



# Basic guide

Written by **Andreas Weber**

Certified Nutritionist,  
Sports scientist, Physicist

## Before you start reading:



*In this corner you will see the links for connecting theory and example days.*



This document does not describe a short-term diet, but a change in diet. Success with this concept is achieved above all if you implement the theory slowly, in the order described. So start with small steps, because every change already has an effect. Above all, try to be consistent at home and postpone exceptions to social situations, such as birthday parties.



Particularly important passages are highlighted in blue throughout the presentation.

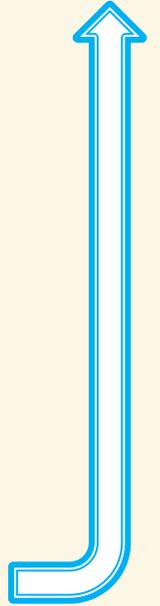


Do not read the theory section all at once, but always link the theory to the example days at the end of the document. The [example days](#) are [linked at the top right](#) of each theory section. By clicking once, you can use the link to jump to the corresponding example day.

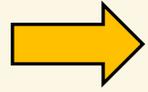
Each slide is animated chronologically. In this way, you are conveniently guided through the presentation. [However, the animations are only available to you if you open the document as a screen presentation with PowerPoint or PowerPoint Viewer rather than as a PDF.](#) PowerPoint Viewer can be downloaded [free of charge](#) from the Internet. To do this, enter "PowerPoint viewer" in a search engine.



If you want to search for a specific slide, press the ["G" button](#) in the slide show. This will take you to the [overview](#) and you can select the desired slide with the mouse.



# The pillars of a healthy diet



Whether vegan, vegetarian or mixed diet, every healthy diet must fulfil these requirements:

Supply of all essential nutrients

Avoiding an excess of acidifying foods

Avoidance of substances that are harmful to the body

Portion sizes that can be optimally digested by the body

Protein

Oils and fats

Vitamins

Minerals: Bulk elements

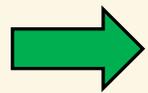
Minerals: Trace elements

Pesticides and environmental toxins

Additives

Plastic

Isolated sugar



With subsequent step-by-step instructions for changing your diet and at the same time embedding the theory in three detailed example days.





# Protein



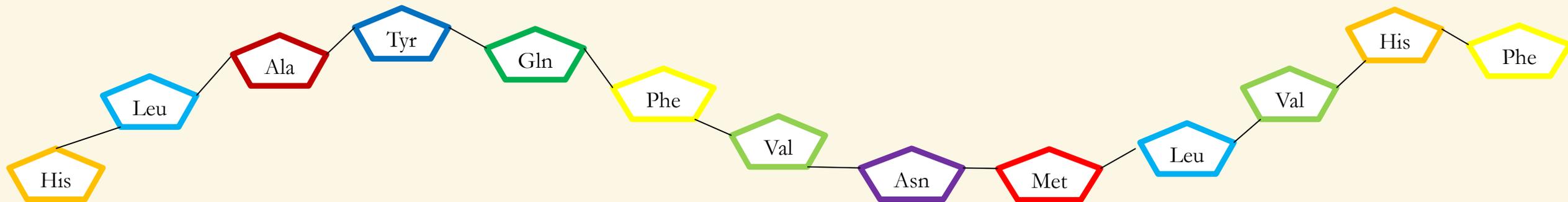


## Protein:

The body needs protein not only to build muscle, but for almost all processes that take place in the body. For example, for the repair of cells or the production of enzymes and antibodies.

Protein is our most important nutrient. A deficiency therefore manifests itself negatively within a few days and is initially associated with physical weakness, listlessness and food cravings. A prolonged protein deficiency leads to severe physical disorders and should therefore be urgently avoided or remedied.

Proteins are made up of individual building blocks called amino acids. A human protein consists of up to 20 different amino acids, which are linked together in a chain:

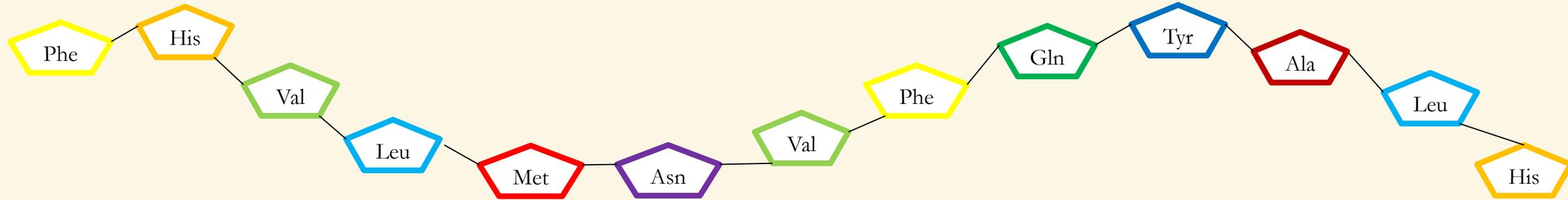


Our food contains proteins that the body can break down into amino acids and use to build the body's own proteins.





## Protein:



The body does not need to be supplied with all 20 amino acids. Only nine are essential. The body can convert the remaining eleven from other amino acids.

No food contains all nine essential amino acids in the proportions required by the body. Nevertheless, a mixed diet makes it easy for us in terms of proteins, because animal foods such as dairy products, eggs, meat and fish contain exactly the proportion of amino acids that is not found in plant foods and vice versa.

To ensure that the body can synthesise as many of its own proteins as possible from the protein supplied, half of the daily protein requirement must come from plant-based foods and the other half from animal-based foods.

Detailed on the next slide



# Protein:

## All animal products

## Daily protein content in percent

## All plant-based products

Meat like turkey, Pork, beef, ...

Seafood such as fish, prawns, squid, ...

Milk, quark, cheese, yoghurt, soured milk, buttermilk, ...



Cereal products, rice, maize, chestnuts, buckwheat, quinoa, amaranth, millet, ...

Legumes such as beans, lentils, peas and peanuts

Nuts and oilseeds such as almonds, cashews, sunflower seeds, pumpkin seeds, sesame seeds, ...

Fruit and vegetables contain very little protein



## Protein:

### Calculate the absolute amount of protein you need:

The amount of protein depends heavily on body weight and physical exertion and must therefore be calculated individually. It varies between and protein per kilogramme of body weight.

#### Example 1:

Person with and no physically strenuous work and little sporting activity.

$$55kg \cdot 0,9 \frac{g}{kg} = 49,5g$$

#### Example 2:

Person with and no physically demanding work but regular sporting activity (more than 5 hours per week) / strength training.

$$80kg \cdot 1,2 \frac{g}{kg} = 96g$$

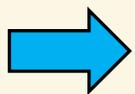
#### Example 3:

Person with and strenuous physical work or extreme sporting activity.

$$65kg \cdot 1,4 \frac{g}{kg} = 91g$$

Take a factor of 1.5 if both apply.

**Formula:** Body weight · Activity factor Minimum daily amount of protein required



The calculated amount of protein must consist of approx. 50% plant protein and approx. 50% animal protein!





## Protein:

Look at the back of the food packaging to get a feel for the protein content of the food and try not to go below the calculated value.

The protein content of unpackaged foods such as meat or cheese can be looked up on the internet. As a **rule of thumb**, however, you can remember that **cheese, meat and fish** all **contain around 25g of protein per 100g** of food.

The protein content of fruit and vegetables is negligible.

The DGE (German Nutrition Society) recommends doses of up to two grams of protein per kilogramme of body weight for extreme sporting activities. However, this amount of protein can hardly be achieved through a diet of natural foods without protein powder.

In any case, you should not take more than **2 g/kg** protein, as the study situation on overdosing and the resulting damage to the kidneys is unclear.



### Wholemeal spaghetti

100 g contain on average:	
Calorific value	1452 kJ /343 kcal
Fat	1,9 g
of which:	
-saturated fatty acids	0,6 g
Carbohydrates	65 g
of which:	
-Sugar	4,3 g
<b>Protein</b>	<b>13 g</b>
Salt	< 0,01 g

### Almonds

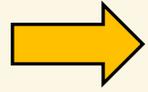
100 g contain on average:	
Calorific value	2577 kJ /624 kcal
Fat	54 g
of which:	
-saturated fatty acids	4,0 g
Carbohydrates	5,4 g
of which:	
-Sugar	3,7 g
<b>Protein</b>	<b>22 g</b>
Salt	< 0,01 g

### Lentils

100 g contain on average:	
Calorific value	1477 kJ /349 kcal
Fat	1,7 g
of which:	
-saturated fatty acids	0,5 g
Carbohydrates	53 g
of which:	
-Sugar	2,4 g
<b>Protein</b>	<b>25 g</b>
Salt	0,03 g



# The pillars of a healthy diet



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Avoidance of substances that are harmful to the body

Portion sizes that can be optimally digested by the body

Protein ✓

Oils and fats

Vitamins

Minerals: Bulk elements

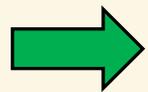
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# Oils and fats



# Oils and fats:

Supply of all essential nutrients

Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

Oils and fats have long had the persistent reputation that they make us fat. In this respect, it is also undisputed that they have the highest energy density of all foods. Nevertheless, healthy fats and oils can actually help us lose weight. A distinction should therefore be made between oils and fats, because some components of oils and fats, the essential fatty acids, are vital for our body and must be supplied through our diet. If the body lacks essential fatty acids, for example, we fall ill more easily or have difficulty concentrating.

A severe deficiency can lead to cardiovascular problems, metabolic disorders, visual disturbances, numbness, growth disorders in children and other problems.



## The body needs the following unsaturated fatty acids:

### **Oleic acid** (omega 9 fatty acid):

Occurrence:

Olive oil, rapeseed oil, nuts, oilseeds, dairy products, pork, beef, ...



It is present in sufficient quantities in almost every form of nutrition, as it is contained in many different foods.

### **Linoleic acid** (omega 6 fatty acid):

Occurrence:

Sunflower oil, rapeseed oil, maize germ oil, Oilseeds and nuts such as hemp seeds, poppy seeds, sunflower seeds, sesame seeds, walnuts, almonds, ...



Can be critical if few nuts and oilseeds are eaten and only olive oil is used in the kitchen.

### **-linolenic acid** (omega 3 fatty acid):

Occurrence:

Linseed oil, camelina oil, rapeseed oil, walnut oil

Linseed, walnuts, oily fish



Critical in almost every diet, as large quantities are contained in very few foods.



## Oils and fats:

**The following simple solution provides you with all the necessary fatty acids:**

Mix 2 full tablespoons of sunflower oil into your salad or another dish every day, for example. This will not only cover your linoleic acid (omega 6 fatty acid) needs, but also your vitamin E requirements. If your diet contains large amounts of oilseeds and nuts (approx. 100g daily), then you should omit the sunflower oil supplement.

You also need 1 full tablespoon of linseed oil to cover the  $\alpha$ -linolenic acid (omega 3 fatty acid). When buying linseed oil, make sure that the oil is not pressed in the air so that it does not oxidise. Oxidation causes the oil to lose many of its beneficial properties and taste bitter. Linseed oil that is pressed without contact with oxygen and stored away from light tastes slightly nutty and not at all bitter.

If the oil is pressed in this way, the process is declared on the packaging and the oil is not only packed in amber glass but also in a cardboard box. You can find this in organic food shops.

Tip: Linseed oil can be added to a sweet dish, such as breakfast muesli or a fruit salad with quark or nuts ([see breakfast example day 3](#)).

Do not heat linseed oil or sunflower oil. Both types of oil are sensitive to heat and therefore lose their health value. It is best to use coconut oil, butter or olive oil for cooking and baking, whereby coconut oil changes the least when heated and is therefore the most suitable.

Of course, you can also obtain the fatty acids in other ways, for example with rapeseed oil, walnut oil or regular consumption of fish. However, do not underestimate the added value of sunflower oil and the vitamin E it contains. A combination of sunflower oil and walnut oil or rapeseed oil makes little sense, as this would provide an excessive amount of linoleic acid.

Overview on the next slide

## Oils and fats:



Supply of all essential nutrients

Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

2EL  $\hat{=}$  20g Sunflower oil

Linoleic acid  
(Omega 6 fatty acid)  
e.g. in sunflower oil

$\alpha$ -linolenic acid  
(Omega 3 fatty acid)  
e.g. in linseed oil

1EL  $\hat{=}$  10g Linseed oil

➡ Contains 12.6 g linoleic acid

➡ Contains 5.4 g  $\alpha$ -linolenic acid



Ratio

2:1

↕  
The remaining 3.4 g is contained in the daily diet.

Recommendation according to Reiner Schmidt approx. 16g linoleic acid and 5.5g  $\alpha$ -linolenic acid per day.

A "linoleic acid :  $\alpha$ -linolenic acid" ratio of 3:1 or 4:1 is also still acceptable. Since the correct ratio and the minimum amounts of fatty acids mentioned should not be undercut, the amount of oil does not have to be strictly dependent on body weight.

The situation is different with proteins!

What you should do, however, is adjust the amount to your physical activity. During extreme physical exertion, the quantities can be doubled. So 4 tablespoons of sunflower oil and 2 tablespoons of linseed oil.



## Oils and fats:

Apart from linoleic acid and  $\alpha$ -linolenic acid there are two other fatty acids that are extremely important for our body:

$\alpha$  -linolenic acid  
(Omega 3 fatty acid)  
e.g. in linseed oil

EPA and DHA are formed by a healthy body from  $\alpha$ -linolenic acid and therefore do not need to be supplied separately.

EPA (eicosapentaenoic acid)



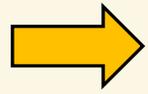
DHA (docosahexaenoic acid)

A deficiency of EPA and DHA leads to a deterioration in our cell metabolism, which can result in poorer brain performance, among other things.

In certain metabolic disorders, EPA and DHA are not formed in sufficient quantities from  $\alpha$ -linolenic acid. So if you want to be 100 percent sure, you can have a special blood test for EPA and DHA carried out.

In such a case, EPA and DHA can also be supplied directly through supplements.

# The pillars of a healthy diet



Whether vegan, vegetarian or mixed diet, every healthy diet must fulfil these requirements:

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Avoiding an excess of acidifying foods

Avoidance of substances that are harmful to the body

Portion sizes that can be optimally digested by the body

Protein ✓

Oils and fats ✓

Vitamins

Minerals: Bulk elements

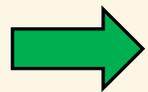
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# Vitamins



## Vitamins:

There are a total of 13 essential vitamins and two carotenoids (secondary plant substances) that people need to take regularly. They cannot be produced by the body.

All vitamins and carotenoids are mentioned below. However, only those substances that may be insufficiently present in the mixed diet are explained in detail.



### Covered for mixed diets containing meat, fish, eggs and dairy products:

#### Vitamin **B<sub>12</sub>** (cobalamin)

Found particularly in fish but also in meat, dairy products and eggs. Sufficiently supplied as long as 50 per cent of the protein requirement is covered by animal products.

#### Vitamin **A** (retinol)

Contained in eggs, butter, cream, cheese, liver sausage and in the form of  $\beta$ -carotene (in e.g. carrots, peppers, pumpkin, ...).

Better  
absorption in  
combination  
with fat/oil

### Possible deficiency in a mixed diet:

#### Vitamin **C** (ascorbic acid)

Vitamin **B<sub>1</sub>** (thiamin), **B<sub>3</sub>** (niacin), **B<sub>6</sub>** (pyridoxine),  
**B<sub>5</sub>** (pantothenic acid), **B<sub>2</sub>** (riboflavin)  
**B<sub>9</sub>** (folic acid), Vitamin **B<sub>7/8</sub>** (biotin)

#### Vitamin **E** (tocopherol)

Vitamin **K** (**K<sub>1</sub>** phylloquinone & **K<sub>2</sub>** menaquinone)

Vitamin **D** (**D<sub>2</sub>** ergocalciferol & **D<sub>3</sub>** cholecalciferol)

Carotenoids:

**Lutein and zeaxanthin**





## Vitamins:

# Vitamin C (ascorbic acid)

Vitamin C has a strong antioxidant effect in the body. Together with vitamins A and E, it neutralises free radicals that attack cell metabolism or DNA. It also strengthens the immune system like no other vitamin and can even have a positive effect on acute infectious diseases if taken in large quantities.

Whether the need for vitamin C is covered in a mixed diet depends on the amount of fruit and vegetables consumed. **Vitamin C is also sensitive to heat.** If the vegetables are not eaten raw, it is therefore advisable **to steam them or only cook them for a short time** so as not to reduce the vitamin C content too much.

**Vitamin C is not stable in storage.** Apples that are harvested the previous year and sold in spring, for example, no longer contain vitamin C.

The following fruit and vegetables contain a lot of vitamin C:

### Vegetables

- Paprika
- Brussels sprouts
- Kale
- Broccoli
- Kohlrabi
- Cauliflower
- Red cabbage
- Savoy cabbage
- Spinach

In decreasing concentration

### Fruit

- Kiwi
- Papaya
- Strawberries
- Orange
- Lemon
- Lime
- Lychee
- Mango
- Tangerine



You don't need to know exactly how much vitamin C is contained in fruit and vegetables. However, make sure you regularly consume a few types of fruit and vegetables rich in vitamin C.

Frozen vegetables or fruit, such as broccoli or berries, hardly lose any vitamin C after freezing.



Supply of all essential nutrients

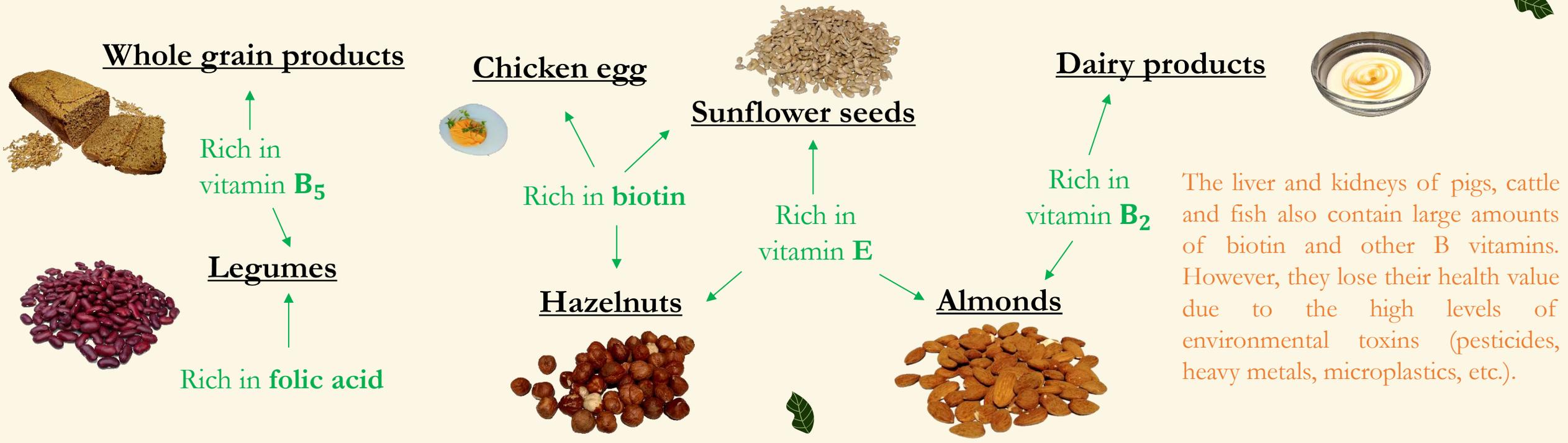
Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

## Vitamins:

Vitamin **B<sub>1</sub>** (thiamin), **B<sub>3</sub>** (niacin), **B<sub>6</sub>** (pyridoxine),  
**B<sub>5</sub>** (Pathothensäure), **B<sub>2</sub>** (Ribovlavin)  
**B<sub>9</sub>** (Folsäure), **B<sub>7/8</sub>** (Biotin)  
Vitamin **E** (Tocopherol)

We are mainly supplied with the above-mentioned B vitamins through plant-based foods with a high energy density. These include **wholemeal products, legumes, nuts and oilseeds**. However, animal foods also contain large amounts of B vitamins. Nevertheless, there are some **foods with particularly high levels** that should be kept in mind:

The blue-coloured B vitamins in particular are contained in all foods in this food category.

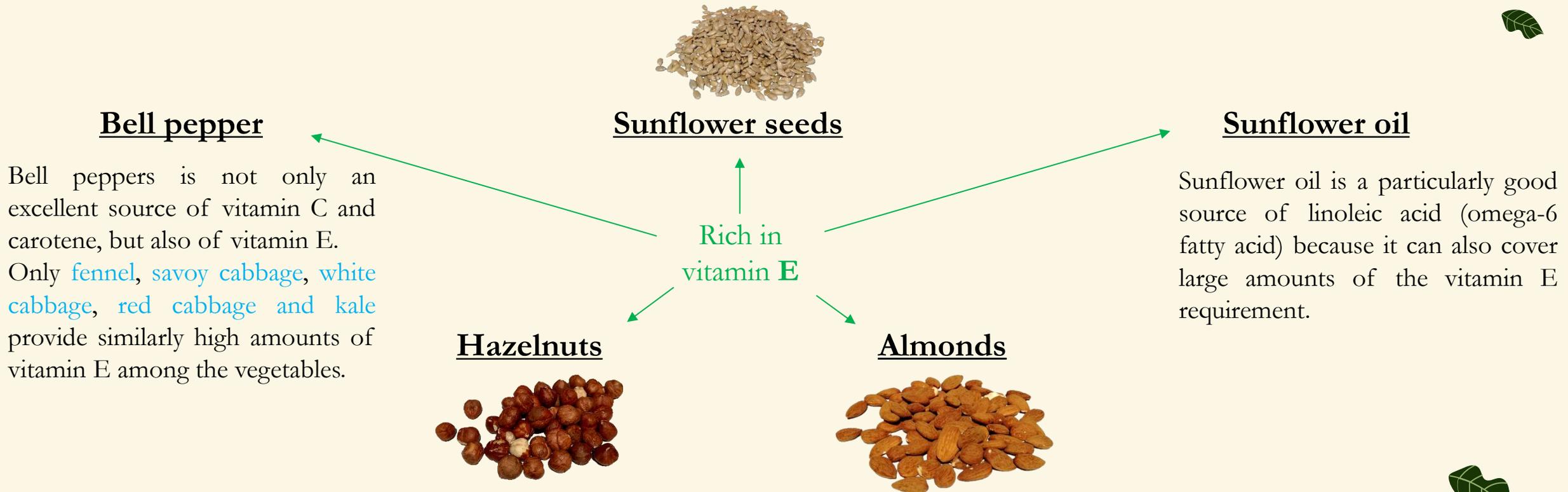


## Vitamins:

### Vitamin E (Tocopherol)

Vitamin E functions in the body, among other things, to protect unsaturated fatty acids from oxidation and, like vitamin C, is a radical scavenger.

However, there are only a few foods that contain large amounts of vitamin E. In this context, sunflower seeds, hazelnuts and almonds have already been mentioned on the previous page. Peppers and sunflower oil are also excellent sources of vitamin E:



## Vitamins:

## Vitamin ( $K_1$ phylloquinine & $K_2$ menaquinone)

Like vitamin A, D and E, vitamin K belongs to the fat-soluble vitamins and can therefore be better absorbed by the body together with oil/fat. **Vitamin  $K_1$  is mainly found in green vegetables.** Vitamin  $K_2$ , on the other hand, is found in smaller quantities in animal products and in fermented plant foods, because vitamin  $K_2$  is formed by bacteria during the fermentation process.

The two vitamins fulfill partly different tasks in the body and are just as essential as the other vitamins. Vitamin  $K_1$ , for example, is important for blood clotting and is involved in protecting the arteries.

Vitamin  $K_2$ , on the other hand, together with vitamin D, plays an important role in bone metabolism. **Vitamin  $K_2$  can be formed by bacteria in the small and large intestine.** However, this conversion and absorption depend on the health of the intestine and are therefore not given in every case.



If one is unsure about this, a blood test should be performed to find out whether the vitamin  $K_2$  supply is ensured. If necessary, vitamin  $K_2$  should be supplemented.   
 ← In case of need, a combination with vitamin  $D$  is recommended.

### Vitamin - $K_1$ - containing foods:

- |          |                  |  |
|----------|------------------|--|
| Kale     | Brussels sprouts | Chickpeas  |
| Purslane | Broccoli         |  |
| Spinach  | Chives           |  |
| Lettuce  | Parsley          |  |



### Vitamin - $K_2$ - containing foods:

- |                              |              |
|------------------------------|--------------|
| Sauerkraut                   | Egg yolk     |
| Natto (fermented soya beans) | Yoghurt      |
|                              | Chicken meat |



## Vitamins:

### Vitamin D (**D<sub>2</sub>** ergocalciferol & **D<sub>3</sub>** cholecalciferol)

Vitamin D is found in our foods in two different forms. Vitamin **D<sub>3</sub>** is found in animal foods and **D<sub>2</sub>** in a few plant foods, such as some mushrooms or lichens.

Vitamin **D<sub>3</sub>** is somewhat better utilized by the body, yet vitamin **D<sub>2</sub>** can be used to meet vitamin D needs because the body can store and convert both vitamin **D<sub>3</sub>** and vitamin **D<sub>2</sub>** into active vitamin D.

However, it is difficult to cover the need for vitamin D with the diet, both with plant and animal foods. The reason for this is the small amounts of vitamin D in our food. **Only those who regularly eat larger amounts of fish such as salmon, herring or sardines can cover their needs through food.**

There are two other ways to cover the need for vitamin D:

Through **dietary supplements** or regular **sunbathing**, because the body can produce vitamin D through the skin with the help of UVB radiation.



## Vitamins:

## Vitamin

In order to cover the annual requirement of vitamin D through sunlight, **around 45 sunbathing sessions of 5 to 30 minutes per side of the body are required.** The exposure time depends on the skin type.

According to Dr Michael F. Holick, sunbathing is safe as long as the exposure time for the respective skin type is not exceeded.

Reduce the time if you notice irritation of the skin.

**Sun cream already reduces the production of vitamin D by 99 per cent with a sun protection factor of 10!**

If you are physically or temporally not able to take regular sunbaths for the supply of vitamin D, **you can also supply vitamin D via a dietary supplement.** Natural yeast-based vitamin D<sub>2</sub> supplements are best suited for this purpose. In this case, yeast supplements are irradiated with UV light, which produce vitamin D<sub>2</sub> through synthesis.

Alternatively, you can also take a synthetic vitamin D<sub>3</sub> supplement.

Exposure times in the temperate climate zone between April and October.

Skin type 1  
approx. 5 min



Skin type 2  
~ 10 min



Skin type 3  
~ 15 min



Skin type 4  
~ 20 min



Skin type 5  
~ 30 min



Sunbathing times between 11 a.m. and 4 p.m. (summer time).

## Carotenoids:

### Lutein and zeaxanthin

Lutein and zeaxanthin are carotenoids and are particularly important for the proper functioning of the macula (point on the retina in the eye where there are a particularly large number of photoreceptors). A lack of lutein and zeaxanthin can therefore cause age-related visual impairment.

As zeaxanthin is formed by the body from lutein, only lutein needs to be supplied through the diet.

It is relatively easy to obtain the daily amount of lutein by eating dark green vegetables. However, the following foods also contain large amounts of lutein.

#### Vegetables



Kohlrabi

Kale

Lettuce

Runner beans

Broccoli

Brussels sprouts



#### Other foodstuffs

Mangoes

Corn

Egg yolk

Bell peppers (red, orange, yellow)



As long as you occasionally eat dark green vegetables and/or regularly eat eggs, mangoes, sweetcorn or peppers, your lutein and zeaxanthin requirements are covered.

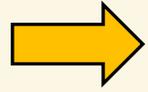




Don't be discouraged by the flood of knowledge about proteins, fats, vitamins and minerals. You will recognise from the example days that putting together meals to cover all the essential substances is not too complicated.



# The pillars of a healthy diet



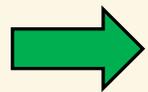
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With subsequent step-by-step instructions for changing your diet and at the same time embedding the theory in three detailed example days.

Protein ✓

Oils and fats ✓

Vitamins ✓

Minerals: Bulk elements

Minerals: Trace elements

Pesticides and environmental toxins

Additives

Plastic

Isolated sugar





# Minerals:

## Bulk elements



## Minerals (bulk elements):

As with the vitamins, all essential minerals are mentioned in the following section, but only those substances for which a deficiency can occur in a mixed diet are considered in more detail.

In the case of minerals, a distinction is made between bulk elements and trace elements. The body requires significantly larger quantities of the 7 bulk elements than of the equally important 9 trace elements.

### Quantity elements covered by the mixed diet:

#### **Sodium and chloride** in the form of **sodium chloride (salt)**

Salt is vital and necessary for many of the body's functions. However, too much can be harmful. [We need about 4-5g of salt per day \(1 teaspoon\). We should not consume significantly more than this during normal activity.](#)

#### **Potassium**

Contained in almost every wholesome food.

#### **Phosphate**

Contained in whole grains, legumes, nuts and oilseeds as well as in animal foods.

#### **Sulphur**

The requirement is covered as long as sufficient high-quality protein is consumed. Sulphur is bound to the two amino acids cysteine and methionine.

### Possible deficiency in a mixed diet:

**Calcium**

**Magnesium**





## Be careful with self-diagnoses



Be careful with self-diagnoses of vitamin and mineral deficiencies. Many of the physical symptoms can also be caused by other deficiencies, such as a protein deficiency or illness.

**Only a full blood test and an analysis by a doctor can provide clear information here.**

Even if the health insurance company does not usually cover blood analyses on self-suspicion, it is worth occasionally having a blood test carried out for any critical minerals and vitamins in order to compensate for deficiencies.

**Don't save money in the wrong place.**



## Minerals (bulk elements):

Supply of all essential nutrients



Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

### Calcium (calcium)

Calcium is important for bones, as is commonly known. However, this bulk element plays a central role in numerous other metabolic functions. For example, calcium is required for the function of nerves and muscles, including the heart muscle. In order to continuously supply the organs with calcium, the calcium concentration in the blood must always be kept constant.

If too little calcium is taken in with food, the body is forced to fall back on the reserves in the bones. If calcium deficiency persists for several months, osteoporosis (decalcification of the bones) gradually develops.

A calcium deficiency can occur in a mixed diet, especially if a lot of meat and eggs but few dairy products and calcium-rich plant foods are consumed.

A sufficiently high level of vitamin D increases calcium absorption many times over.

As the calcium concentration in the blood serum is kept constant by the body, a calcium deficiency can only be detected by a whole blood test.



# Minerals (bulk elements):

Supply of all essential nutrients

Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

## Calcium (calcium)

Particularly high amounts of calcium are labelled in green.

### Calcium-rich foods:

#### Oilseeds and nuts:

Sesame seeds  
Poppy seeds  
Almonds  
Hazelnuts



#### Vegetables:

Nettle herb  
Kale Parsley

#### Dairy products:

Quark  
Cheese  
Yoghurt  
Milk



#### Calcium-rich mineral water

Relatively easy to utilise as the calcium is in ionised form.

Calcium salts that are bound to plant foods are best utilised by the body.

Are absorbed by the body just as well as vegetable calcium.

However, possible side effects of calcium from dairy products are controversial.

Calcium supplements that occur in isolation and are therefore not bound to plant foods are poorly utilised by the body, for example the calcium carbonate in effervescent tablets.

# Minerals (bulk elements):

Supply of all essential nutrients

Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

## Magnesium

Muscle cramps are probably the best known, although not the only, symptom of magnesium deficiency. Magnesium plays a role in numerous enzymatic processes in the body. For example, a deficiency can manifest itself in high blood pressure, sleep disorders, cardiac arrhythmia, obesity, skin diseases, osteoporosis, migraines, tinnitus, arthrosis or depression.

Both calcium and magnesium are only found in small amounts in meat, fish and eggs. What makes the supply of magnesium in the mixed diet even more problematic, however, is the low occurrence of magnesium in dairy products.

The largest amounts of magnesium are found in oilseeds and nuts, wholemeal products and legumes. Vegetables and fruit only contain small amounts of magnesium.

As with calcium, a magnesium deficiency can only be detected by a whole blood test.



# Minerals (bulk elements):

Supply of all essential nutrients

*Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)*

## Magnesium

Particularly high amounts of calcium are labelled in green.

### Foods rich in magnesium:

#### Oilseeds and nuts:

Sunflower seeds  
Sesame seeds  
Pumpkin seeds  
Hemp seeds  
Cashew nuts  
Almonds  
Hazelnuts  
and many other nuts and oilseeds



#### Whole grains:

Wheat bran  
Amaranth  
Quinoa  
Oats  
Brown rice  
Millet  
and other whole grains



#### Legumes:

Snap peas  
Soya beans  
Lima beans  
Chickpeas  
Peanuts  
and many other beans and lentils



#### Vegetables:

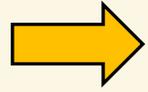
Purslane  
Swiss chard  
Spinach



As with calcium, magnesium should be bound to plant-based foods. Magnesium carbonate, e.g. from effervescent tablets, is not a particularly good solution for supplementation.

If the diet consists of large quantities of oilseeds, nuts, wholemeal products and legumes, the magnesium requirement is usually covered.

# The pillars of a healthy diet



Whether vegan, vegetarian or mixed diet, every healthy diet must fulfil these requirements:

Supply of all essential nutrients

Avoiding an excess of acidifying foods

Avoidance of substances that are harmful to the body

Portion sizes that can be optimally digested by the body

Protein ✓

Oils and fats ✓

Vitamins ✓

Minerals: Bulk elements ✓

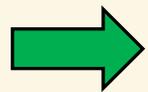
Minerals: Trace elements

Pesticides and environmental toxins

Additives

Plastic

Isolated sugar



With subsequent step-by-step instructions for changing your diet and at the same time embedding the theory in three detailed example days.





# Minerals: Trace elements



## Minerals (trace elements):

Even though most trace elements are only needed in milligram or even microgram quantities, they fulfil essential functions that are vital for our body.

A lack of trace elements therefore leads to physical complaints in the same way as an insufficient intake of vitamins or bulk elements.

### Trace elements covered by the mixed diet:

#### Zinc

Contained in wholesome plant foods and meat.



### Possible deficiency in a mixed diet:



Copper, manganese

Chromium

Iron

Fluoride



Iodine

Molybdenum

Selenium, (silicon)

Not essential

# Minerals (trace elements):

Supply of all essential nutrients

Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

## Copper, manganese

Like magnesium, copper and manganese play an important role in the production of enzymes. Copper is also important for the immune system, maintaining bone density and the formation of red blood cells.

Manganese deficiency can, for example, reduce antibody formation, lead to loss of hair pigmentation or cause growth retardation.

Manganese and copper are practically non-existent in animal foods, which is why manganese and copper deficiency is common in mixed diets. This is especially true if a lot of white flour and sugar is consumed instead of whole foods. As with many other minerals, the highest concentrations of copper and manganese are found in oilseeds, nuts, wholemeal products and legumes.

Vegetables also contribute to the copper and manganese supply. Fruit, on the other hand, with the exception of bananas and apricots, hardly contributes at all.



**Oilseeds and nuts**



**Wholegrain products**



**Legumes**



**Vegetables**

Significantly reduced concentration compared to the other three categories

# Minerals (trace elements):

Supply of all essential nutrients

Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

## Chromium

A chromium deficiency can manifest itself, for example, in concentration problems, muscle weakness, tiredness, irritability or increased anxiety.

Similar to manganese and copper, only small amounts of chromium are found in animal foods, with the exception of [mussels](#) and [oysters](#). [Whole grains, oilseeds, nuts and legumes are relatively good sources of chromium.](#) [To fully cover your chromium requirements, you should also eat fruit and vegetables.](#)

If you want to look up the chromium content of different foods, please note that fruit contains much more water than cereals, for example, and is therefore less filling. For example, it is easier for us to eat a 200g pear with a chromium content of 54 micrograms than 200g of corn with a chromium content of 64 micrograms. Despite the lower chromium value, the pear is therefore the better source of chromium, as we can eat a larger amount of it.

### Foods that contain chromium:

Mussels  
Oysters

Fruit



Vegetables



Oilseeds and nuts



Wholemeal products



Legumes



# Minerals (trace elements):

Supply of all essential nutrients

Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

## Iron

Signs of iron deficiency can be: pale skin, inner restlessness, dizziness, loss of appetite, headaches, brittle hair, hair loss, increased need for sleep or concentration problems.

There is bivalent iron (double positively charged) and trivalent iron (triple positively charged).

Our body can only utilise bivalent iron, which is contained in meat and eggs. However, the concentration of iron in animal foods is lower than in plant foods. Women in particular should obtain additional iron from plant sources due to menstruation and the resulting increased iron requirement for haematopoiesis. In order for us to absorb the trivalent iron from plant foods, it must be converted by the body into bivalent iron. This happens with the simultaneous intake of vitamin C with the iron-rich foods.



### Animal products with bivalent iron:

Chicken eggs  
Meat  
Fish

Only in small quantities



A two to four-fold concentration of trivalent iron is found in plant foods compared to bivalent iron in eggs and meat.

### Plant-based foods with trivalent iron:

Hemp seeds  
Pumpkin seeds  
Sesame seeds  
Sunflower seeds  
Almonds  
Pistachios  
Brazil nuts  
...

Amaranth  
Quinoa  
Millet  
Oats  
Brown rice  
...

Lentils  
Beans  
Chickpeas  
...

Green vegetables



E.g. by bell peppers

## Minerals (trace elements):

Supply of all essential nutrients



Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

### Fluoride

Fluoride is probably one of the best-known trace elements in the vernacular and is often associated with teeth. In fact, fluoride ions remineralise tooth enamel together with calcium and phosphate ions via the saliva in the mouth. Small amounts of fluoride must be supplied to the body. However, too much fluoride is toxic. Science agrees on these points.

However, there is less agreement on the dose that makes fluoride toxic. In 1984, the DGE recommended a daily dose of 1000µg (1mg). A few years later it was 1500µg per day and since 2000 it has been 3100 to 3800µg per day. Other doctors of nutritional science recommend significantly less than 1000µg fluoride per day.

In any case, the fact is that, compared to all other minerals and vitamins, there is no natural way to fulfil the DGE's dosage recommendations.

The most fluoride-rich food is the walnut. 100g walnuts contain approx. 700µg fluoride.

In second place are a variety of other plant foods as well as meat and fish with fluoride levels varying between 10 and 200µg.



#### Note:

If you eat a wholesome diet, your food most likely contains sufficient amounts of fluoride to nourish your body and remineralise your teeth via your saliva. If you want to comply with the dietary recommendations of the DGE, you are forced to use fluoridated toothpaste or supplement fluoride in some other way. Fluoride is absorbed through the oral mucosa when you brush your teeth.



# Minerals (trace elements):

Supply of all essential nutrients

Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

## Iodine

The thyroid gland needs iodine to produce hormones. A lack of iodine results in an underactive thyroid gland with a corresponding lack of thyroxine in the blood. Signs of this can include tiredness, lack of concentration, sleep disorders, feeling cold, digestive problems, reduced performance, poor skin and hair loss.

Whether there is sufficient iodine in the mixed diet depends on the explicit diet. With the exception of certain algae, all plant-based foods are low in iodine. Even in the case of animal products, iodine-rich foods are limited exclusively to marine animals.

If you therefore eat a large amount of fish three times a week, your diet will generally contain sufficient iodine. This is not the case for the majority of the population, which is why sodium or potassium iodate is added to table salt. As these are synthetic substances, it is advisable to replace this salt with sea salt with iodine-containing algae flakes (available in organic food shops). If only sea salt with algae or iodised salt is eaten, sufficient iodine is absorbed through this product. The amount of algae in these products is so small that there is no noticeable difference in the flavour of the food.

The second option is to consume small amounts of algae directly. Nori or wakame algae are particularly suitable here, as their iodine content is subject to only minor fluctuations.

Rehydrate and cook the seaweed as indicated on the packs.



3g **Nori** dried  $\cong$  1 daily dose  
In 1 to 2 meals totalling 21g per week



1g dried **wakame**  $\cong$  1 daily dose  
In 1 to 2 meals with a total of 7g per week



Iodine can easily be overdosed with algae. Therefore, do not eat more than recommended. The amounts shown correspond to the recommendations of the DGE and match the recommendations printed on the algae sachets in well-known health food shops.

# Minerals (trace elements):

Supply of all essential nutrients

Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)



## Molybdenum

A molybdenum deficiency can manifest itself, for example, in caries sensitivity, skin infections, hair loss, kidney stones and tumour growth.

There is a risk of suffering from a molybdenum deficiency if the diet contains neither fish nor cereals and few vegetables. These three food categories, together with a few legumes, contain the highest levels of molybdenum. It should be noted that not every type of grain or vegetable contains molybdenum. The concentrations vary greatly. **Nevertheless, it can be assumed that enough molybdenum is ingested with a varied wholefood diet.**

### Molybdenum-rich foods:

#### Marine animals:

Zander  
Mussels  
Carp  
Bream

#### Whole grains:

Buckwheat  
Oats  
Rye  
Brown rice  
Wheat

#### Legumes:

Soya beans  
White beans  
Peanuts  
Green peas  
Runner beans

#### Vegetables:

Red cabbage  
Spinach  
Onions  
Garlic  
Potatoes (subject to strong fluctuations)

Particularly high  
molybdenum occurrences  
marked in green.



# Minerals (trace elements):

Supply of all essential nutrients



Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)



## Selenium

**Selenium is a toxic trace element.** However, in small amounts it is vital for the body. A selenium deficiency can manifest itself in increased susceptibility to infections, cardiac arrhythmia, muscle weakness, joint problems, fingernails with white spots or increased tiredness.

The selenium content of different foods varies greatly and depends heavily on where the food is grown. **The concentration of selenium in the soil in Germany is extremely low and selenium deficiency is therefore widespread among the population. In general, Europe is a selenium-poor continent. The USA, on the other hand, is rich in selenium on average.**

With almost any plant-based food, it is an advantage to buy regional products. Shorter transport routes reduce the time between harvest and consumption of the food. Plant-based foods can therefore be harvested when ripe and therefore contain larger amounts of minerals and vitamins. The vitamin C content is also higher in regional products, as less vitamin C can decompose during storage or transport. This correlation does not apply to selenium, as regional products from Germany contain hardly any selenium due to the selenium-poor soil.

### Foods with a high selenium content:

**Attention:**  
Depending on the growing region, selenium can easily be overdosed in these nuts and seeds!

#### Nuts and oilseeds:

- Brazil nuts
- Coconuts
- Pistachios
- Sesame seeds



#### Grains from the USA, especially ancient grains:

- Kamut
- Emmer
- Einkorn

#### Marine animals:

- Tuna
- Sardines
- Herring
- Flounder
- Redfish
- Mackerel
- Shrimps
- Plaice

The selenium content of fish is more stable, as fish do not always stay in the same places.

Fish 2-3 times a week is sufficient to cover your iodine and selenium requirements.

## Minerals (trace elements):

Supply of all essential nutrients



Link to [Example day 1](#)  
[Example day 2](#)  
[Example day 3](#)

### Silicon and others

Unlike selenium, silicon is not officially an essential trace element, but the body cannot synthesise silicon itself. **For all non-essential trace elements, it has not yet been proven that they are essential for life.**

Silicon is more commonly known as silicic acid (silicon dioxide). It is contained in almost all foods, although the quantities are very small with three exceptions.

If you want to cover your silicon requirements with certainty, it is advisable to eat one of the foods listed below from time to time:



**Oats**

**Millet**

**Barley**

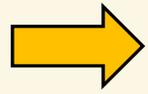
Contain so much silicon that 1 to 2 small meals already cover the weekly requirement, for example a handful of oat flakes in breakfast muesli twice a week.

Other non-essential trace elements are cobalt, germanium, nickel, tin, strontium, vanadium, lithium, ... .

As there are hardly any studies on the quantity of these trace elements in our food and it has not been confirmed that they are vital for humans, the non-essential trace elements are neglected in the following.

**With the exception of silicon, there are indications that sufficient quantities of the non-essential trace elements are present in a wholesome diet.**

# The pillars of a healthy diet



Whether vegan, vegetarian or mixed diet, every healthy diet must fulfil these requirements:

Supply of all essential nutrients ✓

Avoiding an excess of acidifying foods

Avoidance of substances that are harmful to the body

Portion sizes that can be optimally digested by the body

Protein ✓

Oils and fats ✓

Vitamins ✓

Minerals: Bulk elements ✓

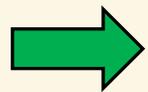
Minerals: Trace elements ✓

Pesticides and environmental toxins

Additives

Plastic

Isolated sugar



With subsequent step-by-step instructions for changing your diet and at the same time embedding the theory in three detailed example days.





# Avoiding an excess of acidifying foods





## Acid-base balance

The pH value indicates how acidic or alkaline a solution is. A pH value of 7 is neutral. All solutions with a value below 7 are considered acids, everything above are bases. Human blood has a slightly alkaline pH value of 7.4. Under normal conditions, this value only deviates by a maximum of  $\pm 0.05$ , as humans are no longer viable if there are major fluctuations.

Acids are produced in particular when metabolising protein-rich or fatty foods. In order to keep the pH value constant, the body utilises various buffer systems.

Our most important buffer system functions via the lungs. Carbonic acid is present in the blood as an acid and hydrogen carbonate ions as a base.

If there are too many protons in the blood, i.e. the blood is too acidic, hydrogen carbonate ions bind some protons. The hydrogen carbonate ions are combined with the proton to form carbonic acid. The excess carbonic acid decomposes into water and carbon dioxide. Carbon dioxide is an acid that can be exhaled as a gas through the lungs. The body becomes more alkaline as acids are removed.

If the blood is too alkaline, this process can also take place in the opposite direction. In this case, less carbon dioxide is exhaled via the lungs and the acid concentration in the blood increases.



next page 

## Acid-base balance

Not all acids can leave the body via the lungs. The acids calcium citrate and sodium citrate, for example, must first be metabolised by the liver.

The body excretes the remaining acids, such as phosphoric acid or uric acid, via the kidneys. The kidneys also retain alkaline hydrogen carbonate ions. For these reasons, the urine is always more or less acidic.

The better these acid-neutralising functions work in the body and the less our food contributes to acidosis, the lower the risk of becoming chronically acidic (acidosis). In the event of chronic acidosis, the body is then forced to release alkaline substances from the bones or teeth, which has corresponding negative consequences.

Children and adolescents are less affected by the problem, as the buffer systems still work very efficiently at a young age. Regardless of age, a certain amount of alkaline must still be supplied through food.

**The body mainly obtains alkalis by eating fruit and vegetables.**

Roswitha Siener: Acid-base balance and nutrition, last accessed: 31.01.2022

[https://www.ernaehrungs-umschau.de/fileadmin/Ernaehrungs-Umschau/pdfs/pdf\\_2011/10\\_11/EU10\\_2011\\_562\\_568.qxd.pdf](https://www.ernaehrungs-umschau.de/fileadmin/Ernaehrungs-Umschau/pdfs/pdf_2011/10_11/EU10_2011_562_568.qxd.pdf)

Reddy ST, Wang CY, Sakhae K et al: Effect of low-carbohydrate high-protein diets on acid-base balance, stone-forming propensity, and calcium metabolism.

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## Acid-base balance

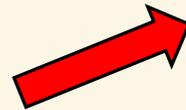
Every food contains both bases and acids and, depending on the protein and protein content, causes additional acids to be formed during metabolisation:

**Meat, sausage, fish, cheese, eggs and peanuts** contain many acids and are high in protein and fat. Bases are contained in reduced quantities.



acts and is excessively acidic, also contains few bases

**White flour products** contain a relatively high amount of protein, but hardly any minerals and bases.



### Attention:

Just because a food contains a lot of acids does not necessarily mean it is unhealthy!



Compensate with approx. 3 times the amount of fruit/vegetables



**Legumes** contain many minerals and bases, but also acids and a lot of protein.



acts and is excessively acidic



Compensate with approx. 1.5 to 2 times the amount of fruit/vegetables

**Nuts and oilseeds, quark, cereal grains (whole) and wholemeal products** contain many minerals and bases as well as protein and fat (nuts/oilseeds).



has an acidic effect



**Fruit and vegetables (including potatoes, green peas and runner beans)** contain many alkalis.



base excess

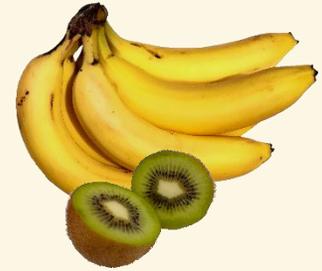
*The quantity refers to the mass of the food in its original state. In the case of fruit and vegetables, this would be the high water content. For cereal grains, flour, legumes, nuts and oilseeds, the dry mass applies. For cheese, quark, milk, meat and fish, the mass in a non-dried state applies.*





### General information on the acid-base balance

Even though it is often a good idea to add vegetables or fruit to your meals, not every meal has to contain an excess of alkaline or a balanced ratio of alkaline and acid. The important thing is that you don't have too much acidity at the end of the day.



Overloading the lungs, kidneys and liver with acidic metabolic products often manifests itself as heartburn, muscle pain or tiredness.

The DGE recommends eating at least 400g of vegetables and 250g of fruit every day, regardless of acids or bases. This would be roughly equivalent to two large potatoes, a pepper, an apple and a banana. You should not eat fewer vegetables and/or fruit!

Whether lemons and oranges have an excess alkalising effect after metabolisation is controversial. What is clear is that the fruit acids in lemons have a temporary negative effect on teeth or a sensitive stomach.

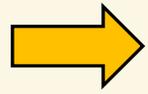
However, as fruit acids are easily metabolised in the body and therefore do not represent a large acid load, they could also have an excess alkaline effect after metabolisation, as lemons also contain alkaline substances.



Citrus fruits are a healthy food regardless of their acid or alkaline effect and should therefore not be omitted from the diet.



# The pillars of a healthy diet



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Avoiding an excess of acidifying foods ✓

Avoidance of substances that are harmful to the body

Portion sizes that can be optimally digested by the body

Protein ✓

Oils and fats ✓

Vitamins ✓

Minerals: Bulk elements ✓

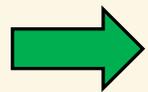
Minerals: Trace elements ✓

Pesticides and environmental toxins

Additives

Plastic

Isolated sugar



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# Avoidance of pesticides

Even very small amounts of pesticides have a negative effect on our health, which is why maximum levels of pesticide residues on fruit and vegetables are set by law. However, this maximum amount only applies to individual pesticides and therefore does not prevent up to 20 different pesticides from being present on one foodstuff, all of which are individually below their maximum permitted amount.

How the combination of these substances affects the body has not been sufficiently researched.



**Avoid pesticides as much as possible!**

Around 90% of organic food is pesticide-free, whereas around 90% of conventional food is contaminated with pesticides. It is therefore generally advisable to buy all food in organic quality. If you can't afford or don't want this luxury, there is the option of buying at least heavily contaminated fruit and vegetables in organic quality.

For this purpose, there are EWG tests from the USA for pesticide residues. The results are updated annually.

They can be accessed on the following page:

[ewg.org/foodnews/dirty-dozen.php](https://www.ewg.org/foodnews/dirty-dozen.php)





# Avoidance of pesticides

[Link to the last step of the dietary change](#)

The concentrations of pesticides found on fruit and vegetables in the USA cannot be directly transferred to German produce. Nevertheless, this information can be used to determine which conventionally grown fruit and vegetables should be avoided. The following is a list of foods that have been named on the American list of the EWG or in German publications for years due to their high pesticide contamination:



## Fruit:

Strawberries  
Apples  
Cherries

Grapes  
Nectarines  
Mangoes



## Vegetables:

Spinach  
fresh herbs  
Cultivated mushrooms

**Bell pepper**  
Celery stalks  
Lettuce (especially the outer leaves)



The **bell pepper** is one of the healthiest vegetable due to their high concentrations of vitamins A, C and E. However, the pesticide contamination of peppers is very high in conventional production.

Pesticides can only be removed insufficiently by washing and rubbing! Peeling removes most of the pesticides, but also many vitamins, as their main concentration is also in the peel.





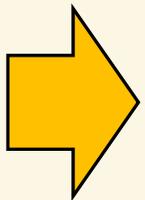
# Avoidance of pesticides, environmental toxins and drug residues

[Link to the last step of the dietary change](#)

Animals raised organically do not necessarily have to be fed with organic feed, which in turn can result in the animals being exposed to pesticides. Nevertheless, the trend is positive, so that animal feed from conventional cultivation is being used less and less for organic breeding animals and is also being authorised.

However, the relatively high intake of environmental toxins from farm animals must be viewed critically. Chemicals from industry, substances from fuel combustion processes or abrasion from tyres and brakes from road traffic enter the bodies of animals and humans as particulate matter via the lungs. This particulate matter is also deposited on plants such as grass, which is eaten in large quantities by animals such as cows or goats. The result is contaminated meat and milk from these animals. Logically, this affects conventional and organically reared livestock equally. The location of the pasture therefore plays a significantly greater role than the rearing method, but is often difficult for the end consumer to understand.

Nevertheless, there are many other factors that favour organic animal products over conventional ones. Reduced animal stress, better health and less exposure to medication are just a few examples.



**As long as your financial situation allows, do your body, the animals, the environment and the plantation workers a favour and buy organic products.**

**Or even better: buy locally from a farmer whose location, cultivation and rearing methods are known.**

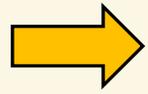
Bayerisches Landesamt für Gesundheit und Lebensmittelsicherheit: Residues of plant protection products in food of animal origin, last accessed on 04/04/2022 under:  
[https://www.lgl.bayern.de/lebensmittel/chemie/pflanzenschutzmittel/pestizide\\_tierisch\\_lm/index.htm](https://www.lgl.bayern.de/lebensmittel/chemie/pflanzenschutzmittel/pestizide_tierisch_lm/index.htm)

Planet Wissen: Harmful substances in food, last accessed on 04/04/2022 under:  
[https://www.planet-wissen.de/natur/tier\\_und\\_mensch/tierzucht/pwieschadstoffeinlebensmitteln100.html#antibiotika](https://www.planet-wissen.de/natur/tier_und_mensch/tierzucht/pwieschadstoffeinlebensmitteln100.html#antibiotika)

Frank Waskow, Sabine Klein: Transformation for sustainable animal husbandry and sustainable meat consumption for the health development path against the background of social developments, guiding principles and values, last accessed on 04.04.2022 at:  
[https://www.verbraucherzentrale.nrw/sites/default/files/2020-11/trafo\\_nh\\_fleisch\\_entwicklungspfad\\_gesundheit\\_vznrw\\_2020final\\_alle.pdf](https://www.verbraucherzentrale.nrw/sites/default/files/2020-11/trafo_nh_fleisch_entwicklungspfad_gesundheit_vznrw_2020final_alle.pdf)



# The pillars of a healthy diet



Whether vegan, vegetarian or mixed diet, every healthy diet must fulfil these requirements:

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Avoiding an excess of acidifying foods ✓

Avoidance of substances that are harmful to the body

Portion sizes that can be optimally digested by the body

Protein ✓

Oils and fats ✓

Vitamins ✓

Minerals: Bulk elements ✓

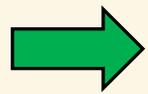
Minerals: Trace elements ✓

Pesticides and environmental toxins ✓

Additives

Plastic

Isolated sugar



With subsequent step-by-step instructions for changing your diet and at the same time embedding the theory in three detailed example days.





# Avoidance of additives

[Link to the last step of the dietary change](#)

There are around 1500 different additives that are authorised in our food. They have different properties such as colouring, preserving, firming, sweetening, stabilising, etc.

Even though the **BgVV** (**Federal Institute for Consumer Health Protection and Veterinary Medicine**) points out that the food additives used in Germany are harmless to health in the authorised quantities, new findings mean that they are nevertheless suspected of being detrimental to health. The sweetener aspartame and the colouring tartrazine, for example, are controversial.

Due to these developments, it is advisable not to experiment on your own body and to avoid additives as far as possible.

Buy products that have no or a very short list of ingredients. Avoid the product at the latest if the list of ingredients contains substances that you do not recognise or that you last read about in your childhood chemistry lessons.



## Example of a pudding:

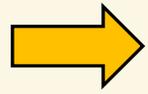
**Ingredients:** skimmed MILK, MILK WHITE 8.5%, CREAM, cocoa powder 1.8%, low-fat cocoa powder 0.2%, modified starch, lactase, thickener (carrageenan, E 466), sweetener (E 950, sucralose), natural flavouring.



Instead, buy as little processed food as possible and prepare your own meal or dessert. If you don't have enough time, look for a similar product with fewer additives in the organic food shop as an alternative. In general, fewer additives are permitted in organic food.



# The pillars of a healthy diet



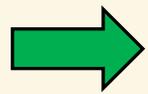
Whether vegan, vegetarian or mixed diet, every healthy diet must fulfil these requirements.

Supply of all essential nutrients ✓

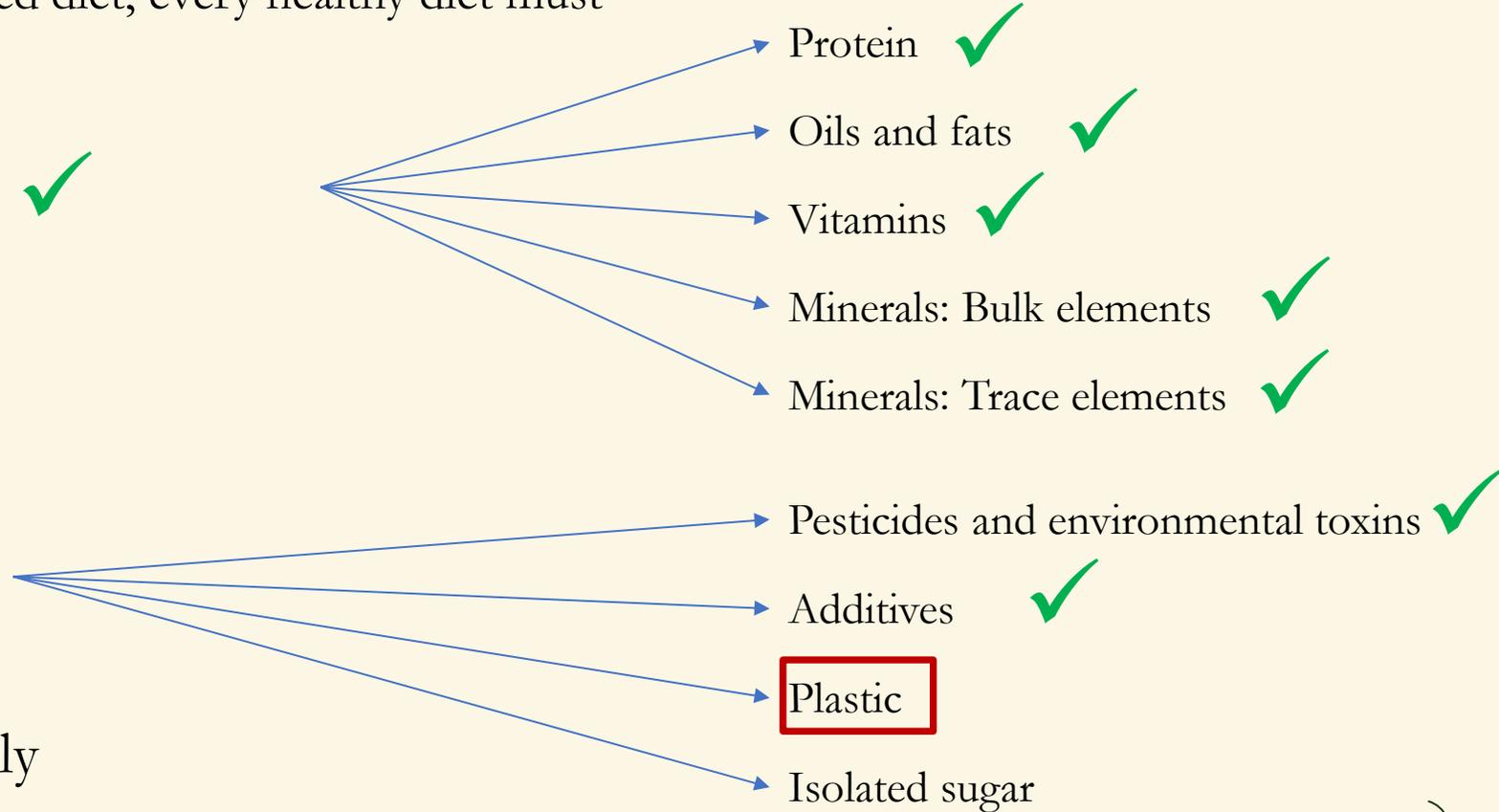
Avoiding an excess of acidifying foods ✓

Avoidance of substances that are harmful to the body

Portion sizes that can be optimally digested by the body



With subsequent step-by-step instructions for changing your diet and at the same time embedding the theory in three detailed example days!





# Avoiding plastic in food

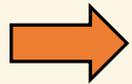
[Link to the last step of the dietary change](#)

Plastic is one of the cheapest materials for manufacturing a wide range of products due to its low raw material costs, energy-saving processing options and easy mouldability. This includes not only packaging, but also clothing and toys. It can also be found as plastic particles in toothpaste, sun cream, cleaning products and cosmetics. The list could go on forever, plastic surrounds us everywhere.

In addition, the material is very stable and this is precisely what causes problems when it comes to disposal. It often takes hundreds of years for it to completely decompose and should therefore be recycled as a matter of urgency. However, recycling plastic products is more expensive than producing them again from crude oil. As a result, Western countries pay to export their plastic waste abroad. China is the main consumer of plastic waste and, like all other countries in Southeast Asia, produces large quantities of **plastic waste** itself. **However, this is only partially recycled. The largest amount, around 80%, ends up in our oceans via rivers.** But plastic also ends up in the oceans in Europe, for example through the washing of synthetic clothing, which releases fibres into the water with every wash.

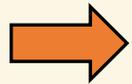
**Plastic in the oceans is mistaken for food and eaten by a large number of animals.** Above a certain size, the particles are referred to as microplastics and mix with the plankton, which is ingested by fish, shrimp and other small creatures.

**Microplastics can therefore be found in a large amount of seafood, which ultimately ends up on our plates. As with animals, the ingestion of plastic is harmful to us humans.**



**Do not buy seafood that originates from South-East Asia.**

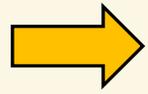
**Fish from breeding tanks are only a limited alternative. They are often kept in large numbers, which in turn promotes the development of diseases that have to be combated with medication.**



**The same applies to sea salt. Buy either rock salt or sea salt produced in Europe if you want to use sea salt with iodised algae as a source of iodine. You'll find it in the health food shop!**



# The pillars of a healthy diet



Whether vegan, vegetarian or mixed diet, every healthy diet must fulfil these requirements:

Supply of all essential nutrients ✓

Avoiding an excess of acidifying foods ✓

Avoidance of substances that are harmful to the body

Portion sizes that can be optimally digested by the body

Protein ✓

Oils and fats ✓

Vitamins ✓

Minerals: Bulk elements ✓

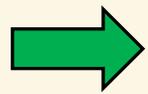
Minerals: Trace elements ✓

Pesticides and environmental toxins ✓

Additives ✓

Plastic ✓

Isolated sugar



With subsequent step-by-step instructions for changing your diet and at the same time embedding the theory in three detailed example days.





# Natural and industrially processed sugar

The average consumption of industrially processed sugar, also known as white household sugar, is around 30 kilograms per person per year in Germany. This is despite numerous studies showing correlations between the consumption of isolated sugar and obesity, constant tiredness, inflammatory processes, intestinal fungal infections, listlessness, poor skin condition, acceleration of the ageing process and many other complaints.

[Avoiding white sugar is therefore one of the most important basic rules of any healthy diet.](#) It doesn't matter whether the person eats a mixed diet, vegetarian or vegan diet. White sugar is equally harmful in any diet.

What is misleading in this context, however, is that all sugar must be avoided. This would mean that fruit, starchy vegetables, cereal products, legumes and all natural sweeteners could no longer be consumed, as each of these products contains simple sugars or is broken down into these in the body. Dietary changes that make such recommendations are difficult or impossible to maintain in the long term and are generally not healthy either.

[The aim is therefore to replace white household sugar with natural sweeteners,](#) which is easy to do in principle, you just need to know how. For example, you can sweeten your coffee with agave syrup, refine your breakfast muesli with maple syrup or spread honey on your bread instead of jam. You don't have to give up baking cakes either, as they can be sweetened with whole sugar instead of white household sugar. Whole sugar is the juice of the sugar beet that has been thickened by boiling. The accompanying substances are not separated from the sucrose.



Dr Matthias Riedl: Die Ernährungs-Docs, Zuckerfrei gesünder leben, ZS Verlag.

Dr Robert H. Lustig: The bitter truth about sugar: How obesity, diabetes and other chronic diseases develop and how we can defeat them, Riva Verlag.

# Natural and industrially processed sugar

[Link to the application](#)

If the diet consists partly of convenience foods, omitting white household sugar can be a challenge, as [industrially processed foods are almost exclusively made with isolated sugar](#).

If you don't want to do without convenience foods, there are a few products that are sweetened with natural sweeteners, such as premixed muesli with honey, jam with whole cane sugar, packaged bread with beet syrup or chocolate with coconut blossom sugar. Before buying such products, it is necessary to read the list of ingredients very carefully in order to distinguish between natural and isolated types of sugar.

As the ingredients of the products are constantly changing, it would make no sense to mention them by name. Nevertheless, it has been shown that these products make it easier to switch to a healthier diet. Below you will therefore find a list of isolated and natural types of sugar to help you decide which ready-made products to buy.

This list is not exhaustive, as there are countless different types of sugar. You should therefore [memorise the natural types of sugar](#) in particular [and avoid unknown types of sugar](#).

List on the next page



Dr Matthias Riedl: Die Ernährungs-Docs, Zuckerfrei gesünder leben, ZS Verlag.

Dr Robert H. Lustig: The bitter truth about sugar: How obesity, diabetes and other chronic diseases develop and how we can defeat them, Riva Verlag.

## Refined & isolated sugars

Sugar

Cane sugar

Beet sugar

Raw cane sugar

Raw sugar

Glucose

Glucose syrup

Fructose

Fructose syrup

Xylitol

Dextrose

Caramel

Caramel syrup

Maltose

Raffinose

Invert sugar

Household sugar

Candy sugar

Dextrose

Vanilla sugar

Fructose-glucose syrup

Corn syrup

Sucrose

Fruit sugar



## Natural sugars

*(usually thickened by boiling the plant juice)*

Whole sugar

Whole cane sugar

Beet syrup

Sugar beet syrup

Maple syrup

Apple pear syrup

Apple syrup

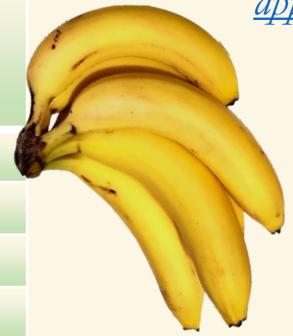
Agave syrup

Agave nectar

Coconut blossom sugar

Date syrup

Honey

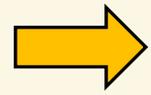


As long as you don't eat huge amounts of these sugars, they are not detrimental to your health.

Eat these types of sugar as rarely and as little as possible!



# The pillars of a healthy diet



Whether vegan, vegetarian or mixed diet, every healthy diet must fulfil these requirements:

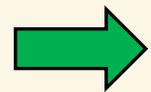
Supply of all essential nutrients ✓

Avoiding an excess of acidifying foods ✓

Avoidance of substances that are harmful to the body ✓

Portion sizes that can be optimally digested by the body

- Protein ✓
- Oils and fats ✓
- Vitamins ✓
- Minerals: Bulk elements ✓
- Minerals: Trace elements ✓
- Pesticides and environmental toxins ✓
- Additives ✓
- Plastic ✓
- Isolated sugar ✓



With subsequent step-by-step instructions for changing your diet and at the same time embedding the theory in three detailed example days.





# Individually appropriate portion sizes

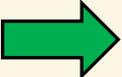
Depending on age, weight and size or state of health, the portion size that the body can tolerate in a meal can vary greatly. This is due to the different amounts of digestive juices, which are mainly produced by the pancreas, liver, gall bladder and stomach. The enzymes contained in the digestive juices and the hydrochloric acid in the stomach break down our food.

The larger the portion size, the more digestive juices are needed to continue to optimally utilise the food. If there is insufficient production of enzymes, the excess food is broken down by bacteria. The incomplete utilisation of the food results in a poorer supply of all nutrients. In addition, undigested food favours the growth of unwanted bacteria and fungal strains. This results in a deterioration of the intestinal environment. This in turn brings with it numerous health disadvantages. These include, for example, hyperacidity of the body due to fermentation processes in the gut or a weakening of the immune system due to the continuous fight against undigested protein molecules circulating in the blood.

If snacking is continuous, similar utilisation problems can occur as when eating too large a meal.

The reason for this is the new food, which is mixed with already half-digested food components in the stomach and can therefore enter the small intestine partially undigested.



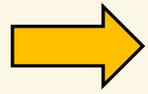
 If you suffer from **stomach ache, bloating or digestive problems** a few hours after a healthy meal, for example, you should try to reduce the portion size of your meals. Instead, eat smaller amounts throughout the day. Depending on the person, the number of meals can be between 2 and 5 portions per day.

 Problems like these can have numerous other causes, which can only be diagnosed by a doctor!

 After each meal, wait until you are hungry again before you eat again. This will prevent you from mixing new food with already digested meals.



# The pillars of a healthy diet



Whether vegan, vegetarian or mixed diet, every healthy diet must fulfil these requirements:

Supply of all essential nutrients ✓

Avoiding an excess of acidifying foods ✓

Avoidance of substances that are harmful to the body ✓

Portion sizes that can be optimally digested by the body ✓

Protein ✓

Oils and fats ✓

Vitamins ✓

Minerals: Bulk elements ✓

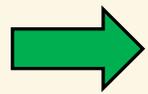
Minerals: Trace elements ✓

Pesticides and environmental toxins ✓

Additives ✓

Plastic ✓

Isolated sugar ✓



With subsequent step-by-step instructions for changing your diet and at the same time embedding the theory in three detailed example days.





# Step-by-step guide to changing your diet

...based on example days.





## Step 1



## Reduction of isolated sugar

Step 1 is the biggest challenge for many people when changing their diet, because in today's society almost all convenience products contain isolated sugars.



**Read the ingredients list of ready-made products and avoid products with isolated sugar.**

Also pay attention to long lists of ingredients, especially if there are many unknown ingredients, as a product usually contains several isolated types of sugar that are hidden behind different names.



**Look for alternative products that contain natural or no sweeteners.**

For example, there are ready-made pizzas that consist of wheat flour, tomato sauce, mozzarella, olive oil, vegetables, salt and a few herbs and spices.

A pizza like this is not fundamentally a healthy food, but it is much better than a pizza with sugar and countless other ingredients.



**Replace white household sugar with natural sugars.**

For example, coffee can be sweetened with agave syrup. Maple syrup is suitable for breakfast muesli or date syrup can be used as a sweetener for fruit quark or fruit salad.

Whole cane sugar or whole sugar can be used for baking.



**Swap lemonade for fruit juices with no added sugar** or syrup made from natural sweeteners.



**Replace conventional sweets with sweets without isolated sugar.** For example, there is chocolate with coconut blossom sugar or bars made from nuts and dried fruit. You can find these in organic food shops. Dried fruit such as dried figs, dates, dried mango or dried apricots are also good alternatives.

Don not torture yourself! Eat a cake or an ice cream with friends in summer if you feel like it.

Eating less isolated sugar is much better than giving up and falling back into your old habits!

Give your body time to adapt to the changes.

Positive effects often only become apparent after one to two months.





## Information on the sample days



Example day 1 is explained in great detail. Both the nutrients contained and those missing are listed and appropriate supplements are formulated to compensate for the deficiency.

Example days 2 and 3, on the other hand, only focus on the missing substances for reasons of clarity.

The example days are closely linked both to each other and to the theory. Don't forget that each day is linked to the corresponding theory via links ([top right](#)).





# Example day 1



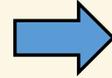
## Step 2



### Adequate intake of protein on example day 1

#### Breakfast:

Various types of fruit (e.g. 1 orange, 1 apple and 1 piece of mango) with approx. 100g nuts and/or oilseeds and possibly some maple syrup or sultanas.



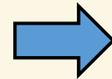
100g oilseeds/nuts contain an average of approx. **23g** protein.

The protein content of fruit is very low. 300g of fruit contains approx. **1.5g** of protein.

#### Lunch:

Mashed potatoes with goulash and red cabbage or grilled meat with jacket potatoes.

**Tip for mashed potatoes:** Press cooked but unpeeled potatoes through a metal spaetzle ricer. The skins remain in the ricer.



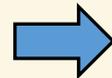
150g of beef contains approx. **33g** of protein. The protein content of vegetables (potatoes and red cabbage) is less relevant. 200g of potatoes contain approx. **4g** and 150g of red cabbage approx. **2g** of protein.

#### Dinner:

White bread (**preferably wholemeal**) with a little butter, served with cheese, avocado or vegetable spreads.

As a sweet alternative, real honey or sugar beet syrup can be added to bread.

There is also a salad with vegetables such as tomatoes, peppers and carrots.



150g of bread (approx. 3 slices) contains about **13g** of protein.

50g hard cheese approx. **14g** protein.

Vegetables again less relevant with approx. **6g** in a mixed salad of 250g.

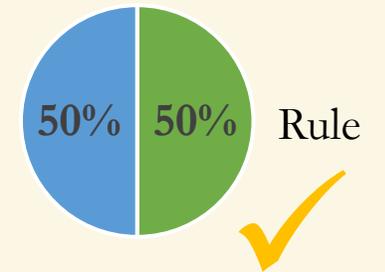
Total protein:

Vegetable protein

→ **49,5g**

Animal protein

→ **47g**



The total amount of protein of **96.5g** (**49.5g** + **47g**) would be sufficient for a **person** weighing **80kg** who exercises regularly (see theory).



## Step 3

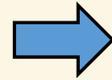


### Adequate intake of fatty acids on example day 1



#### Breakfast:

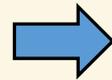
Various types of fruit (e.g. 1 orange, 1 apple and 1 piece of mango) with approx. 100g nuts and/or oilseeds and possibly some maple syrup or sultanas.



100g of oilseeds/nuts (e.g. sunflower seeds, almonds, walnuts, hazelnuts, sesame seeds) contain the daily requirement of oleic acid and also linoleic acid.

#### Lunch:

Mashed potatoes with goulash and red cabbage or grilled meat with jacket potatoes.



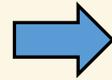
Butter, which is usually mixed into mashed potatoes, only contains some oleic acid, which is a health-relevant fatty acid. If you want to reduce your energy intake (calorie intake), a sensible approach would be to use less butter.

#### Dinner:

White bread (**preferably wholemeal**) with a little butter, served with cheese, avocado or vegetable spreads.

As a sweet alternative, real honey or sugar beet syrup can be added to bread.

There is also a salad with vegetables such as tomatoes, peppers and carrots.



Avocado also contains some oleic acid. To cover the daily requirement of  $\alpha$ -linolenic acid, the salad would need to be dressed with 1 tbsp of linseed oil. However, you can optionally mix 2 tbsp of linseed oil into a dessert on another day.

If no oilseeds or nuts are eaten in the morning, you should add 2 tablespoons of sunflower oil to the salad to cover the linoleic acid.



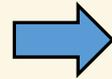
## Step 4



### Avoidance of excess acidity on example day 1

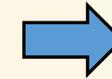
#### Breakfast:

Various types of fruit (e.g. 1 orange, 1 apple and 1 piece of mango) with approx. 100g nuts and/or oilseeds and possibly some maple syrup or sultanas.



Nuts and oilseeds have a slightly acidic effect.

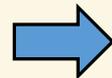
Fruit is alkaline surplus.



Breakfast is alkaline surplus, as much more fruit than nuts and oilseeds is eaten and only weak acids need to be neutralised.

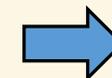
#### Lunch:

Mashed potatoes with goulash and red cabbage or grilled meat with jacket potatoes.



Meat works and is excessively acidic.

Potatoes and red cabbage are alkaline-rich.



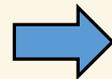
Lunch is approximately neutral, as usually eaten 2 to 3 times the amount of vegetables / potatoes.

#### Dinner:

White bread (**preferably wholemeal**) with a little butter, served with cheese, avocado or vegetable spreads.

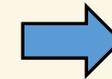
As a sweet alternative, real honey or sugar beet syrup can be added to bread.

There is also a salad with vegetables such as tomatoes, peppers and carrots.



White bread and cheese are excessively acidic.

Avocado, honey and sugar beet syrup are neutral.



Depending on the proportions, the dinner can be neutral or slightly acidic.

Vegetables are alkaline-abundant.

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**The day is neutral to slightly alkaline in excess** ✓

## Step 5

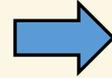


## Vitamins on example day 1



### Breakfast:

Various types of fruit (e.g. 1 orange, 1 apple and 1 piece of mango) with approx. 100g nuts and/or oilseeds and possibly some maple syrup or sultanas.

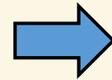


Orange, mango and apple cover the vitamin C requirement. The mango also contains lutein.

Nuts and oilseeds cover the vitamins **B<sub>1</sub>**, **B<sub>3</sub>** and **B<sub>6</sub>**. If almonds are included, you will also be supplied with vitamin **E** and **B<sub>2</sub>**. Sunflower seeds and hazelnuts contain vitamin **B<sub>7</sub>** (biotin) and vitamin **E**.

### Lunch:

Mashed potatoes with goulash and red cabbage or grilled meat with jacket potatoes.



Meat also contributes to the coverage of **B<sub>1</sub>**, **B<sub>2</sub>**, **B<sub>3</sub>**, **B<sub>5</sub>**, **B<sub>6</sub>**, **B<sub>7</sub>**. However, the concentration is lower than that of nuts and oilseeds. In addition, however, meat contains **B<sub>12</sub>**.

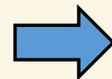
Apart from **B<sub>12</sub>**, potatoes also contain the above vitamins. Potatoes have additional relevant amounts of vitamin **C**, which, however, is reduced during cooking.

### Dinner:

White bread (**preferably wholemeal**) with a little butter, served with cheese, avocado or vegetable spreads.

As a sweet alternative, real honey or sugar beet syrup can be added to bread.

There is also a salad with vegetables such as tomatoes, peppers and carrots.



White bread is extremely poor in vitamins.

Cheese contains only relevant amounts of **B<sub>2</sub>**, **B<sub>12</sub>** and vitamin **A**.

Lettuce contains vitamin **K** and **lutein**. Peppers and carrots contain **β carotene**, which is converted into vitamin **A** by the body. In addition, the bell pepper contains a lot of vitamin **C** and vitamin **E**. Vitamin **E** is also contained in sunflower oil, if the salad is dressed with it.

### Lack of vitamins Day 1

This day does not contain enough vitamin **K**, **D** and **B<sub>9</sub>** (folic acid)

→ Day 2.

## Step 6

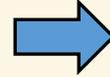


## Quantity elements on example day 1



### Breakfast:

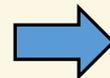
Various types of fruit (e.g. 1 orange, 1 apple and 1 piece of mango) with approx. 100g nuts and/or oilseeds and possibly some maple syrup or sultanas.



The low concentration of bulk elements in fruit is negligible. Nuts and oilseeds contain large amounts of **potassium**, **phosphate** and **magnesium**. **Sesame seeds** also contain **sulphur** and large amounts of **calcium**.

### Lunch:

Mashed potatoes with goulash and red cabbage or grilled meat with jacket potatoes.



Meat contains **potassium**, **phosphate** and **sulphur**. Potatoes also contain **potassium**.



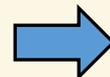
**Salt** is usually consumed with this food. The body is supplied with **sodium** and **chloride** via the salt.

### Dinner:

White bread (**preferably wholemeal**) with a little butter, served with cheese, avocado or vegetable spreads.

As a sweet alternative, real honey or sugar beet syrup can be added to bread.

There is also a salad with vegetables such as tomatoes, peppers and carrots.



White bread contains hardly any bulk elements.

Cheese, on the other hand, contains **calcium**, **phosphate** and **sulphur**. Vegetables mainly contain **potassium**.

**Sodium** and **chloride** are back in the **salt**.

### Lack of bulk elements

#### Day 1

No shortage as long as you eat nuts for breakfast.

Particularly valuable for the critical element magnesium: sunflower seeds and sesame seeds

## Step 7

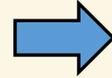


## Trace elements on example day 1



### Breakfast:

Various types of fruit (e.g. 1 orange, 1 apple and 1 piece of mango) with approx. 100g nuts and/or oilseeds and possibly some maple syrup or sultanas.



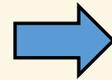
Fruit only contains relevant amounts of **chromium**.

Nuts and oilseeds are rich in **zinc, copper, manganese, chromium** and **iron**. With two **Brazil nuts** or a piece of **coconut** or **grated coconut**, **selenium** is also covered with breakfast.



### Lunch:

Mashed potatoes with goulash and red cabbage or grilled meat with jacket potatoes.



Meat contains **zinc** and easily utilisable **bivalent iron**.

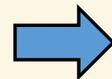
Potatoes contain **chromium** and **molybdenum** as well as smaller amounts of **manganese** and **copper**. Red cabbage contains mainly **molybdenum**. If **iodised salt** or, better still, **sea salt with iodine-rich algae** is consumed with it, the **iodine requirement** is also covered together with the evening meal.

### Dinner:

White bread (**preferably wholemeal**) with a little butter, served with cheese, avocado or vegetable spreads.

As a sweet alternative, real honey or sugar beet syrup can be added to bread.

There is also a salad with vegetables such as tomatoes, peppers and carrots.



White bread contains some **manganese**. Cheese contains **zinc**. Various vegetables contain **zinc, chromium**, some **copper** and **manganese**. Green vegetables such as lettuce also contain **iron**. **Iodine** is again contained **in sea salt with algae**.

### Trace element deficiency Day 1

Day 1 contains only small amounts of silicon and fluoride.

The fluoride content of all foods consumed should be sufficient (see theory). If Brazil nuts or grated coconut are eaten for breakfast and iodised salt is consumed, there are no further deficiencies.



# Example day 2



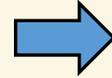
## Step 2



### Adequate intake of protein on example day 2

#### Breakfast:

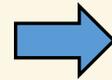
Wholesome muesli with a high proportion of oat flakes without refined or isolated sugars, but with date syrup, for example.  
Add some milk and sweet fruit such as bananas, pears, dates or sultanas.



100g cereal muesli contains approx. **13.5g**, 100ml milk contains approx. **3.4g** protein.  
100g of fruit is almost negligible in terms of protein at approx. **0.5g**.

#### Lunch:

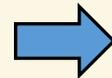
Baked or boiled fish with rosemary potatoes and broccoli.



180g of fish contains approx. **34g** of protein.  
200g of potatoes contain approx. **4g** and 100g of broccoli approx. **3.5g** of protein.

#### Dinner:

Wholemeal bread with hummus (sesame and chickpea cream) and/or herb quark spread (quark with e.g. chives, parsley, marjoram, salt, pepper and olive oil). Serve with a few carrot, pepper or cucumber sticks, which can be dipped in the herb quark or hummus.



150g bread (approx. 3 slices) contains approx. **13g**, 80g quark approx. **9g** protein.  
70g hummus contains approx. **7g** protein, 150g vegetables approx. **3.5g** protein.

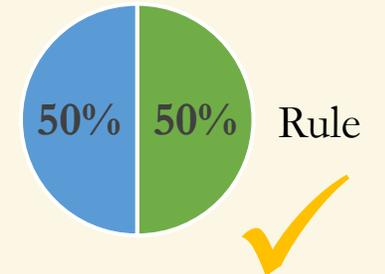
Total protein:

Vegetable protein

→ **45 g**

Animal protein

→ **46,4g**



The total amount of protein of **91.4g** (**45g** + **46.4g**) would be sufficient for a **person** weighing **80kg** who exercises regularly (see theory).



## Step 3



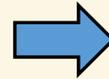
### Adequate intake of fatty acids on example day 2



#### Breakfast:

Wholesome muesli with a high proportion of oat flakes without refined or isolated sugars, but with date syrup, for example.

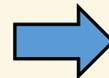
Add some milk and sweet fruit such as bananas, pears, dates or sultanas.



Due to the oat flakes, cereal muesli contains some linoleic acid and oleic acid. However, the quantities are very small and therefore negligible. Milk fat contains some oleic acid. But here too, 100ml of milk does not provide any relevant quantities.

#### Lunch:

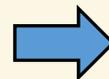
Baked or boiled fish with rosemary potatoes and broccoli.



Both rosemary potatoes and broccoli are often eaten with olive oil. Olive oil consists mainly of oleic acid. Even small amounts of olive oil completely cover the daily requirement of oleic acid. It is advisable to add some sunflower oil as well as olive oil to cover the linoleic acid.

#### Dinner:

Wholemeal bread with hummus (sesame and chickpea cream) and/or herb quark spread (quark with e.g. chives, parsley, marjoram, salt, pepper and olive oil). Serve with a few carrot, pepper or cucumber sticks, which can be dipped in the herb quark or hummus.



Sesame seeds contain oleic acid and linoleic acid. However, the amount of sesame seeds in this dish is small. Quark contains some oleic acid. Here, too, it is a good idea to add not only olive oil to the quark but also some sunflower oil to absorb linoleic acid or linseed oil to cover the  $\alpha$ -linolenic acid. As long as you buy a mild linseed oil (see theory), the flavour will be lost in the herbal quark.

## Step 4

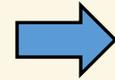


### Avoidance of excess acidity on example day 2

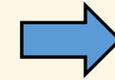


#### Breakfast:

Wholesome muesli with a high proportion of oat flakes without refined or isolated sugars, but with date syrup, for example.  
Add some milk and sweet fruit such as bananas, pears, dates or sultanas.



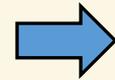
Whole grains are slightly acidic.  
Fruit is alkaline-abundant.



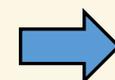
Breakfast is alkaline in excess, as whole grains are very slightly acidic due to the lack of fat and fruit overcompensates for this deficiency.

#### Lunch:

Baked or boiled fish with rosemary potatoes and broccoli.



Fish has an effect and is excessively acidic.  
Potatoes and broccoli are alkaline surplus.

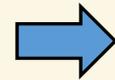


Lunch is slightly acidic, as about twice the amount of fish is eaten with vegetables.

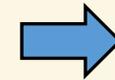
Fish with rice, for example, would be highly acidic, as there would be no or too little vegetable balance.

#### Dinner:

Wholemeal bread with hummus (sesame and chickpea cream) and/or herb quark spread (quark with e.g. chives, parsley, marjoram, salt, pepper and olive oil). Serve with a few carrot, pepper or cucumber sticks, which can be dipped in the herb quark or hummus.



Chickpeas are and appear excessively acidic  
Wholemeal bread, quark and sesame seeds have an excess acidic effect.  
Vegetables are alkaline-abundant.



As the proportion of chickpeas is low and otherwise only light acids are eaten, the proportion of vegetables determines whether the food is slightly acidic or neutral.

---

The day is neutral



## Step 5



## Vitamins on example day 2

### Breakfast:

Wholesome muesli with a high proportion of oat flakes without refined or isolated sugars, but with date syrup, for example.

Add some milk and sweet fruit such as bananas, pears, dates or sultanas.

### Lunch:

Baked or boiled fish with rosemary potatoes and broccoli.

### Dinner:

Wholemeal bread with hummus (sesame and chickpea cream) and/or herb quark spread (quark with e.g. chives, parsley, marjoram, salt, pepper and olive oil). Serve with a few carrot, pepper or cucumber sticks, which can be dipped in the herb quark or hummus.

The vitamins were explained in detail on day 1. However, it is not practical to memorise all the vitamins in individual foods. Concentrate on critical vitamins and look explicitly to see if you are missing one or more of them:

Make sure you regularly eat wholemeal products, nuts and legumes. This covers many **B vitamins** (see theory).

**Breakfast and dinner fulfil this condition.**

Check whether dairy products or almonds are eaten for **B<sub>2</sub>**.

**This condition is fulfilled by day 1, which is sufficient!**

Pay attention to **B<sub>9</sub>** (folic acid), which is found in legumes.

**Chickpeas in the evening meal are very rich in folic acid.**

**B<sub>7</sub>** (biotin) and **vitamin E** are abundant in sunflower seeds and hazelnuts. High concentrations of **vitamin E** are also found in sunflower oil and **sweet peppers**.

**If sunflower oil is consumed, the amount of vitamin E on day 2 is sufficient.**

There is enough **vitamin C** as long as you eat some of the fruit or vegetables mentioned in the theory, for example broccoli **at lunch** or oranges at breakfast on day 1.

You can get **vitamin D** through regular sunbathing or a supplement.

Look out for **lutein** and **vitamin K**, which are contained in dark green vegetables such as broccoli in **lunch** or peppers.

## Step 6



## Quantity elements on example day 2

### Breakfast:

Wholesome muesli with a high proportion of oat flakes without refined or isolated sugars, but with date syrup, for example.

Add some milk and sweet fruit such as bananas, pears, dates or sultanas.

### Lunch:

Baked or boiled fish with rosemary potatoes and broccoli.

### Dinner:

Wholemeal bread with hummus (sesame and chickpea cream) and/or herb quark spread (quark with e.g. chives, parsley, marjoram, salt, pepper and olive oil). Serve with a few carrot, pepper or cucumber sticks, which can be dipped in the herb quark or hummus.

The quantitative elements were explained in detail on day 1. However, it is not practical to memorise all the bulk elements in individual foods. Concentrate on critical elements and ask yourself whether you are missing any:

As long as you eat a wholesome diet, consume enough protein and your food contains salt, your diet will contain sufficient amounts of **potassium, phosphate, sulphur, sodium** and **chloride**.

This condition is fulfilled by day 1 and also day 2.

Check whether you are getting enough **magnesium**. Magnesium is found in oilseeds, nuts, wholemeal products and legumes.

This condition is fulfilled by breakfast and dinner that day.

Make sure you get enough **calcium** from dairy products, sesame seeds or calcium-rich mineral water.

The amount of calcium consumed on day 2 is sufficient but scarce, as only some milk is consumed for breakfast and only small amounts of sesame or quark for dinner.

Drink calcium-rich mineral water regularly to make sure you meet your calcium requirements.

## Step 7



## Trace elements on example day 2

### Breakfast:

Wholesome muesli with a high proportion of oat flakes without refined or isolated sugars, but with date syrup, for example.

Add some milk and sweet fruit such as bananas, pears, dates or sultanas.

### Lunch:

Baked or boiled fish with rosemary potatoes and broccoli.

### Dinner:

Wholemeal bread with hummus (sesame and chickpea cream) and/or herb quark spread (quark with e.g. chives, parsley, marjoram, salt, pepper and olive oil). Serve with a few carrot, pepper or cucumber sticks, which can be dipped in the herb quark or hummus.

The trace elements were explained in detail on day 1. However, it is not practical to memorise all the trace elements in individual foods. Concentrate on critical trace elements and ask yourself whether you are missing any:

As long as you regularly eat wholesome products such as whole grains and their products, legumes, nuts, oilseeds, meat, fish and eggs, you will absorb sufficient amounts of [copper](#), [manganese](#), [chromium](#), [iron](#) and [molybdenum](#).

[This condition is fulfilled by day 1 and also day 2.](#)

Make sure you get enough [iodine](#). Eating sea salt with iodine-rich algae is the simplest solution.

You can also consume a small amount of algae once or twice a week or eat [fish three times a week](#) (see theory).

Check whether enough [selenium](#) is being absorbed. Small amounts of [Brazil nuts](#) (on average 1-2 Brazil nuts per day) or [coconut](#) are suitable for this. → see day 1

The [fish species](#) mentioned in the theory or the [ancient cereals](#) from the USA are also suitable, e.g. in the form of [kamut spaghetti](#).

[Breakfast oats](#) contain large amounts of [silicon](#). As long as you eat oats twice a week, your silicon requirements are covered.



# Example day 3



## Step 2

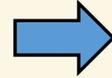


### Adequate intake of protein on example day 3

#### Breakfast:

Half-fat quark with fruit such as banana, mango, apple, pear, strawberries, ...

If required, add a sweetener such as agave syrup or apple syrup and 1 to 2 tablespoons of vegetable oil.



200g quark contains approx. 22.5g protein.

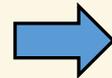
The protein content of 300g of fruit is very low at 1.5g.

#### Lunch:

Chilli sin carne with the main ingredients:

Beans, possibly tofu or another type of bean, sweetcorn (without sugar), pieces of tomato and some vegetables such as carrots, peppers and onions.

*Tip: Pre-cook the beans in plenty of water until they are soft. This makes them easier to digest, as digestion-inhibiting substances dissolve into the cooking water.*



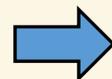
120g beans contain approx. 25g protein, 50g tofu 4g.

50g of cooked maize (from the tin) contains 1.5g and 150g of vegetables approx. 3.5g of protein.

*The chilli can of course also be prepared with minced meat. However, it would then make sense to reduce animal protein in your evening meal or breakfast.*

#### Dinner:

Mixed salad consisting of e.g. peppers, cucumber, tomato, ... with feta/mozzarella and / or eggs and some vegetable oil.



350g of vegetables contain approx. 8.5g of protein. 50g feta 7g and 2 eggs weighing 120g contain 15.6g protein.

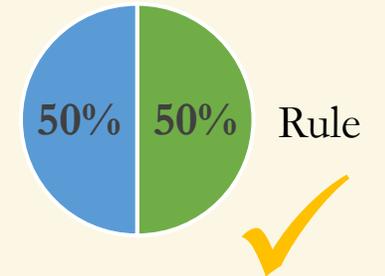
Total protein:

Vegetable protein

→ 44g

Animal protein

→ 45,1g



The total amount of protein of **89.1g** (44g + 45.1g) would be just enough for a **person** weighing **80kg** who exercises regularly (see theory). In the long term, however, this value would be a little low.

## Step 3



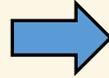
# Adequate intake of fatty acids on example day 3



### Breakfast:

Half-fat quark with fruit such as banana, mango, apple, pear, strawberries, ...

If required, add a sweetener such as agave syrup or apple syrup and 1 to 2 tablespoons of vegetable oil.



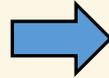
Quark contains more or less oleic acid depending on the fat content. However, it is generally recommended to keep the animal fat content low and replace it with vegetable fats. However, low-fat quark takes some getting used to in terms of flavour. Try half-fat quark and add 1 to 2 tablespoons of linseed oil to cover your need for  $\alpha$ -linolenic acid for 1 to 2 days.

Reminder: On average, you should consume 1 tablespoon of linseed oil per day.

### Lunch:

Chilli sin carne with the main ingredients:

Beans, possibly tofu or another type of bean, sweetcorn (without sugar), pieces of tomato and some vegetables such as carrots, peppers and onions.



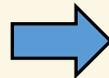
As long as you add a vegetable oil to the chilli, it will contain linoleic acid (sunflower oil), oleic acid (olive oil) or a mixture of linoleic acid,  $\alpha$ -linolenic acid and oleic acid (rapeseed oil), depending on the type of oil.

The disadvantage of rapeseed oil, however, is that the ratio of fatty acids is not right and, unlike sunflower oil, it contains little vitamin E.

Don't forget to add the oil to the food towards the end so that it doesn't heat up unnecessarily. If you want to sauté the onions at the beginning, for example, coconut oil is best for this. It changes its structure the least when heated.

### Dinner:

Mixed salad consisting of e.g. peppers, cucumber, tomato, ... with feta / mozzarella and / or eggs and some vegetable oil.



Like quark, feta and mozzarella also contain some oleic acid.

Both types of cheese are also available in light versions, which makes perfect sense when it comes to eating less animal fat. In this case, supplement your meal with a little sunflower oil (linoleic acid) or olive oil (oleic acid).

## Step 4



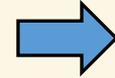
### Avoidance of excess acidity on example day 3



#### Breakfast:

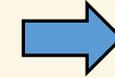
Half-fat quark with fruit such as banana, mango, apple, pear, strawberries, ...

If required, add a sweetener such as agave syrup or apple syrup and 1 to 2 tablespoons of vegetable oil.



Quark is slightly acidic.

Fruit is base-abundant.

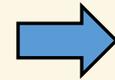


Breakfast is alkaline in excess, as significantly more than twice the amount of fruit is eaten.

#### Lunch:

Chilli sin carne with the main ingredients:

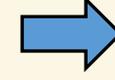
Beans, possibly tofu or another type of bean, sweetcorn (without sugar), pieces of tomato and some vegetables such as carrots, peppers and onions.



Beans are and appear excessively acidic.

Corn is slightly acidic.

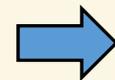
Vegetables are alkaline-abundant.



Lunch is excessively acidic. Too few vegetables are eaten to balance out the acidity of the beans.

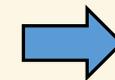
#### Dinner:

Mixed salad consisting of e.g. peppers, cucumber, tomato, ... with feta / mozzarella and / or eggs and some vegetable oil.



Vegetables are alkaline-abundant.

Feta and mozzarella have an acidic effect and are excessively acidic.



The evening meal is neutral to slightly alkaline, as about three times the amount of vegetables is eaten. Mozzarella and feta contain more water than hard cheese and require slightly less than three times the amount of vegetables or fruit to compensate.

---

The day is slightly alkaline surplus



## Step 5



## Vitamins on example day 3

### Breakfast:

Half-fat quark with fruit such as banana, mango, apple, pear, strawberries, ...

If required, add a sweetener such as agave syrup or apple syrup and 1 to 2 tablespoons of vegetable oil.

### Lunch:

Chilli sin carne with the main ingredients:

Beans, possibly tofu or another type of bean, sweetcorn (without sugar), pieces of tomato and some vegetables such as carrots, peppers and onions.

### Dinner:

Mixed salad consisting of e.g. peppers, cucumber, tomato, ... with feta / mozzarella and / or eggs and some vegetable oil.

Wholemeal products, nuts or legumes to cover a **large proportion of the B vitamins**.

✓ Large amount of beans in the lunch.

Dairy products or almonds for **vitamin B<sub>2</sub>**.

✓ Excess dairy products in breakfast and dinner.

**Vitamin B<sub>9</sub> (folic acid)** in legumes.

✓ Excess due to large amount of beans in lunch.

**B<sub>7</sub> (biotin)** with eggs, hazelnuts or sunflower seeds.

Sufficient if eggs are eaten for dinner. Best covered by day 1.

**Vitamin E** from sunflower seeds, almonds, hazelnuts, paprika or sunflower oil.

Sufficient if paprika and sunflower oil are consumed at lunch or dinner.

**Vitamin C** from suitable fruit and vegetables (see theory).

✓ Mango, strawberries and peppers fulfil this condition.

**Lutein** and **vitamin K** from dark green vegetables, peppers or eggs.

✓ Fulfilled by peppers and eggs at lunch and dinner.

**Vitamin D** → Supplement or sun.

Add supplement to food.

## Step 6



## Quantity elements on example day 3

### Breakfast:

Half-fat quark with fruit such as banana, mango, apple, pear, strawberries, ...  
If required, add a sweetener such as agave syrup or apple syrup and 1 to 2 tablespoons of vegetable oil.

Potassium, phosphate, sulphur, sodium and chloride through a wholesome diet with sufficient protein and savoury foods.

✓ Fulfilled by all sample days including this one.

### Lunch:

Chilli sin carne with the main ingredients:  
Beans, possibly tofu or another type of bean, sweetcorn (without sugar), pieces of tomato and some vegetables such as carrots, peppers and onions.

Magnesium from oilseeds, nuts, wholemeal products and legumes.

✓ With the relatively large amount of beans in the lunch and some corn, the magnesium requirement is very likely to be covered.

### Dinner:

Mixed salad consisting of e.g. peppers, cucumber, tomato, ... with feta / mozzarella and / or eggs and some vegetable oil.

Calcium through dairy products, sesame seeds or calcium-rich mineral water.

✓ Excess calcium due to a large amount of quark at breakfast and cheese at dinner.



## Step 7



## Trace elements on example day 3



### Breakfast:

Half-fat quark with fruit such as banana, mango, apple, pear, strawberries, ...

If required, add a sweetener such as agave syrup or apple syrup and 1 to 2 tablespoons of vegetable oil.

### Lunch:

Chilli sin carne with the main ingredients:

Beans, possibly tofu or another type of bean, sweetcorn (without sugar), pieces of tomato and some vegetables such as carrots, peppers and onions.

### Dinner:

Mixed salad consisting of e.g. peppers, cucumber, tomato, ... with feta / mozzarella and / or eggs and some vegetable oil.

Copper, manganese, chromium, iron and molybdenum from whole grains and their products, legumes, nuts, oilseeds, meat, fish and eggs.

Iodine by consuming sea salt with iodine-containing algae.

Selenium through a small amount of Brazil nuts, coconut, special types of fish or ancient cereals from the USA.

Silicon from oats, millet or barley.

A large proportion of these substances are covered by lunch. Breakfast and dinner only fulfil this requirement to a limited extent.

Day 1 and 2 cover the trace elements mentioned better.

The overall balance of the 3 days is certainly sufficient.

Covered if you eat a suitable seaweed salt.

Selenium is covered from day 1 for all 3 days if you have e.g. eaten 4 Brazil nuts for breakfast.

Silicon is covered from day 2 for all 3 days as long as you have eaten oats for breakfast.

## Step 8



### **Avoid additives, pesticides, microplastics and drug residues**



In recent years, the last step of a dietary change has become increasingly important. People in large cities in particular are exposed to high levels of air pollution, which, in combination with environmental toxins and other unnatural substances in food, leads to a heavy burden on the body.



Buy organic food with short ingredient lists. You should also be able to identify each ingredient as food. If you can't afford all organic products, at least make sure you avoid foods contaminated with pesticides (see theory).



If you can, buy animal products locally from a farmer whose location and rearing methods are known. If not, buy organic animal products.



Avoid seafood and algae from Southeast Asia. European products are less contaminated with microplastics.



If, for whatever reason, you cannot fulfil step 8 or can only partially fulfil it, you must be aware that a complete intake of all nutrients is more important than the health disadvantages of pesticides, microplastics and environmental toxins. Step 8 should therefore not prevent you from eating a healthier diet.





# Online course

As you have probably already realised, the topic of nutrition is extremely complex and often requires further explanation in order to develop an in-depth understanding. For this reason, I also offer an online course.



The online course goes into more depth on the topics through learning videos, quizzes and live online sessions with other participants and experts. The course also deals with the topic of "increasing the metabolic level", which results in significant improvements in numerous diseases of civilisation.



You can find information about the online course on my website at: [happyfoodhabits.com/onlinecourse](https://happyfoodhabits.com/onlinecourse)

## Contact details

E-mail: [contact@happyfoodhabits.com](mailto:contact@happyfoodhabits.com)

Phone: +49 7584 7340267





# Medical disclaimer



This guide is for information purposes only and does not replace medical advice, diagnosis or treatment. For the diagnosis or treatment of complaints or illnesses, please consult a qualified doctor or alternative practitioner.

The successes and results described in this guide depend largely on the individual implementation by the reader. The author accepts no liability for any negative consequences that may arise from the application of the information contained herein. Use of the content is at your own risk.

