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The little book of micronutrients



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Micronutrients

Vitamin A (Retinol)

MAIN SOURCES

Cod liver, goat's milk products, butter, egg yolk, carrots, pumpkin, lettuce, chicory, apricots, nectarines

IMPACT

Healthy growth, cell protection, functioning and protection of skin, eyes and mucosa

DEFICIENCY

Growth retardation, night blindness, lack of appetite, infections, respiratory diseases and diarrhea, dryness of eyes



Vitamin B1 (Thiamine)

MAIN SOURCES

Wheat sprouts, whole grain products, peas, yeast, oats, brown rice, leeks, kale, fennel, black salsify, brussel sprouts, spinach, asparagus, zucchini, savoy cabbage

IMPACT

Important for nervous system, for treatment of liver damage and inefficiency, during pregnancy, mosquito repellent, energy generation in the body, influences carbohydrate metabolism, important for the thyroid gland

DEFICIENCY

Severe muscle and nerve disorders, chronic fatigue, bowel disorders, diarrhea, lack of appetite, edema, cardiac insufficiency, cramps, paralysis, tingling sensation in arms and legs (the disease is called 'beriberi' which translates into sheep-walk, obviously a hint to the strange walk of the sick.)



Vitamin B2 (Riboflavin)

MAIN SOURCES

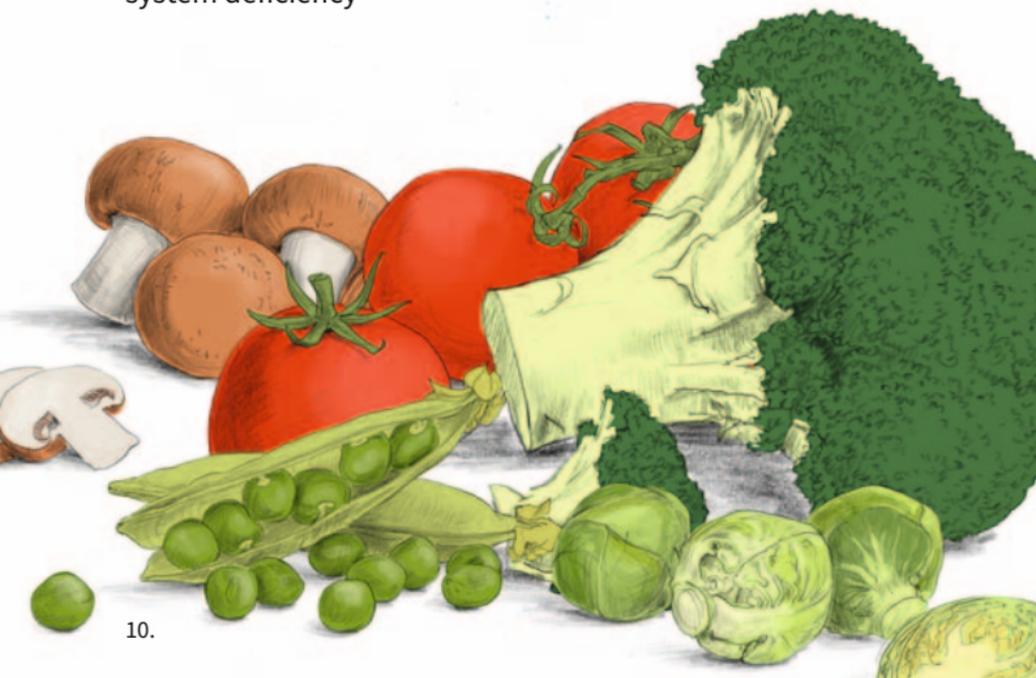
Goat's milk products, pumpkin seeds, whole grain, cheese, eggs, marine fish, swiss chard, brussel sprouts, tomatoes, kale, peas, mushrooms, broccoli

IMPACT

Important for growth, breakdown of fats, proteins and carbohydrates, good for the skin, eyes and nails, important energy and oxygen supplier

DEFICIENCY

Skin inflammation, brittle nails, anemia, corneal opacity, mouth lacerations, headache, fatigue, eczema, immune system deficiency



Vitamin B3 (Niacin)

MAIN SOURCES

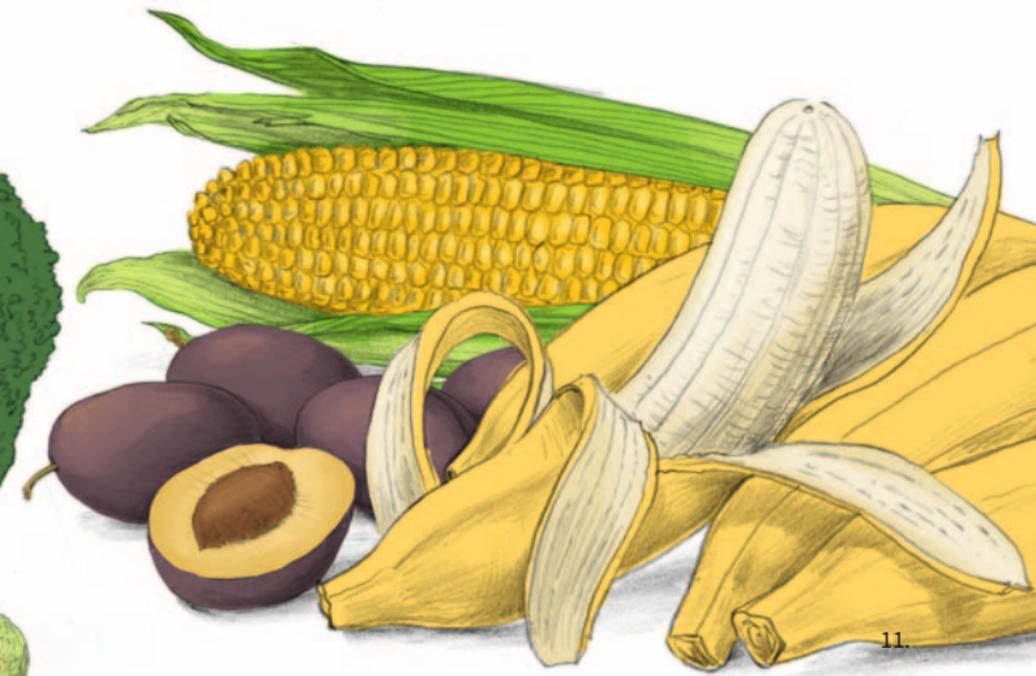
Yeast, peanuts, peas, fish, corn, plums, bananas

IMPACT

Breakdown of fat, protein and carbohydrates, good sleep, relaxed mood, nerves

DEFICIENCY

Skin and mucosal inflammation, headaches, tremors, insomnia, dizziness, depression, tingling, numbness of extremities, calluses, increased irritability, itching, abnormal thinking, lack of appetite, lack of concentration



Vitamin B5 (Pantothenic acid)

MAIN SOURCES

Asparagus, peas, mushrooms, corn, sunflower seeds, water melon, plums, broccoli, cauliflower

IMPACT

Prevents greying, alopecia, skin and mucosal disorders, breakdown of fat, protein and carbohydrate, cell protection

DEFICIENCY

Nerve disorders, bad tissue repair, cavities, weak immune system, sleeping disorders, depression, anemia, restlessness, muscle pain



Vitamin B6 (Pyridoxine)

MAIN SOURCES

Bananas, nuts, whole grain products, yeast, potatoes, green beans, cauliflower, carrots, brussel sprouts, celery, spinach, savoy cabbage, kale

IMPACT

Helps with motion sickness, nerve pain, liver damage, premenstrual syndrome, protein digestion, important during pregnancy together with folic acid, detox

DEFICIENCY

Intestinal problems, bad skin, fatigue, cracked lips, inflammation in the oral mucosa, scaly rashes



Vitamin B7 (Biotine, Vitamin H)

MAIN SOURCES

Cauliflower, mushrooms, whole grain products, eggs, avocado, spinach, milk, onions, peas, blackberries, apples, raspberries, oranges, grapes, mangoes

IMPACT

Skin disorders, hair growth damage, liver damage, supports metabolism, is needed in conjunction with vitamin K for blood clotting, supports carbohydrate and fatty acid metabolism in skin and mucous membranes

DEFICIENCY

Exhaustion, skin inflammation, muscle ache, alopecia, weak finger and toenails, tiredness, nausea



Vitamin B9 (Folic Acid, Vitamin M)

MAIN SOURCES

Pumpkin, mushrooms, spinach, avocado, pears, cherries, lemons, leeks, strawberries, blackberries, gooseberries, grapes, raspberries, bananas, eggplant, cucumber, potatoes, kohlrabi, savoy cabbage, brussel sprouts, radish, zucchini, beetroot

IMPACT

Helps with liver damage, cell division, protection and growth of muscles, protein metabolism, tissue build up

DEFICIENCY

Anemia, poor digestion, weak hair, skin and cartilage growth, nausea, poor concentration, insomnia



Vitamin B12 (Cobalamin)

MAIN SOURCES

Goat's milk, fish, egg yolk, yeast, muesli

IMPACT

Building of nucleus substance, production of red blood cells, nerve pain, skin and mucosal diseases, liver damage

DEFICIENCY

Anemia, nerve malfunctioning, nervous disorders, bad for spine and lung functioning, poor digestion, depression, forgetfulness, headache, dizziness



Vitamin C (Ascorbic Acid)

MAIN SOURCES

Rose hips, parsley, seabuckthorn, radishes, mangoes, leeks, chinese cabbage, pineapple, citrus fruits, grapes, gooseberries, currants, green peppers, strawberries, spinach, asparagus, blackberries, pears, apples, artichokes, rhubarb (almost every fruit and vegetable worldwide contains Vitamin C)

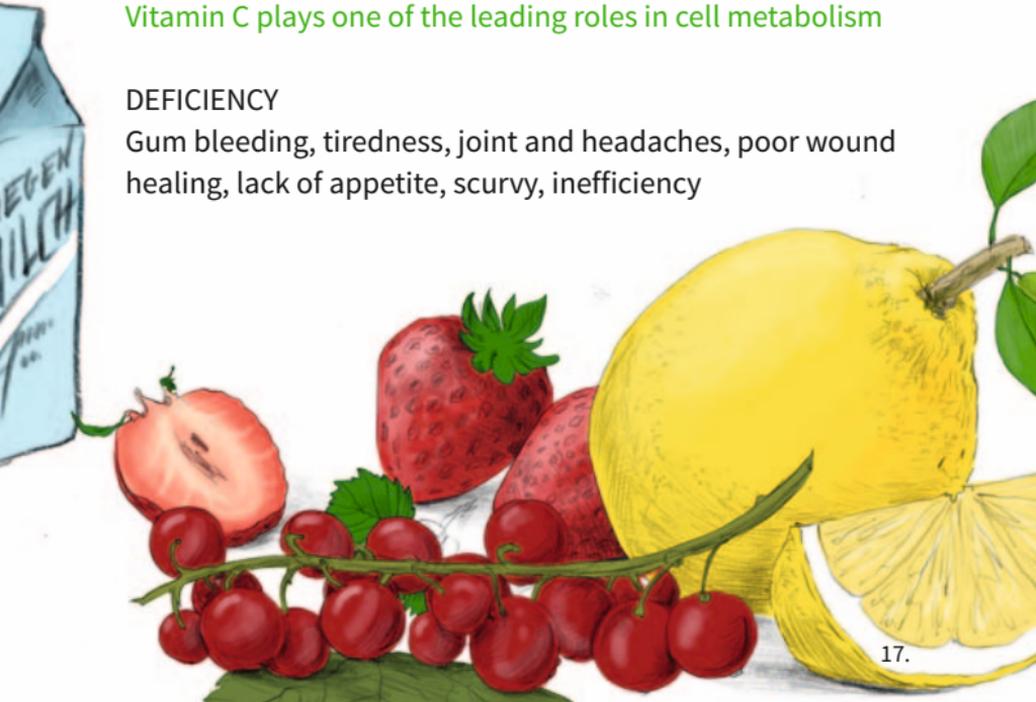
IMPACT

Stops inflammation and bleeding, supports the immune system, protects cells against chemical damage, activates enzymes, builds connective tissue, bones and dental enamel, fast wound recovery, stabilizes the mind.

Vitamin C plays one of the leading roles in cell metabolism

DEFICIENCY

Gum bleeding, tiredness, joint and headaches, poor wound healing, lack of appetite, scurvy, inefficiency



Vitamin D (Calciferol)

MAIN SOURCES

Cod liver oil, goat's milk, egg yolk, butter, sea fish, herring, mushrooms, avocado. **The body can produce it's own vitamin D with sunlight.**

IMPACT

Facilitates calcium and phosphate balance, building of bone cells, encourages calcium absorption, supports immune system, building of bones, teeth and muscles, supports cell division and all metabolic processes, absorption of calcium and phosphorus

DEFICIENCY

Weak bone structure, Osteomalacia, increased susceptibility to infections, low muscle tone, sleeping disorders, nervousness, irritability



Vitamin E (Tocopherol)

MAIN SOURCES

Sunflower oil, olives, avocado, wheat germ, hazelnuts, flaxseeds, black salsify, hot peppers, kale, green peppers, spinach, savoy cabbage, fennel, red and white cabbage

IMPACT

Strengthening of the immune system, anti-inflammatory, cell renewal, protection against free radicals, regulates cholesterol and hormone levels, important for blood vessels, muscles and reproductive system

DEFICIENCY

Amblyopia (lazy eye), tiredness, muscle atrophy, mood swings, sexual dysfunction, digestive system disorders, high susceptibility to infections



Vitamin K (Phylloquinone)

MAIN SOURCES

Eggs, kale, white cabbage, spinach, zucchini, onions, oats, kiwi fruit, tomatoes, cress, celery, radishes, rhubarb, leeks, lettuce, potatoes, cucumber, fennel, peas, beans, cauliflower, peaches, plums, grapes

IMPACT

Needed for healthy blood clotting

DEFICIENCY

Blood clotting disorder. Vitamin K can be generated in the intestines, but the body needs additional Vitamin K from nutrition.



Iron

MAIN SOURCES

White cabbage, nuts, egg yolk, black salsify, spinach, swiss chard, red cabbage

IMPACT

Oxygen supply, blood formation

DEFICIENCY

Growth disorders, low muscle tone, anemia, cracked lips, tiredness



Calcium

MAIN SOURCES

Goat's milk products, almonds, bananas, parsley, white cabbage, fennel, spinach, kale, broccoli, nuts, watercress

IMPACT

Stability of bone and teeth, nerves and muscle cells, blood clotting, anti allergen

DEFICIENCY

Osteoporosis, rickets, muscle weakness, poor kidney function, incontinence, alopecia, dry skin, digestive disorders



Potassium

MAIN SOURCES

Bananas, plums, mushrooms, dates, beans, potatoes, fish, apricots

IMPACT

Regulates water balance in the cells, resorption of carbohydrates, protein production, treats irregular heart beat and cardiac insufficiency

DEFICIENCY

Low muscle tone, disturbed heart function, gastrointestinal problems, constipation, enteroparesis, irregular heart beat, fainting, muscle cramps



Magnesium

MAIN SOURCES

Nuts, oats, grains, milk, bananas, mineral water, kohlrabi, spinach, oranges, berries, sunflower seeds, swiss chard, corn, dates

IMPACT

Energy supply, beneficial for muscles and bones, prevents cramps, beneficial in stress and restlessness, adrenaline supply, enzyme activation, lowers cholesterol levels

DEFICIENCY

Cramps, irritability, concentration disorders, digestive disorders, cold feet, weakness, tiredness, restlessness, headache



Sodium

MAIN SOURCES

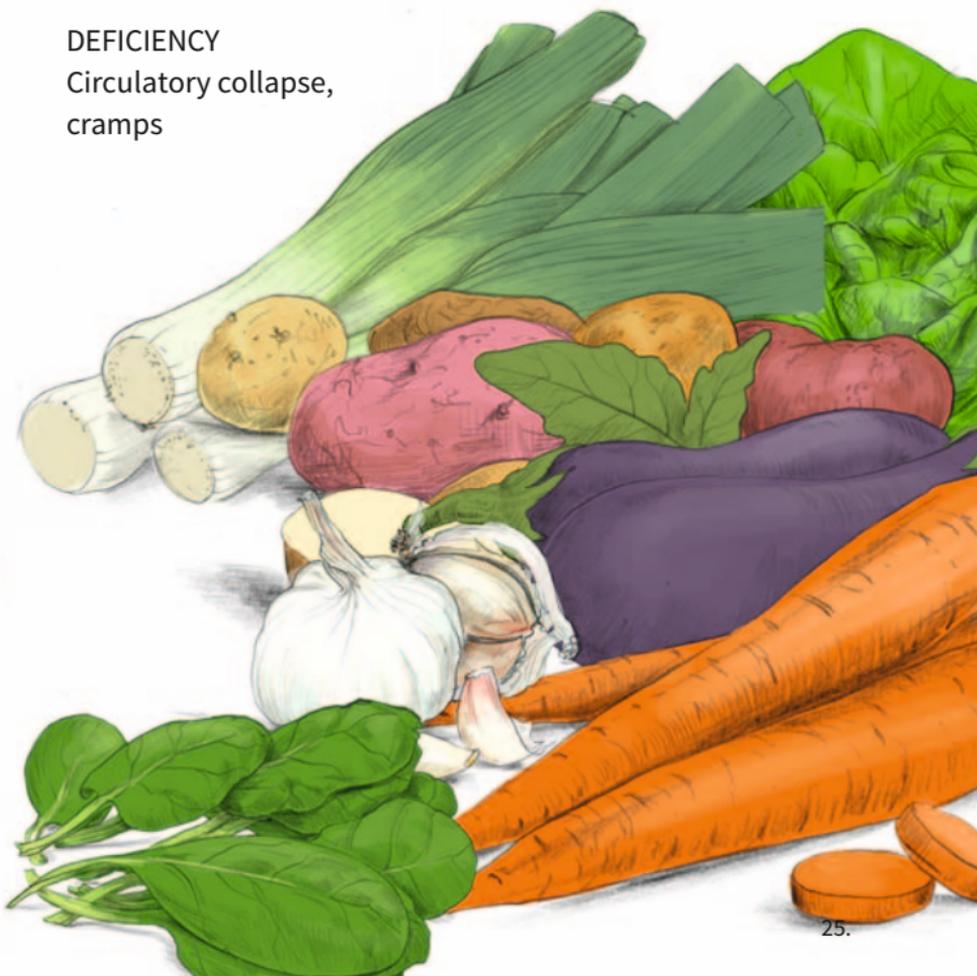
Carrots, spinach, potatoes, eggplant, lettuce, leeks, garlic

IMPACT

Regulation of water level, blood pressure, absorption of amino acids and sugar

DEFICIENCY

Circulatory collapse, cramps



Phosphorus

MAIN SOURCES

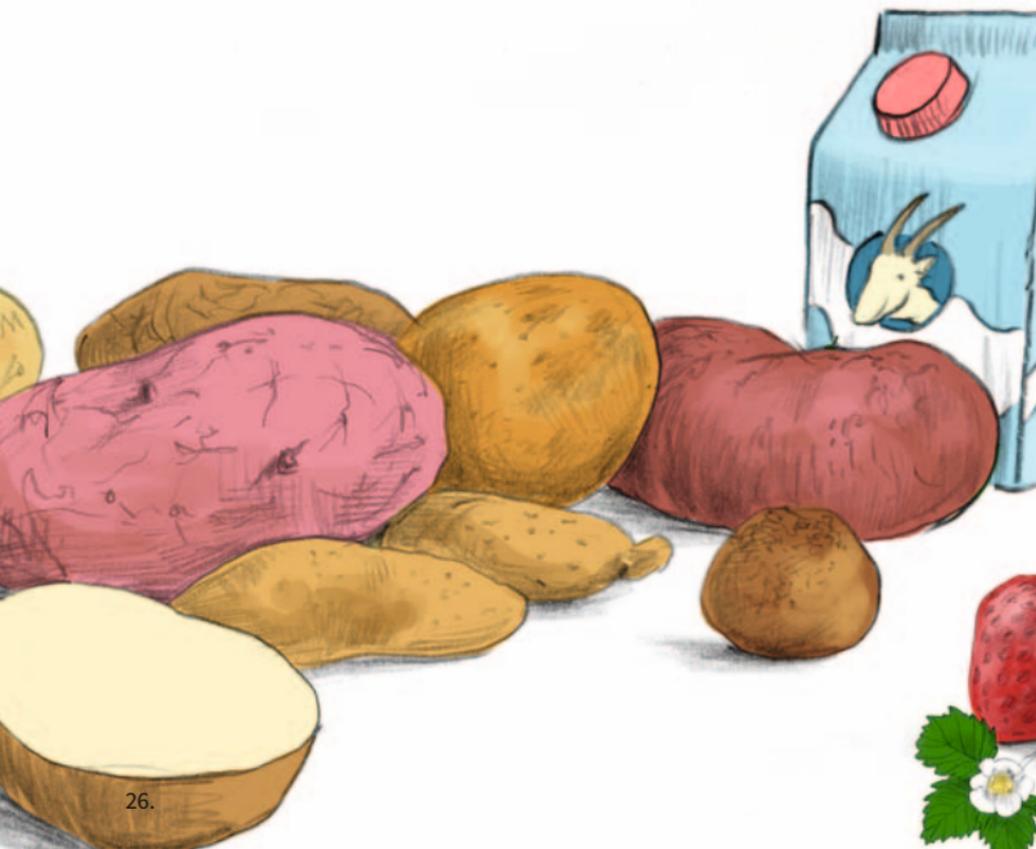
Potatoes, bread, kelp, goat's milk

IMPACT

Energy supply and utilization, preservation of teeth and bones

DEFICIENCY

Muscle weakness, bone disorder



Chromium

MAIN SOURCES

Potatoes, nuts, spinach, swiss chard, lettuce, whole grain products, fruit, yeast, honey

IMPACT

Carbohydrate metabolism, fatty acid resorption, positive impact on blood sugar levels

DEFICIENCY

Weight loss, diminished glucose tolerance



Iodine

MAIN SOURCES

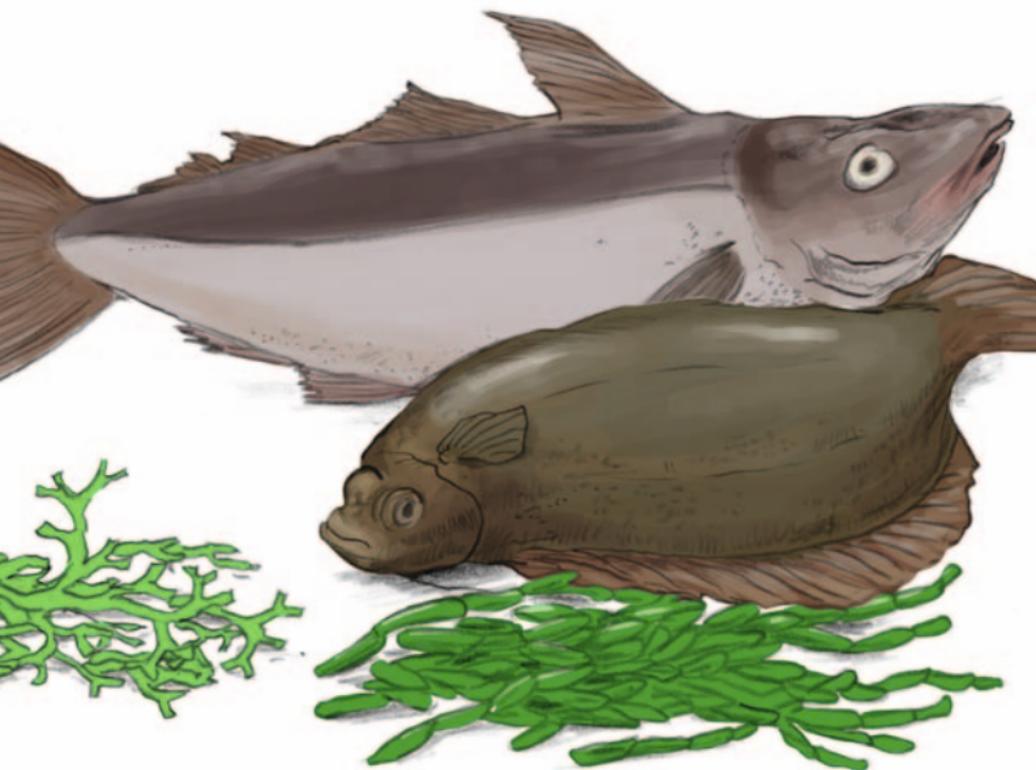
Kelp, sea fish

IMPACT

Functioning of thyroid gland, regulation of metabolism and body temperature

DEFICIENCY

Thyroid gland hypofunction, goiter, body weight imbalances



Copper

MAIN SOURCES

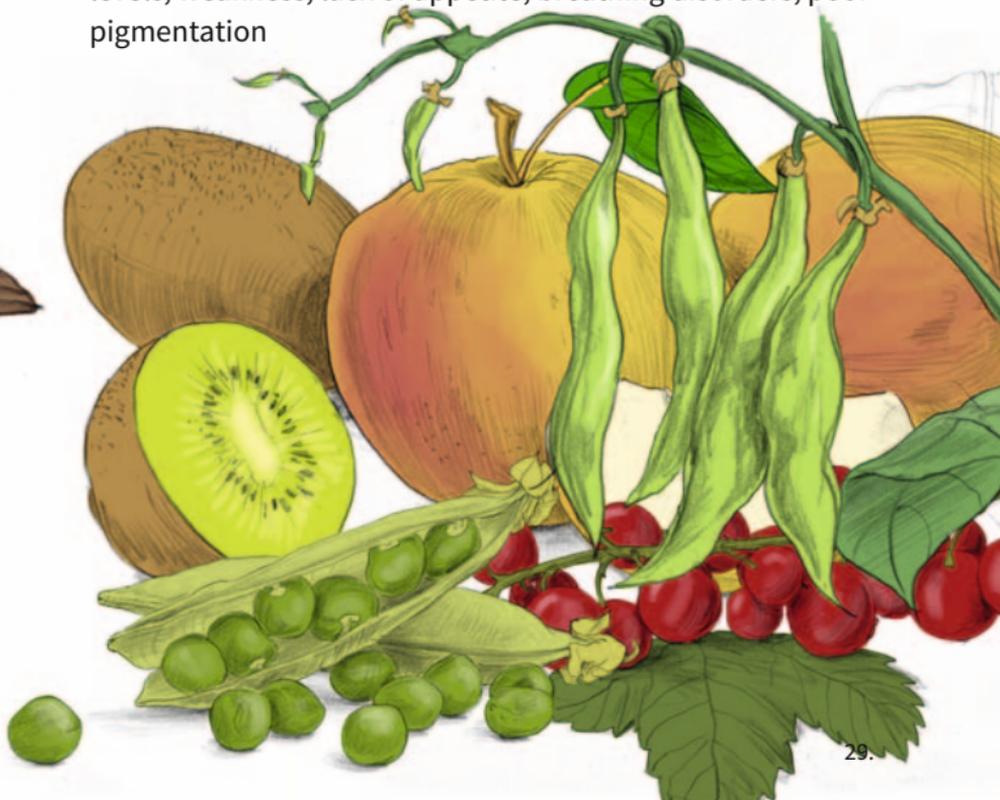
Beans, mushrooms, whole grain products, potatoes, fruit, peas, lentils

IMPACT

Supports metabolism, iron transport in cells, strengthens immune system

DEFICIENCY

Anemia (seldom), sleeping disorders, increased cholesterol levels, weakness, lack of appetite, breathing disorders, poor pigmentation



Manganese

MAIN SOURCES

Grapes, blueberries, nuts, legumes, horseradish, garlic, kale, whole grain products

IMPACT

Metabolism functions, production of sexual hormones

DEFICIENCY

Skeleton growth disorders, lower fertility, muscle weakness, irritability, lack of concentration



Molybdenum

MAIN SOURCES

Cauliflower, legumes, whole grain products, garlic

IMPACT

Helps with carbohydrate, fat and iron metabolism

DEFICIENCY

Less uric acid concentration, excessive absorption of copper



Selenium

MAIN SOURCES

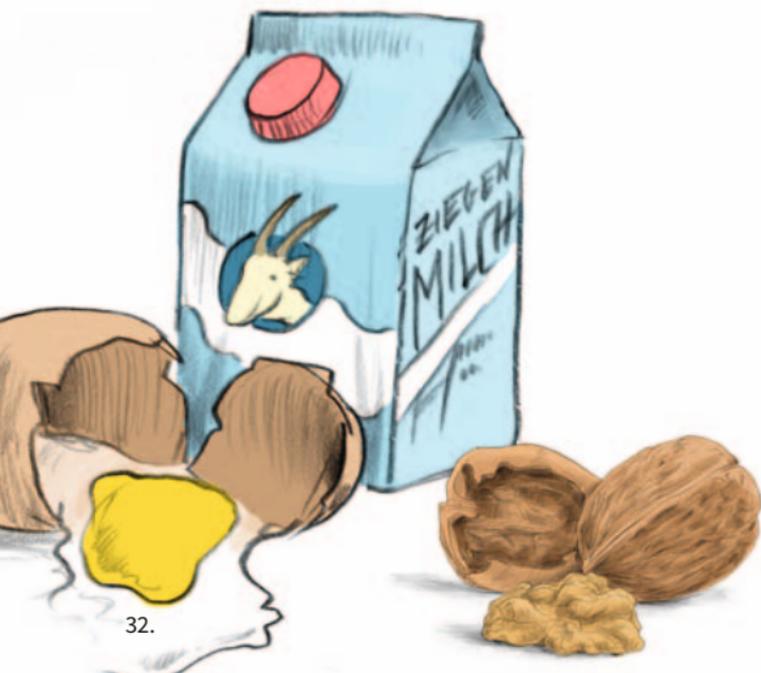
Fish, goat's milk, eggs, nuts

IMPACT

Elasticity of tissue, ingredient of bone and dental tissue, supports metabolism, absorbs free radicals

DEFICIENCY

Muscle disorders, digestive system disorders, flaky skin, low sperm count and quality, bone instability



Silicon

MAIN SOURCES

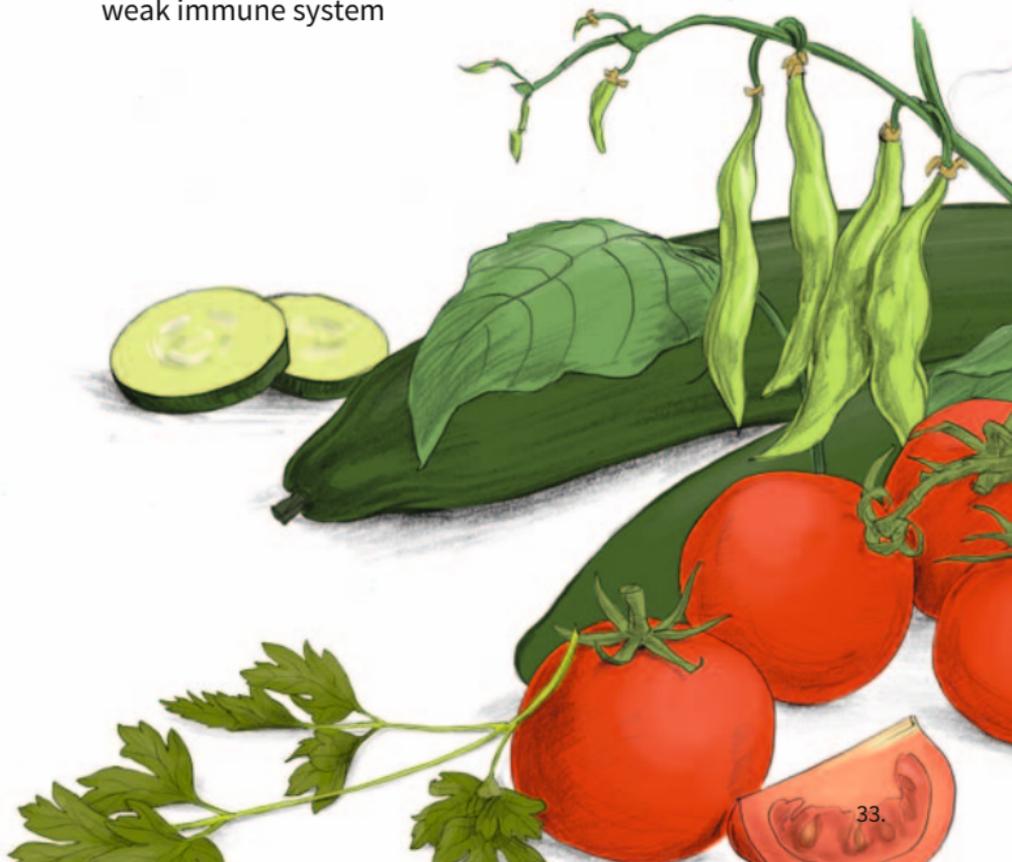
Tomatoes, cucumbers, parsley, green beans, silica

IMPACT

Preservation of bones, connective tissue, hair, nails, teeth, cartilage

DEFICIENCY

Premature aging, brittle bones, alopecia, weak immune system



Zinc

MAIN SOURCES

Grains, legumes, sea fish, goat's milk products

IMPACT

Strengthening of immune system, seeing colours, important for skin and connective tissue, storage of insulin levels

DEFICIENCY

Lack of appetite, alopecia, brittle nails, skin damage



Arginine

MAIN SOURCES

Oats, walnut, fish, peanuts, hazelnuts, wheatgrass

IMPACT

Healthy muscle mass, strengthening of immune system, increased sexual potency

DEFICIENCY

Vascular obliteration, high blood pressure, immune weakness, erectile dysfunction



Carnitine

MAIN SOURCES

Carnitine is found in meat. For vegetarians it is important to know that the body can generate its own carnitine by metabolizing the amino acids methionine (broccoli, peas, brussel sprouts, spinach, egg, rice) and lysine (tuna, lentils, peanuts, parmesan cheese)

IMPACT

Muscle toning, fat metabolism, performance increase, growth

DEFICIENCY

Quick exhaustion, weight gain, prone to infections



Lysine

MAIN SOURCES

Parsley, apricots, celery, pears, grapes, green veggies, eggs, fish

IMPACT

Collagen structure, healthy bone growth, increased fat metabolism, supports immune system, regulation of blood pressure

DEFICIENCY

Fainting, nausea, red eyes, alopecia



Proline

MAIN SOURCES

Millet, spelt, fish, parsley, walnuts, peanuts

IMPACT

Collagen structure, joint structure, tissue regeneration, strengthening of immune system, tendons and bone structure, keeps blood vessels elastic

DEFICIENCY

General lack of performance, joint problems, brittle artery walls





Important Micronutrients
in a nutshell.

A reference work
perfect for travel.

