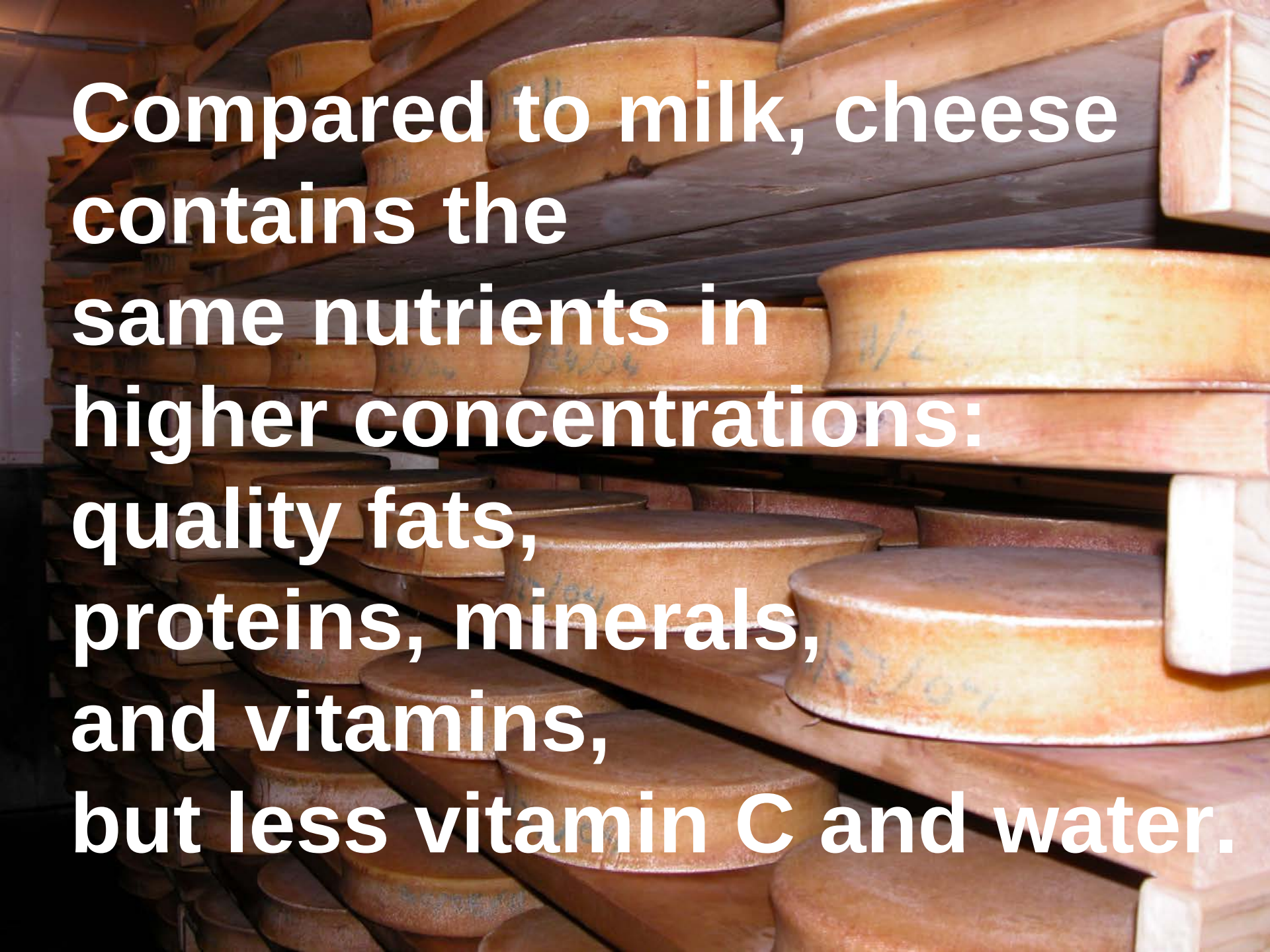
Cheese and Nutrition

www.max-mccalman.com

Cheese is derived from milk - our first and only food for the first several weeks or months of our lives.

Cheese is recommended for its high nutritional value. With fruit and vegetables cheese offers a near-complete diet.



Compared to milk, cheese contains the same nutrients in higher concentrations: quality fats, proteins, minerals, and vitamins, but less vitamin C and water.

The relative amounts of nutrients vary among different milks. Once crafted into cheese the amounts change.

Pasteurization reduces some nutrients significantly and/or their bioavailability.

Generally, goat milk has more vitamin A & D, and less B12, Folic acid, Zinc and CLA.

Cow milk has more Folic acid & Zinc, and less vitamins A & D.

Sheep milk has more protein, Calcium, CLA, and vitamins B 2 & B 12, and less Sodium.

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Milk Composition

Els Formatges de Catalunya

Constituent	Cow	Sheep	Goat	Buffalo
Water	87.5	80-84	86-88	78-86
Fat	3.5-4	5.0-7.0	4.0	6.0-9.0
Caseins	2.5	4.4	2.3	
Whey proteins	0.5	1.05	0.5	
Lactose	4.4-4.8	4.5-5.0	4.5-5.5	4.6-4.9
Salts	0.9	1.0-1.2	0.9-1.0	0.8-0.9
pH	6.5-6.7	6.3	6.8	6.6-6.7
Freezing	-0.55 °C	-0.56 °C	-0.57 °C	

per 3.5 oz. egg	per 3.5 oz. soft cheese
0.4 oz. protein	0.7 oz. protein
1.0 oz. fat	0.8 oz. fat
65 mg Calcium	150-380 mg Calcium
156 kcal energy	260-350 kcal energy

From French Cheeses:
Nutritional Values

per 3.5 oz. egg	3.5 oz. cooked, pressed cheese
0.4 oz. protein	1.0 oz. protein
1.0 oz. fat	1.0 oz. fat
65 mg Calcium	900-1100 mg
156 kcal energy	390-400 kcal

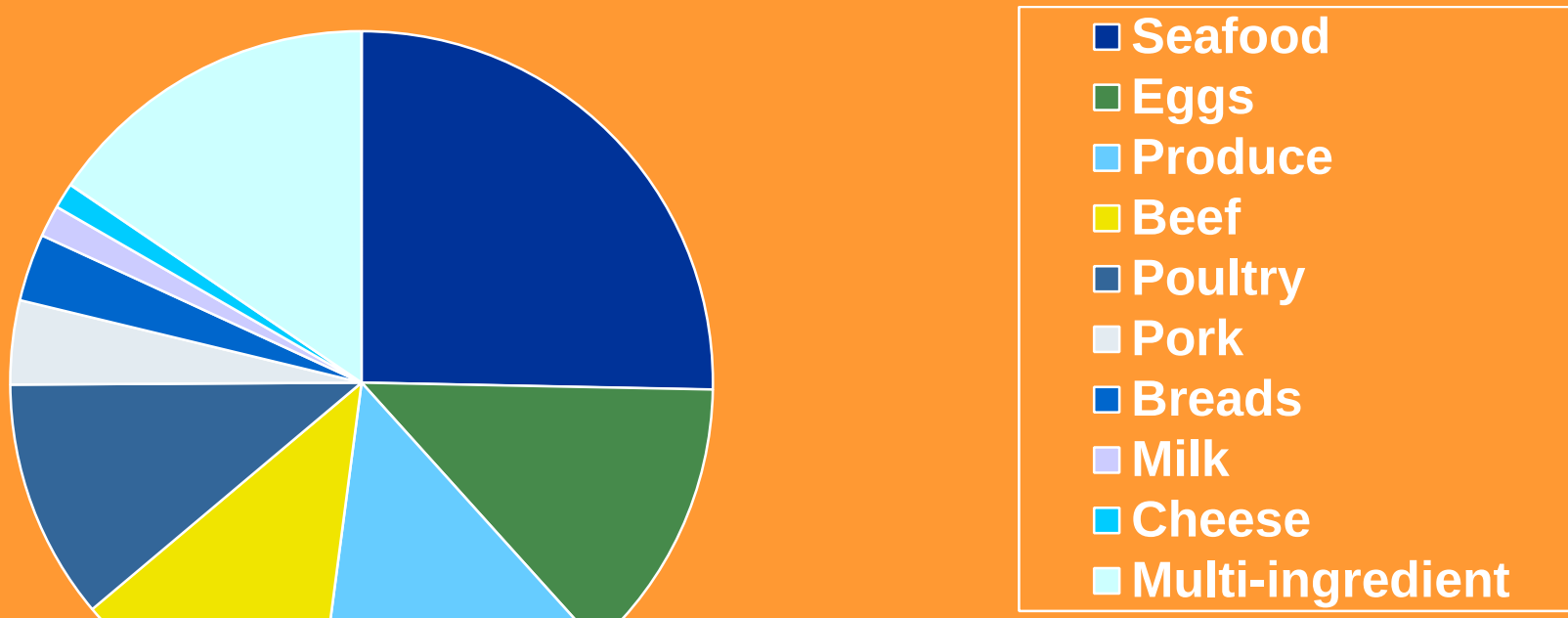
In the first step of cheese making lactose is converted into lactic acid.

Most of the remaining lactose is drained away with the whey.

The trace amount remaining is gradually acidified.

The pH reduction (more acid) resulting from cheesemaking (fermentation) suppresses pathogenic bacteria.

Foodborne Illness Outbreaks:



Raw milk contains a diversity of microbes; most are desirable but some of are not.

The fats break down into fatty acids such as CLA - a potent anti-oxidant.

Conjugated Linoleic Acid has been shown to kill human skin cancer, colorectal cancer and breast cancer cells *in vitro* studies.

CLA may reduce body fat (*some studies show that it also reduces abdominal fat*). CLA may improve serum lipid profiles and decrease glucose uptake. CLA may help lower cholesterol and prevent atherosclerosis.

There are several types of CLA. The type found most abundant in dairy appears to be the champion cancer fighter, cis-9, trans-11.

Significant levels are found only in milk from grass-fed dairy animals.

CLA has demonstrated several benefits In animal studies including:

Increase in lean muscle mass
Reduced risk of diabetes
Reversal of arteriosclerosis
Marked reduction in tumor growth

In general:
The longer the cheese is aged, the lower the CLA.
B. linens cheeses and high-fat cheeses have more CLA.
Sheep milk has higher CLA content than cow milk, which has more than goat milk.

Other fatty acids derived from cheese include essential fatty acids such as Omega-3's.

The proteins in milk undergo proteolysis during cheesemaking and aging, breaking them down into easily absorbed and better utilized amino acids - the building blocks of proteins.

The full complement of amino acids is found in milk.

Cheese aids in weight control by reducing appetite.

Tyrosine is a precursor of the neurotransmitters norepinephrine and dopamine, which regulate mood among other things. A lack of adequate amounts of tyrosine leads to a deficiency of norepinephrine in the brain, which can lead to depression.

Cheese is a near-complete,
a **near-perfect**, food.
The nutrients work synergistically
and may be assisted with consumption of moderate amounts of wine or beer.