baths with various additions such as oatmeal, honey, and herbs.

- Martha A. Brozyna

19.

Milk From Grass-Fed Cows

Helps To Reduce Risk of Heart Attacks

Drinking whole-fat milk from pasture-grazing dairy cows may help you to reduce your chances of having a heart attack. This is according to a new study released by Hannia Campos from the Department of Nutrition, Harvard School of Public Health, and 2 other researchers.

They studied more than 3600 people living in Costa Rica, and found that those people with more conjugated linoleic acid (CLA) in their body fat has a lower risk of heart attack when compared to the others with lower CLA in their bodies. Dairy products are the main source of CLA, which is produced by the cows as they digest grass. Pasture-grazing dairy cows have more CLA in their milk than do grain-fed cows. This is why Costa Rica was chosen for the study, as the country uses traditional pasture-grazing for dairy cows.

One interesting note from the study is that even though there is usually a strong risk associated with saturated fat intake from whole-fat milk, dairy intake by itself was not associated with the risk of heart attacks.

Published in the American Journal of Clinical Nutrition, the study concludes that CLA, which is present in meaningful amounts in the milk of pasture-grazed cows, might offset the adverse effect of the saturated fat content of dairy products.

Milk Can Save Your Heart

NDTV Cooks, September 20, 2014

A number of studies have shown that certain foods act as cholesterol busters and help in improving healthy heart functions. Here's more good news for dairy lovers.

A study presented at the 12th Euro Fed Lipid Congress in France, states that drinking two glasses of milk can help lower blood pressure and reduce the risk of developing heart diseases. In fact, consumption of milk along with other dairy products can protect your heart against heart attacks.

“The meta-analyses indicate that there is a link between increasing the number of glasses of milk a day and a lower incidence of hypertension and subsequently the heart attack risk,” explained Dr Sabita S. Muthu from Wageningen University in Netherlands.

These findings were based on nine studies involving 57,256 individuals and 15,367 cases of hyper-tension. They revealed that as total dairy, low-fat dairy products and milk (just over two cups a day) consumption increased, the risk for high blood pressure decreased.

Experts also examined the effects of dairy products and dairy fat on risk factors such as cholesterol, body fat accumulation and weight gain. “The results lay the groundwork for future investigations into the overall impact dairy may have on public health,” researchers noted.

Globally, cardiovascular disease (CVD) claims 17 million lives each year, while complications from high blood pressure take an additional 9.4 million.

“It appears that dairy's nutrient-rich package may have a positive impact on health, development and performance in more ways than previously expected,” Schweitzer concluded.

These findings were further supported by a clinical trial published in the American Journal of Clinical Nutrition which showed that the addition of four servings of non-fat dairy products per day to a routine diet lowered blood pressure in middle-aged and older adults.

Supporting the previous claims, another study that appeared in journal Applied Physiology, Nutrition and Metabolism states that consumption of dairy products on a regular basis may also reduce the risk of obesity and diabetes and promote overall metabolic health.

Drink Lots Of Milk To Cut Heart Disease

ANI, Aug 19, 2011

Drinking three glasses of milk per day decreases the risk of cardiovascular disease by 18 per cent, says researchers.

Wageningen and Harvard University researchers examined 17 studies from Europe, USA and Japan, and found no link between the consumption of regular or low-fat dairy and any increased risk of heart disease, stroke or total mortality.”Milk and dairy are the most nutritious and healthy foods available and loaded with naturally occurring nutrients, such as calcium, potassium and protein, to name a few,” said Cindy Schweitzer, Technical Director, Global Dairy Platform.

“It’s about going back to the basics; maintaining a healthy lifestyle doesn’t have to be a scientific equation,” she said.

An Israeli study published in the American Journal of Clinical Nutrition showed that a higher dairy calcium intake is related to greater diet-induced weight loss. The study, which sampled more than 300 overweight men and women during two years, revealed that those with the highest dairy calcium intake lost 38 per cent more weight than those with the lowest dairy calcium intake.

Additionally, from dispelling the myth that dairy causes heart disease, to revealing dairy’s weight loss benefits, below is a 2010 roundup of select dairy research:

- US researchers examined 21 studies that included data from nearly 350,000 and concluded that dietary intakes of saturated fats are not associated with increases in the risk of either coronary heart disease or cardiovascular disease. The study was published in the American Journal of Clinical Nutrition.

- A study published in the American Journal of Epidemiology examined 23,366 Swedish men and revealed that intakes of calcium above the recommended daily levels may reduce the risk of mortality from heart disease and cancer by 25 per cent.

20.

Naturally Addictive

Get High On The Real Stuff

The word, “addictive” brings to mind bad connotations. In most instances, anything addictive is bad. However the addictive substance, casein, which is found in milk (cow, human and other mammals) encourages babies to keep drinking the healthy substance that helps them grow.

Manufacturers use casein in many dairy food products, as well as some packaged and boxed foods.

Casein is good for the body. It's nature's way of making milk appealing to babies, allowing for a stronger bond between mother and child, and calming the infant. But it presents the possibility of manipulation of food products by companies who want their product to be more desirable.

Casein is a main protein in dairy. In the body, casein has been scientifically shown to resemble morphine.

“Caseins convert to casomorphins, which are chemically similar to morphine, when they break down during digestion. It's these casomorphines that are addictive,” said Dr. Amy Lanou in *E: The Environmental Magazine*. “All mammalian mothers' milk contains casomorphines so that the young will return to the breast for milk.”

Some recipes naturally call for dairy products; others include casein seemingly because of its addictive properties.

In 1981, Dr. Eli Hazum and his colleagues at Wellcome Research Laboratories in North Carolina found traces of a chemical that

resembled morphine in samples of cow's milk. After putting the samples through numerous tests, they concluded that it was, in fact, morphine. It was a very small amount and not in every sample, however they concluded that morphine is present in both cow and human milk.

After further research, the team found that the protein casein was the cause for the addictive qualities of milk and cheese. Cheese contains more casein than milk because milk is concentrated in the production of cheese.

Another research study conducted by the Physicians Committee for Responsible Medicine (PCRM) showed that people taken off meat, dairy and other foods, craved cheese more than any other food.

That is why so many people find it difficult to give up cheese.

Dr. Neal Barnard, founder of the PCRM and author of the book, "Breaking the Food Seduction: The Hidden Reasons Behind Food Cravings and Seven Steps to End Them Naturally" explains in further detail why people are addicted to cheese, among other substances in an article published by *Weird News*.

Although cheese is not as powerful as morphine, Dr. Barnard noted that cheese is easily available and a quick fix.

It's surprising to hear that a common, everyday food contains traces of a powerful substance.

Source

One Green Planet, Heather McClees, October 24, 2014

News.Mic, Tove Danovich March 16, 2015

Free From Harm, Robert Grillo, May 14, 2012

21.

Milk Economics

Economics In Harmony With The Web of Life

In Sanskrit literatures cow is referred to as 'kamadhenu', bestower of all desires. For centuries, land and cows were the standard measure of one's wealth. Currencies and share certificates are only bunch of papers which can come become useless anytime. Even today in many parts of Africa, people keep their investment in cows. A rich family means owning hundreds of cows.

But if you own so many cows, what can you do with all that milk? Srila Prabhupada explains about the utilization of milk:

“Milk is so nice that it cannot be wasted, even a drop. First of all you get milk, that is the Indian system. So there is a big milk pan, and as soon as the milk is drawn it is put into the pan. The pan is in the fire. So as much as you like, drink milk, children, elderly persons. Then at night, when there is no demand for milk, it is converted into yogurt, not wasted. Whatever balance milk is there is converted into yogurt. Then in daytime also you take yogurt, as much as you like. If it is not all consumed, then it is stored in a pot. Then when that pot is enough stored, then you churn it. Churn it, and you get butter and Buttermilk. So again you take buttermilk with chapati and everything, not a single drop is lost. Then the butter, you melt it, convert into ghee and store it, it will stay for years. So not a drop of milk can be wasted. And this butter, because in the village they are eating so much milk products, they do not require butter or ghee. Maybe little, so that is stored. They go to the city. The city men they

require, especially. Ghee is very important thing in the city. So they purchase. So in exchange of that money, whatever they want, they purchase in the city and come back. By simply maintaining the cows, their economic problem is solved. Simply maintaining the cows. And to maintain cow there is no difficulty. The boys.... Just like Krishna, as boy, was taking the cows, the calves, in the fields. They are grazing here and there, and coming back they're giving milk. Only one attendant required to take them into the pasturing ground and bring them back home. You don't require to give them food even. Simply take care, they give milk, and with milk you make so many preparations.”
(*Garden Conversation, June 10, 1976, Los Angeles*)

When cows graze in fields, they fertilize the soil by their urine and manure. On an average, a cow gives birth to ten calves in her life time and this way also she benefits the keeper.

In the book ‘When Histories Collide’, the author calculates that the milk from a cow gives 480 lb of digestible dry matter content in a year. In contrast, eating a cow only gives 48 lb of digestible dry matter.

The Vedic civilization, the brahmanas, they used to live in the forest, and the king would offer them some cows. So they will draw some milk. And in the forest there are fruits, so they will eat fruits and milk. And if the disciples go to the village, beg some food grain, then sometimes they cook some food grains. Otherwise the brahmanas used to live in the forest, drink milk and take fruit. That is sufficient. There was no need of jumping here and there. Anywhere you keep cows. And what cows to maintain? No expenditure. The fruits? The skin thrown away, and the cow will eat. And in exchange it will give you nice foodstuff, milk. Or it will eat in the grazing ground, some grass. So there is no expenditure of keeping cows, but you get the best food in the world. The proof is that the child born simply can live on milk. That is the proof. So anyone can live only on milk. If you have got the opportunity to drink one pound milk maximum, not very much -- half-pound is sufficient; suppose one pound -- then you don't require any other foodstuff. Only this cow's milk will help you. It is so nice. And it gives very nice brain, not pig's brain. So it is so important thing.

-Srla Prabhupada (Srimad-Bhagavatam 6.1.21 -- Honolulu, May 21, 1976)

Milking cows thus do seem to be around 10 times more productive, in just one year, than eating them. When taken for the full life of a cow, it works out hundreds of times more. This perhaps gives a scientific, secular and common sense explanation for why Hinduism and other religious traditions prohibit eating beef. It is rational for people to avoid eating an animal that, if kept alive, can produce milk and the males can carry loads and pull ploughs.

It has been found that if an average cow's contribution in her lifetime is quantified in money, it comes to millions of rupees. Thus cow represents sound economics. Sustainability of our colossal globalized economy has sharply come under question during recent meltdowns.

22.

Cow & Human Nutrition

The UN estimates that there are approximately 1000 million (1 billion) starving/undernourished people in the world. This is a scandal for humanity when we consider that almost 70% of the grain produce go for meat or fuel production.

Children and Hunger

Children are the most visible victims of undernutrition. Black et al (2013) estimate that undernutrition in the aggregate—including fetal growth restriction, stunting, wasting, and deficiencies of vitamin A and zinc - is a cause of 3.1 million child deaths annually. Undernutrition magnifies the effect of every disease, including measles and malaria. The estimated proportions of deaths in which undernutrition is an underlying cause are roughly similar for diarrhea (61%), malaria (57%), pneumonia (52%), and measles (45%) (Black 2003, Bryce 2005).

Globally 161 million under-five year olds were estimated to be stunted in 2013.

In addition, in developing countries every second pregnant woman and about 40% of preschool children are estimated to be anemic.

An estimated 250 million preschool children are vitamin A deficient. An estimated 250,000 to 500 000 vitamin A-deficient

children become blind every year, half of them dying within 12 months of losing their sight. (WHO Vitamin A Deficiencies)

In addition, Iodine deficiency is one of the main cause of impaired cognitive development in children.

Serious iodine deficiency during pregnancy can result in stillbirth, spontaneous abortion, and congenital abnormalities such as cretinism, a grave, irreversible form of mental retardation that affects people living in iodine-deficient areas of Africa and Asia.

Milk As A Panacea

Widespread availability of milk can solve this problem. Milk is a complete food. Milk is so loaded with nutrients that one can simply survive on it. In India there are thousands of ascetics who simply live on milk. They are in robust health and do not eat anything else.

Srila Prabhupada explains: "Just like milk is the essence of the blood. The milk is nothing, but it is cow's blood transformed. Just like mother's milk. The mother's milk, wherefrom it comes? It comes from the blood, but transformed in such a way that it becomes nutritious to the child, tasteful to the child. Similarly, cow's milk also, a most nutritious and valuable food. (*Lecture on Bhagavad-gita 7.3, Montreal, June 3, 1968*). He further adds, "So from the cows, the milk. And from the milk we can make hundreds of vitaminous foodstuff, hundreds. They're all palatable. So such a nice animal, faithful, peaceful, and beneficial. After taking milk from it, if we kill, does it look very well? Even after the death, the cows supply the skin for your shoes. It is so beneficial. You see. Even after death. While living, he gives you nice milk. You cannot reject milk from the human society. As soon as there is a child born, milk immediately required. Old man, milk is life. Diseased person, milk is life. Invalid, milk is life. So therefore Krishna is teaching by His practical demonstration how He loves this innocent animal, cow. So human society should develop brahminical culture on the basis of protecting cows. (*Lecture, Los Angeles, December 4, 1968*).

Many doctors blame cow's milk for various diseases. But real culprit is our modern dairy practices. Cows are overloaded with hormones, antibiotics and bio-feeds. They are fed ground up cows. A vegetarian animal is fed cannibalistic diet. Milk is extracted, processed and

distributed in most unnatural manner and therefore it leads to ill-health. But when we talk of a happy cow giving milk out of affection for its calf, living in natural surroundings, that milk is as good as or better than our own mother's milk.

Recently "Monocaprin" contained in milk and milk products is reported to possess excellent microbicidal properties and useful against transmitted diseases in humans

Milk By Products

According to Ayurveda, the cow ghee (clarified butter) is believed to be the best food for brain functions and general health. It has many nutritive qualities and is an ideal diet for the heart patients who suffer from cholesterol issues. Cow ghee enhances physical and mental vitality, detoxifies, enhances eyesight, maintains the health of muscles and tendons and keeps the bones stout and flexible.

Curd is another by product of milk. In Sanskrit the curd is called 'dadhi'. The ancient Ayurveda specialists like Charaka and Sushruta have described the qualities and usefulness of curd. It is useful in many diseases and it has been described as a tonic. It prevents premature aging, cures diarrhea, dysentery and chronic colitis.

Reference

2015 World Hunger and Poverty Facts and Statistics, FAO

Fermented milk products: Probiotics of Ayurveda, Subrahmanya Kumar Kukkupuni, Aparna Shashikumar, Padma Venkatasubramanian, Centre for Pharmacognosy, Pharmaceutics and Pharmacology, Foundation for Revitalisation of Local Health Traditions, Bengaluru, Karnataka, India, 5-Dec-2014

Awareness Desk, Benefits of Panchgavya, October 18, 2014

23.

Living Cows

Mankind's Most Valuable Food Resource

A man and his wife owned a very special goose. Every day the goose would lay a golden egg, which made the couple very rich. "Just think," said the man's wife, "If we could have all the golden eggs that are inside the goose, we could be richer much faster." "You're right," said her husband, "We wouldn't have to wait for the goose to lay her egg every day."

So, the couple killed the goose and cut her open, only to find that she was just like any other goose. She had no golden eggs inside of her at all, and they had no more golden eggs.

This is among the best known of Aesop's Fables and use of the phrase has become idiomatic of an unprofitable action motivated by greed.

Cow killing bears resemblance to the man's folly in the story. We are slaughtering cows to get beef. But cows can give much more daily. It is our obstinacy or ignorance of her contributions that makes us kill and eat her.

In 1971 Stewart Odend'hal of the University of Missouri conducted a detailed study of cows in Bengal and found that far from depriving humans of food, they ate only inedible remains of harvested crops (rice hulls, tops of sugarcane, etc.) and grass.

"Basically", he said, "the cattle convert items of little direct human value into products of immediate utility." This should put to rest the

myth that people are starving in India because they will not kill their cows. Interestingly enough, India seems to have surmounted her food problems, which have always had more to do with occasional severe drought or political upheaval than with sacred cows. A panel of experts at the Agency for International Development, in a statement cited in the United States Congressional Record for December 2nd 1980, concluded "India produces enough to feed all its people."

If allowed to live, cows produce High quality, protein rich foods in amounts that stagger the imagination. It is abundantly clear that cows (living ones) are one of mankind's most valuable food resource.

24.

Humanity Owes 'Milk-debt' To Cows

Cow And Bull As Mother And Father

A mother (or mum/mom) is a woman who has raised a child, given birth to a child, and/or supplied the ovum that united with a sperm which grew into a child. Because of the complexity and differences of a mother's social, cultural, and religious definitions and roles, it is challenging to specify a universally acceptable definition for the term.

Vedic definition of 'mother' is quite broad.

atma-mata guroh patni

brahmani raja-patnika

dhenur dhatri tatha prthvi

saptaita matarah smrtah

There are seven mothers. These are, the original mother, the wife of the teacher or spiritual master, the wife of a brahmana, the King's wife, the cow, the nurse and the earth.

Out of these seven mothers, cow occupies a special place. Our own mother nurses us for a while, but cow nurses us for the rest of our life. When we stop taking milk from our mother the cow gladly takes over. For this reason the Vedic scriptures refer to her as mother.

This is indicated in the vedic aphorism, 'gavo visvasya matarah.' As children, nearly all of us were nourished by cow's milk. Certainly one's mother is sacred and should not be killed. It is not a question

of India or America. It is a question of common sense and human consideration. If we don't have that, better to learn it from some "primitive worshippers of mythological totems".

Cow's milk is nature's special way to provide nourishment in a civilized way. The barbarians take blood by slitting throats while the civilized take milk. Milk is nothing but a transformation of flesh. It contains all the nutrients of flesh without the need for attendant violence. Milk is a peaceful and nonviolent way of supplementing our nutritional needs.

We are killing millions of cows in very brutal ways in gigantic slaughterhouses. The United Nations Food and Agriculture Organisation estimated that in 1984 229,249,000 cows and calves were killed for meat production. Since then the beef consumption has more than doubled. This is a very sinful activity. We are suffering in many ways as a result of the enormous karma thus generated.

Where would we be without a generous supply of milk, yogurt, cheese, butter, ice creams, butter milk and ghee. Since time immemorial, everything that gets cooked in the civilized world, has some relationship with these exotic products.

Mother And Father Killing Civilization

Cow has been a life-giver or sustainer of life. Oxen have pulled the plows on world's farms for centuries. Humanity can never repay the debts of these gentle creatures. Killing them in brutal ways is hardly a way to express our gratitude.

Srila Prabhupada says, "Cow is the mother that nourishes us with her milk. Bull is the father who produces grains in the fields. Bull is father also because without his uniting with cow, there is no milk. So modern civilization is a mother and father killing civilization. So how is that we are eating our father and mother? It is a great challenge. Those who are beef-eaters, they are killing their father and mother and becoming implicated in sinful life."

Even Wolves Have Regard For The Milk And Mother

The term atalyk (milk siblings) is used in ethnographic literature to describe a custom once practised in the Caucasus (a region at the border of Europe and Asia, situated between the Black and the Caspian

seas). A boy or girl, shortly after birth, was usually given by a family of greater and social standing to one of a lesser position. However, families of equal standing could do so as well.

The child and his milk siblings (that is the children who were nursed by the same woman) were taught the same customs, skills, and manners, so that a peasant knew as much as a prince.

The link established between two families, one of which received the child of another, was considered sacred and even stronger than the bond of blood. Inter-marriage between the two families, their relatives, and any people of the same surname was immediately forbidden.

When the child came of age, his return home to his natural parents was celebrated by a great feast. His duty to his milk siblings and family continued for life. He protected them from any danger, and came to their assistance in time of need. In fact, all blood and ritual relationships involve lifetime obligations, and ritual kinship is not established lightly. By contrast, merely a sexual relationship, can be dissolved.

This system of milk-siblings served to cement ties between different families, to reduce the distance between social classes, to ensure uniformity of culture, and to make peace between feuding

So this is our program. Let the cows live. We take sufficient milk. We are getting milk, one thousand pounds. One thousand pounds daily in our, one center, New Vrindaban, Virginia. So we are making various preparations from the milk, and they are very happy, and the cows are also happy. So this is one of our programs, to stop killing this important animal. And the flesh-eaters may wait a little until the cow dies. Then he gets the opportunity. Why there should be slaughterhouse maintained? As you are one of the leading citizens of Paris, we appeal to you to take up this consideration seriously. Why we should maintain slaughterhouse? If we want to eat the flesh, let us wait till the death. And there will be death. There is no doubt about it. So why they should maintain slaughterhouse? And this is most cruelty. A animal which is giving milk, so important foodstuff, and that is being killed, it does not suit any moral sense of any human being.

Srila Prabhupada (Room Conversation with Monsieur Mesman, Chief of Law House of Paris — June 11, 1974, Paris)

families. In the past, when a family was engaged in a feud and feared retaliation, they would sometimes kidnap a child and declare that they were going to raise it, thus automatically ending the hostilities. The parents of the child could not reclaim it and continue the feud, since the child in all probability had already been nursed, and milk is considered a sacred substance.

In this region, Abkhazians are known to perform the ritual with wild animals which have been annoying their homes and livestock in order to gain the goodwill of the animal. I was told that in the community of Khlou, in the region of Khodor, a wolf often attacked the cows and lambs of a shepherd in the village. In desperation, the shepherd went to search for his enemy. It turned out to be a she-wolf with a litter of cubs. He killed the she-wolf but took the little ones to his house, and when they grew up he let them go free, hoping that as their milk-father, he would be immune to wolves and that they could not possibly harm him.

It is said that the shepherd even performed the ritual, his wife sitting on a chair and permitting the cubs to touch her breasts, giving them the status of sons. Since then, the story goes, the wolves never touched his cattle and the shepherd never killed wolves. Mindful of his forest family, he always left some food in the forest for them.

The theme of milk relatives appears frequently in Abkhazian folklore. People felt that it was quite possible to make anyone a milk relative, from a wolf to a god.

Reference

Hewitt, George, ed. - *The Abkhazians: A Handbook*.

Under Siege: Inter-Ethnic Relations in Abkhazia By Tom Trier, Hedvig Lohm, and David Szakonyi.

Welcome to Abkhazia by Erwan Le Grand

25.

Just One Glass Of Milk A Day

Boosts Your Brain Power

Milk drinkers five times more likely to succeed in memory tests. Dairy products could help stave off mental decline.

Milk has long been known to help build healthy bones and provide the body with a vitamin and protein boost.

But now it's being hailed as a memory aid after a study found those who regularly have milk – and other dairy products such as yoghurt, cheese and even ice cream – do better in key tests to check their brainpower.

Scientists asked 972 men and women to fill in detailed surveys on their diets, including how often they consumed dairy products, even if only having milk in their tea and coffee.

The subjects, aged 23 to 98, then completed a series of eight rigorous tests to check their concentration, memory and learning abilities.

The study, published in the *International Dairy Journal*, showed adults who consumed dairy products at least five or six times a week did far better in memory tests compared with those who rarely ate or drank them.

The researchers said: 'New and emerging brain health benefits are just one more reason to start each day with dairy milk.'

In some of the tests, adults who rarely consumed dairy products were five times more likely to fail compared with those who had them between two and four times a week.

The researchers, from the University of Maine in the U.S., believe certain nutrients in dairy products, such as magnesium, could help to stave off memory loss.

They also suspect dairy foods may help protect against heart disease and high blood pressure, which in turn maintains the brain's ability to properly function.

Superfoods For Super Brains

As proven by this study, cow milk nourishes human brain. Body can be maintained by any kind of food but cow's milk is required to develop higher faculties of brain. Human beings are meant to enquire about the meaning of life and that requires finer brain tissues.

Cultivation of knowledge starts with a healthy brain. For this, milk is essential. Prabhupada explains, "The body can be maintained by any kind of foodstuff, but cow's milk is particularly essential for developing the finer tissues of the human brain so that one can understand the intricacies of transcendental knowledge." (*Srimad-Bhagavatam* 3.5.7)

Scientists support this view. They say that Vitamin B12 is essential to maintain healthy nerve cells. (The brain is made up of nerve cells.) A Vitamin-B12 deficiency can take years to manifest, but it is a deadly serious matter, as explained by nutrition expert Laurel Roberts. "The first signs of damage are a characteristic sore back, numbness and tingling in the feet, and diminished vibration and position sense. Then follow unsteadiness, poor memory, confusion, moodiness, delusions, overt psychosis, and eventually death."

The only natural source of vitamin B12 in a vegetarian diet is milk. (Obtaining B12 from meat products creates new problems because of the adrenalin and toxins one ingests with the meat.) In a peaceful society, therefore, milk is essential to properly maintain brain cells needed for spiritual intelligence. Prabhupada emphasizes this point again, "For such important brain tissues we require a sufficient quantity of milk and milk preparations. Ultimately, we need to protect the cow to derive the highest benefit from this important animal. The protection of cows, therefore, is not merely a religious sentiment but a means to secure the highest benefit for human society." (*Light of the Bhagavata*)

In Vedic system, knowledge is divided in two categories - material and spiritual. Material knowledge relates to this body and the physical world. Practically all the knowledge imparted in universities and all the scientific research comes in this category. Spiritual knowledge deals with the subject of spirit soul and Super Soul. Spirit soul is the active principle within the body and a part and parcel of God. Spiritual knowledge deals in incorporeal or metaphysical matters and attempts to answer subtle questions on life and universe. Who am I, where do I come from, what is the purpose of life, what happens after death, why is this world created, who is the creator and what is my relationship with Him and is there any other reality? These are some of the questions which are answered by the spiritual knowledge.

Real knowledge means to know matter and spirit and the controller of both. How to eat, sleep, mate and defend, even animals know this without attending any college. Matter is dead and material knowledge is limited to destructible physical elements.

This is where cow milk comes into picture. Great sages in ancient times survived on dairy along with some fruits and grains. They possessed super brains as evidenced by their works.

You Are What You Eat

As far as eating, sleeping, mating and defence are concerned, there is no difference between human beings and animals. Human beings perform these functions in a more polished way and therefore they can be termed as 'polished animals.' But there is a distinction. Human beings have higher faculties to reflect on philosophy and purpose of life which animals can not. This is where cow milk comes into picture. Milk is particularly essential for developing the finer tissues of the human brain. This enables one to understand the higher philosophical matters.

Therefore a civilized human being is expected to live on foods comprising fruits, vegetables, grains, sugar and milk. In human society, sufficient milk products should be available. With these products, thousands of wholesome and nourishing preparations can be made. A dull brain cannot comprehend the finer and higher aspects of life. Therefore George Bernard Shaw wrote, 'You are what you eat.' If you eat pigs, you acquire a piggish mentality, if you eat dogs, you acquire doggish traits.

Srila Prabhupada explains, “Nothing was written. Vedas were also not written. They were heard from disciplic succession. The first writing business was done by Vyasadeva. Before that, there was nothing in writing. All Vedic scriptures, they were learned by simply hearing. That’s all. The brahmacharis will live by the direction of the spiritual master and hear the class, and they will learn. That’s all, no written book, neither there was notebook. Everything was heard by students. There was no need of writing. Therefore this whole Vedic literature is called sruti. Sruti means simply hearing. There was... Even in recent years there was a learned pandita in Calcutta. There were some... In the British days there was some quarrel between two Britishers, and one of them complained to the magistrate, and the magistrate inquired, “Who is your witness?” Then one of them said that “Well, there was nobody else. But there was a pandita. He was worshiping in that bank of the Ganges. So we had some quarrel. He has heard it.” So he was called. So he stated that “I do not know what they talked because they were talking in English language, but I can produce what they talked.” So he produced the whole thing verbatim, that “He talked like this. He talked like this. He talked like this. He talked like this.” Just like record, tape record. Just see. Even some hundred years before, the memory was so sharp. Just like tape recorder, it is recorded. This is mechanical. But by nature we have got such nice brain. Just like we remember so many things of our past life. That is recorded. Actually it is recorded. Everything is recorded. How you are getting this television? Because it is recorded in the atmosphere. It is being simply transferred. Everything is recorded. But we have deteriorated in our even physical condition that we cannot produce the recorded version. So we are making ourself dull, duller, dullest. Just like Sir George Bernard Shaw, he also stated that “You are what you eat.” So by eating process, we are making our brain dull. So there is need of nice eating, nice talking, nice thinking, nice behavior. (*Lecture, Srimad-Bhagavatam 1.4.25, Montreal, June 20, 1968*)

Srila Prabhupada adds, “Those who are animal killers, their brain is dull as stone. They cannot understand any thing. Therefore meat-eating should be stopped. In order to revive the finer tissues of the

brain to understand subtle things, one must give up meat-eating.”
(*Lecture, Bhagavad-gita 2.18 - London, August 24, 1973*)

Srila Prabhupada further adds, “The brahmana (a spiritualist) cannot take any other food unless it is made of milk preparation. That develops the finer tissues of the brain. You can understand subtle matters, in philosophy, in spiritual science. Just like in a scientific college, no ordinary man can understand the scientific intricacies. They require some preliminary qualification to enter into the scientific college. They require some preliminary qualification to enter into the law college, in the postgraduate classes. Similarly, to understand the subtle or finer implications of spiritual science, one has to become brahmana (a spiritualist). (*Lecture - Los Angeles, December 4, 1968*)

Seventeenth Chapter of the Gita mentions that persons situated in different modes are attracted to different kinds of food. The Supreme Lord says: “Foods in the mode of goodness increase the duration of life, purify existence, give strength and increase health, happiness and satisfaction. Such foods are juicy and fatty, and they are very conducive to the health of the body. Food that is too bitter, too sour, too salty, too pungent, too dry or too hot causes distress, misery and disease. Such food is very dear to those in the mode of passion. Foods prepared more than three hours before being eaten, which are tasteless, juiceless, decomposing, which have a bad smell, and which consist of remnants and untouchable things, are very dear to those in the mode of darkness.” (*Bhagavad-gita, 17.8–10*)

Cow's association makes society happy, wealthy, healthy, honest, and spiritually advanced. If we really want to cultivate the human spirit, we must have intelligent men of character to guide society. And to assimilate the subtle form of transcendental knowledge, we need sufficient milk and milk preparations to develop our finer brain tissues. Ultimately, we need to protect the cow to derive the highest benefit from this important animal. Our relationship with the cow is not only symbiotic, it is sacred.

The cow is so generous, taking nothing but grass and chaff and giving the most valuable of foods in return. It gives milk just as the liberated souls bestow spiritual knowledge. The cow is a symbol of grace and abundance.

Reference

By Daily Mail Reporter, 31 January 2012

Nick Tate, 24 Mar 2015, Newsmax Health

Jennifer Cohen, Forbes Leadership, Feb 5, 2015

26.

Cows' Milk Protects Against HIV

Says Study

Cows' milk can be potentially developed into affordable creams that can help protect humans against HIV, a study has claimed.

Lead scientist from University of Melbourne Marit Kramski found that when pregnant cows were vaccinated with an HIV protein, the first milk produced by the cow after giving birth, called colostrum, produced high antibodies to protect its newborn against the disease.

Researchers were now planning to test the effectiveness and safety of the milk before turning it into a cream which will hopefully allow women to protect themselves against contracting the virus during sex, without relying on men, the Herald Sun reported.

However, the final result could be a decade off.

The researchers were able to inhibit the virus from infecting cells when combing the virus cells with milk.

“We think the antibodies bind to the surface of the virus and blocks the protein which needs to be freed to get in contact with human cells — like a key and lock system. If the key's not accessible or you change the key, you can't open the door,” Kramski said adding “It's a very cheap and easy way to produce a lot of antibodies.”

Kramski had partnered with Australian biotechnology company Immuron Ltd to develop the milk, and would continue working with them to produce a preventative cream.

“We have the antibodies at the moment — the next step will be formulation,” Kramski said.

Condoms were “cheap and easy” but not an option for everyone with millions of people getting infected with HIV every year, she added.

“A lot of women, especially in Africa or South America they don't have the power to say you need to use a condom before we have sex.

“This milk looks like it can be a cheap, easy new prevention tool, because if you use drugs it's really expensive,” she said.

Source

The Daily Mail, 24 October 2012

PTI, October 17, 2012, The Hindu

Fresh Science, 18 OCT 2012, Science Alert

27.

Cancer And Parasitic Diseases

Scientists Zeroing In On The Good Old Milk

For treatment of cancer and parasitic diseases, scientists from India and Australia are zeroing in on the good old milk. In a collaborative effort between the Department of Parasitology at PGI, and Deakin University, Australia, experts are studying the effect of lactoferrin, natural protein in the milk, on cancer causing cells and resistant infections.

In the tests, the drug (lactoferrin) will be delivered to target cells through nanotechnology. Speaking to Newline on the sidelines of an ongoing conference on parasitology at PGI, Prof Jagat Kanwar, faculty member at Deakin University, said, “In Australia, we have conducted some work on lactoferrin derived from cow’s milk, and the results are encouraging. We want to replicate the same at PGI, and want to see if results are positive here as well.” “As buffalo milk is consumed more in India, we will take lactoferrin from buffalo milk here. If found effective, this protein has a great potential as an anti-cancer molecule,” Prof Kanwar added.

Also, the side effects of such treatment, according to Prof Kanwar will be far less than chemotherapy, as toxicity levels will be reduced. Prof R Sehgal of the Department of Parasitology said the study has begun at PGI and results should be out in a few years.

Cow Milk - Nature's Most Perfect Food

Source

By Deakin Research Communications, 01 Dec 2009

Neelam Sharma, Chandigarh, Nov 18 2009, Indian Express

28.

Camel Milk

Nutrition In The Lifeless Desert

By Dr. Weston Price

The Arabs in several districts use camels' milk extensively. It is nutritious, and in much of the desert country constitutes the mainstay of the nomads for months at a time. The primitive Arabs studied had fine dental arches with very little deformity.

Even the horses ridden by the Arab chiefs in moving their camel herds across the desert are often dependent, sometimes for as long as three months, upon the milk of the camels for their nutrition.

The primitive Arab girls have splendidly developed faces and fine dental arches. Their natural beauty, however, is rapidly lost with modernization.

In the hot desert countries of Asia and Africa camel's milk is an important item of human nutrition. The teeth of the Arabs are excellent. Large areas could not maintain human life without the camel and its milk.

Both girls and boys in the modernized colonies in Cairo showed typical deformity patterns in faces and dental arches. The health of these groups is not comparable to that of those living on the native dietaries. Reproductive efficiency in these generations is greatly reduced.

Source

Nutrition And Physical Degeneration, Dr Weston Price, Price-Pottenger Nutrition Foundation: 9780916764203: Amazon Books.

29.

A Motherless Child

Finds A Foster Mother

This is story of Tha Sophat, a 20-month-old boy living in Koak Roka village in Siem Reap province of northwest Cambodia. He was left behind by his parents when he was only 18 months old. The parents traveled to Thailand in search of work and asked the grandfather Um Oeung to take care of him.

After the mother left and the boy stopped breast-feeding, he became ill and malnourished – until he noticed a calf nursing from a cow. The boy decided to suckle the cow and has done so ever since that day.

Grandfather Um Oeung pulled the boy away at first. He relented after the boy cried piteously and allowed him to continue suckling.

Villagers found it somewhat uncommon and tried to advice the grandfather but the grandfather expressed his inability to stop his grandson.

He feels that Tha Sophat's health is fine, he is strong and seems to be better off than most other children in the village.

This child is practically surviving on the cow's milk, hardly eating or drinking anything else. The cow doesn't seem to mind it either.

Boy Nursing From Cow - Beautiful or Disturbing?

The photos have been circulating around the Internet and many people have called them “disgusting,” “unprintable,” “unhygienic.” It is understandable why these photos might make some people uncomfortable because a child suckling from a cow is an unusual

sight. But these photos are simply unusual, not disgusting. This is a beautiful story except for the people who are used to seeing cows as hamburgers and drinking industrialized milk. The poor boy was abandoned by his mother. He was starving and missed the comfort of suckling. He made an impressive cognitive leap from mother's breast to cow's udder and as a result he's enjoying fresh, raw milk. His health is a testimonial that what he is doing is right.

Those who have never lived with a real cow or tasted real milk, for them it may be hard to understand this personal and intimate account. Lucky for us, the boy Tha Sophat was born in Cambodia and not in Canada, US or Australia. Otherwise state would have taken him away for indulging in this insane thing.

30.

Udder Madness!

Pampered Cows Produce Britain's Most Expensive Milk

Milked only by hand to the sound of sacred mantras, these garland-wearing cows could be the most pampered in the UK.

But they are producing the most expensive milk in the land, costing £1.70 per pint - nearly four times more than usual.

The animals are being reared on a farm run by Hare Krishnas meaning, as per Hindu rules, that none must come to any harm.

As a result, none will ever be slaughtered when their yield dries up.

Mechanical milking pumps are banned from the manor. Instead, milking is carried out by hand so that the cows are not distressed

Even male calves will be spared the butcher's cleaver and not be fattened for their meat. They will live out their natural lives tilling the land and transporting food and waste around the farm.

Their comfortable existences begin at birth. Each new arrival at Bhaktivedanta Manor, near Watford in Hertfordshire - which was donated to the Hare Krishna movement by George Harrison - is celebrated before a naming ceremony is held several days later.

It seems like a business model doomed to failure but those producing Ahimsa Milk - Sanskrit for 'without harm' - believe the good karma, or perhaps cowma, that goes into their produce will win over British animal lovers.

'This premium milk will offer consumers the chance to avoid buying from an industry which is based around slaughter and suffering

and instead buy from a fresh, new, and compassionate alternative,' says spokesman Radha Mohan Das.

'People are prepared to pay extra for organic and more healthily produced milk and we think our products will appeal to anyone who cares about animals.'

'This premium milk will offer consumers the chance to avoid buying from an industry which is based around slaughter and suffering and instead buy from a fresh, new, and compassionate alternative,' adds Radha Mohan Das

'Instead of taking calves away from their mothers early to yield more milk we allow them to suckle and take their fill as long as they like.

'We also carry out all of our milking by hand because milking machines can be painful for dairy cows.

'Sacred mantras are played whenever the cows are milked and we allow them to live out their natural lives even when their supply dries up. Normally, dairy cows are killed when they can no longer provide milk but in Hinduism cows are revered as a symbol of Mother Earth.

'Although it won't be the cheapest available it will be worth the cost because we will treat the cows with love and care throughout their lives.'

At present there are 44 Dairy Shorthorn cows. The females will not be given hormones to increase their yield and will produce just under 1,800 pints per week, generating a turnover of around £3,000.

A pint of milk at a supermarket normally costs around 45p.

They are being housed at a £2.5million centre, named New Gokul, which has taken five years to complete and was officially opened by 30 priests chanting 5,000-year-old Vedic mantras.

It has three barns, constructed from imported French oak, an ox mill for grinding grain, and a milking area, all with viewing areas for visitors.

The manor is home to 75 people, including 35 monks and nuns, as well as employees.

It was donated to the Hare Krishna movement in the early 1970s by Harrison, along with 78 acres of land including formal gardens and a lake.

It first hosted the Janmashtami festival, which celebrates the birth of Lord Krishna, in 1973 and was attended by 250 people including the ex-Beatle and Eric Clapton.

The festival is now the largest of its type in the UK and attracts tens of thousands of visitors each year.

Source

(Daily Mail Reporter, 9th November 2010)

31.

Religion You Can Drink

by Suresvara dasa

We've all experienced the sweet taste and nutritional benefits of milk. Few of us are aware of its finer qualities.

"It's fitness you can drink," say the billboards, as a sportsman goes diving for a ball. The milk ads these days hit us right where our focus is - the body. For ages, though, India's sages and scriptures have offered us a spiritual reason to drink milk. From the spiritual perspective, therefore, a more appropriate billboard ad might be: "Milk. It's religion you can drink." What does milk have to do with religion? Let's go to God's country -- where cows make milk -- and find out.

The sun shines on our hillside pasture, green and serene against the morning sky. Bells tinkle where the cows munch fresh grasses and drop their fertile compliments to the earth. Sometimes the cows team up to lick and nuzzle each other, or to tail-whisk the flies. Now ruminating with half-closed eyes, the cows look a little like sages themselves. Their meditation: making milk.

Cows make milk from their blood. The blood carries the products of digestion and absorption to the udder, which changes the raw materials into milk components. To make fifty pounds of milk in a day, a cow must pump some ten tons of blood through her udder. That's why all the grazing and cud-chewing.

But exactly how that grass turns into milk is as mystical as life itself. "Within your body, by mystic power, you can transform food

into blood and tissue,” writes Srila Prabhupada, the Hare Krsna movement’s founder and spiritual master. “Similarly, by mystic power, the cow eats grass and produces milk.”

Scientists say that the chemicals of life vary in their proportion and distribution from one species to another, and that a specific biochemical condition accounts for the cow’s producing milk.

“But who produced those chemicals and that arrangement?” Prabhupada presses. “You cannot produce milk from grass in your laboratory. But the cow can give you milk by mystic power.”

Twice daily our ruminating mystics enter the barn to let down their milk. Giving milk is a function of motherhood; kindly treatment helps the flow. And so our milkers sing to the cows as they go, handling each mother with care as they draw the sweet liquid from her body. From nature’s lab comes miraculous milk. The single most important article of food for the maintenance and health of both child and adult,” proclaims *The Mother’s Encyclopedia*. “The most valuable food we have,” advises the Red Cross. “Contains almost all the food elements that the human being needs,” says Dr. Spock. All the elements a milk marketer needs, too. Hence the blizzard of ads. We are reminded that “you never outgrow your need for milk.” We are encouraged by some athlete with milk on his upper lip to “wear a moo-stache.” We are exhorted by trim, glamorous movie stars to drink milk and “be somebody.”

“Hold on!” the sages announce. “You’re not that body; you’re the soul within. If you miss that point, you’ll miss all others -- like the spiritual value of cow’s milk.” Take it from the sages -- cow’s milk is God-given nectar. It fortifies the body and develops the brain’s finer tissues as well. By filling us with goodness, milk clears the consciousness so we can consider higher, spiritual life.

In ancient India, early in the morning at milking time, the sages would approach the dairymen for a pound or two of milk. The villagers would welcome these holy men, who would enlighten them with sublime, spiritual knowledge. Their inspiration: Lord Krsna, the Supreme Personality of Godhead.

“As the sun alone illuminates all this universe,” says Kṛṣṇa in the Bhagavad-gītā, “so does the living entity, one within the body, illuminate the entire body by consciousness.”

Consciousness is the symptom of the soul. Though we cannot see the soul inside the body, we can perceive its presence by consciousness. During the dawn milking, we can't see the sun, but we can perceive its presence by the early light. Similarly, the presence of an individual consciousness illumining all living bodies -- whether man or animal -- indicates the presence of the soul. Each soul, though divine, displays different powers according to its bodily circumstance. The soul embodied as a cow, for instance, can turn grass into milk. And the soul embodied as a human being can turn his consciousness toward God.

It's natural to remember God in the country, whose beauty reflects His eternal kingdom. The Bhagavad-gītā and other Vedic literatures describe the kingdom of God as a spiritual wonderland, where everything is possible in loving service to Kṛṣṇa. The “desire trees” there yield any fruit upon request, and the surabhi cows, beyond the constraints of flesh and blood, give a limitless supply of milk. The Lord keeps many such cows, and in His transcendental form as a cowherd boy. He herds them.

“Lord Kṛṣṇa and His cowherd friends entered the forest to enjoy the new, seasonal atmosphere,” the sage Sukadeva relates in the Srimad-Bhagavatam. “The cows, being fed by new grasses, became very healthy, and their udders were all very full. When Lord Kṛṣṇa called them by name, they immediately came to Him out of affection, and in their joyful condition the milk flowed from their udders.”

Sadly, though, the cries of the cows in the modern slaughterhouses mock the country's reflection of Kṛṣṇa's peaceable kingdom. We've heard that “man is made in the image of God,” and so we hold human life sacred and religiously protect a person's right to live. But the cow, made in the image of the Lord's beloved surabhis, also protects us by supplying us nourishing milk. Shouldn't we protect her, too?

Srila Prabhupada comments, “By God's grace, the innocent cow is simply eating grass and supplying the finest food, milk. The cow's blood is very nutritious, but a civilized person uses it in the form of milk. From milk, we can make so many things -- yogurt, cheese,

butter -- and by combining these products with fruits, vegetables, and grains, we can make hundreds of wholesome preparations. That is civilized. Not spilling the cow's blood in big slaughterhouses and eating her flesh.

“So protect the cow,” Srila Prabhupada continues. “Don't be ungrateful. That is Krsna's advice. From infancy, we are drinking the cow's milk, and if in return we cut her throat, that is barbaric, less than animal. Even an animal respects its mother. But the 'civilized' men are doing that -- killing mother cow. And they want peace. Just see the fools. They are less than the lowest animal.”

The message is clear. Milk -- a product of the cow's goodness -- enriches human consciousness. Meat -- a product of man's ignorance -- degrades it. That's why meat-eaters, even if they drink milk, cannot understand the Supreme Personality of Godhead.

So draw your nourishment from the cow, say the sages -- not by spilling her blood, but by drinking her milk -- and listen to the messages of Godhead. There's a limit to the amount of milk you can drink, but there's no limit to how much you can hear about Krsna. And the more you hear, the more you grow in spiritual understanding. Such is the milk of Krsna's kindness. And that's religion you can drink forever.

Source

January 1st, 1985 | Suresvara Dasa, Varnasrama—Simple Living, High Thinking, Volume-20 Number-01, Back To Godhead

32.

Ungrateful Humanity

Hoping Against Hope For Peace

We kill cows and other animals but they never come to us requesting for food. By nature's arrangement, by God's arrangement, cows and other animals live on grass of which there is profuse supply. They do not eat our foods, rather we make nice preparations from the milk they deliver. Cows convert grass, a worthless thing into milk, a very valuable food. But instead of utilizing her milk, we are utilize her blood. Milk is nothing but transformation of blood and the civilized way to utilize blood is through milk.

By nature's arrangement, by God's will, a cow delivers several pounds of milk but she does not drink an ounce of it although it is her milk! She gives it all to us with only one request, "Take my milk but don't kill me. Let me live, after all I am eating only grass which is of no use to you and delivering in return the most valuable commodity." And the so called civilized beings are inventing sophisticated technologies to kill them in gigantic slaughterhouses and making plans how to kill more and more of them. And they want peace!

Now a days many mothers are unable to breast-feed their newborns due to various reasons. And some mothers are able to do so only for a short time due to job and other constraints. It is the cow which takes up this function. All baby feed formulas are based on cow milk. So from the time we are born we take cow's service and later we kill her.

Where is our gratitude? And we think we are civilized. According to vedic injunctions, cow killers fall in the category of naradhamas, lowest of the mankind.

- Srila Prabhupada

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Dr. Sahadeva dasa (Sanjay Shah) is a monk in vaisnava tradition. His areas of work include research in Vedic and contemporary thought, Corporate and educational training, social work and counselling, travelling, writing books and of course, practicing spiritual life and spreading awareness about the same.

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Many of his books have been acclaimed internationally and translated in other languages.



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Milk is one of our most ancient foods. It is also one of the most controversial ones. This controversy is a recent phenomenon. It stems from our disregard for animal rights and the impact of processed milk on human health.

Opponents of milk are right when they point out the abuse of dairy cows and the extreme processing the milk undergoes.

At one time, milk was one of the more natural processes in farming. A bull would impregnate a cow—an actual bull, before the age of artificial insemination. She was pregnant for nine months and then a baby cow was born.

Afterwards, from the calf's birth, the farmer would milk the excess dairy by hand, for drinking, butter and maybe cheese. That's it. But with the rise of factory farming, milk is now a most unnatural operation. Today's average dairy cow produces six to seven times as much milk as she did a century ago.

Should we blame the milk or ourselves for this mess?

And our mishandling of food is not confined to milk alone. Most of our food now is industrially farmed and processed. Industrialization has destroyed our food.

And the result is not very difficult to perceive. According to a study published in *The Lancet*, we are living in a sick world. More than 95% of us are ill. Over 95% of us have health problems, with over a third having more than five ailments. Just one in 20 people worldwide (4.3%) had no health problems in 2013.

The findings come from the largest and most detailed analysis to quantify levels, patterns, and trends in ill health and disability around the world between 1990 and 2013.

Happiness lies first of all in health. Failing on health front means we fail on every other front. A thing is judged by the result. All our technological, scientific advancement and all the talk of development is hogwash. Because it's killing us and it's killing the planet.

We have no idea what we're doing. Life is really simple, but we insist on making it complicated. Life is only as complicated as we make it and it's so easy to make life complicated.

What has worked for countless generations will work for us also. There is hardly any need to reinvent the wheel.

Let us get back to good ol' milk. Milk has always stood for motherhood and for life.

www.cowism.com

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