

# Module 2 – How to raise quality and make food more sustainable

## What is the goal of this module?

**Unit 1:** Understand the Basics of child nutrition

**Unit 2:** Understand how the meals should be composed in the nursery and how they can be prepared

**Unit 3:** Understand what sustainable cooking means and how it can be implemented

## After finishing this module I will have learnt:

1. what the needs for babies, elementary children, children in primary school are and what health problems are connected with unhealthy eating habits.
2. how lunch, breakfast and afternoon snacks are prepared in the kindergarten kitchen or at the caterer.
3. what sustainable and healthy food means and how to work out plans with kitchen staff or how to negotiate with a caterer to develop step by step changes in the food procurement and meal plans in the direction of sustainability?



## Unit 1 – Basics of child nutrition

### In this unit I will learn how to:

1. differentiate the dietary requirements of the children according to their age
2. differentiate the basics of a healthy and sustainable food choice
3. understand how the energy curve changes over the day

### Introduction into the topic

When children experience the fun of eating at the family and in the daycare center, they develop a balanced nutritional behavior quite naturally. The most important rule is that the adults determine what is served and the child decides what it eats from this. Free according to the motto: stimulate the taste - accept rejection. This means all rules and tables are indications how the offer should be designed, here is the responsibility with the adults or the day care center. But keep in mind: Children "tick" not according to tables: deviations from the suggested amounts and values are therefore no drama, they are only the guard rails in which each child develops individually.

Based on scientific knowledge, basic rules were developed as to how the meals should be arranged in the day care center. They serve as a basis for creating a meaningful diet plan when a day care center cooks or to assess the offer of a caterer.



## Chapter 1 – Nutrient supply of the individual reference values and within the age grades

The World Health Organization (WHO) has published general nutritional rules ([http://www.who.int/nutrition/topics/5keys\\_healthydiet/en/](http://www.who.int/nutrition/topics/5keys_healthydiet/en/)).

The WHO recommends:

- babies and young children to breastfeed
- eat a variety of different foods
- eat plenty of vegetables and fruit
- eat moderate amounts of fats and oils
- eat little salt and sugars

In addition, the WHO has developed a „Food and nutrition Policy for schools“ ([http://www.euro.who.int/data/assets/pdf\\_file/0019/152218/E89501.pdf?ua=1](http://www.euro.who.int/data/assets/pdf_file/0019/152218/E89501.pdf?ua=1))

These general recommendations have been further developed and concretized in almost all EU countries on a national basis. For example, the German Society for Nutrition (DGE) has taken on this task in Germany.

The DGE has issued recommendations for child day care centers ([www.fitkid-aktion.de](http://www.fitkid-aktion.de)) and schools (<http://www.schuleplussessen.de/>), which are summarized in a brochure quality standard for eating in child day care centers ([http://www.fitkid-aktion.de/service/medien.html?eID=dam\\_frontend\\_push&docID=1901](http://www.fitkid-aktion.de/service/medien.html?eID=dam_frontend_push&docID=1901)).

### Reference values as a scientific basis

The children are divided into the following age groups in the literature on child nutrition and when drawing up the reference values:

- 0-0.5 years (breast-fed children or babies who are fed with the bottle)
- from 0.5 to 1 year (introduction of the complementary food, this means mixture of breastfeeding and solid food in the form of porridge)
- 1 to 4 years old toddlers receive family food
- 4 to 7 years old kindergarten children receive family food

Basically, the diet of small children (0-3 years) does not differ significantly from the diet of children. The same recommendations apply to food quality as for older children. However, small children need less energy than older children.

**[Additional Information Nr. 1 D-A-C-H reference values for nutrient intake \(docx - 74kB\)](#)**

For more information about the diet of children between the ages of 1 and 3, see this link:

**[Additional Information Nr 2: Specialties for the nutrition of small children \(0-3 years\) \(docx - 74kB\)](#)**

**[Additional Information Nr 3: Other issues of healthy food \(docx - 75kB\)](#)**

How to implement the topic to everyday life:

Daily plan for age groups:

[https://www.gesund-ins-leben.de/fileadmin/SITE\\_MASTER/content/Dokumente/Downloads/Medien/0361\\_2015\\_was\\_kleinkinder\\_brauchen.pdf](https://www.gesund-ins-leben.de/fileadmin/SITE_MASTER/content/Dokumente/Downloads/Medien/0361_2015_was_kleinkinder_brauchen.pdf)

Brochure Bio in the crib:

[www.biofuerkinder.de/agrar/wp-content/uploads/2013/02/Bio-in-der-Krippe.pdf](http://www.biofuerkinder.de/agrar/wp-content/uploads/2013/02/Bio-in-der-Krippe.pdf)

Photographs showing examples of implementing the issue into real life:

<https://www.kindergesundheit-info.de/themen/ernaehrung/1-6-jahre/gesunde-kinderernaehrung/>

<http://www.fitkid-aktion.de/wissenswertes/kinderernaehrung.html>

**Tips for Links with more information outside of the course**

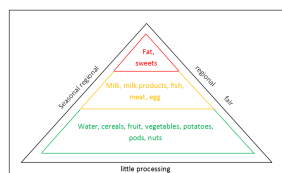
<https://www.dge.de/fileadmin/public/doc/gv/GV-Umsetzung-Referenzwerte-QST-2013.pdf>

## Chapter 2 – Food selection for adolescent

The rules of thumb for the consumption of food are:

- plenty of water or other unsweetened drinks
- every day vegetables, fruit, cereals and cereal products and/or potatoes
- animal products such as meat, sausage, fish, eggs, but also milk and milk products such as cheese, curd, yoghurt only in moderation
- sparingly with: salt, sugar, sweets, snack products and fatty foods. This is especially true for fat-rich products with a high content of saturated fatty acids, such as, for example, chocolate, chips, flips and the like

The following nutritional pyramid is complemented by aspects of sustainability. It provides food from the region or from fair trade, organic & seasonal food as well as a low processing (as fresh raw materials as possible). Taking these aspects into consideration, it is also possible to incorporate other decision-making criteria in the selection of food in addition to the nutritional values. More detailed information can be found in [Unit 3](#).



Source: [www.biofuerkinder.de/agrar/wp-content/uploads/2013/02/Bio-in-der-Krippe.pdf](http://www.biofuerkinder.de/agrar/wp-content/uploads/2013/02/Bio-in-der-Krippe.pdf)

### Balanced food and drink - so it goes! The nutritional circle in Detail

In order to provide us with all essential nutrients, a great variety is required. The diet should therefore be as diverse as possible. However, it is not just the choice of food, but the quantity also plays an important role.

The DGE nutritional circle subdivides the rich food supply into seven groups represented by a segment in the circle. The

different sizes of the segments illustrate the extent to which the different food groups should be represented in a full-fledged diet. The larger a segment of the circle, the larger amounts should be consumed from this food group. Food out of the small segments should be used sparingly.



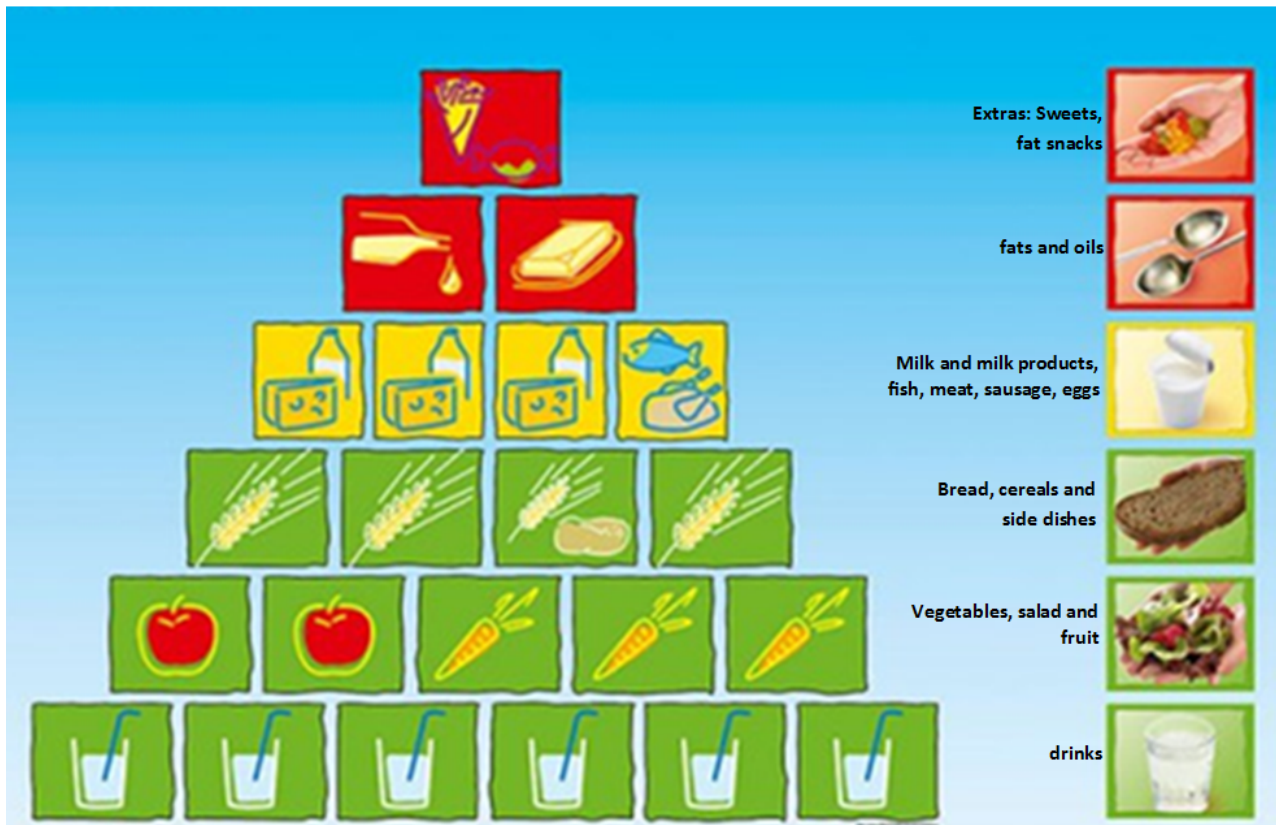
Source: <http://www.dge.de/ernaehrungspraxis/vollwertige-ernaehrung/ernaehrungskreis>

Drinks are the largest food group with a daily drinking volume of around 1.5 liters. Then follow the plant foods grain, cereal products, potatoes, vegetables as well as fruit. They form the basis of a full-fledged diet and supply carbohydrates, abundant vitamins, minerals, dietary fiber as well as secondary plant products. Animal products supplement the daily food plan in small portions and should be as low in fat as possible. They provide the body with high-quality protein (protein), vitamins and minerals. Fat and fat-rich foods should be consumed rather rarely. The quality plays a decisive role here, because vegetable oils mainly supply the essential fatty acids.

Whoever selects from all seven food groups, takes account of the quantity ratio shown and uses the food diversity of the individual food groups, creates the best conditions for a full-fledged diet.

## Educational work with the food pyramid

For the pedagogical work with children, it has proved to be a good idea to change the nutritional pyramid into the food pyramid. The AID information service from Germany has developed many games around the nutritional pyramid and educational material, which are currently provided by the Federal Center for Nutrition (<http://shop.aid.de/bundeszentrum-fuer-ernaehrung>). The amounts of food are shown in the pyramid as individual fields. Each field is a portion of each food. As an orientation, one assumes that a handful of the respective food should be consumed. Since a child's hand is smaller than the hand of an adult, the amounts match the calorie requirement. So, you should eat 2 hands full of fruit and 3 hands full of vegetables daily.



Source: <http://shop.aid.de/3923/die-aid-ernaehrungspyramide-din-a5-karten-im-10er-pack>

Amounts	Food Group
6 servings	Drinks, at least one serving to each meal and in between
5 servings	Whole meal bread, side dishes such as oven potatoes, whole grain noodles or natural rice, cereals (also as muesli)
5 servings	Fruit, vegetables, legumes, lettuce and raw food (5 a day)
3 servings	milk and milk products
1 serving	2-3 times per week Meat and sausage (lean versions) 1-2 times per week Fish, 2-3 times egg (also in processed form)
2 servings	Vegetable oils and spreadable fat
1 serving	10% of the daily requirement Sweets, biscuits, salty snacks, sugar sweetened drinks, fat food (fries, croissants) - this is a recommendation and not a must!

Source: aid.de

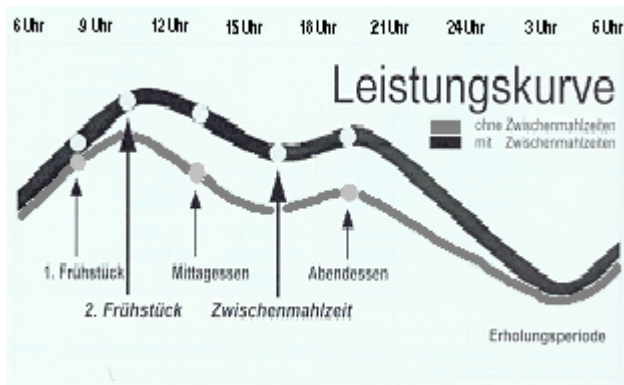
**Other learning tools:**

<https://www.kindergesundheit-info.de/themen/ernaehrung/1-6-jahre/gesunde-kinderernaehrung/>

<http://www.fitkid-aktion.de/wissenswertes/kinderernaehrung.html>

## Chapter 3 – Eat throughout the day - the performance curve

5 meals should be consumed during the day, so warm and two cold main meals (breakfast, lunch and dinner) as well as two intermediate meals, in the morning and afternoon. One of the main meals should be eaten warm, but it is completely no matter whether at noon or in the evening. In addition, plenty of liquid should be drunk during the day. Depending on the age, 800 ml to 1.5 liters are recommended. Regular food consumption throughout the day does not increase the blood glucose level so much, and the children have better performance and concentration. The meals complement each other and give the little one the optimal strength for the day.



Source: XC

### 5 meals a day - in day care and at home

Due to the increasingly prolonged periods of treatment, more and more children are eating breakfast, lunch and afternoon snack at the daycare center. Some day-care centers even have dinner. In the following, recommendations for the composition of the individual meals are compiled from a nutritional physiological perspective. In proportion, for an optimal performance curve, the energy intake of children should be divided roughly as follows:

- 25 % first breakfast
- 10 % second breakfast in the day care center or morning snack
- 30 % lunch
- 10 % afternoon snack
- 25 % dinner

Source: [www.forum-ernaehrung.at](http://www.forum-ernaehrung.at)

For more information on meal scheduling, see Unit 2.

## Unit 2 – Meals in kindergarten

### In this unit I will learn how to:

1. differentiate the catering systems
2. create a healthy food plan
3. negotiate with the caterer for more sustainable products

### Introduction into the topic:

The kitchen facilities in the kindergartens vary a lot. Larger kindergartens with good equipped kitchens and kitchen staff can cook with fresh ingredients. For them it is easier to integrate seasonal, regional and organic food that for those who work with a lot of frozen or convenience food. But no matter if self-cooking or catering all systems can develop in the

direction of health and sustainability. From the nutrition point of view a child should eat 5 meals per day, usually 3 are served in kindergarten. Chapter 2 describes how a healthy food choice over the day can be organized.



## Chapter 1 – Different systems at a glance

In addition to the quality of the food used, the type of food preparation is also important. The best taste and the highest amount of ingredients are obtained with systems that are cooked on the spot with fresh products (fresh or mixed kitchen). There are hardly any waiting times between preparation and consumption. If the food is not cooked on the spot, the food must be heated or kept warm. Important nutrients and a good consistency are often lost (warm food).

Ask where the supplier comes from, what system he uses, and how the kindergarten can provide raw food and fruit to compensate for possible vitamin losses. The regeneration systems (freezing system, cook & chill) protect the ingredients and should be preferred for nutritional physiological reasons. Disadvantages of mostly industrially manufactured products are the high energy consumption through the cold chain, as well as the possible imprinting of the taste by "finished food", which can affect into the adult age. Finally, finished products are more expensive than the fresh kitchen.

**Fresh kitchen** – everything is freshly prepared on the spot.

**Mixed kitchen** – Some of the products are freshly cooked and some are prefabricated (Convenience).

**Regeneration systems** – Pre-cooked food is cooled or refrigerated and heated in the day-care center (Cook & Chill).

**Warm food** – Pre-cooked food is delivered by a food provider warmly and distributed in the day care center.



## Chapter 2 – food planning

### A balanced day and week food planning and a variety of the foods used

The adults set the times for the meals a day. They also provide the food, so that the child already selects in the toddler age, what it would like to eat from the components offered and how much. Only in this way it can develop a natural hunger and saturation feeling. Priority health-promoting foods should be given to. In addition to the decision-making capacity, the self-responsibility of the toddler is also encouraged.



### Breakfast (and dinner)

The first meal in the day care center is usually the breakfast. Either the daycare offers a balanced breakfast or the children bring their filled breadboxes with them. If the daycare prepares breakfast, it should be complete and healthy. If the breakfast is brought, it is recommended that the day care center distributes a positive list with the desired contents / food to the parents. A positive list is always more motivating and inspiring than a ban list. The evening bread should be designed according to the same rules, if the lunch was a warm meal.

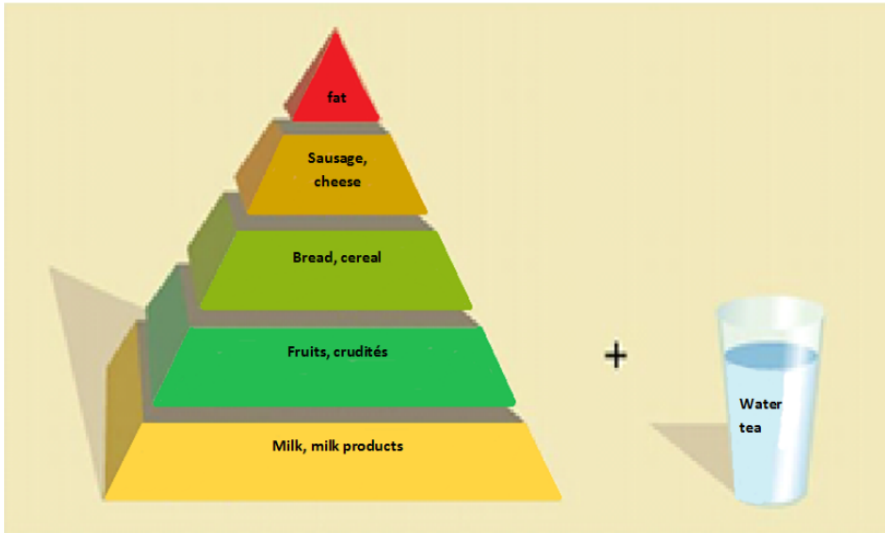
Breakfast is the main important meal for a good start to the day:

- energy reserves are filled
- it brings performance and concentration
- without or with an unhealthy breakfast, children can be tired, not concentrated and sluggish



**This is how the breakfast (dinner) looks, the 4 building blocks for a healthy and balanced breakfast:**

- drinks e.g. water or herbal tea
- cereal products e.g. whole meal bread or muesli
- fruit and raw food e.g. apple, banana, tomato, carrot, cucumber
- Milk and dairy products like yoghurt, cheese or curd cheese should be eaten more sparingly



Source: OptimiX ([www.fke-do.de](http://www.fke-do.de))

### Ideas for breakfast:

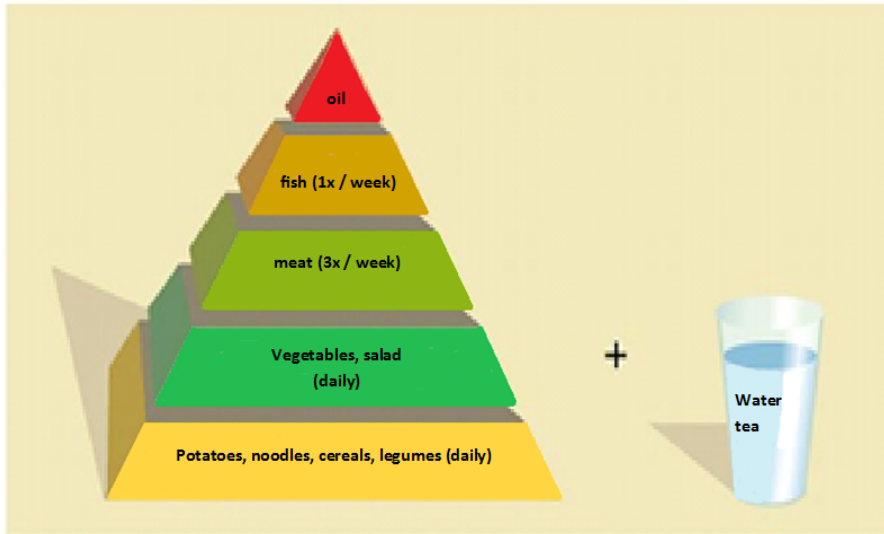
- muesli with milk and fruit
- Whole meal bread with cheese and vegetable strips, fruit and 1 glass of milk
- Whole meal toast with fresh cheese and fruit slices, 1 glass of juice
- Cereals with yoghurt and dried fruits, 1 glass of juice

Whole meal bread with spicy spread and cucumber slices, fruit, 1 glass of

## Lunch

In order to balance the nutrition plan for the children, the day-care center can follow the recommendations of the Bremen Institute for Prevention Research (<https://www.bips-institut.de/home.html>) and the quality standards of the day care center of the DGE (<http://www.fitkid-aktion.de/qualitaetsstandard.html>). In the case of kindergartens in which self-cooking is carried out, the food for the older children should be planned in such a way that the pap for the toddler can also be prepared from it.

When a kindergarten cooks itself the kindergarten can shape the menu along a week's structure (see [Requirements for a balanced diet](#)). If the day care center has a caterer, it is possible to compare the weekly schedule with these recommendations. If a caterer has several meals a day, the management or a responsible educator must ensure that the food is ordered according to the checklist of these specifications.



Source: OptimiX ([www.fke-do.de](http://www.fke-do.de))

The Optimix concept describes the lunch pyramid for the weekly food scheduling as shown above. It brings the diet plan for the week to the short form: Daily cooked vegetables + natural rice, whole grain noodles or potatoes, 2-3 times a week meat (70 g) and 1-2 times a week fish (70 g).

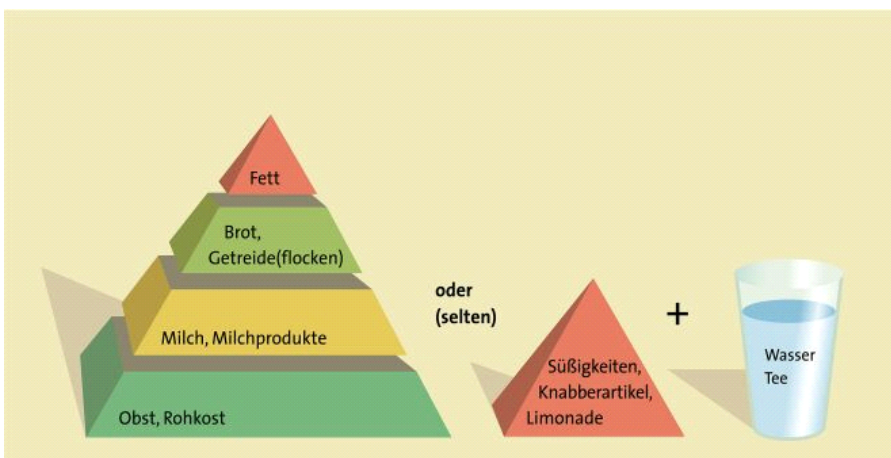
## Afternoon Snack

Offer the children a drink. A good thirst quencher is mineral water and spritzer with a portion of juice and three parts of water.

The afternoon snack should be served between 3 pm and 4 pm to allow sufficient distance to the other meals. Sweets or salty snacks are not necessary for nutritional physiological reasons. They are often part of the family day or everyday life. Therefore, candy should be offered in the afternoon only in moderation.

**The snacks between the main meal times can consist of:**

- Fruit: divided apples, pears, bananas, etc.
- Vegetables: Vegetable sticks of peppers, cucumbers, carrots etc.
- Cereal: whole meal bread or bread with sausage or cheese or oatmeal with milk or yoghurt
- Milk and milk products: yoghurt or curd cheese with fruit pieces
- or colorful bread sticks



Source: OptimiX ([www.fke-do.de](http://www.fke-do.de))

## Other learning tools:

Concept Optimix

<https://www.gesund-ins-leben.de/fuer-familien/kleinkinder/essen-und-trinken/>

Ideas for the breakfast box:

<http://www.familienkost.de/kindergartenfruehstueck.php>

Brochure of the Research Institute for Child Nutrition: recommendations for the diet of children and adolescents to be ordered under:

[www.fke-do.de/index.php?module=shop\\_articles&index\[shop\\_articles\]\[action\]=details&index\[shop\\_articles\]\[data\]\[shop\\_articles\\_id\]=11&ion=6](http://www.fke-do.de/index.php?module=shop_articles&index[shop_articles][action]=details&index[shop_articles][data][shop_articles_id]=11&ion=6)

## Chapter 3 – Kindergartens without kitchen staff

Whether the food is freshly cooked or brought by a caterer - the quality of the food, which ultimately comes to the table for children, is crucial. Thus, when selecting a caterer - in addition to the use of organic - it is important to negotiate the quality of the delivered food. The question whether cooked in the day care center or catering is often not a question of personal attitudes, but primarily depends on the personnel key or the existing budget of the institution. All the catering systems - whether on-site cooking, frozen or hot food - have their advantages and disadvantages. Check with the vendors and ask for organic food. As demand increases, the caterers usually adapt to customer requirements.

Warming times, the absence of additives, the absence of genetically modified food, the involvement of parents and children in the preparation of meals, and flexibility in reordering are only a few more points which should be clarified. Consider the caterer as a partner with whom you develop the catering concept of your facility in dialogue.

### Possibilities for a fresh preparation despite caterer (breakfast, snacks, side dishes)

Anyone who is supplied with a meal by a warm-food or cold-food producer can prepare and offer fresh food and raw food, around the hot food itself, with the help of simple means. Suitable for this are, for example, the following side dishes: fresh potatoes, whole grain cereals, whole grain noodles, millet or grain. In addition, vegetables can be steamed to a small extent. A salad and raw food offer brings freshness to the food. Salads, vegetable sticks, fruit spits or fruit salads are a great way to offer the children vitamins and minerals.



## Unit 3 – Sustainable cooking

### In this unit you will learn:

1. what sustainable food means
2. more detailed information about: Organic, regional and seasonal, fair trade food and sustainable fish
3. strategies to keep the costs in its limits

### Introduction into the topic:

There is no universally accepted definition of sustainable food but it is generally recognized that it should - in the ways that it is produced, processed, transported, prepared and disposed of - minimize negative and maximize positive health, social, economic and environmental impacts. Fundamentally, sustainable food should reflect the basic tenets of

sustainable development, namely to meet the needs of the current generation without compromising the ability of future generations to meet their own needs.

Since the food system is so complex, sustainable food necessarily incorporates a lot of different issues. Fresh, seasonal, local, organic and fair trade are certainly parts of what could be seen to constitute sustainable food, but there are many other issues that also need to be considered such as healthy diets, animal welfare, water and energy efficiency and waste reduction. In fact, the list of sustainable food issues is also limitless and ultimately the definition of sustainable food must be left up to the individual interpretation. In this module, we look at some issues more in detail and give hints on how to cope with the question how extra costs from sustainable consumption can be minimized by smart procurement strategies.



## Chapter 1 – Organic, local, seasonal and why is it smart to reduce meat consumption

In this chapter, you will learn more about organic, regional and seasonal food and why a meat reduced diet has benefits for the environment.

### Background information on organic agriculture

Farmers do distinguish between “organic agriculture methods” and the so called “conventional farm methods”.

Organic farming methods use virtually no artificial pesticides or fertilizers and are therefore better for wildlife and habitats than conventional farming. By rotating crops and using compost, leys and manure as natural fertilizers, organic farming helps to conserve soil and water and requires a lower input of fossil fuel energy, which creates a more efficient production system. Organic farming also prohibits the use of genetically modified organisms (GMOs). The production methods and criteria for qualifying as organic are legally defined in the EU, so that all products labelled as organic meet a minimum standard.

Organic products can be identified by an EU-wide logo that is defined by EU regulations and certified in each country by government licensed bodies, which ensure that all organic products meet the standard ([Principles of organic farming](#)). The latest figures for each EU country you can find at the infographic of the Eu –ifoam group:

<http://www.ifoam-eu.org/sites/default/files/ifoamvis-package/index.html>

### Additional information

<http://www.ifoam-eu.org/>

[http://www.boelw.de/fileadmin/media/pdf/Themen/Branchenentwicklung/ZDF\\_2017/BOELW\\_ZDF\\_2017\\_web.pdf](http://www.boelw.de/fileadmin/media/pdf/Themen/Branchenentwicklung/ZDF_2017/BOELW_ZDF_2017_web.pdf)

[https://ec.europa.eu/agriculture/organic/index\\_en](https://ec.europa.eu/agriculture/organic/index_en)

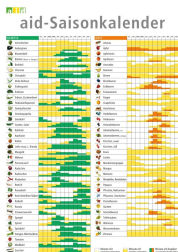
[https://ec.europa.eu/agriculture/organic/organic-farming/frequently-asked-questions\\_de](https://ec.europa.eu/agriculture/organic/organic-farming/frequently-asked-questions_de)

### Regional and seasonal

In very general terms, food produced near to where it is bought and consumed is likely to have a lower environmental impact - particularly in terms of its carbon footprint - than food produced further away. A product's carbon footprint

reflects the amount of greenhouse gases that are emitted during its life-cycle, which includes its production, processing, storage, distribution, consumption and disposal. Products with a lower footprint make a smaller contribution to climate change and are therefore more sustainable. But while locally produced food is likely to be more sustainable, it is not always the case. For example, vegetables produced in a heated greenhouse locally out of season may in fact have a higher carbon footprint than those produced naturally in hotter parts of the world and then transported, so it is worth thinking about the balance of different factors affecting a product's carbon footprint before deciding what to buy.

With the help of a seasonal calendar you can see what fruit or vegetable is in season. Buying in season out of the region – from an economic point of view - helps the farmers in your region to generate their income but at the same time it helps as well to keep costs down.



### Saisonal kalender

(Source: aid)

## The benefits of a reduced meat diet

Meat production and cereal production are in competition for the world's limited agricultural land and cereal production for livestock feed is in competition with cereal for human consumption. With 7kg of cereals needed to produce 1kg of beef and 4kg of cereals needed to produce 1kg of pork, our increasingly meat-based diets are not only negatively affecting our health but putting huge pressure on fragile ecosystems.

With the rapid rise in meat consumption set to continue, farmers have only two responses: farm their existing land even more intensively - by adding ever increasing amounts of fertilizer and pesticide - or replace forests and savannahs with more farmland. As well as being the primary cause of biodiversity loss, as has been so clearly illustrated by the experiences of Brazil and Indonesia in recent years, both these responses are leading to irreversible depletion and degradation of soils and fresh/groundwater resources, which further limits future generations' ability to produce sufficient food.

While customers have become used to eating more and more meat, there are lots of ways to reduce the amount of meat in menus while maintaining quality and flavor. As well as using meat substitutes, many kindergarten kitchens are also introducing meat free options. With the high cost of meat ingredients and the huge health and environmental benefits of lower meat consumption, reducing the amount of meat in their menus is possibly the most cost-effective way for a kindergarten kitchen to improve the health of the children and the planet. Since in early years eating habits are developed it makes sense to teach the children and the families that meat reduced and vegetarian dishes are tasty and trendy at the same time.

## Chapter 2 – Background information on: Fair trade food and fish from sustainable production (MSC fish)

This Chapter covers other aspects of sustainable food: Fair trade products like rice, nuts or bananas and fish that is produced in a sustainable way are two product groups kindergarten kitchen staff can integrate in the menu- cycle to convert to a more sustainable kitchen.

### Fair trade

By buying products that carry the Fairtrade Mark, consumers can be assured that farmers and farm workers in poorer countries are getting a better deal: receiving a fair and stable price for their products that covers their costs of production;

benefiting from longer-term trading relationships; and receiving the Fairtrade premium to invest in local schools and health clinics, for example.

The most important objectives are:

- market access for marginalized producers
- sustainable and equitable trading relationships
- capacity building and empowerment
- consumer awareness raising and advocacy

The Fairtrade system also includes some environmental standards as part of producer certification. The standard requires producers to protect the natural environment as part of farm management. Producers are also encouraged to minimize the use of energy, especially energy from non-renewable sources.

In distinction to the EU wide organic standard an EU wide fair trade standard is not established yet. The fair-trade associations have launched private standards that are well recognized and controlled by private certification bodies.

More information you get on in this Video (German language):

<https://www.brot-fuer-die-welt.de/themen/fairer-handel/?gclid=EAlalQobChMIrrC2rWa1glVIhobCh34oAB1EAAYA SAAEgKPvfD BwE>

More information about some of the German private fair-trade labels you find here:

GEPA: <http://www.gepa.de/home.html>

Fair Trade Deutschland: <https://www.fairtrade-deutschland.de/>

Naturland fair: <https://www.naturland.de/de/naturland/was-wir-tun/naturland-fair.html>

Links with more information:

<https://wfto-europe.org/>

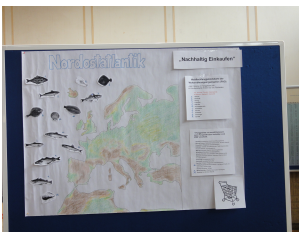
in German language

<https://www.fairtrade.net/>

<https://www.fairtrade-deutschland.de/>

## Sustainable Fish

Humans have been fishing the oceans for thousands of years, but over the past five decades technology has allowed us to fish farther, deeper and more efficiently than ever before. Scientists estimate that we have removed as much as 90 percent of the large predatory fish such as shark, swordfish and cod from the world's oceans. In 2003, the Pew Oceans Commission warned that the world's oceans are in a state of "silent collapse," threatening our food supply, marine economies, recreation and the natural legacy we leave our children".



There are two labels for sustainable fish.

The Marine Stewardship Council (MSC) label guarantees sustainable fishing methods for wild fish. While the label of the Aquaculture Stewardship Council (ASC) is a guarantee for fish out of aquaculture systems. This means this label is for fish or marine products that are produced in fish or shrimp farms.

## MSC principles

**Principle 1:** A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.

**Principle 2:** Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

**Principle 3:** The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

## The ASC standards

- Comprehensive legal compliance
- Conservation of natural habitat and biodiversity
- Conservation of water resources
- Conservation of species diversity and wild populations through prevention of escapes
- Use of feed and other inputs that are sourced responsibly
- Good animal health (no unnecessary use of antibiotics and chemicals)
- Social responsibility for workers and communities impacted by farming, (e.g. no child labor, health and safety of workers, freedom of association, community relations)

Link:

<https://www.asc-aqua.org/>

<http://www.wwf.de/themen-projekte/meere-kuesten/fischerei/fischereipolitik-in-europa/>

# Chapter 3 – Strategies to keep the costs in its limits

Kindergarten kitchen staff in most countries has a fixed budget to buy food for the weekly meals.

In this chapter, you can learn some strategies that are developed and realized in cooperation with kindergarten kitchens that show how sustainable food can be introduced without the risk of a cost-explosion.

## Strategies

The strategies to keep the costs in its limits have been developed over several years of practical work with kindergarten kitchens. If you combine the strategies with each other it is possible to integrate at least 10-20% more sustainable food (organic, regional, fair trade...) into your meal plan without lifting the costs out of its limits.

## Where to buy sustainable food?

### Tips for the way of proceeding:

- Ask as a first step your conventional supplier if he delivers biologic, fair trade products, too?
- Contact different supplier and compare the prices based on the range of goods.
- Are there advices of regional products or of the country of the origin of the products in the order lists?
- Order a delivery to test if you are satisfied with the quality and the delivering methods.
- There are providers (e.g. Box delivery service) who offer smaller amounts than wholesaler.
- We recommend you to strive for long-term conditions of delivery, personal contact and mutual trust.
- Start your change step by step.
- Keep in mind that the idea of "fair trade" is the leading idea along the value chain. Here in Europe and in the so called third world countries.

## Key Actions

1. **Match existing daycare recommendations with national dietary recommendations (nutritional value, variety, suitable for children)**
2. **Consider special nutritional requirements in the new dietary planning (intolerances, allergies, religious restrictions)**
3. **The cooking process determines the sensory quality; therefore check you can produce more fresh products in the kindergarten**
4. **Develop a step-by-step plan towards a more sustainable catering based on realizable priorities**