

DGE Quality Standard for School Meals





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Note on equality in language usage:

Insofar as personal references are in the masculine gender, this form is used in a generalized way and refers to both genders. The German Nutrition Society certainly believes in the equality of man and woman and has only used the masculine form for better and faster reading. We thank you for your understanding.

Greetings



Christian Schmidt, © BMEL/Kugler

Dear Readers,

High quality food that tastes good is a wonderful basis for good mood and satisfaction. Unfortunately, such a meal at school cannot be taken for granted. The school can thereby be a very special place for nutrition. Because here, pupils can gather both, knowledge of the proper handling of food, as well as the experience of a joint meal shared with friends.

The nutrition education in childhood has a decisive influence on the nutritional behaviour in later life – and thus on health and vitality. The school catering can and must contribute towards a healthy and balanced diet. Particular success promises, that when the topic healthy nutrition is not only found in the menu plans, but also in learning and training sessions in class. Children want to be inspired! It is therefore important to convey the connections of nutrition and health imaginatively and varied. Ideally family and school complement each other hereby, to arouse and encourage the appetite for healthy meals in companionship.

We want to make well-balanced wholesome meals tasty for all children. Therefore, my ministry assigned the German Nutrition Society (Deutsche Gesellschaft für Ernährung e.V. [DGE]), to assist schools in the development of the catering. Our main objective is the quality assurance for the school meals. To achieve that, the DGE has on behalf of my ministry and in cooperation with the German Federal States compiled scientifically proven and practicable Quality Standards for School Meals.

Under the National Action Plan “IN FORM – Germany’s national initiative to promote healthy diets and physical activity”, we support the distribution of this standard, for example via the Internet and by targeted information activities. We have also, in the context of “IN FORM”, established network units for school meals in all 16 German Federal States to involve all responsible parties. We would hereby like to support schools in creating a healthy catering offer. So your child will hopefully soon come home with the phrase: “School – tastes to me!”

Yours sincerely,

Christian Schmidt, Member of the German Bundestag
Federal Minister of Food and Agriculture

Foreword



Dr. Helmut Oberritter, © DGE

Dear Readers,

What and how pupils eat and drink daily, contributes in the long term to the development and stabilization of patterns of taste and behaviour. With regard to this, schools can definitely take influence with appropriate offers. The willingness to maintain a balanced and wholesome diet or to invest in one's own health, also strongly depends on experiences made at school. Pupils can perceive and appreciate high quality food far better if nutrition education at school creates relevant fundamentals and further knowledge of a wholesome nutrition is communicated.

With the "DGE Quality Standard for School Meals", the German Nutrition Society (DGE) gives those responsible for school meals a framework for an optimal form of the catering offer and thus to quality assurance. The Quality Standard was developed by experts of the DGE, representatives of all state ministries and network units for school meals, as well as with the assistance of numerous persons from science, schools and practice.

Core elements of the Quality Standard are criteria for optimal food choices, frequency of use as well as menu planning and preparation up to the nutrient optimized catering offer. In addition, important aspects are thematized, such as the beverage supply, snack catering or nutrition education. New is the advice regarding the Regulation on Food Information, with the obligation to label allergens, as well as Chapter 5 concerning sustainability.

The DGE provides you with this Quality Standard the basis to implement a wholesome catering offer. Make your school canteen a place, where health promoting and tasty food are offered in a pleasant atmosphere. Render this important contribution, to improve nutritional behaviour and the health of children and adolescents. With the DGE certification, your involvement will be apparent. Take this opportunity to effectively document this publicly: Our school meets the requirements of the "Schule + Essen = Note 1-Zertifizierung" (School + Food = Top Marks-Certification) respectively "Schule + Essen = Note 1-PREMIUM-Zertifizierung" (School + Food = Top Marks-PREMIUM-Certification).

This brochure provides extensive information concerning school meals. For individual questions, please contact the team of "Schule + Essen = Note 1", who will also gladly offer advice and practical help.

Yours sincerely,

Dr. Helmut Oberritter
Managing Director
German Nutrition Society (DGE)

1

Background and Target



The everyday school life in Germany has changed a lot over the last few years for children and adolescents as well as for teachers. This is due to the implementation of full-day schools and the reduction of school years to obtain the matriculation certificate after eight years (G8) of secondary school. Contents of this chapter are the changes in everyday school life, the eating habits of children and adolescents and the consequential objectives for the “DGE’s Quality Standard for School Meals”.

1.1 Background

The first nationwide Quality Standards for School Meals were published in 2007 on behalf of the Federal Ministry of Food and Agriculture (BMEL) and as part of the National Action Plan “IN FORM – Germany’s national initiative to promote healthy diets and physical activity”.

They were compiled by an expert committee consisting of scientific and practical experienced representatives as well as representatives of the federal states in cooperation with the team of “Schule + Essen = Note 1” (School + Food = Top Marks). The second edition was published in 2009, the third edition in 2011. The third edition focused on a new structure and the current edition on an update of the contents. Chapter 4 was complemented and updated by the topic allergen labeling. The subject sustainability is now found in a separate chapter.

Change of everyday school life

The environment in which children are growing up is facing tremendous challenges regarding the preservation of health and the development of social relationships. Often due to the professional life of both parents or long ways to school in rural regions, the all-day care of children and adolescents increasingly becomes a duty of the schools. In addition, the OECD-study PISA provoked discussions concerning the best parameters for learning at school. Full-day schools are seen as a solution by many scientists, teachers, parents and politicians. By implementing full-day schools, school becomes the central environment of living and experience for children and adolescents. The statistics of the development of full-day schools reflect this. The number of administration units shows a continuous growth. 8,226 administration units were registered in 2005 and in 2013 already 16.198 administration units. This reflects an increase of 97 % in 8 years. Most of all, elementary schools were transformed to open full-day schools.¹

¹ Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland (Hrsg.): Allgemein bildende Schulen in Ganztagsform in den Ländern in der Bundesrepublik Deutschland – Statistik 2008 bis 2012. Berlin (2014); www.kmk.org/statistik/schule/statistische-veroeffentlichungen/allgemein-bildende-schulen-in-ganztagsform-in-den-laendern-in-der-bundesrepublik-deutschland.html (accessed August 19, 2015)

More and more children are attending all-day institutions at an increasingly early age, often starting at pre-school level. Due to the all-day care, daycare facilities as well as schools have an increased influence on meals and eating habits. In addition, nutritional education increasingly takes place in schools rather than at home. Many families no longer pass on their knowledge about how to prepare food to their children and adolescents.

Nowadays, catering for the pupils is of essential importance within the “living environment school”. This is indicated by the resolution made by the “Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany” on January 2nd, 2004. This resolution demands that full-day schools have to provide meals at lunchtime to the pupils on each day operating full-time.²



Therefore, schools have a central co-responsibility and duty of care regarding the composition of school meals. The quality of the catering influences the physical and intellectual development of children and adolescents. Furthermore, all schools have an educational mission. This includes the development of a health enhancing lifestyle and social relationships.

Adverse nutritional habits

Another important aspect for the development of the “DGE Quality Standard for School Meals” was revealed by the German Health Interview and Examination Survey for Children and Adolescents – KiGGS. In Germany, accordingly 15 % of the children and adolescents are overweight in all age groups, 6.3 % of them are obese. Eating disorders are becoming more and more common. 29 % of the girls and 15 % of the boys aged between 11–17 years showed atypical eating habits. Overweight and obesity as well as eating disorders are closely correlated to social class: The lower the socio-economic status, the higher the prevalence.³

The EsKiMo-Study – nutrition module of the KiGGS study - examines the nutritional habits of children and adolescents. According to this study, children and adolescents are eating too little vegetables and fruits, too much meat, meat products, snacks and sweets and drinking too many sugary soft drinks. The study proves adverse nutritional habits, which particularly in combination with too little exercise in school and everyday life leads to overweight and obesity.⁴

² Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland (Hrsg.): Allgemein bildende Schulen in Ganztagsform in den Ländern in der Bundesrepublik Deutschland – Statistik 2002 bis 2006. Bonn (2008); www.kmk.org/fileadmin/pdf/PresseUndAktuelles/2004/GTS_2006.pdf (accessed July 04, 2014)

³ Kurth B-M, Schaffrath Rosario A: Die Verbreitung von Übergewicht und Adipositas bei Kindern und Jugendlichen in Deutschland. Ergebnisse des bundesweiten Kinder- und Jugendgesundheits surveys (KiGGS). Bundesgesundheitsblatt Nr. 50 (2007) 736-743

⁴ Mensink GBM, Bauch A, Vohmann C et al.: Ernährungsstudie als KiGGS-Modul (EsKiMo) – Forschungsbericht, Berlin (2007). Weitere Informationen unter: www.rki.de Suchbegriff EsKiMo (accessed July 29, 2011)

This results in the demand for healthy and nutrient optimized lunch and snacks as well as for an action-oriented education about nutrition. In addition, the offer of sport and exercises in schools has to be considered.

Influence of nutrition on concentration and performance in school

Adequate nutrition for children and adolescents, has a positive impact: If sufficient energy in form of carbohydrates is available, attention, capacity for remembering and ability to react as well as concentration is increased on a short term basis.⁵ For snacks, vegetables and fruits, wholemeal or dairy products are appropriate.

On a long term basis, the composition and amount of consumed foods influence the prevention of chronic degenerative illnesses as dyslipidimias, diabetes mellitus type 2 and cardiovascular diseases. Overweight too, is most of all caused by a permanent excessive intake of energy in combination with too little physical activity. Consequently, a nutrition meeting the requirements can minimize the risk of diet-related diseases and can contribute to maintain health.



To develop a health enhancing lifestyle, the “DGE Quality Standard for School Meals” therefore takes into account:

- choice of nutritionally balanced meals for lunch and snacks,
- choice of low-energy drinks, which are offered free of charge by the school,
- an attractive design of the school canteen and a pleasant eating atmosphere to increase the acceptance of the meals. This includes a competent staff in the kitchen and at the serving counter
- long enough breaks, to eat without rush.

⁵ Eissing G: Einfluss der Frühstücksqualität auf die mentale Leistung. Ernährung und Medizin 26 (2011) 22-27

1.2 Target

The target of the Quality Standard is to support the persons responsible for the school meals while implementing adequate and nutritionally balanced meals, which therefore enables the pupils to choose from a wholesome offer of food. This applies to the catering of pupils in primary as well as secondary school level. For that purpose, the Quality Standard offers a practice-oriented support. The content is based on the latest scientific data. This includes inter alia the “D-A-CH-Referenzwerte für die Nährstoffzufuhr”⁶ (D-A-CH-Reference Values for Nutrient Intake) and their implementation into mass catering.



1.3 Target groups of the Quality Standard

Target groups are responsible persons and decision makers such as school authorities, school principals, school committees, representatives of the pupils and parents. The Quality Standard addresses equally those who produce, implement or offer the catering. These are caterers, tenants, janitors, parent initiatives or pupil companies.

⁶ Deutsche Gesellschaft für Ernährung, Österreichische Gesellschaft für Ernährung, Schweizerische Gesellschaft für Ernährung (Hrsg.): Referenzwerte für die Nährstoffzufuhr. Bonn, 2. Auflage, 1. Ausgabe (2015)

Planning and requirements of food based standard

2



This chapter presents recommendations to compile a wholesome⁷ offer of food at schools. This includes details of beverage supply, breakfast, snacks and lunch as well as meal preparation. In addition, information regarding nutrient intake by lunch is included.

Especially children and adolescents need a range of foods, which offer a variety of taste as well as smell, texture, visual and sound experiences, to condition their senses. Smell and taste experiences train the sensory memory. By getting used to a standardized taste, for example due to flavour enhancers, the perception for the variety of tastes of natural foods can be lost.

Hence, natural products without flavour enhancers, artificial flavours and sweeteners respectively sugar alcohols⁸ should be preferred. In general, no foods, in which alcohol/alcohol flavours is/are used as an ingredient, are offered, for example sauces, desserts. Products made from formed meat⁹, are neither natural nor untreated products and therefore are not used for reasons of nutrition education as well as for training sensory perception.

2.1 Beverages

Adequate drinks are necessary for a wholesome catering. That is why pupils should have the chance to drink at all times. Drinking water or mineral water as well as unsweetened fruit or herb teas are most suitable.

Drinking water is available to the pupils always free of charge during the school day. This also applies during lessons. Supply could take place, for example, by drinking water dispensers, with the installation of fountains or by establishing specialized corners in the classrooms. The appliances have to be maintained and controlled on microorganisms regularly. Specific rules should be established together with the pupils, at which times drinking is allowed during class. For example it has shown not to allow drinking during frontal teaching, but however during phases of silent work, group work

⁷ The wholesome diet following the recommendations of the DGE provides the amount of energy accordingly to the energy need and sufficient fluid. It ensures the supply of the energy providing nutrients protein, fat and carbohydrates in a balanced ratio. Moreover, it provides substances as vitamins, minerals, dietary fiber and secondary plant compounds in a sufficient amount. The wholesome nutrition is diverse and emphasizes the intake of plant-based foods.

⁸ Sugar alcohols are for example sorbitol, xylitol and maltitol. In high doses they have a heavily laxative effect and in small doses they lead to flatulence.

⁹ For the definition of formed meat: Deutsches Lebensmittelbuch, Leitsätze für Fleisch und Fleischerzeugnisse, Punkt 2.19, see www.bmel.de, search keyword „Leitsätze Fleisch- und Fleischerzeugnisse“.

and tests. Teachers along with the children and adolescents can also agree upon drinking breaks, for example, after intensive work.¹⁰

Soft drinks, nectars, juice drinks, Near Water Beverages with a high energy content and artificial flavours, ice teas, energy drinks and isotonic sport drinks are not offered in schools.



2.2 Breakfast and snacks

If the food choice is optimal, breakfast and snacks contribute significantly to the daily nutrient intake.

Breakfast and snacks should complete the meals at home. The school kiosk should be closed at lunch time. If open, only adequate and nutritionally balanced snacks are offered at lunch time. This refers to the total supply in cafeteria or bistros.

Table 1 shows seven food groups. An optimal food choice for breakfast and snack meals is defined therein.

¹⁰ Deutsche Gesellschaft für Ernährung (Hrsg.): Trinken in der Schule – Geeignete Durstlöscher in den Schulalltag integrieren. Bonn (2014)

Table 1: Optimal food choices for breakfast and snacks

Food Group	Optimal Choice	Examples for practical realization
Grain, grain products and potatoes	Wholemeal products Muesli ¹¹ without added sugar	Bread, rolls Mixture made from a variety of cereal flakes, linseed and dried fruits
Vegetables and salad¹²	Vegetables, fresh or frozen Salad	Carrots, bell pepper, cucumber, kohlrabi, tomatoes raw for example cut into slices or staves, as bread topping Butterhead lettuce, iceberg lettuce, lamb's lettuce, endive, red oak leaf lettuce, cucumber, carrots, tomatoes, for example as mixed salad, as bread topping
Fruits¹²	Fruits, fresh or frozen without added sugar	Apple, pear, plums, cherries, banana, mandarin, whole or as fruit salad, fruit kebab
Milk and milk products¹³	Milk: 1.5 % fat Plain yoghurt: 1.5 to 1.8 % fat Cheese: max. fat content of ≤ 50 % fat in dry matter Quark: max. 20 % fat in dry matter	As fresh milk, home-made mixed drinks (unsweetened) Pure, with fresh fruit, dip, dressing As bread topping Gouda, Feta, Camembert, Tilsit cheese Herb quark, dip, bread spread, with fresh fruit
Meat¹⁴, sausage, fish, egg	Meat products and sausage products as a bread topping: max. 20 % fat Saltwater fish, not from overfished stock ¹⁵	Turkey breast (cold cuts), turkey mortadella, cooked ham, lachsschinken (smoked, rolled fillet of pork), smoked pork chop (cold cuts), ham sausage Tuna, pickled herring, rollmop
Fats¹⁶ and oils¹⁷	Rapeseed oil Walnut oil, wheatgerm oil, olive oil, soybean oil	Dressing
Beverages¹⁸	Drinking or mineral water Fruit tea, herb tea, unsweetened Rooibos tea, unsweetened	Rose hip tea, chamomile tea, peppermint tea

¹¹ Muesli consists mainly of one or more types of cereals which can be e.g. flaked, coarse ground, and/or rolled as well as made crisp or be prepared otherwise. Muesli must contain at least two other components, usually dried fruits and oil containing seeds in various forms. DLG e.V., DLG-Zertifizierungsstelle (Hrsg.): Prüfbestimmungen. 7. Auflage, Frankfurt am Main (2014), 14

¹² Further information provides the campaign "5 am Tag", see www.Samtag.de, and the seasonal calendar, see www.schuleplusessen.de in the category "Wissenswertes"

The European Union (EU) supports the consumption of school fruit among children and adolescents. For further information see: www.bmel.de, search keyword „EU-Schulobst- und -gemüseprogramm“

¹³ The European Union (EU) supports the consumption of milk and milk products among children and adolescents. For further information see: ec.europa.eu/agriculture/milk/school-milk-scheme/index_de.htm (accessed May 02, 2014)

¹⁴ Preferably white meat (poultry) should be offered, as it is evaluated more favourable regarding health issues than red meat (pork, beef, sheep, goat). Deutsche Gesellschaft für Ernährung (Hrsg.): Vollwertig essen und trinken nach den 10 Regeln der DGE. 25. überarbeitete Auflage, Bonn (2013)

¹⁵ Further information: Deutsche Gesellschaft für Ernährung: Ökologisch verträglicher Fischverzehr. DGEInfo (7/2007) 103–105 and see World Wide Fund For Nature, Einkaufsratgeber für Fische und Meeresfrüchte: www.wwf.de/aktivwerden/tipps-fuer-den-alltag/vernuenftig-einkaufen/einkaufsratgeber-fisch/

¹⁶ Fat spreads are used sparingly.

¹⁷ Further information: Deutsche Gesellschaft für Ernährung (Hrsg.): Leitlinie Fett kompakt – Fettkonsum und Prävention ausgewählter ernährungsmitbedingter Krankheiten. 3. Auflage, Bonn (2015)

¹⁸ Milk and milk products as well as juices are not counted as part of the beverage group, but as part of the group of animal respectively plant foods.

In addition to the optimal food choices, certain foods respectively food groups have to be offered daily (see Table 2) for breakfast and snacks.

Furthermore, the following applies:

- Spicy snacks are solely offered as nuts or seeds with no added salt or sugar (for example sunflower seeds).
- Sweets are not offered.
- Foods or meals meeting the requirements are labelled.



2.3 Lunch

The offering of lunch is obligate in a full-time school². Lunch contributes substantially to the daily intake of nutrients. Typically, it consists of several components. Therefore, a daily offering of raw fruit and vegetables, salad or cooked vegetables, a starchy food component as well as a beverage with at least 0,2 litres count.

The cost of the beverages has to be included in the menu prices. Criteria for wholesome meals are defined by this Quality Standard for 20 days (four weeks)..

Table 2: Requirements for the food choices at breakfast and of the snack catering

Food group	Frequency	Examples for the practical implementation
Grain, grain products and potatoes	daily wholemeal products	Wholemeal rolls, wholemeal bread, grain cereal flakes, muesli without added sugar
Vegetables and salad	daily	Raw vegetables, vegetable sticks, salad, topping for bread and rolls
Fruits	daily	Whole fruit, sliced fruit, fruit salad, muesli with fruit, quark/yoghurt with fresh fruit
Milk and milk products	daily	Fresh milk, yoghurt/quark, milk in muesli, herb quark, salad dressings, dips
Fats and oils	Rapeseed oil is standard oil	Salad dressings, dips
Beverages	daily	Drinking or mineral water

2.3.1 Food choices

Table 3 shows the optimal food choice for lunch catering.

Table 3: Optimal food choices for lunch catering

Food group	Optimal choice	Examples for foods
Grain, grain products and potatoes	Wholemeal products Parboiled rice or brown rice Potatoes ¹⁹ , raw unpeeled or peeled	Bread, rolls, flour, pasta
Vegetables and salad¹²	Vegetable, fresh or frozen Legumes Salad	Carrots, bell peppers, peas, beans, broccoli, snow peas, zucchini, tomatoes, white cabbage, red cabbage, savoy cabbage Lentils, peas, beans Butterhead lettuce, iceberg lettuce, field salad, endive, red oak leaf lettuce
Fruits¹²	Fruits, fresh or frozen without added sugar	Apple, pear, plums, cherries, banana, mandarin
Milk and milk products¹³	Milk: 1.5 % fat Plain yoghurt: 1.5 to 1.8 % fat Cheese: max. fat content of ≤ 50 % fat in dry matter Quark: max. 20 % fat in dry matter	Gouda, Feta, Camembert, Tilsit cheese
Meat¹⁴, sausage, fish, egg	Lean muscle meat Saltwater fish, not from overfished stock ¹⁵	
Fats¹⁶ and oils¹⁷	Rapeseed oil Walnut oil, wheatgerm oil, olive oil, soybean oil	
Beverages¹⁸	Drinking or mineral water Fruit tea, herb tea, unsweetened Rooibos tea, unsweetened	Rose hip tea, chamomile tea, peppermint tea

¹⁹ Potatoes may contain high amounts of the toxic substance solanin in the skin. Therefore they should be eaten without skin.

Convenience products

In mass catering and therefore also in school catering, products of different convenience levels are used. An overview of the different convenience levels can be found in Table 4. Using these products, nutritional, sensory, ecological and economic aspects must be considered. For products with a high convenience grade, the sugar and salt content as well as the type of fat used should be taken into account. Products with iodized salt are preferred.

If using convenience products, the following principles apply:

- If capacities regarding time and human resources allow, products of convenience levels 1 and 2 should be preferred.
- If using convenience products of the levels 4 and 5, foods of the convenience levels 1 and 2 should always be added.
- If several steps are required to produce the meals (for example “Cook & Chill”), the use of vegetables and fruits of the convenience levels 1 and 2 should be preferred.
- Regarding vegetables and fruits, frozen products should be preferred to canned food (for example peas, carrots, green beans) due to the higher nutritional value.²⁰

Table 4: Classification of convenience products into different convenience levels

Convenience Levels		Examples
Ready-for-kitchen-processing	1	Boned, cut meat, cleaned vegetables
Ready-to-cook	2	Filet, pasta, frozen vegetables, frozen fruits
Ready-to-process	3	Salad dressing, mashed potatoes, custard powder
Ready-to-regenerate	4	Individual components or ready-to-eat menus
Ready-to-eat/ ready-to-serve	5	Cold sauces, ready-to-eat salads, canned fruits, desserts

Source: modified according to: aid infodienst Ernährung, Landwirtschaft, Verbraucherschutz (Hrsg.): Convenience-Produkte in der Gemeinschaftsverpflegung. 1. Auflage, Bonn (2007)

2.3.2 Menu planning

In this chapter, criteria for planning menus are explained. Thereto, requirements to the use of foods for 20 catering days concerning lunch count. Furthermore, this chapter provides guidance on the food plan design.

The following requirements apply to the menu planning:

- The menu cycle takes at least four weeks.
- One ovo-lacto-vegetarian²¹ meal is offered daily.²²

²⁰ aid infodienst Ernährung, Landwirtschaft, Verbraucherschutz (Hrsg.): Nährstoffveränderungen bei der Lebensmittelzubereitung im Haushalt. 4. veränderte Neuauflage, Bonn (2008)

²¹ In an ovo-lacto-vegetarian nutrition in addition to plant-based foods only products of animal origin are consumed, which descend of living animals, as for example milk, eggs or honey. The vegetarian nutrition principally excludes foods of killed animals, thus meat and meat products, poultry, fish as well as animal based fats, compare Deutsche Gesellschaft für Ernährung (Hrsg.): DGE-Beratungs-Standards, Kapitel 2.3.2, 10. vollständig überarbeitete Auflage, Bonn (2009)

²² For recipes regarding a nutrient optimized four weeks menu plan see: www.schuleplusessen.de/qualitaetsstandard/rezeptdatenbank/wochenspeisenplaene



- Seasonal offers are considered.
- Culture-specific and regional nutritional habits as well as religious aspects are incorporated.
- Grain, grain products and potatoes are varied offered.
- Pupils with food intolerances, such as allergies, are enabled to take part at mealtimes. This can be realized by offering a special meal, a choice of individual components or (if not otherwise possible) by warming up a meal brought from home.
- Requests and suggestions of the pupils are incorporated in an appropriate manner into the menu planning.
- If meals contain pork an alternative type of meat will be offered.

Requirements regarding a four weeks menu plan (20 catering days)

How often certain foods respectively food groups are offered, is defined as part of the menu planning.

Four weeks with 20 catering days are taken as a basis for the menu planning for school catering, to which the requirements for the use of certain foods respectively food groups are referred to (see Table 3). Thereby, the criteria are defined in a way that a diversified food offering is facilitated.²³

Foods, respectively food groups, which are integrated daily into lunch, are marked by a frequency of “20 x”. In addition minimal and maximal requirements are formulated. For example, wholemeal products should be on the menu plan “4 x” during 20 catering days. Of course, they may also be offered more often. Maximal requirements are defined for the use of meat and sausage as well as potato products (commercially semi-prepared and prepared foods) – these quantities are not to be exceeded.

For a balanced meal offer in schools, the quantities listed in Table 5 for the use of foods are taken into account.

Offer of several menu lines respectively of snacks

Planning the food selection for a cycle of 20 catering days (four weeks), the criteria listed in Table 5 will be met. The specified quantities refer to the offerings in total. If several menu lines are offered, the requirements listed in Table 5 have to be met for every single menu line.

²³ The requirements for a menu planning on basis of one week (five catering days) are found in Chapter 7.1 Table 10

Table 5: Requirements for a four weeks menu plan (20 catering days)

Food group	Quantities	Examples for the practical implementation
Grain, grain products and potatoes	20 x thereof: <ul style="list-style-type: none"> ■ min. 4 x wholemeal products ■ max. 4 x potato products 	Jacked potatoes ¹⁹ , boiled potatoes, potato salad, potato stew Rice stir-fry, rice as side dish Lasagna, couscous salad, millet casserole, green spelt patty, polenta slices Wholemeal pasta, wholemeal pizza, brown rice Commercially semi-prepared and prepared foods, for example potato croquettes, French fries, potato wedges, potato fritters, gnocchi, mashed potatoes, dumplings
Vegetables and salad	20 x thereof min. 8 x raw food or salad	Cooked carrots, broccoli, kohlrabi, vegetable lasagna, stuffed bell peppers (or zucchini, eggplants), pea stew, bean stew, lentil stew, ratatouille, vegetables stir-fried in a wok Tomato salad, cucumber salad, mixed salad
Fruits	min. 8 x	Whole fruit, cut fruit, fruit salad
Milk and milk products	min. 8 x	In casseroles, salad dressings, dips, sauces, yoghurt or quark dishes
Meat, sausage, fish, egg	max. 8 x meat/sausage thereof min. 4 x lean muscle meat min. 4 x saltwater fish thereof min. 2 x oily saltwater fish	Turkey breast, chicken schnitzel, chicken fricassee, beef roulade, roast pork, Zurich-style stew, beef goulash Coalfish, fish stir fry Herring salad, mackerel, pickled herring
Fats and oils	Rapeseed oil as standard oil	
Beverages	20 x	Drinking or mineral water

At the same time, the food qualities specified in Table 3 have to be complied with. If maximum values are declared, it has to be taken into account that these delimited foods can only be offered on the same weekday in the menu lines. For example, if meat is offered on Monday and Wednesday in one menu line, meat is only allowed to be offered on these days in the other menu lines too. This also has to be considered for the offer

of sausage, fried/breaded products and potato products (commercially semi-prepared and prepared foods).

Design of the menu plan

The menu plan informs about the food offer at school. Therefore with the composition, the following aspects are considered:

- The current menu plan is always accessible to everybody in advance.
- When offering several menu lines, they are to be clearly presented.
- The foods of the nutrient optimized menu line (see Chapter 2.5) are visually highlighted in the menu plan.
- The foods on the menu plan are named clearly. Names which are not common and not clear, for example “Pirates Meal”, are to be explained, this also applies to classic garnishes.
- Animal species, regarding meat and sausage products, is to be specified on the menu plan.

2.4 Preparation of meals

Besides the selection of foods, preparation and the subsequent period in which the food is kept warm, have a substantial influence on the nutritional and sensory quality of the meals.

2.4.1 Preparation

Criteria for the preparation are listed below:

- Heed is taken of a low-fat preparation.
- Fried²⁴ and/or breaded products are offered at the maximum “4 x” in 20 catering days.
- For the preparation of vegetables and potatoes, low-fat and nutrient preserving cooking methods²⁵ (sautéing, steaming, grilling) are applied.

- For seasoning, fresh or frozen herbs are preferred.
- Iodized salt²⁶ is used, salt is added sparingly.
- Sugar is used thriftily.
- Nuts and seeds are offered as toppings (for example, for salads).
- For meal preparation, recipes including instructions for preparation exist and put into practice.
- Special tools are used to portion the foods (for example, a ladle plan²⁷).

2.4.2 Warm keeping periods and temperatures

With increasing time span in which food is kept warm²⁸, vitamins are lost due to their thermal instability, furthermore sensory losses occur. Warm keeping should therefore be kept as short as possible.

Following principals apply:

- The period in which the prepared foods are kept warm is three hours at a maximum.
- The storage, transport and serving temperature of cold foods is 7 °C at a maximum.
- The warm keeping, transport and serving temperature of warm foods is at least 65 °C.

²⁴ More information about the use of deep-frying fat: Matthäus B, Brühl L: Aktuelles Interview: Verwendung von Pflanzenölen. Ernährungs-Umschau 52 (2005) B9-B12

²⁵ For an overview of the individual methods of cooking and their nutritional evaluation please see: www.schuleplusessen.de in the category “Wissenswertes/Schulverpflegung”.

²⁶ The use of iodized salt with fluoride, which is only applicable with special approval in mass catering, is recommended. Application for the special approval has to be filed at the Federal Office of Consumer Protection and Food Safety.

²⁷ For further information about portioning with a ladle plan see: www.schuleplusessen.de in the category “Wissenswertes/Schulverpflegung”.

²⁸ The warm keeping periods begins with the end of the cooking process and ends with the serving of the meal to the last lunch guest.

2.4.3 Sensory aspects

The sensory quality determines the acceptance of foods and influences the nutritional behaviour permanently. It has to be ensured, that in addition to the nutritional and hygienic quality, the catering also obtains an adequate sensory quality. Thereby, the following criteria apply:

Appearance:

- All foods are presented in an appetizing way.
- The typical colours of each food are preserved.
- The colour composition of the foods on the plate is appealing.

Taste:

- The typical taste of each food is preserved.
- The components of the meals are seasoned diversified with herbs and spices.
- Options to spice up are available.

Consistency:

- Vegetables, pasta and rice are preferably al dente by the time of consumption.
- Pan-fried foods are crispy.
- Meat has a tender texture.



2.5 Nutrient intake via lunch

The mentioned criteria for the choice of foods as well as for menu planning and preparation, contribute to a nutritional balanced catering. Beyond that, there is the opportunity to calculate the nutrients on the basis of recipes and to optimize nutrient intake. Thereby, lunch contributes essentially.

The nutrient based data for each particular age group are deduced from the “D-A-CH-Referenzwerte für die Nährstoffzufuhr”⁶. This means for the practical implementation that the nutrient optimized lunch provides 25 percent of the daily recommended amount of nutrients and guidance level for energy intake on an average of 20 catering days (four weeks).



Table 6 shows the implementation of the “D-A-CH-Referenzwerte für die Energie- und Nährstoffzufuhr”²⁹ via lunch for pupils in primary and secondary school level.

The total energy intake (100 %) emerges from the following energy providing nutrients:

- 20 % protein
- 30 % fat
- 50 % carbohydrates

Table 6: Realization of the “D-A-CH-Referenzwerte für die Nährstoffzufuhr” for lunch (data per day, PAL 1.4³⁰)

	Primary school level	Secondary school level
	7 to under 10 years	10 to under 19 years
Energy (kJ) ³¹	1,660	2,200
Energy (kcal) ³¹	400	520
Protein (g)	20	26
Fat (g)	14	18
Carbohydrates (g)	49	64
Dietary fibre (g)	4	8 ³²
Vitamin E (mg)	3	4
Vitamin B ₁ (mg)	0.2	0.4
Folate (µg)	45	75
Vitamin C (mg)	11	26
Calcium (mg)	225	300
Magnesium (mg)	43	100
Iron (mg)	3	4

²⁹ Deutsche Gesellschaft für Ernährung (Hrsg.): Umsetzung der D-A-CH-Referenzwerte in die Gemeinschaftsverpflegung. Bonn (2015) (in print) and see www.schuleplusessen.de, category „Qualitätsstandard/Implementierungshilfen/D-A-CH-Referenzwerte“

³⁰ PAL (physical activity level): Average daily energy need for the physical activity as a multiple of the basal metabolic rate. A PAL of 1.4 is taken as basis, which is equivalent to a low physical activity. Depending on the physical activity the guidance level can vary. The values then have to be adjusted.

³¹ Guidance level for the average energy intake for boys and girls.

³² No guidance level for the intake of dietary fibre for adolescents is stated in the “D-A-CH-Referenzwerte für die Nährstoffzufuhr”. It is referred to the level for adults (at least 30 g/day) for the purpose of a preventive health protection.

General conditions in schools



3



The atmosphere while eating is, besides the food quality, one of the essential factors of regular consumed meals. A positive eating atmosphere creates space for conversations and exchange of information, as well as for enjoying the meals. Hereby, especially the factors mealtime and interior design are important.

3.1 Participation in the school lunch

To ensure a continuous nutrient supply, learning ability and performance and integration into school culture, the participation at lunch is an essential requirement. Therefore, not only on full-time operating days the participation of all pupils at lunch is meaningful. This implies that every student has to have the possibility, to participate at the lunch and this regardless of the particular socio-economic and religious background. Every participant finds seating in the school canteen.

Another important factor is the willingness of the teaching staff respectively educators or other caretakers to take part at the joint lunch (exemplary function) and their capability to establish a trusting relationship to the pupils. The joint eating of the meals is a pedagogic task where rules of behaviour, rules for communication and cultural techniques are conveyed. As part of the duty of supervision, which has to be granted, the participation at meal times should be validated as working time.

3.2 Mealtime

The pupils should have enough time for eating. Breaks that are too short and hectic may contribute to them not taking part at the meals. This can be prevented by the following measures:

- A minimum of a 60 minute break should be planned, to allow enough time to go to the school canteen respectively to the dining area, to wash hands, to stand in line at the food serving counter, to look for available seating preferably with a group of friends, to eat lunch, to cultivate social contacts as well as to clear up.



- If there is not sufficient space³³ for all pupils, staggered breaks should be introduced.
- Breaks for physical activity are scheduled at separate times.

3.3 Interior design

A separate area is provided for serving and consuming the meals.³⁴ This excludes eating lunch, for example, in class and break rooms, break halls and hallways.

With the design of the school canteen, following aspects are considered:

- bright space and appropriate lighting,
- pleasant, appealing ambience (for example plants, pictures, table decoration),
- easy to clean furniture and flooring.

The atmosphere while eating is strongly affected by the sound level. To keep this as low as possible, the area has to be designed and insulated accordingly. Precise communication rules contribute to reduce the sound level during meals.

To increase the identification with the school canteen, the pupils should be included in designing the dining hall. In general, age specific ambience should be realized. If possible, a separate room or area should be provided for the advanced level.



3.4 Pedagogic aspects

The school where teaching, learning and living takes place, persons assemble with very diverse backgrounds, personal as well as familiar and cultural experiences and impression. The way of socializing with each other and the quality as well as intensity of the relationships have a decisive influence on the learning atmosphere. A challenge for the schools exists therein, to integrate the organization of the joint meals and the daily catering offer into the pedagogic setting and therefore also into teaching.

Good school catering – basis for the current and future health

A school catering of high quality takes an important role on the development of nutrition competence and the progress of a health enhancing lifestyle. What and how is daily consumed, contributes to the development and stabilization of taste and action patterns, which guide the nutritional action and behaviour in the long term. The willingness to subsist wholesome later on in life or to invest in one's own health, also depends essentially on school experiences.

³³ Per participant ideally a total of 1.4 to 1.7 m² should be planned.

³⁴ For planning the fire safety regulations inter alia have to be incorporated.

Nutrition in school thereby contributes to health and consumer education as well as to the education of values. Schools can regulate this with corresponding offers and in this way, not only embrace a pedagogic but also a health policy assignment. The “aid info service nutrition, agriculture and consumer protection” has developed media packs for lessons in elementary schools and secondary schools. With the aid-nutrition license, children learn to perceive with their senses, to prepare and to enjoy foods. “SchmExperten” has been developed for the fifth and sixth school grades. Center-piece of the teaching unit for health and housekeeping related subjects is the independent preparation of small cold meals in classrooms. The practice is connected to topics such as shopping, hygiene, eating culture and taste foramtion.³⁵

The European Network of Health Promoting Schools (ENHPS) already formulated in its objectives in the late 1990s Europe-wide, criteria for a nutrition education in schools. Among others the following are quoted:

- For every student, a nutrition and consumer education has to be interdisciplinary guaranteed. Standards have to be developed for this.
- All teachers and educational staff members should have basic knowledge of up-to-date nutrition and consumer education and have to be accordingly trained and upskilled.



- It has to be ensured, that all involved persons pursue the aims and standards of a health promoting school and coordinate actions for its realization, so that health and wellbeing of the pupils as well as of the teachers becomes a joint concern.³⁶

Furthermore, balanced nourished children learn better. By providing quantitative and qualitative sufficient energy and nutrients, the performance of pupils can be improved, as the concentration and learning are based on complex metabolic processes for which an adequate nutrient intake is necessary.³⁷

³⁵ Further information regarding “aid-Ernährungsführerschein” and “SchmExperten” see: www.aid.de in the category “Bildung + Schule”

³⁶ Modified according to: Dixey R, Heindl I, Loureiro I et al.: Healthy eating for young people in Europe – a school-based nutrition education guide. Kopenhagen, WHO (1999)

³⁷ Compare Heindl I: Sinnliche Intelligenz – Perspektiven einer ästhetisch-kulturellen Ernährungsbildung. In: Institut für Qualitätssicherung an Schulen IQSH: Geschmack bildet – Sinnliche Intelligenz ist der Ursprung für Leben und Lernen. IQSH, Kiel (2007) 38–48; Kaiser B, Kersting M: Frühstücksverzehr und cognitive Leistungsfähigkeit von Kindern. Ernährung im Fokus (1/2001) 5–13; Loch W: Stufen kindlichen Lernens als Aufgabe der Erziehung. In: Loch W (Hrsg.): Lebensform und Erziehung. Neue Deutsche Schule Verlagsgesellschaft mbH, Essen (1983) 47–59

Communication and encouragement of social relationships

The joint meals of teachers and pupils offer a relaxed opportunity to communicate and are highly valuable to pedagogic relationships. Schools which have “set out” in terms of common meals of pupils and teachers, report on distinct positive effects on the social relationships in school. Participation of teachers as well as pupils compiling the menu plan facilitates the acceptance and creates an identity (“our” school meal). A good communication between producers respectively providers and guests, improves the atmosphere while eating together and is likewise basis for the acceptance and the appreciation of the catering.

The pedagogic concept for the school catering

Processes since the 1990s regarding school development have led to compile pedagogic programs in all federal states, giving each school a distinctive profile. A good pedagogic catering concept and a good physiologic meal quality as component of the school profile, prove to be a locational and competitive advantage.

In the school profile the aims, the values, the rules of communication and the self-image of the school should be defined. The pedagogic concept of lunch includes statements regarding organization, break arrangements and number of the expected guests. Participation of pupils, for example at the serving counter, assistance with service at the table or contributions of the parents is to be embedded in the pedagogic concept.



If therein the formation and operation of a student-run company is intended, the responsibilities have to be clearly structured. The compliance with the hygiene and safety rules (see Chapter 4), have also to be ensured with a participatory structure of the school catering.

As part of the educational concept, the pedagogic catering concept offers numerous connections to class lessons. It should be part of the school development and include school management, teachers, parents and pupils and external catering providers. Installation of special rooms (kitchens) for nutrition education, offers the pupils the possibility to gain experiences by preparing foods and beverages. Teaching practical food preparation should be part of the nutrition education. An orientation along with the reference framework of the project REVIS (Reform of the Nutrition and Consumer Education in Schools) makes sense.³⁸

³⁸ For further information regarding nutrition and consumer education see: www.evb-online.de

Significance of parental home and familial environment

Parents are the most important mediators of knowledge about body and health. They have of all adult persons the most direct and intense approach to children and are by their own behaviour, example and source of orientation for them. Parents are at the same time the most important health instructors and educators, who pass on information and knowledge, which lead to a health enhancing behaviour.³⁹ For schools, parents are the native partners for upbringing and education. Positive educational structures assume the cooperation and support of and by the parents. This also applies to the implementation of a successful school catering. Parents have significant influence on the acceptance of school catering offers. However, they are paradoxically that target group whom schools so far have barely offered any communication and participation possibilities. Parents must therefore be a lot more involved in the communication concerning such topics and where necessary, actively approached. The acceptance of the school catering is significantly dependent on the parents. If educational contents in families is different from school or the meal offer doesn't correspond to the nutritional requirements, the acceptance is limited.⁴⁰

Thus, the communication with the parents about school catering has to be a self-commitment of the schools. Catering information has to be conveyed on a regular basis at parents' evenings.



Initiation and implementation of a balanced school catering as well as the communication and exchange about the topic school catering with the parents, should be incorporated into the mission statement of every school.

Acceptance at school

The successful integration of a new catering offer or the further development of the existing school offer, with reference to the "DGE's Quality Standard for School Meals", presupposes the acceptance of all target groups of the school and those held responsible. This process must be actively put into practice. It has been found useful:

- that from the onset, all participants are involved in the planning and design,
- to resort to the support of (external) experts,

³⁹ Hurrelmann K, Hartung S, Kluwe S, Sahrai D: Gesundheitsförderung durch Elternbildung in „Settings“. Prävention und Gesundheitsförderung 4 (2013) 267-275

⁴⁰ Jansen C, Koscielny JS, Gareis T et al.: Integrieren. Stärken. Verändern. Ernährung im Focus 09-10 (2012) 346-349

- to make processes and decisions transparent and communicate actively with the participants,
- to take objections and resistance seriously,
- to name possibilities and limits of a responsible development.

Development processes are learning processes for all concerned: The implementation and further development of school catering is an integrative task, to which everyone can contribute. The school authority can significantly contribute to the acceptance of the school catering by support staff and equipment, which enables the practical implementation of school catering according to the Quality Standard in schools. In addition to the constructive support through appropriate framework conditions, the school management is assigned a special responsibility as role model function for teachers, pupils and parents. It should be conveyed to teachers that with the introduction of school catering not only another task is in store for them, but that this gives them the chance to explore new ways of school life and contacts with their pupils. The importance of a regular participation of the children at meal times needs to be discussed with parents.

A regular inquiry is to be made amongst pupils and all other guests, especially also the teachers, as to the satisfaction of the range of food offered. The results must be made transparent and must lead to measures to be optimized.

Food is always part of one's identity and conveys comfort and safety. The preferences with food are in fact strongly shaped culturally, but habits are changeable. School catering must consider this. To consider for social and psychological importance of eating, the likes and dislikes of the pupils should be regarded.

These include:

- To introduce pupils to new taste experience, a slowly transition to nutritional balanced meals is recommendable.
- If a caterer provides schools with meals, the choice of foods is coordinated to suit children and adolescents. Schools should be delivered with different meals as guests in retirement homes and hospitals.
- Unilateral taste preferences (for example, deep-fried and sweet) are not encouraged.

Friendly, helpful and pedagogic experienced staff at the serving counter promotes acceptance among guests.

General conditions for catering

4



The legislator demands of all food companies, far-reaching measures to protect the health of guests. The served foods have to be of hygienic excellent quality. Therefore, legal requirements have to be complied when implementing the catering offer. For the production as well as for the distribution of the foods, the staff should have the relevant qualifications.

4.1 Legal requirements

In the field of food hygiene regulations apply within the European Union, which are a basis to ensure the safety of foods and contribute to protect public health.⁴¹

⁴¹ For further information on legal provisions see www.schuleplusessen.de in the category "Wissenswertes/Rund um die Gesetze" and see eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:139:0001:0054:de:PDF

Key regulations of the European food law include:

- **Regulation (EC) No 852/2004** on the hygiene of foodstuffs
- **Regulation (EC) No 853/2004** on specific hygiene rules for food of animal origin
- **Regulation (EC) No 178/2002**, the so called EU-basis-regulation on food law

They are directly applicable law.

The entire law on the hygiene of foodstuffs of the European Community was restructured in 2004 and has to be applied since 2006. This led to a fundamental revision of the national law, which is used to implement EC-regulations and regulates facts that are not included within the scope of community law. Since then, contents of the new EC-law on the hygiene of foodstuffs are to be found in the national law inter alia in:

- the **Regulation to implement rules on community food hygiene legislation** with the articles:
 - Article 1: Regulation on hygiene requirements while manufacturing, treating and marketing foodstuffs (Food Hygiene Regulation [Lebensmittelhygiene-Verordnung, LMHV])
 - Article 2: Regulation on hygiene requirements while manufacturing, treating and placing on the market certain foods of animal origin (Animal Food Hygiene Regulation [Tierische Lebensmittelhygieneverordnung, Tier-LMHV]), which basically also regulates requirements for the manufacture or treatment of foods of animal origin

in the retail sector (§ 7 in conjunction with Annex 5); exceptions for the requirements in facilities of mass catering are thus included.

- Article 4: Regulation with food regulatory provisions on the monitoring of zoonoses and zoonotic agents

■ the **Food and Feed Act (Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch [LFGB])**

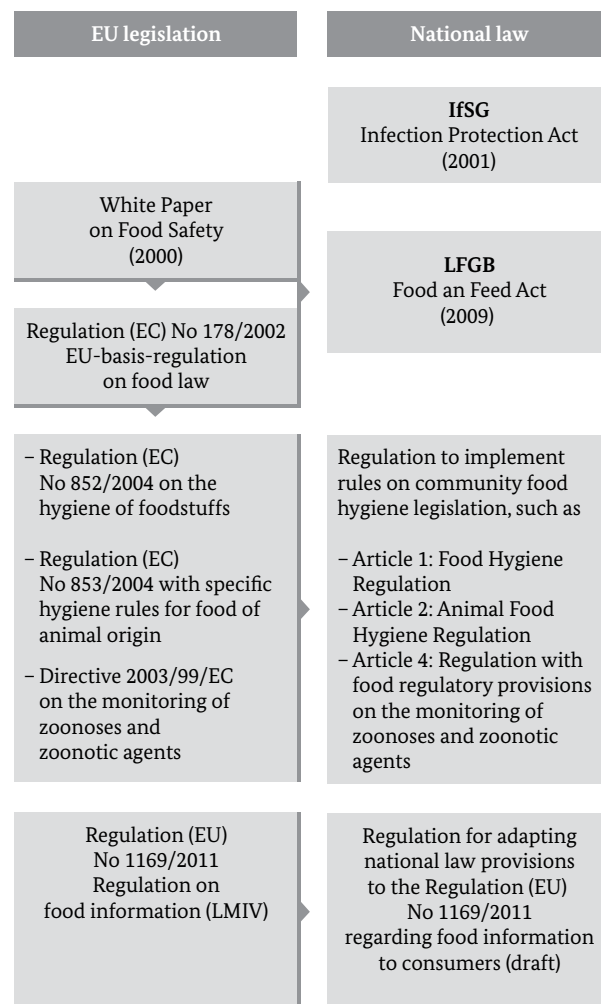
The requirements of national law cannot be applied without the observance of the EC regulations. Essential definitions of terms can be found, for example, in the Regulation (EC) No 178/2002.

Furthermore, the provisions of the **Infection Protection Act (Infektionsschutzgesetz [IfSG])** must be observed.



In addition, the use of relevant DIN standards (for example, 10508 Temperature requirements for foodstuffs, 10526 Retained samples in mass catering, 10524 Work wear, 10514 Hygiene training) is recommended.⁴²

Figure 1: Overview of the legal framework conditions in mass catering



⁴² Further information: aid infodienst Ernährung, Landwirtschaft und Verbraucherschutz (Hrsg.): Wichtige Bestimmungen des Lebensmittelrechts für Gastronomie und Gemeinschaftsverpflegung. 8. Auflage, Bonn (2014) and see: www.schule-plusessen.de in the category "Wissenswertes/Rund um die Gesetze"

4.1.1 Hygiene

A comprehensive hygiene management is obligatory.⁴³ The above mentioned regulations contain the following basic principles to ensure food safety:

- the main responsibility of the food business for the safety of food,
- the application of procedures, which are based on HACCP-principles⁴⁴,
- the application of a good hygiene practice,
- maintaining the cold chain for foods, which cannot without doubt be stored safely at room temperature,
- regular staff training.

When implementing a HACCP-concept, the critical points in handling food are recorded by a risk analysis.

To check compliance with suitable temperatures, checklists can be kept. To protect for food-borne infections, it is recommended, to keep warm meals hot at least at 65 °C and not longer than three hours. The storage and serving of cold components (salad, dessert) should take place at a maximum of 7 °C.

Storage, preparation and serving times should be kept as short as possible. Furthermore, checklists can document the compliance with uninterrupted cold chains.



The creation and implementation of a cleaning plan is stringently required. Furthermore, should a disinfection plan be at hand, the dosage instruction for the disinfectants⁴⁵ used is to be complied with. The Infection Protection Act stipulates that employees, who come into contact with foods and consumer goods, may only be employed after initial instruction by the health department or a doctor appointed by the health department. The certificate should not be older than three months at the commencement of employment. Human communicable diseases could thus be prevented, infections should be identified early and their proliferation averted. Every two years mandatory follow-up instructions are to be held and documented.

Compliance with the regulations of the food laws is controlled by the respective Food Control Authority.

⁴³ Further information: Deutsche Gesellschaft für Ernährung (Hrsg.): Hygiene – Gesundheit der Tischgäste sichern. Bonn (2014)

⁴⁴ HACCP (Hazard Analysis and Critical Control Points) ist ein Konzept zur Durchführung einer Gefahrenanalyse und Beherrschung kritischer Lenkungspunkte im Umgang mit Lebensmitteln. www.bfr.bund.de/cm/350/fragen_und_antworten_zum_hazard_analysis_and_critical_control_point_haccp_konzept.pdf (accessed July 04, 2014)

Further information: Deutsche Gesellschaft für Ernährung (Hrsg.): HACCP – Gesundheitliche Gefahren durch Lebensmittel identifizieren, bewerten und beherrschen. Bonn (2014)

⁴⁵ According to the Regulation (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of December 18, 2006 information and dosage instructions are available for all disinfectants as EC Safety Data Sheet or on the basis of the EC Safety Data Sheet.

4.1.2 Product encompassing rules for labelling and identification

The labelling of foods serves as information and protects against fraud. The relevant rules for the mass catering regarding labelling and identification are:

Food Information Regulation (LMIV)

On December 13, 2011 the Regulation (EU) No 1169/2011 of the European Parliament and of the Council regarding food information to consumers, in brief Regulation on Food Information (German acronym: LMIV) became effective. This regulates new, the labelling, packaging, description and advertisement of respectively for foods at European level. Two for mass catering important amendments relate to the mandatory labelling of the 14 most common substances or products which may trigger off allergies or intolerances and the amended regulations regarding nutrition declaration, which however will be mandatory only for pre-packaged goods starting from December 13, 2016. The present national regulations on food and nutrition labelling are replaced by the LMIV.

NÄHRWERTANGABEN / VALEURS NUTRITIONNELLES	
Durchschnittlich / Moyennes	Pro / Par 100 ml
Energie / Valeur énergétique	237 kJ / 57 kcal
Eiweiß / Protéines	0,9 g
Kohlenhydrate / Glucides	6,6 g

ZUTATEN / INGREDIENTS
Zutaten: ...
Zucker, ...
Molkenprotein ...
Gewürze, ...
Säuerungsmittel ...
Allergene: ...
Lactose, ...

Allergen labeling ^{46, 47}

As from December 13, 2014 consumers must be informed of the 14 main allergens, which are listed in the appendix II of the LMIV. These are:

- Grains containing gluten, namely: wheat (like spelt or Khorasan-wheat), rye, barley, oats or their hybridized strains*
 - Crustaceans*
 - Eggs*
 - Fish*
 - Peanuts*
 - Soy Beans*
 - Milk* (including lactose)
 - Edible nuts, namely: almonds, hazelnuts, walnuts, cashew nuts, pecans, Brazil nuts, pistachios, macadamia or Queensland nuts*
 - Celery*
 - Mustard*
 - Sesame seeds*
 - Sulfur dioxide or sulphites >10 mg/kg oder 10 mg/l
 - Lupines*
 - Mollusks*
- * and products derived thereof.

Details on the design of the labeling, is governed by the National Implementing Regulation.

Nutrition declaration

In facilities of mass catering, an obligation for nutrition declaration exists only for pre-packaged goods. Even as from December 13, 2016 no mandatory nutrition declaration, is planned for the unpacked, provided foods in mass catering. Should however energy content and

⁴⁶ Regulation (EU) No 1169/2011 on October 25, 2011, Article 44 and Annex II see: www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:304:0018:0063:de:PDF

⁴⁷ For further information see: www.daab.de/ernaehrung/ and www.lebensmittelklarheit.de, keyword "Allergene"

nutrients be declared voluntary as from December 13, 2014, these have to meet with the specifications of the LMIV (Art. 30–35).

The “BIG 7” are then always to be stated mandatory, whose sequence is not allowed to be changed:

1. Energy value
 2. Fat
 3. Saturated fatty acids
 4. Carbohydrate
 5. Sugars
 6. Protein
 7. Salt
- (“Salt” means the calculated content of salt equivalent, using the following formula: salt = sodium x 2.5)

The content of the “BIG 7” can be supplemented with an indication of the amounts of one or more of the following substances:

- mono-unsaturated fatty acids,
- polyunsaturated fatty acids,
- polyols,
- starch,
- dietary fibre,
- any of the vitamins or minerals listed in point 1 of Part A of Annex XIII, and present in significant amounts as specified in point 2 of Part A of Annex XIII.

For bulk goods, the nutrition declaration may be limited to the energy value or the energy value together with the amounts of fat, saturates, sugars, and salt (Art. 33[5]).

Food Additive Approval Regulation (Zusatzstoff-Zulassungsverordnung [ZZuV]):

For all companies with mass catering, the requirements of the Food Additive Approval Regulation apply. Thereafter the use of certain additives or additive categories basically has to be referred to by various declarations (for example “sulphured”, “with phosphate”, “with preservative”). This obligatory declaration also applies if the respective additives are contained in the ingredients of a compound food, unless they do not further serve a technological function in the final food product.

Genetically modified foods

Should a caterer obtain genetically modified foods which are subject to labeling and hands them directly or processed to the end consumer, they must be marked with the indication

- “genetically modified” or
- “produced from genetically modified ...” or
- “contains genetically modified ...” or
- “contains from genetically modified ... “

on the menu plan or corresponding information at the serving counter has to be made.⁴⁸

⁴⁸ Regulation (EC) No 1829/2003 of the European Parliament and of the Council of September 22, 2003 on genetically modified food and feed. For further information see: www.transgen.de/recht/kennzeichnung/286.doku.html

4.2 Staff qualification

For the catering sector (regardless of the catering system), a responsible person and thus a permanent contact person must be available.

Depending on the area of responsibility and work, the following qualifications are required:

Management of the catering sector

For the management of the catering sector, relevant professional qualification is a prerequisite. These include the qualifications head chef, cook, manager of home economics, (operations) manager in home economics, dietician, nutritionist and home economist.

Regular participation in professional advanced training and further education⁴⁹ with a nutritional scientific focus is mandatory.

Providers of additional qualifications, especially for the catering sector, are mainly:

- German Nutrition Society (Deutsche Gesellschaft für Ernährung e. V. [DGE])
- German Dietitian Association (Verband der Diätassistenten – Deutscher Bundesverband e.V. [VDD])
- German Association of Chefs (Verband der Köche Deutschlands e.V. [VKD])
- Chamber of Industry and Commerce (Industrie- und Handelskammer [IHK])

Further kitchen staff

If kitchen staff without relevant vocational education is employed, appropriate training and qualification measures should be carried out.⁴⁹

Staff at the serving counter

Prerequisite for the employment is a training course on the subject food hygiene and an instruction regarding the Infection Protection Act. If staff at the serving counter is also responsible for the preparation of meals, they need to be trained for the process flows.⁴⁹ In addition, an instruction in dealing with children of different age groups is necessary. When selecting the staff for the serving counter, attention has to be paid to aspects such as a friendly manner, communication skills and pedagogic aptness.



⁴⁹ Further information regarding the seminar offers of the DGE see: www.schuleplusessen.de in the category "Qualitätsstandard/Seminare/Veranstaltungen"

4.3 Interface management

In each school, there should be a catering representative for internal quality assurance. This person coordinates the communication of the protagonists to continuously improve the catering offer and mediates inter alia between the interfaces authority – school, caterer – pupils, caterer – parents, caterer – school management, caterer – authority, school management – parents. For this interface management, for instance, the following persons or group of people come into consideration:

- A teacher, who has the necessary basic knowledge on the basis of professional qualifications and training or a correlating study of literature. For this activity, a reduction in the teaching load could be granted.
- An external person, for example, nutritionist and home economist, dietician, manager in home economics. The activity could be rewarded accordingly by the school, the school authority or another organization.
- A commission with representatives of, for example, parents, pupils, teachers, school management and school authorities, who regularly deal with the above mentioned problems.





The term sustainability, expresses social values. In Germany, the sustainability strategy was adopted from the Brundtland Commission. Herein, the economic effectiveness is associated with ecological responsibility and socially fair compensation.⁵⁰ In the field of nutrition and catering, the triad ecology, society and economics was supplemented by the dimension health.⁵¹

These four dimensions can be anchored in the structures as well as in the processes and results of mass catering.

Sustainable nutrition should, for example, consider the following aspects:⁵²

- predominately plant-based,
- preferentially low processed,
- ecologically produced,
- regional and seasonal food,
- environmentally friendly packaging,
- fair traded.

It is up to each organization to determine for themselves, which areas are of importance or rather which aspects of sustainability are to be implemented.⁵³ Based on the four dimensions of sustainable catering, exemplary criteria are listed in the following chapters, which intertwine in their implementation. Therefore, the logistically optimized delivery of food within a possible short radius is not only economical, it also adds to the appeal of meals offered and takes significant influence on the nutritional quality of food and hence on health.^{54,55}

⁵⁰ Rat für nachhaltige Entwicklung (Hrsg.): Zehn Jahre Nachhaltigkeitsstrategie, Berlin (2012) 5

⁵¹ Schneider K, Hoffmann I: Das Konzept der Ernährungsökologie: Herausforderungen annehmen. In: Hoffmann I, Schneider K, Leitzmann C (Hrsg.): Ernährungsökologie. oekom verlag, München (2011) 38-43

⁵² von Koerber K, Leitzmann C: Empfehlungen für eine nachhaltige Ernährung: vom Wissen zum Handeln. In: Hoffmann I, Schneider K, Leitzmann C (Hrsg.): Ernährungsökologie. oekom verlag, München (2011) 148-154

⁵³ Further information Kettschau I, Mattausch N: Nachhaltigkeit im Berufsfeld Ernährung und Hauswirtschaft am Beispiel der Gemeinschaftsverpflegung – Arbeitsprozesse, Qualifikationsanforderungen und Anregungen zur Umsetzung in Unterricht und Ausbildung. Dr. Felix Büchner – Handwerk und Technik GmbH, 1. Auflage, Hamburg (2014)

⁵⁴ As part of the "Federal Organic Farming Scheme and other forms of sustainable agriculture", the campaign „Bio kann jeder“ supports children's day care centres, schools and catering companies in converting their catering offer in favour of balanced foods, if possible in organic quality. For further information see: www.oekolandbau.de

⁵⁵ Schools doing their own cooking and providing the menus solely for their own facility are not subject to compulsory certification. For further information concerning ecologically produced food, refer to: www.oekolandbau.de

5.1 Health

Sustainable catering offers meals that promote and maintain health, as well as enable learning ability and performance. Particularly in the field of catering for children and adolescents, ideal sustainable catering can lead to eating habits if the following points are taken into account:

- offer of nutrient-optimized menu plans, based on the DGE Quality Standard,
- free availability of drinking water,
- food from organic farming, free from or with few impurities,
- compliance with a impeccable hygiene for all processes,
- ergonomic workplaces and workflows.

5.2 Ecology

To practice ecological sustainability, means that throughout the entire process of food production, starting with purchasing over the entire process of manufacturing the product up to disposal or further utilization to pollute the environment as little as possible. A significant indicator for this pollution is the level of greenhouse gas emissions.

The following aspects, for example, are can be helpful in reducing these emissions:



- use of commercial kitchen appliances (e.g. convection steam cooker or pressure cookers) having a high energy- and water-saving potential, for example, by using gas and induction energy,
- use of multi-portioned packaging,
- products from organic farming,⁵⁶
- mainly plant-based foods, offer of an ovo-lacto-vegetarian menu line,
- purchasing fish from sustainable fisheries¹⁵, as well as meat from species-appropriate livestock farming,
- use of paper napkins from recycled materials,
- reusable packaging or recyclable packaging materials,
- avoidance of food waste,
- provision of unavoidable waste for energy production or further use,⁵⁷
- use of a cleaning plan, determining doses for cleaning and disinfecting agents,
- avoidance of standing times and warm-keeping periods, optimization of processes.

⁵⁶ Organic farming is a particularly sustainable form of agricultural land use. Therefore, the use of plant based and animal foods from organic production is recommended. It should be taken into consideration that advertising an organic offer implies the participation in the control procedures of the EC-Organic-Regulation. Should the use of organically produced foods be awarded, a certification by a recognized organic control board is necessary.

⁵⁷ Further information concerning prevention of food leftovers in mass catering, is provided by the initiative United Against Waste see: www.united-againstwaste.de/de/, thereby together with the DEHOGA a checklist was specified for waste avoidance: www.united-against-waste.de/de/images/broschueren/dehoga-checkliste.pdf. For consumers, the Federal Ministry of Food and Agriculture provides information on this topic via the campaign "Zu gut für die Tonne" ("Too good for the bin") see: www.zugut fuerdietonne.de/

5.3 Society

Sustainable activities in respect of the society, means that a fair contact exists with partners in growing regions worldwide, the suppliers, but also with the people who daily locally contribute to positive business results.

The following criteria are part of sustainable suitable actions:

- consideration of fair trade products or direct cooperation with farmers,
- promotion of regional economic cycles,
- fair remuneration,
- appreciation of employees and guests,
- friendly, helpful contact with each other,
- transparent communication.

5.4 Economy

In view of the profitability of a mass catering facility, further aspects are also incorporated into the consideration of an optimal ratio of costs and benefits, such as:

- optimal input or optimal use of resources (energy, water, detergents, etc.),
- preferential choice of foods with short transport routes,⁵⁸
- delivery of meals within a possible small radius,
- attractive offer, sales increase,
- qualification of staff.



⁵⁸ Further information on regional products and their labeling under: www.regionalfenster.de



With a certification, persons responsible for school catering ensure the quality of their meal offer and contribute significantly to an optimized catering. With the certificate for the “**Schule + Essen = Note 1-Zertifizierung**” (School + Food = Top Marks-Certification) respectively “**Schule + Essen = Note 1-PREMIUM-Zertifizierung**” (School + Food = Top Marks-PREMIUM-Certification), schools can demonstrate externally that their offer corresponds to the “DGE’s Quality Standard for School Meals”. The audits are considered passed if at least 60 percent of the criteria in every quality sector are met. Through regular re-audits, the certified quality will be ensured in the long term.

Basis for the two certificates are the selected criteria in Chapters 2 to 4, which are summarized in the checklist school meals. The compliance with the applicable legal provisions for mass catering is assumed.

Certification is carried out for at least one menu line. Should a school have several menu lines, the certified menu line has marked as healthy in the service area, on menu plans or information boards.

6.1 Schule + Essen = Note 1-Zertifizierung (School + Food = Top Marks-Certification)

Schools that meet the criteria of the three quality sectors quality of foods, menu planning & preparation of meals and environment, are entitled to use the title “**Schule + Essen = Note 1-Zertifizierung**”. The quality sectors are defined as follows:

- **Quality of food:** Lunch (optimal food choices and requirements for the menu plan)
- **Menu planning & preparation of meals:** criteria for planning and preparing meals for lunch, design of the menu plan
- **Basic condition:** general conditions in schools (for example break times, own school canteens, serving areas etc.)

If the criteria of these quality sectors are met, the school will be awarded a certificate including a logo-sign, which documents the “Schule + Essen = Note 1-Zertifizierung” following a successful audit.

6.2 “Schule + Essen = Note 1- PREMIUM-Zertifizierung” (School + Food = Top Marks- PREMIUM-Certification)

For the “Schule + Essen = Note 1-PREMIUM-Zertifizierung”, the school must – in addition to the mentioned requirements in Chapter 6.1 – comply with the criteria of the following two sectors:

- **Nutrients:** lunch on the basis of nutrient optimized recipes
- **Food:** breakfast and snacks on the basis of an optimal food choice and the requirements for the selection.

Nutrient optimized menu plans for lunch catering, must be available for at least four weeks. The nutrient optimization of the menu plan can be carried out over four weeks (20 catering days) or one week (5 catering days). The advantage of a weekly optimization is that the nutrient optimized menu plan can be selected freely in any order.

After passing the audit the school will be awarded a certificate including a logo-sign, which displays the “Schule + Essen = Note 1-PREMIUM-Zertifizierung”.

Figure 2 shows the quality sectors of the certification.

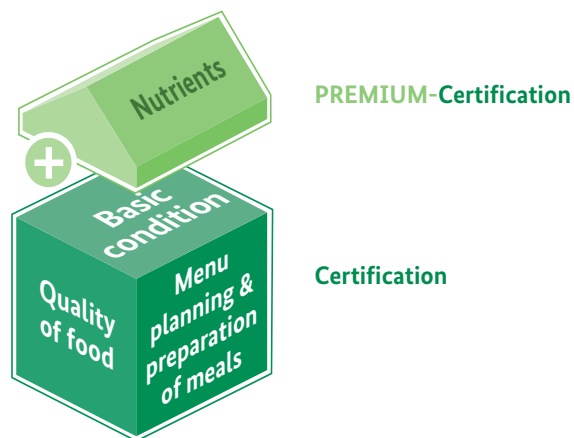
6.3 Cooperation with caterers

For food providers of schools, the DGE provides two possibilities for excelling the offer of a wholesome catering – with the DGE-certification for caterer or with the DGE-PREMIUM-certification for caterer. If a caterer strives for school catering certification, he has to implement all the criteria concerning the area of his responsibility. These include the requirements of the sectors foods and menu planning & preparation of meals.

For the DGE-PREMIUM-certification, the caterer has to fulfil additionally the criteria for a nutrient optimized lunch catering. Therefore, nutrient optimized menu plans have to be available for at least four weeks. He has to implement the criteria for an optimal food selection for breakfast and snacks as well as the requirements for the food choice, in case he is responsible therefore.

After the successfully passed audit, the caterer receives a certificate including DGE-Logo respectively DGE-PREMIUM-Logo and can advertise thereby. The audits are considered passed if at least 60 percent of the criteria in every quality sector are met.

Figure 2: Quality sectors of the certification



6.4 Criteria for a self-check

The checklist school meals serves schools as a tool for an independent review of the current catering offer. A self-assessment carried out by means of the checklist, does not guarantee passing the audit.

All criteria relate to 20 catering days (four weeks) and at least one menu line. If due to organizational reasons a catering is not offered on five days per week, other frequencies apply.

The information in Tables 7 and 8 relate to 20 catering days (four weeks) and at least one menu line.

Table 7: Checklist school meals for the “Schule + Essen = Note 1-Zertifizierung” (School + Food = Top Marks-Certification)

Quality sector food: lunch	fulfilled	not fulfilled
Grain, grain products and potatoes		
20 x grain, grain products or potatoes		
thereof:		
min. 4 x wholemeal products		
max. 4 x potatoe products		
Rice: parboiled rice or brown rice		
Vegetables and salads		
20 x vegetables (fresh or frozen), legumes or salad		
thereof: min. 8 x raw or salad		
Fruits		
Min. 8 x fruits		
Fruits: fresh or frozen without added sugar		
Milk and milk products		
Min. 8 x milk or milk products based on the following qualities:		
Milk: 1.5 % fat		
Plain yoghurt: 1.5 % - 1.8 % fat		
Cheese: max. full fat content (\leq 50 % fat in dry matter)		
Quark: max. 20 % fat in dry matter		

	fulfilled	not fulfilled
Meat, sausage, fish, egg		
Max. 8 x meat/sausage		
thereof: min. 4 x lean muscle meat		
Min. 4 x saltwater fish (not from overfished stock)		
thereof: min. 2 x high-fat saltwater fish		
Fats and oils		
Rapeseed oil as standard oil		
Beverages		
20 x drinking or mineral water		
Quality sector: menu planning & preparation of meals	fulfilled	not fulfilled
Menu planning		
Menu cycle lasts at least four weeks		
One ovo-lacto-vegetarian meal is offered daily		
Seasonal offers are given preference		
Culture-specific and regional nutritional habits as well as religious aspects are incorporated		
Grain, grain products and potatoes are varied offered		
In the case of food intolerances, such as allergies, participation is possible		
Requests and suggestions of the guests are incorporated		
Preparation of meals		
Heed is taken of low-fat preparation		
Max. 4 x fried and/or breaded products		
For the preparation of vegetables and potatoes, cooking methods to retain nutrients are applied		
Fresh or frozen herbs are preferred		
Iodized salt is used, add salt sparingly		
Sugar is used sparingly		
Short warm keeping periods, warm keeping periods for all components, 3 hours at a maximum		
Storage, transport and serving temperature of cold foods is 7 °C at a maximum.		
Warm keeping, transport and serving temperature of warm foods is at least 65 °C		

	fulfilled	not fulfilled
Design of the menu plan		
Current menu plan is accessible to everybody in advance		
When offering several menu lines, they are clearly presented		
Names which are not common and not clear are defined		
The animal species, regarding meat and sausage products, is specified		
Quality sector: basic condition	fulfilled	not fulfilled
Break time is at least 60 minutes (+/- 15 minutes)		
A separate space is provided as serving area and for eating the meals		
Staff at the serving counter is friendly and willing to give information		

Compliance with the applicable legal provisions for mass catering is a prerequisite for certification.

Table 8: Checklist school meals for the “Schule + Essen = Note 1-**PREMIUM-Zertifizierung**”
(School + Food = Top Marks-**PREMIUM-Certification**)

– in addition to the above mentioned criteria –

Quality sector nutrients: lunch	fulfilled	not fulfilled
Lunch catering complies after max. 20 catering days (4 weeks), on average, the “D-A-CH-Referenzwerte für die Nährstoffzufuhr”		
Preparation instructions are available at the workplace		
Nutrient calculated recipes are realized		
Portion sizes of the nutrient calculated meals are obvious		
Nutrient optimized meals are visually highlighted on the menu plan		
Quality sector food: breakfast and snacks	fulfilled	not fulfilled
Grain, grain products and potatoes		
Daily wholemeal products		
Muesli without added sugar*		
Vegetables and salad		
Daily vegetables (fresh or frozen) or salad		
Fruits		
Daily fruits		
Fruits: fresh or frozen without added sugar		

* If these foods are available in the overall offer, the stated quality has to be fulfilled in the certified offer.

Compliance with the applicable legal provisions for mass catering is a prerequisite for certification.

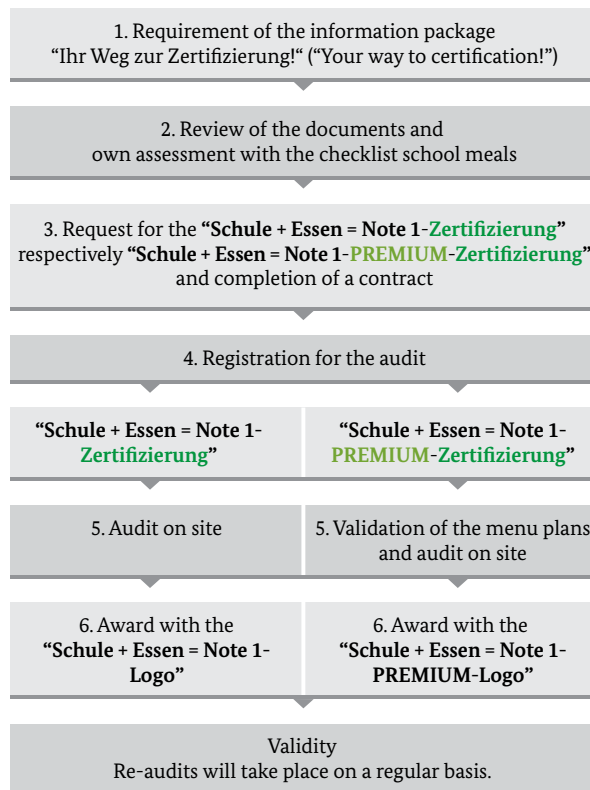
	fulfilled	not fulfilled
Milk and milk products		
Daily milk or milk products based on following qualities:		
Milk: 1.5 % fat*		
Plain yoghurt: 1.5 % - 1.8 % fat*		
Cheese: max. full fat content (\leq 50 % fat in dry matter)*		
Quark: max. 20 % fat in dry matter*		
Meat, sausage, fish, egg		
Meat and sausage products as bread topping*: max. 20 % fat		
Saltwater fish* (not from overfished stock)		
Fats and oils		
Rapeseed oil as standard oil*		
Beverages		
Daily drinking or mineral water		
Spicy snacks*		
Solely nuts and seeds without salt and sugar		
Sweets		
Are not offered		

* If these foods are available in the overall offer, the stated quality has to be fulfilled in the certified offer.
Compliance with the applicable legal provisions for mass catering is a prerequisite for certification.

6.5 Procedure

The “Schule + Essen = Note 1-Zertifizierung” or the “Schule + Essen = Note 1-PREMIUM-Zertifizierung” is a process to optimize the catering offer at schools. Aim is the award with the “Schule + Essen = Note 1-Logo” or “Schule + Essen = Note 1-PREMIUM-Logo” and there-with compliance with the relevant criteria for the certification. The following figure shows which steps are required.

Figure 3: Procedure of the certification⁵⁹



For certification, diverse information is available. Table 9 shows their content and sources of supply.

Table 9: Additional information

Title	Content	Source of supply
Information package “Ihr Weg zur Zertifizierung” (“Your way to certification”) contains: <ul style="list-style-type: none"> ■ checklist school meals ■ important steps for certification ■ overview of the costs 	All the important documents for the certification: <ul style="list-style-type: none"> ■ criteria for a self-check ■ information of the certification ■ overview of the current fees 	Order: phone: +49 228 3776-651 email: schuleplusessen@dge.de
frequent questions	answers to frequently asked questions	www.schuleplusessen.de in the category “Qualitätsstandard”

If you are interested in a “Schule + Essen = Note 1-Zertifizierung” respectively a “Schule + Essen = Note 1-PREMIUM-Zertifizierung” please do not hesitate to contact us:

Deutsche Gesellschaft für Ernährung e. V.
(German Nutrition Society)
**Referat Gemeinschaftsverpflegung und
Qualitätssicherung (Department for
Mass Catering and Quality Assurance)**

Mrs. Ellen Linden · Godesberger Allee 18
53175 Bonn · Germany
Phone +49 228 3776-651
Telefax +49 228 3776-800
Email linden@dge.de

⁵⁹ For further information see www.schuleplusessen.de in the category “Qualitätsstandard”



First of all, the requirements regarding the catering offer for five catering days are presented in this chapter. In addition, guidance on the quantities of foods, advice for creating a service specification and for sponsorship in schools is to be found.

7.1 Requirements for a one week menu plan (five catering days)

As part of the menu planning, it is determined how often certain foods respectively food groups are offered.

For the menu planning in school catering one week with five catering days is taken as a basis, on which the requirements for the use of certain foods respectively food groups (see Table 3) refer. The criteria are thereby determined, so that a diverse meal offer is made possible. Foods respectively food groups, which are daily part of lunch, are marked with the frequency “5 x”. Furthermore, minimum and maximum demands are formulated. Wholemeal products, for example, should be at least “1 x” in five catering days on the menu plan. Of course, they may also be offered more often. Maximum demands are defined for the use of meat and sausage as well as potato products – these frequencies are not to be exceeded.

For a balanced catering offer in schools, the following frequencies for the use of foods are to be considered:

Table 10: Requirements for a one week menu plan (five catering days)

Food group	Quantities	Examples for practical realization
Grain, Grain products and potatoes	<p>5 x</p> <p>thereof:</p> <ul style="list-style-type: none"> ■ min. 1 x wholemeal products ■ max. 1 x potato products 	<p>Jacket potatoes¹⁹, boiled potatoes, potato salad, potato stew</p> <p>Rice stir-fry, rice as side dish</p> <p>Lasagna, couscous salad, millet casserole, green spelt patty, polenta slices</p> <p>Wholemeal pasta, wholemeal pizza, brown rice</p> <p>Commercially semi-prepared and prepared foods, for example potato croquettes, French fries, potato wedges, potato fritters, gnocchi, mashed potatoes, dumplings</p>
Vegetables and salad	<p>5 x</p> <p>thereof min. 2 x raw or salad</p>	<p>Cooked carrots, broccoli, kohlrabi, vegetable lasagna, stuffed bell peppers (or zucchini, eggplants), pea stew, bean stew, lentil stew, ratatouille, vegetables stir-fried in a wok</p> <p>Tomato salad, cucumber salad, mixed salad</p>
Fruits	min. 2 x	Whole fruit, cut fruit, fruit salad
Milk and milk products	min. 2 x	In casseroles, salad dressings, dips, sauces, yoghurt or quark dishes
Meat, sausage, fish, egg	<p>max. 2 x meat/sausage</p> <p>thereof min. 1 x lean muscle meat</p> <p>min. 1 x saltwater fish</p> <p>thereof min. 1 x high-fat saltwater fish within two weeks</p>	<p>Turkey breast, chicken schnitzel, chicken fricassee, beef roulade, roast pork, Zurich-style stew, beef goulash</p> <p>Coalfish, stir fry</p> <p>Herring salad, mackerel, pickled herring</p>
Fats and oils	Rapeseed oil as standard oil	
Beverages	5 x	Drinking or mineral water

7.2 Information on the quantities of food

Table 11 shows examples of quantities of food during lunch. The stated values for the age-appropriate food limits refer to a five-day week.

Table 11: Examples of quantities of food⁶⁰ during lunch catering

Food group	Primary school level 7 to under 10 years	Secondary school level 10 to under 19 years
Grain, grain products and potatoes		
Potatoes, rice ⁶¹ , pasta ⁶¹ or grains ⁶¹	125 – 150 g/day	150 – 180 g/day
Vegetables		
Vegetables, cooked and raw	150 g/day	200 g/day
Fruits		
Fruits	160 g/week	200 g/week
Milk and milk products		
Milk and milk products	150 g/week	200 g/week
Cheese	40 g/week	60 g/week
Meat, sausage, fish, egg		
Meat and sausage products ⁶¹	140 g/week	150 g/week
Fish ^{61, 62}	70 g saltwater fish/week	100 g saltwater fish/week
Eggs	1 egg/week (including processed eggs in pancakes, pasta etc.)	1 egg/week (including processed eggs in pancakes, pasta etc.)
Fats and oils		
Oils	7 g/day	8 g/day

⁶⁰ With the foods listed in the table, the energy values in Table 6 are not fully utilized. In addition, smaller amounts of sugar (to sweeten the food) or flour (to thicken sauces) can therefore be used.

⁶¹ The amounts refer to cooked products.

⁶² At least 2 x high-fat saltwater fish within 20 catering days.

7.3 Service-Level-Agreements

In a service-level-agreement all aspects and responsibilities, which concern the catering in schools, should be incorporated.

If the catering service is tendered, a service specification has to be compiled. It serves as basis for the tendering procedure and defines the type and extent of the catering quality. The more detailed the requirements in a service specification are formulated, the easier is the comparison of different offers.⁶³

Even with self-management, a service specification should be compiled.

In the service specification must be included:

- handover of binding four weeks menu plans that meet the requirements for the choice of food and menu planning & preparation of meals (see Chapter 2),
- communication with the responsible persons for food quality, for example, by means of feedback forms,
- way of preparation,
- the chosen catering system,
- the chosen serving system,
- the logistics, for example, delivery, warm-keeping periods of foods,
- type of order and billing,

- type and extent of the existing infrastructure, for example, type and capacity of the existing devices,
- quality assurance and hygiene concept,
- contact person,
- references in the field of catering for children and adolescents,
- employment of well-trained staff,
- confirmation that only tariff-bound and socially insured staff is employed,
- information regarding staff development, for example, in terms of further education measures,
- evidence of commercial activity by an extract of the respective professional register, for example, commercial register, trading license, should not exceed a period of six months,
- sanctions against the employer regarding non-compliance of the quality criteria which were previously agreed upon.

In a service specification, the following can additionally be included:

- scope of the use of foods from organic farming,
- self-declaration that company visits are possible,
- where applicable, declaration of existing certificates, for example in accordance with DIN EN ISO 9001 ff., with “DGE’s Quality Standard for School Meals”,
- where applicable, the organic certification of a state-approved organic control authority.

⁶³ For further information regarding the compilation of a service specification see: www.schuleplusessen.de/fileadmin/user_upload/Broschuere_VNS_HandlungsleitfadenAusschreibungen.pdf (accessed May 02, 2014)

7.4 Sponsorship

Principle of sponsorship

Sponsorship is a contractual relationship that is based on the principle of performance and service in return. To put it simply, sponsorship exists on the principle of promoting the school in return for public image advertising. The return service of the sponsored party is determined in an appropriate manner and used for market communication, thus for the image of the sponsor. Clearly to be distinguished from that, is the commercial product advertising (for example, classical poster advertising). It serves the deliberate influencing of people, to attract them to a certain product as customer.

Pupils are supposed to learn in school, how to deal reasonably and with self-confidence regarding the promises of advertising messages. They have to see through, what is promised. In short: Schools must teach skills in handling advertising.

School sponsorships versus advertising messages at schools

School sponsorship⁶⁴ nowadays is an instrument, with which schools due to (sponsoring) partnership – i.e. with the support of businesses and out-of-school partners – can further develop.



But at the same time the advertising industry and advertising agencies, have discovered children and adolescents as an interesting target group as well. By means of promotions at school, an early customer loyalty should be established and sales increased. These opportunities and risks of a sponsorship respectively of an advertising campaign in school need to be clarified beforehand if a school strives for out-of-school partners.

An out-of-school partnership may not be accompanied by commercial advertising. Due to the opening of schools, responsible partnerships result, which could contribute towards the balance between professional contents and implementation as well as everyday reality and theoretical knowledge.

It is therefore essential to consider the described critical aspects, before the school enters a partnership with an out-of-school partner.⁶⁵

⁶⁴ The specific Federal State provisions have to be considered.

⁶⁵ Further information regarding school sponsorship: Stiftung Verbraucherinstitut in Zusammenarbeit mit dem Ministerium für Schule und Weiterbildung des Landes NRW (Hrsg.): Schulsponsoring heute: Möglichkeiten und Grenzen für die Öffnung von Schule. Praxisbeispiele, Richtlinien, juristische und steuerliche Hinweise, Umsetzungstipps. Berlin (2001); vzbv (Hrsg.): Werbung und Sponsoring in der Schule. Schriftenreihe des Verbraucherzentrale Bundesverbandes zur Verbraucherpolitik, Band 8. Berliner Wissenschafts-Verlag GmbH, Berlin (2006)

Adresses

Other useful addresses and links as well as information on relevant media can be found on the website:
www.schuleplusessen.de

Deutsche Gesellschaft für Ernährung e. V.
(German Nutrition Society)
Referat Gemeinschaftsverpflegung und
Qualitätssicherung (Department for Mass Catering and
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Phone +49 228 3776-873
Telefax +49 228 3776-800
Email schuleplusessen@dge.de
Internet www.dge.de
www.schuleplusessen.de

Network units for school meals

In the following list only the Central Coordination Offices respectively Head Offices in the German Federal States are quoted:

Federal State	Network Units (German denomination)	Email	Homepage
Baden-Württemberg	Sektion Baden-Württemberg der Deutschen Gesellschaft für Ernährung e. V.	schule@dge-bw.de	www.dge-bw.de
Bavaria	Bayerisches Staatsministerium für Ernährung, Landwirtschaft und Forsten	schulverpflegung@kern.bayern.de	www.schulverpflegung.bayern.de
Berlin	Vernetzungsstelle Kita- und Schulverpflegung Berlin	mail@vernetzungsstelle-berlin.de	www.vernetzungsstelle-berlin.de
Brandenburg	Vernetzungsstelle Schulverpflegung Brandenburg c/o Projektagentur	info@schulverpflegung-brandenburg.de	www.schulverpflegung-brandenburg.de
Bremen	Vernetzungsstelle Schulverpflegung Bremen	office@vernetzungsstelle-bremen.de	www.vernetzungsstelle-bremen.de
Hamburg	Hamburgische Arbeitsgemeinschaft für Gesundheitsförderung e.V. (HAG)	vernetzungsstelle@hag-gesundheit.de	www.hag-gesundheit.de
Hesse	Vernetzungsstelle Schulverpflegung Servicestelle Schule & Gesundheit	katja.schneider@afl.hessen.de	www.schuleundgesundheit.hessen.de
Mecklenburg-West Pomerania	Deutsche Gesellschaft für Ernährung e. V.	info@dgevesch-mv.de	www.dgevesch-mv.de
Lower Saxony	Deutsche Gesellschaft für Ernährung e. V., c/o Landesschulbehörde	kontakt@dgevesch-ni.de	www.dgevesch-ni.de
North Rhine-Westphalia	Verbraucherzentrale Nordrhein-Westfalen e. V.	schulverpflegung@vz-nrw.de	www.schulverpflegung.vz-nrw.de
Rhineland-Palatinate	Dienstleistungszentrum Ländlicher Raum Westerwald-Ostefel, Koordinierungsstelle Ernährungsberatung	schulverpflegung@dlr.rlp.de	www.schulverpflegung.rlp.de
Saarland	Ministerium für Umwelt und Verbraucherschutz	info@vns-sal.de	www.vernetzungsstelle-saarland.de
Saxony	Vernetzungsstelle Kita- und Schulverpflegung Sächsische Landesvereinigung für Gesundheitsförderung e.V.	sorg@slfg.de	www.vernetzungsstelle-sachsen.de
Saxony-Anhalt	Landesvereinigung für Gesundheit Sachsen-Anhalt e.V.	vernetzungsstelle@lv-g-lsa.de	www.kita-und-schulverpflegung.de
Schleswig-Holstein	Deutsche Gesellschaft für Ernährung e. V.	kontakt@dgevesch-sh.de	www.dgevesch-sh.de
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