

SMALL PORTION, BIG CHANGE

on the underestimated role of the canteen and reducing
food waste in educational establishments



Authors:

Grażyna Karczewska
Anna Motak

Edited by:

Grażyna Karczewska

Proofreading:

Beata Nawrotkiewicz

Co-operation:

Beata Flank
Paulina Drzazga

Graphic design and typesetting:

Kamila Szczęsna

Publisher:

City Council of Wrocław
Department of Strategy and Sustainable Development
Climate and Energy Division
ul. Bogusławskiego 8,10
50-030 Wrocław

ISBN (location variant 1)

All rights reserved.

Reprinting and reproduction in any form of all or part of this publication without written permission from the publisher is prohibited.

Wrocław 2025

Issue I

ISBN (location variant 2)

The study is co-financed by the European Union under the Interreg Central Europe 2021-2027 Programme, and by the City of Wrocław's own resources.

Interreg
CENTRAL EUROPE



Co-funded by
the European Union

foodCIRCUS

Wrocław the meeting place
www.wroclaw.pl

 **Zielony
Wrocław**

#WROCLAW
NIEMARNUJE

 **KUŹNIA
ZDROWYCH
NAWYKÓW**

Small portion, big change

on the underestimated role of the canteen and reducing
food waste in educational establishments



Scan the code to get
electronic access to the book

Wrocław 2025

CONTENTS

Introduction	08
Reasons for food waste	14
General recommendations	22
Kindergarten with its own kitchen	42
Kindergarten using catering services	58
School canteen	66
Unused meals	80
Conclusions	86
Waste treatment	98

FROM THE AUTHORS

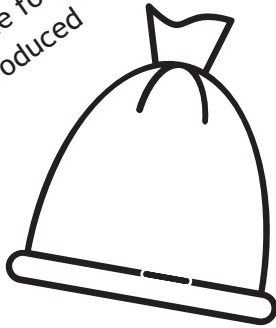
We are putting an end to food waste in educational institutions and sharing practical ways to reduce waste from school and kindergarten canteens. We have many years of experience in working with educational institutions in the field of mass catering. We focus on practical solutions, tailoring their implementation individually, based on the capabilities of the organization in question.

We have prepared this publication for those who are responsible for nutrition in educational establishments (kindergartens and schools). From management to canteen managers, teachers, caregivers, and cooks. We deliberately use the feminine forms for most professions in this publication, because this is the reality of Polish education, which is dominated by women. It is hoped that the canteen managers, teachers, caregivers and cooks will embrace the content of the publication regardless of the grammatical forms used.



4,8 million
tons per year

1/3
of the food
produced



30-50%
goes to waste

INTRODUCTION

Scale and impact of food waste

Every year, more than one third of the food produced in the world is wasted - accompanied by unnecessary greenhouse gas emissions, excessive water consumption, environmental degradation and huge financial losses.

In Poland - according to the Federation of Polish Food Banks - this is as much as 4.8 million tonnes per year.

Research conducted in Wrocław as part of the earlier BioCanteens#2 project shows that in some educational institutions, as much as 30-50% of prepared food ends up being disposed of.

Time, work, money and - most importantly - trust in educational institutions are being wasted. Meanwhile, for many children and young people, the institutional meal is the most important meal of the day.

Project context and publication objectives

Sustainable food systems start locally - in the nursery canteen, in the school kitchen, in the decisions made every day when planning meals, purchasing products and serving lunches. The FoodCIRCUS project, implemented by the City of Wrocław as part of the Interreg Central Europe programme, aims to strengthen the capacity of educational institutions to prevent food waste and implement circular solutions - systemic, sustainable and responsible.

Wrocław does not operate in a vacuum. As a signatory to the International Urban Food Policy Pact (MUFPP), the city has committed to promoting sustainable food systems, including in education. International declarations only make sense if they translate into real change: into flexible portions on the school menu, into thoughtful shopping in the kindergarten kitchen, into dialogue with caterers. It is there, in the daily practice of mass catering, that the city's climate and education policy is implemented - benefiting children, the budget and the planet.

Education through daily habits - sustainable and global

Catering in educational institutions is not just a matter of fulfilling an obligation, and the canteen is not just a place where meals are served; it is also an educational and learning space. This is where we teach what it means to respect food, who is behind its preparation and how our choices affect the environment.

Therefore, this publication is in line with the principles of Global Education and Education for Sustainable Development (ESD), which emphasize the interdependence between the local and the global. The authors' intention is to provide real support to schools and nurseries in their efforts to reduce food waste.

Well-designed mass catering in educational institutions:

- › reduces the environmental footprint (CO₂, water, waste),
- › supports the health of children and young people,
- › fosters attitudes of responsibility - towards the planet, other people and food itself.

For whom was this document created and how was it developed?

The recommendations are the result of a series of workshops and consultation meetings involving:

- › kitchen and support staff,
- › management, canteen managers and teachers,
- › representatives of catering companies,
- › experts in mass nutrition, food law and environmental education

The publication is based on plate audits, process mapping and analysis in line with the MUFPP Monitoring Framework. It is aimed at all persons and institutions involved in the organization and implementation of mass catering in kindergartens and schools - both with their own kitchen and in the catering system.

Guiding message

The recommendations are not just a response to the problem of food waste. They are the answer to the question, what kind of education do we really want? The canteen is not just a place to serve meals, it is also an educational space. Food waste in kindergartens or schools is not just an organizational issue; it is a systemic signal that change is needed - change that begins with conversation, empathy and the courage to break away from established patterns. If the canteen is to teach respect, it cannot tolerate indifference.

This publication is intended to enable such a change. It shows how things can be done smarter, more carefully, more effectively - with respect for the efforts of those working in the kitchen, with recognition of the responsibility of the management, with the children and the planet in mind. This is not a manual, but a set of practical guidelines to help you make better decisions here and now. Recommendations are a set of guidelines, not dogmas. Not all can be implemented immediately - nor is it necessary. It is important to start with anything: with a team discussion, with a careful look at what actually remains on the plates or is unused, with one change that will make a difference.

If a child leaves half their lunch, it is not their stomach that is too small, it is the portion of food that is too large.

It is not about revolution. It is about replacing existing habits with informed choices. For children. For the future. For a world in which food will always have value.



*This is a guide that you can use to
hit the road right away - and not only avoid getting lost,
but also set an example for others,
just like we do in Wrocław!*



REASONS FOR FOOD WASTE

Why does so much food end up in the waste bin?

Analysis of causes of food waste in kindergartens and schools on the basis of questionnaires, workshop meetings, interviews with authorizing officers, teachers and principals

One of the main and best-documented problems of food waste in schools and kindergartens is overproduction. According to a study carried out by Wrocław University of Life Sciences in the canteens of School and Kindergarten Complex No. 21 in Wrocław (BioCanteens#2 project, 2022), up to 52% of the food produced is not eaten by children and is wasted. Similar observations were made during the quantitative research currently being carried out in the FoodCIRCUS project. Preliminary estimates already show that more food goes into the waste bin in schools than in kindergartens.

The reasons for this overproduction are primarily:

- › Failure to inform the kitchen about children's absences (on average, 20 to 24% of parents do not report their child's absence from the facility, and kitchen managers are not informed about school trips), which results in meals being prepared for pupils who will not be present at lunch.
- › Limited time allocated for the consumption of meals (a break of about 10-15 minutes), which means that children usually only eat one of the two prepared dishes. As a result, dishes such as soups and starchy side dishes are regularly thrown away.

- › Organizational problems, such as insufficient kitchen space or inadequate equipment, staffing and financial shortages, make it even more difficult to optimize the amount of food produced.

Lack of regular and systematic measurement of the quantity of meals prepared and ongoing analysis of their consumption.

Catering services often rely on estimates, intuition or word-of-mouth information about portion sizes for a given group, which in practice leads to significantly exceeding actual needs. It turns out that sometimes a kindergarten meal is no different in size from a school meal. Portion sizes are often not determined on the basis of actual consumption, supported by experience or observations, nor are they adjusted to the actual energy requirements of a given group, but are simply ‘taken from other institutions’ or implemented directly from studies received during training courses.

Current perspectives from the foodCIRCUS contributors

The phenomenon of food waste in educational institutions is a complex problem, the full understanding of which requires looking at it from different perspectives - both organizational and directly related to the daily contact with children. The analysis carefully examined the opinions of three key groups: teachers, principals and canteen managers. Each of these positions brings a different point of view, based on the scope of responsibilities, the level of involvement in child nutrition and the specific nature of the work.

Surveys conducted for the purposes of these recommendations identified a number of factors influencing the scale of food waste in institutions. The respondents’ statements revealed both commonalities and differences in their perceptions of the problem

CATEGORY	DESCRIPTION OF THE PROBLEM	EFFECT
Overproduction	Much more food is cooked than children actually eat, and the portions are too large.	Excess is the primary source of waste - in the first measurement 52% of the food produced was thrown away, in the second 37%.
Lack of continuous monitoring	There is no regular measurement and analysis to correct production volumes on an ongoing basis.	The kitchen relies on estimates or biased standards, which perpetuates overproduction.
Very short time to eat (approx. 10-15 min)	Pupils in Grades 4-8 in particular don't have time to eat two courses - they focus on the second course, the rest goes back to the kitchen.	Large quantities of unconsumed soups and starchy additives.
Unreported absences and school trips	20-24% of pupils do not turn up for paid lunch and information about class trips does not reach the kitchen.	Meals are cooked for 'ghosts', which increases the scale of waste.
Poor communication of the menu	Children often don't know what's for lunch.	They give up their meal or leave out what they 'don't like'.
Daily two-course model	Soup + second course served daily with limited time to eat.	One of the dishes - usually soup - gets thrown out.
Organizational problems in the kitchen	Too little space, no incentive systems or training.	Impeded implementation of loss mitigation solutions.

Table. Reasons for food waste in educational institutions - study based on the Report on food waste analysis at ZSP No. 21. Tomasz Szuba, dr ing Jan Den Boer

Canteen manager

Statements of the canteen managers show that their role in counteracting food waste is severely limited by current internal regulations and procedures. Many of them declare their inability to act, explaining this by the need to strictly comply with strict nutritional standards and current regulations. In addition, they often point to the obligation to follow the procedures established in a given institution, which significantly limits the room for manoeuvre.

Some of the canteen managers are trying to take initiatives to improve the situation - such as organizing cooking workshops with children, allowing a daily choice of vegetables for breakfast or as a side dish for lunch, or introducing cream soups to the menu. However, they almost always point out that it's hard to do this without clear support from the school management.

There is also a sense of powerlessness among some canteen managers, with some openly admitting that they do not know how they could get involved in reducing waste or claiming that they simply do not have the capacity to do so. As one person put it:

'I've tried to take the initiative, but it's a very sensitive issue, and if the idea isn't approved by management, it's difficult to move forward with it.'

Teacher

Teachers most often perceive the problem of food waste through the prism of the mismatch between meals and children's preferences and the lack of real influence over the organization of food in the institution. In their opinion, the main reasons for throwing food away are: children's aversion to the dishes served, the overly sophisticated nature of some dishes, their unattractive appearance or quality, as well as rushing while eating and bad habits learned at home.

Many teachers declare that they do not have the opportunity to actively participate in food waste reduction activities. They often lack information on how they could get involved in the process or simply feel left out. There are also voices emphasizing the need for strict adherence to internal pro-

cedures, which further restricts their activities.

Only a few female teachers take small initiatives, such as encouraging children to try new foods, but these are isolated cases. The vast majority admit that they do not know how they could get involved or do not see the space for this in their daily work.

Management

The management takes a more comprehensive view of the problem of food waste than other groups. It treats it not only as an organizational or systemic challenge, but also as an important educational element. From the management's perspective, efficient cooperation between the entire team - the kitchen staff, the teachers, the administration - is of key importance, as it can have a real impact on reducing food waste.

The most frequently cited reasons for wasting meals include oversized portions, failure to adapt menus to children's preferences, poor eating habits brought from home and regulatory restrictions. Importantly, principals are more likely than other respondents to declare that they undertake or support various initiatives. Their institutions organize cooking workshops, consultations with children about the menu (including the establishment of 'Children's Councils'), and even introduce solutions such as 'buffet tables', giving children a choice.

An example of this approach can be seen in the statement of one of the principals: *'We run cooking workshops where the children prepare different dishes themselves, they have the opportunity to suggest a dish and the kitchen executes these ideas.'* Such actions demonstrate that where there is a willingness to cooperate and organizational space, it is possible to introduce practical solutions that promote waste reduction.

At the same time, there are many opinions pointing to limitations. Some of the principals admit that they have to adhere strictly to rigorous dietary requirements, and some emphasize that they have no influence on portion sizes, which are 'imposed from above'. Thus, although the role of the principal appears to be the most decisive and paves the way for change, even here institutional barriers can effectively limit the room for action.

All groups recognize the problem of food waste, although they have different options for action and different perspectives. Every group wants change, but expects support ‘from above’ or greater flexibility in regulations. All unanimously pointed to children’s poor eating habits and their dislike of certain foods as the main reasons for throwing food away. The lack of a system enabling meals to be cancelled in advance was also highlighted, which further exacerbates the problem.

Canteen managers and principals were more likely to point out that portions were too large and dishes were too fancy, deviating from children’s preferences. Teachers, on the other hand, strongly emphasized the unattractive appearance and smell of some dishes and the fact that children’s favourite dishes appear too infrequently on the menu. Phenomena such as rushing through meals or lack of appetite were also noticeable in all groups, but appeared slightly more frequently in the responses of stewards and management.

Conclusions



Cooking “in advance”.

Cooks often cook too much. Up to 52% of prepared food never reaches children’s stomachs. In short - we are cooking for an army, not a class.



Guessing instead of checking:

lack of consistent measurements and poor communication mean that cooks have to guess how much food is needed for the day. And as we all know, intuition sometimes fails.



Running for a record in eating.

Children in schools often only have 10-15 minutes for lunch - too little time to eat two courses in peace. The result? Soup, starch or salads are returned to the kitchen instead of ending up in the mouth.



Organizational chaos.

Kitchens tend to be small, unadapted to the real needs of the number of children, have small budgets and are understaffed, which results in lack of motivation. All this is a bit like cooking during a storm - there's a lot going on, and the results... can vary.



Ghosts at the table.

School trips and illnesses are the order of the day, but often the kitchen finds out too late. The consequence? Cooking lunches for children who did not come to school or kindergarten that day.



Children's preferences.

Not every child dreams of Brussels sprouts or fancy dishes that look 'suspicious'. When dishes do not suit children's tastes, they end up in the waste bin.



Regulations tie hands.

Nutritional standards are very strict and often lack room for minor compromises. On top of that, the fear of the Sanitary Inspection Authority or audits by the Supreme Audit Office is paralyzing. The result? Less flexible menus, more uneaten food.



GENERAL RECOMMENDATIONS

From menu to trust - how to build an effective nutrition system in an educational institution

Creating an effective feeding system in a nursery or school is much more than putting together a regulations-compliant menu. It is a complex, interdependent process in which it is not only what children get on their plate that matters, but also how the food has been planned, prepared, served, accepted and discussed with the parents. Only then is it possible to reduce food waste without sacrificing educational and health values.

The pillars of rational nutrition in the institution

1. Menus - between health and reality

Meal planning requires a combination of knowledge and practice. The data clearly shows that children are most likely to eat what is simple, familiar and convenient in form. On the other hand, nutritional recommendations oblige institutions to provide variety, including fish, vegetables, whole grains, and two portions of dairy products. The ability to bridge these two worlds is therefore crucial. It is not about giving up healthy products, but about introducing them sensibly - in small steps, in an acceptable form, at a pace that suits children.

2. Theory vs practice - common sense takes precedence

Nutritional recommendations are a reference point, not a ready-made recipe. A child is not a table, but a human being - with their own appetite, changing

moods and a home background of habits and acceptance. Therefore, the organization should use the standards, but filter them through the daily observation of the children, reacting flexibly instead of rigidly ‘ticking off points in the Regulations’. This approach not only improves meal efficiency, but also reduces waste in real terms.

3. Team - without cooperation there is no quality

Canteen managers, cooks and teachers are the three pillars of nutrition at the facility. When everyone acts separately, tensions, chaos and waste are created. But when they start talking, exchanging observations and planning together there is an opportunity for real change. Simple mechanisms (observation sheets, regular meetings, joint decisions on new initiatives) can build a team that not only ‘serves meals’ but consciously creates them and supports their consumption.

4. Parent - partner, not opponent

Today’s parents have access to thousands of online tips, theories, personal beliefs and conflicting information. This is a challenge, but also an opportunity, if the institution builds an open, objective and empathetic relationship with them. Communication based on common goals (child’s health, reducing waste, developing interest in the products consumed and shaping habits) can effectively overcome resistance, reduce conflicts and reinforce the educational message - including that of respect for food and the work that goes into its preparation.

The key to success? Consistency and understanding

All these elements: menus, collaboration, communication, education - must work together, not separately. Then, catering in the facility ceases to be merely a logistical matter and becomes an educational, social and environmental tool. Ultimately, it’s not just about getting the kids to eat. The idea is for them to eat consciously, healthily and with respect for themselves, their food and the planet.

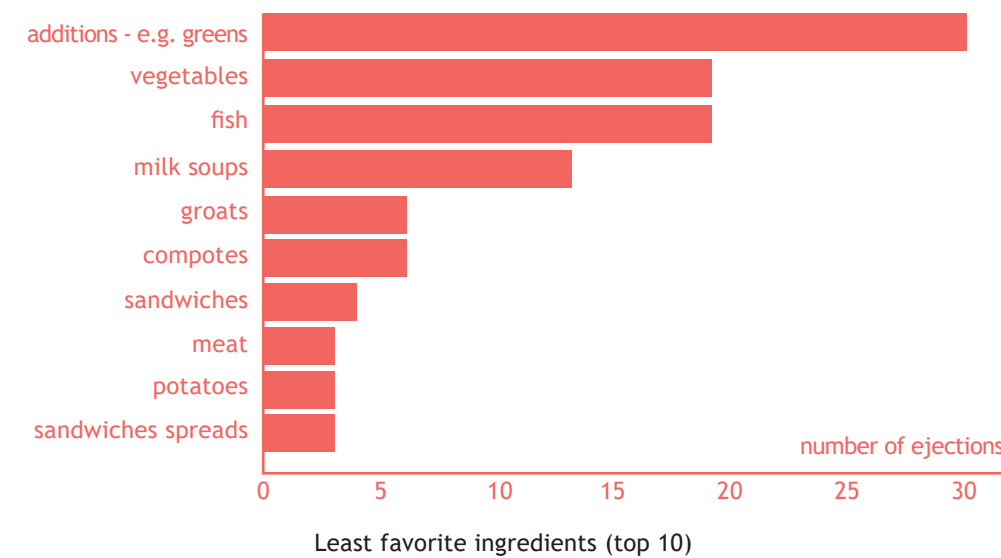
What do children like best?

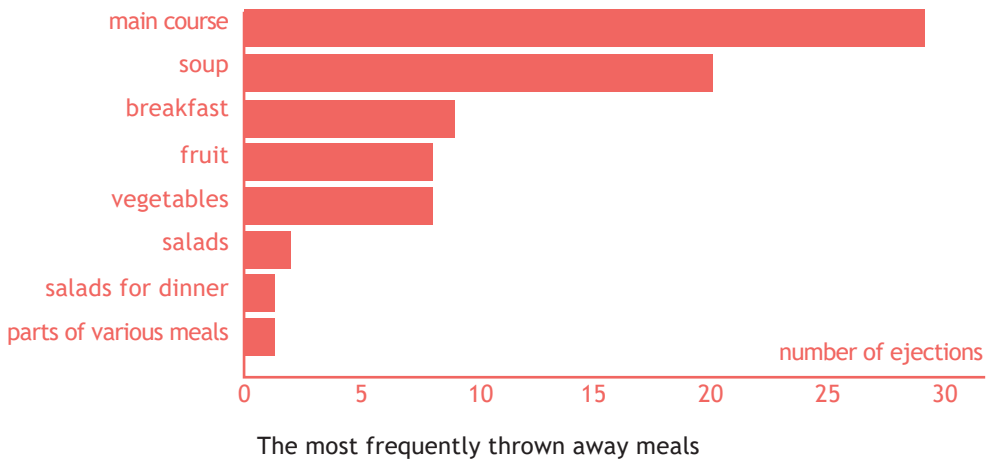
Children’s culinary preferences can sometimes challenge even the most creative cooks. What do the youngest foodies reject most often? The number one item on the blacklist turns out to be all kinds of ‘greens’ - dill, parsley and chives. Just behind them on the gallows are vegetables in general and fish, the texture and intense taste of which can sometimes be difficult for children to accept. Traditional milk soups are also not popular among older preschool children.

A smaller but still significant group of children reject porridge, compotes and sandwiches with spreads. Even potatoes and meat - often considered safe options - can end up on the list of foods that children push away.

If we look at the meals most often thrown away, the first place is occupied by second courses, which were considered too large or unattractive. This is immediately followed by soups, breakfasts and vegetables in the form of side dishes. It is clear that what adults find tasty and healthy, children often perceive quite differently.

The reasons for children rejecting meals are quite clear. Bland, monotonous flavour is most often indicated; children need variety and a bit of culinary imagination. In addition, toddlers definitely prefer easier textures - breaded fish fillet is easier to accept than baked or steamed fish. The size of the portion is also important; children become discouraged when a meal is imposed on them from above in excessive quantities. A simple solution to this problem could be smaller portions and, at the same time, offering second helpings, which children can ask for.





Products served for a second breakfast, such as **yoghurt**, **fruit** or **in-house baked** goods, received the highest level of acceptance -they hardly appeared among the ingredients indicated as problematic. This sends a clear signal that these are certain items on the menu that are worth maintaining. Potatoes in the form of mashed potatoes or baked boats received similarly high ratings, as their neutral taste and versatility make them a solid base for a meal. The salads were also surprisingly good, especially when the children can layer them themselves and the sauce does not dominate them.

Fruits, both fresh and served as dessert, was also among the most popular products, although it was slightly more often than others indicated as unsuitable, especially when served in a less accessible form (e.g., whole citrus fruits, large fruits not cut into pieces). Vegetables hidden in cream soups or vegetable sauces also scored very well. Here, the form is decisive - blended vegetables are more readily accepted than those in pieces, such as carrots.

Sandwich spreads were on the verge of acceptance. Children will eat them provided they have a smooth texture and a distinctive, interesting flavour, for example slightly spicy or herby (e.g., curry).

The conclusions are clear: children most appreciate simplicity, familiar flavours and the opportunity to choose for themselves. These are the elements that determine the success of a dish on a plate and whether it ends up in the stomach or in the waste bin.

Some simple rules for building attractive meals for children

1. Build on simplicity and familiar flavours

Products such as potatoes (mashed, baked), yogurts, fruit and yeast cakes can be regularly included in the menu. Children prefer meals that are simple, easily recognizable and taste-neutral.

2. Give children an independent choice.

Encourage the introduction of a buffet style, especially for salads or fresh vegetables. Children that can help themselves to their food are more likely to eat it.

3. Be careful about the form in which vegetables are served.

Vegetables are far more favourably received when in the form of creamy soups or sauces than as chunks floating in them. Blending vegetables can effectively reduce food waste.

4. Choose 'hold-in-your-hand meals'.

Fruit served in a convenient form that can be easily grasped by the child is more readily consumed. A similar principle also applies to other snacks.

5. Carefully control the amount of sauces and additives.

Salads with a light, small amount of dressing, not drenched in excessive amounts of liquid, are much more popular with children.

6. Care for consistency and clarity of flavour.

Sandwich spreads should have a smooth texture and a distinctive flavour. Delicate but distinctive flavour notes increase their acceptance.

7. Avoid oversized portions.

It is better to serve a smaller portion with the option of a second helping than too large a portion and generate waste straight away. Portions tailored to children's actual consumption capacity realistically reduce the scale of food waste.

8. Be cautious about introducing 'risky' products.

Products that students repeatedly say they are unwilling to eat should appear less frequently or in a modified, more attractive form, e.g., combined with more flavourful ingredients.

9. New products: introduce them gradually, in the form of small samples for tasting.

New products and flavours are best introduced in the form of small samples for tasting, accompanying familiar and accepted dishes. After the children have tried the food, it is best to ask for feedback, e.g., in the form of a short survey, to find out whether they liked it and whether anything should be changed to increase the likelihood of acceptance by other pupils before the dish is permanently added to the menu.

Practice and theory clash - how to reconcile children's preferences with healthy eating principles?

Healthy eating recommendations for children and standards are an essential reference point for meal planning - a foundation for safety, quality and the development of healthy habits. However, in the practice of kindergartens and schools, it is impossible to treat them as rigid rules.

From the perspective of the daily work of canteen managers, cooks and teachers, it becomes clear that nutrition in an educational institution requires observation, flexibility and common sense. Regulations and standards are important, but they cannot overshadow what actually happens on the plate and, as a result, is eaten or ends up in the bin. Just because a food 'should be included in a child's diet' does not mean that it should appear on the menu in a form that children will not touch. This is why it is crucial to combine dietary knowledge with daily observation of children's behaviour at the table. It's not giving up on principles - it's implementing them wisely, at a pace and in a form that gives you a chance to succeed.

What have we learnt from the discussions and exchanges in the teams?

1. Soups - between rejection and educational potential

Reality:

Soups are the most common 'plate waste'. The greatest resistance is to greens and visible pieces of vegetables. Cream soups disappeared from plates much more often than clear soups with 'floating pieces of vegetables'.

Recommendation:

Soups should remain an important carrier of vegetables and liquids in the diet. Continue to serve them, but with adjustments to the form:

- › blended creams with the addition of croutons, puff peas or seeds such as sunflower seeds,
- › delicate seasoning without greens floating on top (those who wish can add them themselves),
- › education through taste, e.g., 'how to make your own soup' workshops?



2. Breakfast - milk soups under control

Reality:

Milk soups are often the reason for not eating the rest of the meal, especially sandwiches. Some children eat breakfast at home, which makes the meal at kindergarten an unnecessary 'excess'.

Recommendation:

- › do not plan milk soups every day, 2-3 times a week is enough;
- › choose the most popular variants and additionally implement an educational variant (e.g., mash, semolina, cornflakes; to expand the diet, test new flavours and check their acceptance by children),
- › serve vegetables for sandwiches in an attractive form (in addition to traditional slices, also sticks, colourful vegetable plates).



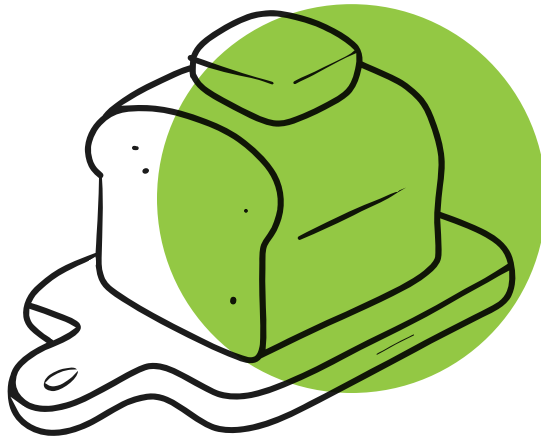
3. Second courses - healthy compromises

Reality:

Children love potatoes, pasta and classic meat, but are reluctant to eat fish and groats, especially the dark ones.

Recommendation:

- › whole grain products (e.g., wholemeal pasta, barley or buckwheat groats) should be introduced gradually, 1-2 times a week, in forms that children like,
- › serve fish as breaded fillets (preferably baked) - use fish soups and minced fish cutlets less often (unless they are popular in a given institution),
- › rotate protein sources - introduce legumes in the form of sandwich spreads, cream soups or sauce additives,
- › limit processed meat in accordance with recommendations (serve sausages and cold cuts occasionally).



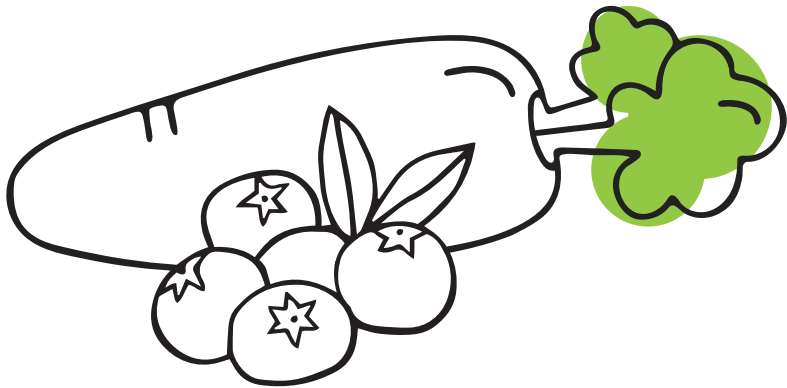
4. Fruits and vegetables - form matters

Reality:

Children are more likely to eat fruit with their hands and to eat vegetables cut into sticks than in salads with dressing. Too much sauce or mixed ingredients are discouraging.

Recommendation:

- › the daily presence of fruit and vegetables (a minimum of 5 portions, with vegetables predominating; a portion is also a juice or smoothie made from vegetables or fruit),
- › serve raw vegetables for self-selection - vegetable buffet, colourful bowls,
- › avoid 'drenching' with sauces -serve separately or in a light version (e.g., natural yoghurt + herbs).



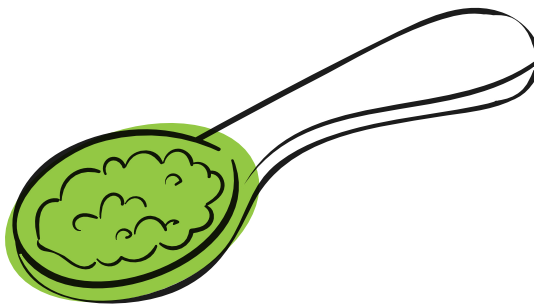
5. Teach children - don't just feed them

Reality:

Children don't have to like everything straight away, but they have the right to try. Food is also an educational 'tool'.

Recommendation:

- › introduce new textures and flavours in small portions, with encouragement, not coercion,
- › apply the principle of exposure: the child must get to know the product before accepting it (sometimes several times),
- › involve the child in the choice of dishes, the composition of plates, cooking workshops, this increases the acceptance even of difficult flavours.



Nutrition education for children in institutions - that's what we're betting on!

Nutrition education for kindergarten and school children is one of the foundations for building healthy habits for life. It is during this period that the perception of food as a pleasure, a necessity, but also a responsibility is formed. It is also a time when children learn independence of choice, sensitivity to the needs of their own bodies and respect for food and the work of others.

In the context of the growing problem of food waste in educational institutions and the challenges of overfeeding, selective appetite and the impact of the home environment, nutrition education is no longer an add-on to the educational programme and is becoming an integral part of it. It is not just about what children will eat today, but how they will view food tomorrow. Well-planned educational activities not only increase acceptance of healthy products and reduce waste, but also teach children to be open to new flavours, take responsibility for their choices and develop mindful eating habits. Therefore, the recommendations contained in this study are intended to support establishments in developing coherent, practical and effective learning activities that work.

1. Teach by experience - eating is not a lecture, it is an action

Why? Children learn best through contact and play, not through definitions and prohibitions.

How?

- › Culinary workshops in which the children prepare simple dishes themselves (e.g., sandwich spreads, fruit salads, vegetable skewers, juices and smoothies).
- › Involving children in composing meals, e.g., 'create your healthy plate' from prepared ingredients.
- › Planting herbs, sprouts, and simple vegetables together - even in a pot, if the institution does not have its own garden or herbarium.

2. Build positive associations with food

Why? Fear, pressure and coercion to eat new foods build resistance, not curiosity.

How?

- › Playing ‘taste adventures’ - tasting small portions of new products in a safe environment.
- › Naming food in a friendly way: ‘wizard’s soup’ instead of ‘vegetable soup with dill’.
- › Praise for trying, not for eating - we teach openness and courage, not ‘clearing the plate’.

3. Introduce new flavours gradually and consistently

Why? Acceptance of a new flavour may require repeated exposure.

How?

- › The new ingredient appears regularly in small quantities, such as a few pieces of pepper in a familiar dish.
- › Combining new dishes with favourite foods, e.g., groats with tomato sauce and meatballs.
- › Tell stories about the ingredients the children are learning about, so the food gains ‘character’.

4. Integrate education into everyday life - don’t make it a ‘special lesson’

Why? The most effective nutrition education happens at the table, not at the blackboard.

How?

- › Conversations during meals: ‘What did you like best today?’, ‘Did you try a new vegetable?’
- › Mini-plans in the dining room with a colourful plate, health pyramid, names of fruit and vegetables, e.g. in the form of a seasonal calendar.
- › Fixed kitchen rituals’, e.g., Mondays with a new colour (vegetable of the week), ‘a day without frowning on greens’.
- › Learning about food products during classes, joint trips to the shop or visits to farms.

5. Include home - education doesn't end at kindergarten

Why? Children also eat at home, and family habits have a huge impact on their later choices.

How?

- › Sending simple information to parents: 'This week we're getting to know about millet groats - try them together at home.'
- › Recipe of the month - simple and healthy - to prepare together with your child.
- › Inviting parents to workshops or joint themed breakfasts (e.g. whole grain breakfast, fruit day).

6. Treat nutrition education as part of parenting, not an add-on

Why? Eating teaches self-reliance, respect for oneself, others and the environment.

How?

- › Encouraging self-service and tasting - without pressure. Sometimes all you need to do is get a certain product on the plate, create space for only the next step is for the child to eat it.
- › Teaching the principles of not wasting food through play and action (e.g., the project 'What happens to the food that is left over?').
- › Conversations about the origin of food, the role of the farmer, the cook, nature - building awareness among children.

How to talk to parents about child nutrition in an era of information chaos and extreme views?

The modern educational establishment operates in a dynamic, often polarized reality in which parents have different beliefs, different levels of knowledge and very different expectations of what their child should eat. For some, 'sugar is poison', for others, 'children should eat what they like'. On the one hand, a parent with dietary awareness, on the other - discouraged because 'they don't want to eat anything but pasta anyway'.

Talking about child nutrition, even if it can be difficult, is essential for several reasons:

- › it permits a better understanding of the child's habits and needs, which facilitates meal planning and reduces waste;
- › builds the parent's trust in the institution and reduces the risk of conflicts;
- › provides an opportunity to educate the parent in a non-intrusive, fact-based way;
- › promotes coherence of educational and nutritional activities between home and kindergarten/school.

It is important that communication with parents is not limited to announcements on the door or printed menus. It should take a variety of forms, tailored to parents' lifestyles, involvement and needs:

- › short conversations when picking up the child;
- › newspapers and comment boards, such as 'What did the children like?', 'What dish was not accepted and why?';
- › regular thematic meetings (e.g., on dietary expansion, sweets, lunchbox mistakes);
- › newsletters or messages sent by apps (e.g., with a recipe, tip of the week, interesting facts about seasonal products);
- › anonymous questionnaires providing a space to express opinions and raise concerns.

All of this gives the parent a sense of being a partner, not just an observer. Only in a partnership can children be effectively supported in learning to eat with joy, openness and respect - respect for resources and the environment, too.

1. Understand the context - a parent today does not come with an empty head

A 21st century parent is often not clueless when it comes to nutrition, on the contrary, they come with a ready-made thesis. Sometimes this is based on sound knowledge, but just as often on blogs, forums, TikTok or influencers without dietary training. We are confronted with diets such as 'gluten-free and lactose-free because it's better', 'no meat', 'only natural', 'absolutely no sugar', 'my daughter only eats three things, and only at home'...

And here's the key: our aim is not to 'convert' the parent, but to establish a dialogue based on shared values - concern for the child's health, developing openness to food, and respect for food.

2. Build a message based on facts, but convey it empathetically

Don't say: *'This is against the rules, please don't exaggerate.'*

Say: *'I understand that you care about your child's health. So do we - that's why we rely on recommendations from the National Centre for Nutrition Education and standards that are regularly updated and adapted to the age of children. As an educational establishment, we have to comply with a number of guidelines, so we make every effort to implement these regulations practically, for the benefit of our pupils, in our daily schedule.'*

Try to avoid a lecturing tone - educate by showing, not by exalting.

3. Communicate simply and concisely - the 'middle' language

A parent does not want to listen to a lecture about RDA (Recommended Daily Allowance - the recommended amount of a given nutrient that one should have every day), but neither will they be content with hearing 'because it is healthy'. Use language that is accessible but specific:

- › *'Milk soup is a source of calcium, but we don't serve it every day because children then eat less of other foods.'*
- › *'We are keen for children to be introduced to different flavours - not that they have to like everything, but that they are not afraid to try.'*

4. Support the parent - don't compete with the home

Avoid messages that can be interpreted as an evaluation of home choices (e.g. "at home your child eats unhealthily"). Instead:

- › *'We see that children often do not eat breakfast because they have already had a meal at home, so we offer lighter dishes.'*
- › *'If your child does not eat something at kindergarten, it is worth trying to familiarize them with the dish at home. We have some tried and tested recipes - we're happy to share them.'*

5. Open up communication channels - but with clear rules

The parent has the right to information and influence, but cannot decide

on every item on the child's menu. How do we reconcile this?

- › Introduce nutritional consultations, e.g., once a semester, create opportunities for comments and requests.
- › Share an 'information window', e.g., a piece of paper with information about what the children ate, what was eaten, and what was new.
- › Suggest forms of collaboration: recipes from home, ideas for joint workshops, 'What my child likes' survey.

6. Raise the topic of not wasting food - it's something that brings people together

Whatever their world view, parents do not want food to be thrown away. It is universally agreed.

- › Show that food waste is a real problem: the numbers, the amounts, the pictures of the baskets after the meal are impressive.
- › Explain that children often find it difficult to try new things if they know from the start that 'they don't have to eat it anyway.'
- › Invite parents to join in: *'We want children to respect food. Please support them at home: talk to them about what they eat, what they have tried, what is worth trying again.'*

Talking to a parent about nutrition today is talking to a person who knows a lot, but not always accurately. It is a challenge, but also an opportunity. Our role is not to fight against home-grown views, but to support the parent in what is most important: raising a child who is open to a variety of nutritious foods and is learning to respect food. A joint front between kindergarten/school and home is the best investment in a child's healthy and wise habits.

Monitoring of discarded food? Why not!

Without a sound knowledge of what goes in the bin and why, it is impossible to plan menus effectively or carry out educational activities. Monitoring is not a tool for determining 'who is at fault', but a starting point for making wise decisions - reducing waste, better tailoring meals to children's needs and increasing the efficiency of the entire nutrition system.

Who should be responsible for monitoring? - example of implementation of

monitoring in an organization

1. Canteen manager – *monitoring system coordinator*

- › The canteen manager is responsible for collecting and analysing data, creating observation sheets or charts, liaising with the kitchen and teachers.
- › She/he compiles periodic reports (e.g., once a month) and submits them to the principal.
- › Contributes to nutrition team meetings.

2. Teachers – *observers at the table*

- › They keep an ongoing record of which meals the children eat willingly, what is left over, what goes in the bin and why (e.g., unattractive appearance, too large a portion, new flavour).
- › They provide information to the canteen manager in the form of a simple sheet or a conversation (once a week or after each new dish).

3. Kitchen staff – *back office information providers*

- › They indicate how much food is coming back from the dining room (e.g., untouched cutlets, untouched soup).
- › They provide comments on portions, cooking techniques and organizational difficulties.
- › They work with the canteen manager to modify recipes and plan menus.

4. Principal – *decision-maker and custodian of the process*

- › They ensure that monitoring is embedded in the organisation's working system (e.g. as part of the nutritional evaluation).
- › Promote collaboration between staff and provides time and resources to complete the task.
- › Promote dialogue with parents through the Parents' Council.

How to conduct food waste monitoring?

1. Introduce a simple meal observation sheet, e.g., with categories:

- › what was eaten whole/partly /untouched,
- › what went into the bin and why (form, taste, portion, mood),
- › comments from children, teacher and kitchen.

2. Collect data regularly, but without overloading the team:

- › daily for new or risky dishes,
- › 1-2 times a week on a consistent basis,
- › monthly summary for management and kitchen.

3. Use data when planning menus:

- › identify recurring problems (e.g., soup with dill = discarded),
- › modify techniques, portions and order of serving (e.g., vegetables before main course).

4. Involve children in monitoring – in the form of a game:

- › e.g., ‘best dish of the week’ vote;
- › children’s evaluation, e.g. smiling/neutral/sad faces at meals;
- › discussion at the table: ‘What was the most delicious item today?’

Well-run monitoring is:

- › real data instead of guesswork;
- › a joint responsibility, not the responsibility of one person;
- › a starting point for education and improvement, not an evaluation tool;
- › a form of building awareness, commitment and respect for food.

All the topics discussed - from menu planning, through the clash between theory and practice, to team relations and communication with parents - clearly show that an effective nutrition system in an educational institution is much more than just a well-balanced menu. It is a daily, complex collaboration of many people: those who plan, cook, observe and talk to the children, to each other and to the parents.



KINDERGARTEN WITH ITS OWN KITCHEN

Between potential and challenges

A kindergarten with its own kitchen is a model that offers great opportunities - but it comes with a number of daily challenges. Compared to establishments using catering, kindergartens where meals are cooked on site have to face more responsibility and greater complexity in the whole process. At the same time, however, they have flexibility, a real impact on the quality of nutrition, and freedom about how to respond to waste.

One of the main challenges is the daily logistical pressure. The kitchen operates ‚live‘, often without full knowledge of the number of children present or their appetite on a given day. Without an efficient observation and feedback system, it is easy for a situation to arise where a prepared dish, although in line with the menu, turns out to be wrong and comes back in full - as cost, effort and waste. The lack of standardization of portions is also a difficulty. Unlike catering, where portions are top-down, the in-house kitchen has to estimate them itself. In the absence of monitoring and team cooperation, there is often ‚stock‘ cooking, which directly translates into overproduction and losses.

Staffing issues are also significant. Kindergarten kitchens are increasingly facing staff shortages, professional burnout and technological constraints - lack of equipment, refrigeration, space to store leftovers. All this can discourage the implementation of anti-waste solutions, which require time, flexibility and good organization.

On the other hand, a kindergarten with an on-site kitchen has a huge advantage, especially when it comes to reducing waste. Above all, it has full control over the quality of the raw materials, the way the food is prepared and its technological and aesthetic fit with the children. It can react instantly - change the seasoning, blend the soup, prepare extra portions instead of cooking large quantities at once. This cannot be achieved with catering delivery, which comes in sealed containers and is not subject to modification.

An additional advantage of the on-site kitchen is its proximity - literally and organizationally. The cooks can observe the children's reactions in real time, listen to the teachers and analyse together what is working and what is worth changing. Such a relationship builds space for joint decisions, testing solutions (e.g., salad buffet, cream soups, smaller portions with the possibility of an extra) and having a real impact on reducing waste. In addition, the kitchen can be an active participant in education - kitchen staff can run workshops with children, participate in non-waste projects and reinforce the educational message with everyday examples.

It is therefore worth emphasizing: a kindergarten with its own kitchen has a much greater opportunity to act in the spirit of not wasting food than an establishment with catering. But this potential will not activate itself. It requires a well-organized team, good communication, the courage to modify the food system and - above all - the recognition that the kitchen is not a back office but a fully-fledged part of the education and food team.



Recommendations for staff with their own kitchen to reduce food waste

Kindergarten principal: *team leader, guardian of the system, initiator of change*

Amidst the multitude of regulations, inspections, discussions with parents and management and daily crises, the role of kindergarten management is often viewed through the lens of ‘pure administration’. Meanwhile, it is the principal who has the greatest influence on the quality of operation of the entire food system in the establishment - from the level of menu planning and team collaboration to the education of the children and the reduction of food waste.

There is no other person in the kindergarten who has as much decision-making reach as the principal. It is he or she who builds the organizational culture - deciding whether nutrition is just a formal requirement or an important part of the kindergarten’s daily functioning. It is the principal that sets the tone: whether the kitchen is treated as a back-up or as a fully-fledged partner. Can the canteen manager act independently and developmentally, or do they just implement the menu according to the ‘sheet and standard’. Do the teachers see the point of engaging with the topic of nutrition and non-nutrition, or do they treat it as something ‘beside the point’.

The Principal also plays a crucial role in bringing theory and practice together. Dietary regulations can sometimes be rigid and inflexible in the face of kindergarten reality. Children don’t always want to eat what conforms to the norm,

the kitchen doesn't always have the resources to replicate the dish perfectly. And it is the principal, as the manager, who has to find the balance between requirements and what realistically works and create the space for wise planning rather than just mechanical implementation of guidelines.

In the context of not wasting food, it is the principal who decides whether there will be a system for monitoring losses and whether it will be treated as a value rather than an unpleasant obligation. It is the principal that can initiate team education, involve the kitchen in educational activities, invite parents in joint projects, allow the canteen manager to be flexible with menus and the teachers to be active during meals. It is the principal that can create a culture of 'meals as an educational process' rather than 'feeding logistics'. They can enable cooperation instead of hierarchy, dialogue instead of orders, respect instead of claims.

It's not an easy role, because between the expectations of parents, the legal framework, the lack of staff and the course for healthy eating, it's easy to get frustrated. But it is the kindergarten principal that should be at the forefront of this change. Attitudes, decisions and daily reactions create an organizational climate that determines whether children learn respect for food or whether half the contents of the pot are thrown away in the kitchen.

1. Strengthen the role of kitchen staff as a key link in the food system

- › Involve kitchen staff in planning and modifying menus - their observations are invaluable.
- › Recognize the creativity and experience of the kitchen team as a source of practical solutions (e.g., using vegetable ends, changing the way dishes are served).
- › Provide regular training on non-waste, culinary technology and children nutrition.

2. Ensure systematic communication within the team

- › Establish a simple mechanism for sharing information: teachers share what children enjoy eating and what is left over.
- › Introduce short, regular meetings of the nutrition team (e.g., once a month) - cooks and canteen manager, teachers.
- › Keep a simple meal observation sheet - daily or weekly - to help identify patterns of food waste.

3. Establish a policy on portions and second helpings

- › Avoid serving too large a portion 'at once' - a smaller portion with the option of an extra serving is better
- › Allow children to decide on quantities (as far as possible and age-wise) - e.g., vegetable buffet, composing sandwiches themselves.
- › Support teachers in observing children's appetite and signalling it to the kitchen.

4. Ensure the development and motivation of kitchen staff

- › Involve the kitchen in educational projects (e.g., cooking workshops with children, tastings, demonstrations).
- › Recognize and reward creativity - for example, for a dish that has significantly reduced waste.
- › Include kitchen staff in the education councils in the nutrition section - let their voice be heard.

5. Make food waste monitoring a standard

- › Develop a simple observation sheet or form for daily use.
- › Assign data collection, monthly analysis, and reporting to the team to the canteen manager's responsibilities.
- › Respond to the findings of the analysis - modify menus, portions, serving techniques.

6. Build shared responsibility and a culture of respect for food

- › Involve teachers in educational activities for not wasting food.
- › Organize joint activities: food waste prevention week, educational campaigns, cooking together with children.
- › Ensure that every link in the team feels important and has a real impact - from the kitchen to the dining room.



Canteen manager: *the invisible backbone of the food system*

The canteen manager is one of those roles in an establishment that, at first glance, may seem purely technical: shopping, menus, invoices, tables. But in reality, they are the heart of the food system - the persons who makes dozens of decisions every day that have a real impact on whether children will eat healthily, whether food will end up in the bin and whether the kitchen can prepare it all. It is the canteen manager who knows the prices, the recipes, the nutritional values, the possibilities of the kitchen and the reality of the kindergarten room. On the one hand, they must meet strict legal standards, and on the other - children's tastes, appetite and the availability of fresh products. And all this while taking into account budgets, staff turnover, seasonality and often unrealistic expectations of parents. In many establishments, the canteen manager works 'in the back room' - with no real influence on strategic decisions, left out of pedagogical team meetings, overlooked in successes related to food quality or waste reduction. Meanwhile, they are the one that connects the world of documents with the reality of the child's plate.

W In the context of not wasting food, the canteen manager is crucial: they are the one who can spot that a certain dish is coming back too often, that portions are too big, that the kitchen is cooking something 'because it's on the sheet' and not because the children are eating it. They can make a difference - but only if they have the space, the decision-making power, and their work and efforts are met with respect and appreciation from the rest

of the organization's staff. Appreciation of the role of the canteen manager is not just about compliments. It is about giving it influence, a voice, a seat at the decision-making table. Include them in a team that plans, analyses and implements change together.

Over the last decade, the nutrition system in municipal kindergartens has undergone a profound, positive transformation, and canteen managers and cooks have played a key role in this, acquiring new knowledge, improving their skills, participating in training courses and seeking practical solutions, implementing changes step by step.

1. Be the link between the kitchen, the dining room and the office - don't just 'follow the guidelines'.

The canteen manager should act as a coordinator of the feeding process and not only as a person responsible for documentation and orders. Your role is not just to control, but to connect people and ensure the flow of information:

- › collect observations from teachers and cooks on children's intake, portions, preferences,
- › analyse data on returns, waste, uneaten meals,
- › communicate the needs and concerns of the management and ensure that resources and support are available for the kitchen.

2. Create a food waste monitoring system - simple and daily

It is impossible to reduce waste without knowing what goes in the waste bin and why. Enter the tools:

- › meal observation sheets completed by the teachers (what the children ate, what was left over, why);
- › a register of dining room returns - kept by the kitchen, even in simple form;
- › monthly loss statements that can be discussed with the team and the management.

Act on the principle: *'We are not looking for someone to blame but for solutions.'*

3. Plan menus with flexibility and practice, not just according to standards and the Regulation

Nutritional recommendations are important, but their implementation must take into account the realities of children and the possibilities of the kitchen. Apply the principles:

- › analyse what works and what children really eat;
- › avoid repeating dishes that regularly go uneaten;
- › collaborate with the kitchen on modifications to recipes, consistency, form;
- › vary the ways the dietary items are served: vegetables in sticks, soups as creams, fish in the form of breaded fillets;
- › modify the technology of dishes without giving up products, e.g., groats in soup instead of in main courses. Follow the ‘small steps’ principle, e.g., serve groats once a week, but in an appealing form or in a combination that children enjoy.

4. Optimize portions - make the extra portion the norm, not the exception

The canteen manager has a real influence on the portion sizes established in the documentation and transferred to the kitchen. Remember:

- › better a smaller portion with the possibility of an extra than a large one with half going in the waste bin;
- › take into account suggestions from cooks and teachers when setting portions for specific age groups;
- › watch how children eat specific foods - a portion of soup does not have to be 300 ml if most children eat 150 ml or even less.

5. Be an ally of the kitchen - create the conditions for action, don't just hold it to account

Canteen manager in a well-functioning kitchen:

- › supports the kitchen staff in their purchases, choosing products that are good quality but also functional (e.g., easy to handle, versatile);
- › understands equipment and staffing constraints and helps to minimize them by planning simpler technological dishes on more difficult days, such as when staff are ill;
- › involves the kitchen in discussions about the menu, is open to new solutions.

6. Educate through everyday life - not just through a bulletin board

Work with teachers to:

- › support children in trying new dishes (e.g., through taste competitions, colour day, voting for the ‘hit of the week’);
- › organize educational activities involving the kitchen - e.g., demonstration of sandwich spread preparation, vegetable tasting buffet;
- › introduce dishes on the menu that the children can contribute to - e.g., the kitchen prepares ‘ideas from the older children’s group’.



The cook: *the heart of the kindergarten and the pride of Wrocław*

In Wrocław, the kindergarten kitchen is no longer a backroom. Thanks to the kindergarten kitchens, the cooks come out of the shadows and their daily work becomes visible - literally and socially.

The cooks not only cook, but contribute to the culture of food in the facility. In a kindergarten with its own kitchen, the staff have the opportunity to observe what the children will eat eagerly and what they need to be taught slowly, sensitively. In this aspect, cooks working on-site gain an advantage over those in catering companies.

1. Watch children eat - your knowledge matters

- › Pay attention to what comes back from the dining room and note repeated patterns (e.g., ‘carrots in chunks - uneaten, but in cream soup - devoured’).
- › Inform the canteen manager or teachers about what is not working - you have the best knowledge of the actual acceptability of the meals.
- › If the children do not eat the dish, it is not ‘their fault’. It is worth looking for other ways to prepare or serve.

2. Choose techniques that help children eat - not just following a recipe, but friendly, appealing to children’s tastes

- › Blending, roasting instead of frying, attractive form of vegetables (e.g., bars, boats, salads without sauce) - these are simple tricks that make a huge difference.
- › Creamy soups often disappear from plates, while ‘regular’ soups with large chunks of vegetables come back untouched - use this knowledge to avoid waste!
- › Children like dishes that look familiar. Pork chops, pasta, potatoes - it’s worth incorporating this even into more challenging dishes.

3. Be creative - your ideas matter!

- › If you see that something can be prepared differently, faster, cheaper or tastier - say so! The canteen manager or principal may not know the capabilities of the kitchen as well as you do.
- › Suggest changes to recipes or the form of the dish, e.g., ‘porridge with additives’ instead of a runny milk soup.
- › Create sandwich spreads, creamy soups, juices or compotes from the vegetables and fruit you have left over. Healthy snacking is not about waste, it’s about sensible kitchen management.

4. Work with portions - not ‘a rough guess’, but with the child’s needs in mind

- › Report if portions are too large - it’s better to serve less with the possibility of an extra than to see half the dish in the trash.
- › Reduce the portions of foods that children are less keen to eat, increasing the volume of those that are popular (e.g., potatoes, vegetables cut into sticks).

5. Pay attention to aesthetics and smell - children eat with their eyes and judge 'edibility' with their noses.

- › Even the best recipe won't work if the dish looks unappetizing - a clean plate, a nice arrangement (and often non-sticky dish ingredients), vibrant colours and fragrance all make a difference.
- › Pay attention to the 'greens' - many children won't reach for soup if they see parsley or dill in it.
- › Blending the soup can save the whole pot.

6. Work with your teachers - together you have influence

- › Ask for feedback from the dining room: what did the children eat, what was left over, why?
- › Suggest to teachers how to encourage children to try, e.g., what is less 'scary' about a particular dish.
- › Together, you can modify the form of serving, establish themed days (e.g., favourite vegetable day, red soup day), respond to seasonal changes in appetite.

7. Take care of yourself and your development - your role is important

- › Ask for help, support and training in cooking for children, not wasting food, kitchen management, new recipes. It's not a whim, it's an investment in your work.
- › If you have ideas for change - share them. Your voice is needed and valuable.
- › Your work affects the health of the children, the comfort of the parents and the budget of the kindergarten, it makes a huge difference.



Teacher and technical assistance: *coordinator of daily life and silent link of the system*

The kindergarten teacher is not only the implementer of the core curriculum, but a central figure in the child's daily life - a caregiver, educator and organizer. They build the group climate, look after safety, the rhythm of the day and cooperation with the team. They do not work alone - cooperation with support staff is key: ushers, technical staff and assistants. They are the ones who support them in caring for the children, keeping things tidy, helping with meals and watching what the children eat. Their role in the food system cannot be overestimated, and they deserve to be recognized and actively involved in non-waste food activities.

A good teacher knows how to create a team where each person feels needed. Talking to staff about meals, passing on information to the kitchen and the canteen manager is a daily occurrence that makes a real difference to the quality of nutrition and the well-being of children.

In the context of nutrition, the teacher is also an educator of health-oriented attitudes, an ambassador of non-waste and a mediator of information between the classroom, the kitchen and the parents. It is in this day-to-day cooperation - with the children, the support staff, the kitchen and the canteen manager - that the strength and quality of a modern nursery school lies. Not individual action, but a team approach, based on trust, dialogue and a common goal: to feed well, educate wisely and not waste anything.

1. Treat the meal as part of the educational process

Eating at the kindergarten is not just about the break between classes. It's a full-fledged part of child's development, building habits, relationships with food, emotions and independence.

Your role doesn't end with 'making sure they eat'; you are a guide to flavours, textures and cultural rules at the communal table. Encourage, don't force. Explain what the dish is, what it contains. Be mindful of the atmosphere - calmness, time, build curiosity in the child.

2. Observe and provide feedback - the key to eliminating waste

- › Pay attention to what children eat willingly and what is left over.
- › Ask: 'Why didn't you try?', 'What would have helped?' - children often have surprisingly apt reasons.
- › Keep the kitchen and the authorizing officer informed - not to 'report a problem', but to seek a solution together.

It's not the kitchen that cooks badly, it's the system that doesn't know what works. You are the eyes and ears of the nutrition team.

3. Treat the cooks and the canteen manager as partners, not service providers

- › Remember: the kitchen staff and the canteen manager are part of the education team, just like you. Their work has a huge impact on children's health and on the facility's budget.
- › Value their input, talk respectfully, communicate information constructively.
- › If something is not working - ask, listen, look for solutions together.

Instead of: 'They didn't eat it again', say: *'I saw that the carrots were not having any success - why don't we change something in the way we serve them?'*

4. Teach children respect for food - every day and in a simple way

- › Talk about where the food came from, who prepared it, how much work it took.
- › Organize themed days with children, talking about products, preparing simple dishes together.
- › Encourage trying, but also accept that a child doesn't like something. Not every 'I didn't eat' is a waste, sometimes it's a process. Children

who learn to respect food are less likely to waste it - today and in adulthood.

5. Support waste monitoring - not out of obligation, but out of conviction

- › Help fill in observation sheets, provide concrete examples.
- › Don't judge the dishes - judge the children's reactions.
- › Your observations are invaluable knowledge for the kitchen and the canteen manager and a tool for wise planning.

6. Talk about food with children and parents

- › Introduce the topic of nutrition in class: what do I like, what am I learning to eat, why should I try?
- › Keep parents informed of progress, encourage consistency between home and kindergarten.
- › Help tame change, e.g., a new soup, a healthier dessert, if the children know where something came from, they are more likely to eat it, as well as being happy to eat what they have prepared themselves!



KINDERGARTEN USING CATERING SERVICES

In the previous chapter on not wasting food in kindergartens with their own kitchen, a number of recommendations were made on planning menus, monitoring returns, being flexible to children's preferences and building team responsibility for food quality. Although the organizational realities in establishments using caterers are different, many of these guidelines remain relevant and implementable, both by the nurseries themselves and by the caterers.

Good planning, observation and collaboration with the caterer can be effective in reducing food waste, even if the meals are not prepared on-site. The key is a partnership approach, open communication and, above all, a willingness to modify actions based on data and daily observations of children. The same values - flexibility, practicality and respect for food - remain fundamental, regardless of the catering model adopted by the institution.

The catering system, although logistically more convenient, does bring with it some challenges, most notably the lack of direct control over form, temperature, quality or flexibility in composing the menu. It is also more difficult to respond quickly to signals from the group, and restrictions in the form of administration can result in increased returns. On the other hand, a well-run cooperation with a reliable supplier, based on monitoring and openness, can also ensure high quality nutrition and reduce waste, provided the kindergarten is actively involved.

1. Cooperate actively with the catering company - don't just pick up the meals

- › Choose a company that allows for flexibility and openness to modifications (e.g., change of the form of the dish, adjustment of portions, possibility of feedback, take care of this already at the contract and tender stage).
- › Establish rules for ongoing cooperation - e.g., cyclical menu reviews, opportunity to make comments after analysis of returns, contact with the company's dietician.
- › Demand sound feedback, but also support the provider with it - especially on meals rejected by children.

2. Monitor and report - data is a tool, not an obligation

- › Keep monitoring the returns: which dishes the children are happy to eat and which come back untouched.
- › Collect comments from teachers and support staff, e.g., about consistency, temperature, attractiveness of dishes.
- › Report the observations collected to the catering company once a month.

3. Involve teachers in building a food culture

- › Teachers should actively accompany the children during the meal, talk to them about the dishes and encourage them to try them.
- › Conduct a short training/consultation for staff on supporting eating habits and interpreting signals from children.
- › Ensure good communication between the room and the external kitchen through the canteen manager or direct contact with the person delegated to this task.

4. Adapt meal arrangements to the real needs of children

- › Give children time and peace and quiet when eating - rushing often increases the number of returns.
- › Consider a buffet or partial choice formula (e.g., vegetables from two options - chunks or salad) if the supplier and logistics allow.
- › Observe that dishes are age-appropriate for children - forms that are too difficult to eat (e.g., loose rice without sauce, insufficiently tender vegetables) increase wastage.

5. Build relationships with parents and educate about the specifics of catering

- › Communicate that the kindergarten does not have control over everything, but does what it can to ensure that children eat well and enjoy.
- › Send parents information about the children's menus and comments respecting the facts, without being emotional.
- › Invite parents to collaborate with you, e.g., on the subject of teaching children new tastes and flavours, rather than just 'eating until it is finished'.

6. Take care of logistics and ensure appropriate distribution conditions

- › Ensure that meals are properly stored and served: temperature, appearance, texture are key.
- › Introduce standards for checking quality before serving - if a dish is not fit for consumption, report it immediately rather than after the fact.
- › Ensure that children see the meal as part of the day and not 'something that arrived in a box'.

Catering is not an obstacle

In kindergartens using catering, it is possible to achieve very good quality nutrition and reduce food waste. The key lies in communication, ongoing data analysis, a partnership with the supplier and an educational approach by staff. Even if we don't cook locally, we can build good habits, respect for food and teach children to make choices. It is also the foundation of anti-waste - from the first meal together.

Recommendations for public procurement

Delivery of meals to the kindergarten by a catering company taking into account the principles of not wasting food

Ensuring quality nutrition for kindergarten children, while implementing measures to reduce food waste and supporting nutrition education.

Key assumptions to be included in the order:

1. Flexibility in the composition of meals

- › The tenderer should ensure that portions and/or ingredients can be adjusted based on consumption observations (e.g., reducing the soup portion, changing the form of the vegetable addition).
- › Possibility of changes to the menu in agreement with the establishment - while maintaining nutritional values and compliance with legislation.
- › Taking children's preferences and acceptance into account (e.g., by rotating choice of side dishes, more frequent presence of cream soups, exclusion of unsuccessful dishes from the menu).

2. Monitoring and reporting on wastage

- › The catering company undertakes to cooperate in analysing returns and wastage of meals (e.g., based on teachers' observations or reports from the canteen manager).
- › The tenderer declares their willingness to hold regular evaluation meetings with kindergarten representatives to discuss the results and propose changes.

3. Form of meals adapted to kindergarten children

- › Individual dishes should be adapted in terms of form, consistency, temperature and aesthetics - in accordance with current nutritional standards and practices for children aged 3-6 (see the previous chapter).

4. Educational and partnership nature of cooperation

- › The tenderer should treat the ordering party as a partner in the child nutrition process, not just a recipient of ready-made meals.
- › Possibility to involve the company in the educational activities of the kindergarten - e.g., providing educational material on seasonal vegetables, themed cooking days, etc.
- › Possibility to survey teachers regarding children's most preferred meals.

5. Safe and responsible management of raw materials

- › The company declares a policy of minimizing losses already at the production stage: e.g., planning purchases according to actual demand, avoiding

overproduction.

- › Priority should be given to the use of seasonal, local, minimally processed products, which should be stated in the terms and conditions of cooperation and subsequently verified.

Additional notes for tender evaluation

Tender evaluation criteria can include:

- › proposed solutions for monitoring food waste (scoring weight),
- › experience of delivering services with an educational or environmental element,
- › references for cooperation with educational establishments on the implementation of the guidelines on not wasting food.

Example of scoring criteria for kindergartens in a public contract

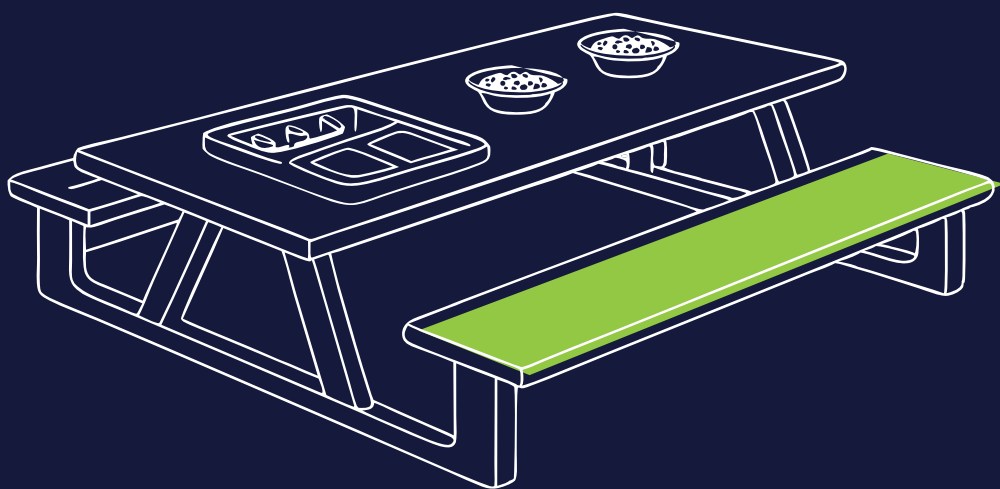
Delivery of meals to the kindergarten by a catering company

CRITERION	WEIGHT (%)	DESCRIPTION AND METHOD OF EVALUATION
Gross price for 1 daily set (breakfast, lunch, afternoon snack)	50%	Lowest price.
Quality and attractiveness of the menu	15%	Evaluation of 3 sample weekly menus: variety, form of dishes, adaptation to children's ages, presence of seasonal ingredients.
Flexibility and willingness to modify menus to reduce food waste	15%	Declaration and description: possibility of menu modification based on observation of returns, adjustment of portions, rotation of vegetable side dishes, adapted to the season, etc.
How to monitor and respond to food waste	10%	Points awarded for description of tools: monitoring forms, contact with teachers, suggestions for menu changes. Systematic and concrete actions rated higher.
Experience in the delivery of services to educational establishments	5%	Number of years of experience and number of educational establishments served in the recent past, e.g., in the last 3 years.
Educational and pro-social activities (optional, bonus)	5%	Proposals for educational materials, thematic days, support of kindergarten activities in the field of nutrition education.

Note!

The quality criteria should be assessed on the basis of the descriptions contained in the bid, the annexes (e.g., sample menu, sample monitoring form) and any declarations. The public procurement of kindergarten catering should not be carried out solely on the basis of 'cheap, compliant, on time'.

A contemporary approach requires flexibility, attention to actual consumption and a willingness to work in partnership in the spirit of not wasting food. Such assumptions are worth writing into the terms and conditions of the contract from the outset in order to shape a culture of collaboration that will benefit the child, the kitchen and the planet.



SCHOOL CANTEEN

The canteen in a primary school is where the theory of daily habits and organizational practice meet on a plate. Managing school food is a challenge where it is no longer just about satisfying hunger, it is becoming equally important to shape attitudes, reduce waste and build community around food.

Why do we waste in the first place? - a quick look-see

- › Overproduction and lack of monitoring: we cook 'in excess' so as not to 'run out', or maybe someone will get hungry... and then litres of soup end up in the waste bin.
- › Rigid standards and a two-course lunch, if soup has been coming back untouched for years, it is not a sin to offer a one-course and a vegetable 'snack bar' or something to take away: a fruit, a mousse sachet, a portion of nuts or a nutritious cereal bar.
- › Too large a portion vs too short a break: 10-15 minutes is a marathon, not lunch break. The child gulps down the chop like news on TikTok, resulting in half a plate of lunch being left behind.

Conclusion: Excess, overly rigid procedures and poor canteen logistics feed the loss spiral.

Team for special tasks

Make no mistake, no change will happen alone and its success depends on the daily commitment of the whole team.

Who rules, who is in charge, who is changing the world?

Principal(s) -leader(s) of change: sets the direction and gives the green light for action. They provide organisational support, keep an eye on monitoring, and ensure contact with the governing body and the sanitary-epidemiological station. Without the initiative of the principal, no change will take off, but without the commitment of the team, no innovation will take root.

The canteen manager is a master of logistics and communication - they know who is present today, who has gone on a trip and who forgot to report a milk allergy again.

The cook and their team not only cook, but also analyse on a daily basis how much food disappears from the plates and how much unfortunately ends up back in the kitchen and in the bin.

The teachers and caretakers from the day care centre are the eyes and ears of the whole operation - they see what the children leave on their plates and are able to tell the kitchen, sometimes even in passing, that the spinach soup would be better replaced by tomato soup before we hear the choral shouting again: “bleeeh”.

And the staff serving the meals? They are not just “lunch ladies”, but ambassadors of good humour, patience and the ability to convince a pupil to try at least a spoonful of a new dish - because whoever doesn’t try, doesn’t know that they will like it (following the tried-and-tested principle: children eat what they know!).

In summary - the roles and tasks of the team

THE ROLE	YOUR KEY IMPACT	MUST-HAVE PRACTICES
Principal - <i>strategist and arbiter</i>	Prioritises nutrition in the school's organisational plan	› Extends lunch break to ≥ 30 min. › Introduces weekly waste reports and responds to the numbers. › Adjusts agreements with parents or caterers allowing smaller portions + extras
Canteen manager - <i>analyst and negotiator</i>	Connects recipes, budgets and real appetites	› Daily attendance reading (app/electronic register). › Planning 70-80 % of base portions + 20-30 % in reserve "for extra".
Cook and team - <i>the heart of the operation</i>	Decides what stays in the pot and what disappears	› Small, aesthetically pleasing portions + table/sharing space › Blending, roasting, attractive form of vegetables - e.g. chunks, rather than the "obligatory salad".
Teachers and day-care centre - <i>the cultural makers of the meal</i>	Model habits and gather feedback	› They comment on the plates, they don't moralize. › They send the canteen manager a weekly "map of leftovers".
Serving staff - <i>portion guards</i>	They set the pace, the hygiene, the atmosphere	› They give out a "starter portion", offer extras. › They keep an eye on the table/sharing area and cleanliness.

Own kitchen: room for innovation (and mistakes)

A canteen with an on-site kitchen offers a huge advantage over catering - flexibility. Here, you can experiment with the menu, respond quickly to low attendance, and adjust portion sizes to the actual needs of the children. The ability to weigh portions daily, to make quick adjustments to the number of meals served, or even - attention, attention - to allow an extra if someone likes it, is a reality, not an unconquerable summit.

Of course, even the best kitchen will not defend itself if we approach cooking according to the principle of “more just in case”. Here, daily, honest communication between the canteen manager and the kitchen is key: “how many meals do we have to cook today? who won’t come to lunch? who will choose the second course, leaving the soup?” and an equally frank summary at the end of the day: “what was too much, what didn’t get eaten and ended up in the waste?”.

In practice, the share table also works here. A “share table” is a place where pupils can leave fruit, bread rolls or yoghurt untouched - a simple, effective solution, as long as it is clearly explained to the children what the purpose of the place is and it is regularly supervised by the staff present in the canteen.

But it is also fun to experiment with menus (as long as we have the management’s permission and the courage to enter into dialogue with the health authorities), to teach the children respect for food and... the satisfaction of seeing less and less prepared food ending up in the trash.

Catering: organization as specified (and to the contract signed)

The catering model is governed by different rules. Menus, weights, number of meals, here everything is fixed in advance, written down rigidly in contracts. There is no room for spontaneous changes and every absence of a child is a real loss: the lunch ordered must be collected, regardless of whether the child came to school or went to a competition.

The biggest challenge becomes efficient communication with parents and catching absences - the sooner the canteen manager learns about a trip or flu epidemic, the better the chance to order fewer meals and avoid losses. In practice, it is rarely possible to achieve zero waste, but it can be strongly reduced if the school develops procedures for reporting

absences (e.g., SMS, dedicated app, reporting via electronic register) and ensures a reliable daily exchange of information with the catering company.

Catering is also a challenge for the team. The kitchen is ‘outside’, but the responsibility for the food atmosphere, canteen culture and responsiveness to children’s needs remains with the school. It is the teachers, service staff and day-care centre educators who are on the front line to organize the serving of meals efficiently, flexibly and with a smile. With their attitude and commitment, they can make the child more willing to try an unfamiliar dish if they see that no one is forcing or imposing, giving space to decide, without criticizing or judging.

Everyday life, or how not to go crazy but to save hundreds of portions?

In both models (on-site kitchen and catering), it is crucial not to treat the fight against food waste as an unpleasant chore or an audit. The most successful schools are those that have made daily communication and openness to change their routine. Daily review of attendance and efficient reporting of absences -this is a cornerstone that parents (and teachers) should be reminded of regularly and in various ways.

Let’s not be afraid to reduce the base portion and allow for extras. A child doesn’t have to eat two dishes if you can see that he or she isn’t up to it, sometimes it’s better to serve one dish that will actually disappear from the plate rather than two that will half return to the kitchen. School children pay attention to the convenience of their meal, which is still crucial with insufficient school break time. It is worth introducing buffet elements (a choice of vegetables or salad for lunch, two pieces of fruit - the one from yesterday and today’s proposal, water to drink or compote), giving a choice of side dishes, asking the children for their opinion and... sometimes simply accepting with humour that even the best-planned menu will not suit everyone - such is the nature of mass catering.

Co-creation of menus by pupils is a worthwhile idea. Establishing a ‘School Menu Council’ or conducting regular surveys allows meals to be tailored to children’s tastes. When pupils feel that they have a say in the menu, they are more willing to eat.

An important social and educational issue is the involvement of pupils in initiatives such as pupil volunteering, which can be used, for example, to

help with the sharing of surplus food, to support younger pupils in canteen logistics, or to organize and take responsibility for the operation of a place for sharing (share table) uneaten products.

Let's not forget the role of teachers, educators and carers - their attitude and approach of 'no pressure, but with care' can work wonders. It's good if they understand that convincing to try something new starts with an example and a simple conversation at the table, not with the threat of 'you're not leaving until you eat' 'This is an outdated echo of a bygone era!

And if you lack the courage to change, it is worth asking other schools how they have managed to cut their losses. Sometimes the most inspiration comes from a frank conversation with a canteen manager from a neighbouring establishment.

Model differences - only where it really matters

If the school has an on-site kitchen its advantage is the ability to react on a day-to-day basis: changing portions, introducing a table/sharing area, a buffet, tastings, rapid implementation of innovations. The downside - responsibility for the whole process and the risk that not every change will appeal to the supervising institutions.

In the catering model, clear contracts, precise communication and consistency in enforcing service quality become key. You don't always have a say in the menu, but you can take care of the atmosphere of the meal, motivate the children to try and work out with the supplier the best solutions for the school community.

Flexible canteen model - step-by-step procedure



Morning (from - to)

The canteen manager collects data on absences and sends the information to the kitchen.



Preparation

The kitchen cooks 80% of the anticipated portions. The rest are semi-finished products ready to be reheated in the oven - they will wait until the 'second helpings' are requested.



Issuing

Base portion: $\leq 70\%$ of the former weight.
Second helping: on request, no 'you haven't eaten the vegetables yet' judgements.

Make room for a share table: an apple? Yoghurt? - leave it, someone will be happy to take it.



Monitoring (after the meal)

Weight of leftovers + photo of bin contents, two headings in sheet.

Weekly data - management + food council, rapid menu correction.



Education and communication

Monthly mini-campaigns: 'Green Lunch Week', quizzes, announcements for parents in the e-journal, on notice boards or the school website.

Education, or the plate as a textbook

Maths lesson? - we count the leftovers, create graphs (the children can see the decrease themselves).

Biology? - where the carrot is from, how much water it cost to grow it.

Family life education? - respect for food is respect for the work of people and the resources of the planet.

This is worth thinking about!

If you have a caterer - there is no room for half-measures

- › **Change contract provisions:** instead of (still contractual) 300 ml soup + 500 g second course, introduce ranges and the option to refuse soup on ,pasta' days, for example.
- › **Delivery window:** the meal arrives just before the break, not at 9:00 a.m. when the cutlets are getting cold in the dish.
- › **Report:** the supplier receives a statement of waste each month; above a fixed threshold of X kg, a renegotiation of portions/price takes place.

Use the ten iron rules that really work

1. Measure everything - implement solutions that work. You also need to manage with meaning, not just ,for the sake of managing'!
2. A starter portion < appetite - a second helping is cheaper than a bin.
3. One course is also lunch - especially when the children look at the soup as if it's an alien.
4. 30 minutes of calm instead of 10 minutes of sprinting - longer break = less waste.
5. Attendance from the current day - absences counted after the ,first ring' - is a saving that pays off in the budget and reduced waste.
6. Share table - an apple that no one has touched is still an apple, not waste.
7. A teacher is not a waitress, but an ally - observe, report, educate.
8. The vegetable in the cream disappears, in the cube it returns - a simple procedure, a big difference.
9. Parent in the game - on-line menus, taste surveys, shared responsibility.
10. Celebrate the results - every kilo less in the bin means extra money for better products (or new equipment for the kitchen or table settings).

Summary - a guide to success

Success in reducing food waste in the school canteen is not a matter of magic tricks, but of a close-knit and cooperative team, sincere communication and a willingness to change. Everyone has a place and a task here: from the management, to the canteen manager, the cooks, the teachers, the day care centre and the parents. It's worth talking, trying new solutions, teaching children to respect food and not being afraid to admit when we're wrong or make a mistake. Because what matters most in this work is not perfection, but the willingness to learn and do things together every day.

Reducing food waste starts with a decision to be flexible: smaller portions, longer breaks and more curiosity about what actually ends up on the student's plate and what - let's hope less and less - ends up in the waste in the bin.

Managing a school canteen is no cosmic experiment, but a craft that requires the courage to change, openness to new tools and respect for people - from the cook to the youngest pupil. The result? Less food in the bin, more satisfaction in the team and, above all, more healthy meals eaten by the children. Could you want more?

Recommendations for public procurement

School meal delivery service with elements of flexibility, nutritional education and food waste prevention

Purpose of the contract

The contract aims to provide healthy, balanced and tasty meals for primary school pupils, taking into account age differences, educational needs and measures to reduce food waste.

Key requirements to be included in the contract

1. Differentiation of meal weights by age group

- › The tenderer is required to use different meal weights for at least two age groups:
 - › Grades I-III - smaller portion, adapted to the needs of younger children,
 - › Grades IV-VIII - full (larger) portion.
 - › Weights should comply with current nutritional standards for

children and young people and the recommendations of the National Centre for Nutrition Education (or their successors).

2. Vegetable and salad buffet as part of choice and education

- › It should be delivered by lunchtime every day:
 - › a minimum of one salad or mixed vegetable,
 - › greens (e.g., dill, parsley, chives) served separately, with the option of adding them yourself,
 - › raw vegetables cut into pieces/shells - e.g., carrots, cucumber, peppers, radishes, cherry tomatoes.
- › Vegetables should be served as a self-service buffet or in separate containers to be chosen at meal delivery.
- › The company should enable the establishment to determine which vegetables are most popular with the students and introduce a rotation if necessary.

3. Possibility of additional portions and partial portion cancellation

- › Students should be able to:
 - › resign from certain elements of the meal (e.g., only the main course, without soup),
 - › take a smaller portion (e.g., half a portion of soup),
 - › second servings, if surplus is available - e.g., potatoes, salad or side dishes.
- › Parents should be able to specify and choose the days on which children will eat meals (appropriate provisions in the contract),
- › The school has the right to regulate this flexibility itself according to the age of the children and the organization of the canteen.
- › The catering company should prepare the meals in such a way as to allow for easy portioning and partial servings.

4. Consumption and return monitoring system

- › The catering company is obliged to cooperate in monitoring food waste:
 - › providing schools with a simple monitoring form (e.g., returns of soup, salad),
 - › participation in quarterly evaluation meetings with school representatives,
 - › willingness to modify menus or portions based on the data collected.

5. Additional requirements for education and respect for food

- › Welcome (as an additional criterion):
 - › educational material on not wasting food and healthy eating,
 - › proposals for themed vegetable days (e.g., ‘root day’),
 - › support of the school in educational activities (e.g., quizzes, posters, consultations with a dietician).

6. Safety, logistics and quality

- › Meals must be delivered at the correct temperature and be aesthetically pleasing and packaged in such a way as to enable:
 - › aesthetically pleasing dish,
 - › safe storage,
 - › separation of ingredients for buffet options.

Conclusions:

A school is not just a place where meals are served, it is an educational space where children learn about choices, taste and respect for food. A public contract should reward not only a low price, but above all flexibility, openness to dialogue and the supplier’s ability to genuinely work with the organization in reducing food waste and improving food culture.

Model scoring criteria for the supply of school meals in a public procurement

Delivery of meals to the school by a catering company

TENDER EVALUATION CRITERIA:	WEIGHT (%)	METHOD OF EVALUATION
Gross price for 1 lunch set	50%	Lowest price
Differentiation of meal weights by age group (grades I-III and IV-VIII)	10%	10 pts: full adjustment of weights with description of portions; 5 pts: only partial; 0 pts: no distinction.
Vegetable and greens buffet (self-serve or choice of vegetables/salads)	10%	10 pts: daily buffet with a minimum of 2 forms of vegetables and greens; 5 pts: only one form; 0 pts: no buffet/only vegetables on plate.
Possibility for the pupil to give up a portion	10%	10 pts: full flexibility and description of the rules; 5 pts: only second servings or only opt-outs; 0 pts: rigid serving system.
Food waste monitoring system (forms, analysis of returns, meetings with the establishment)	10%	10 pts: declaration + description of tools and willingness to cooperate; 5 pts: only partial measures; 0 pts: no system or vague declaration.
Additional educational activities to support food culture (materials, workshops, themed days)	5%	5 pts: concrete proposals for activities; 3 pts: information material only; 0 pts: no educational offer.
Experience in operating educational facilities with more than 100 children per day in the last 3 years	5%	5 pts - min. 3 institutions and documented experience; 3 points: 1-2 institutions; 0 points: no experience or no documentation.

Notes!

- › The quality criteria should be assessed on the basis of documents and descriptions submitted with the offer (e.g., description of the monitoring system, sample menu, buffet format).
- › In the case of a price tie or similar offers, educational criteria and organizational flexibility can be a decisive advantage.
- › It is worth including a requirement that all solutions offered will be implemented from the start of the contract and monitored by a representative of the school.



UNUSED MEALS - SAFE SOLUTIONS FOR FACILITIES

From problem to solution

Dear Principals, Teachers and Staff of educational establishments,

every day, you ensure the proper development and safety of children, and an important part of this mission is healthy and tasty nutrition. We know that the issue of unused meals - whether due to a child's absence or simply lack of appetite - can be a challenge. Parents have many questions, food is wasted, and regulations seem complicated.

This guide has been created to give you courage and convince you that this subject can be managed in a way that is safe, legal and builds positive relationships with parents. Instead of focusing on the risks, we present practical and proven solutions.

Basic issue in a nutshell: we sell a service, not a plate of soup.

Let's start with a key point: the fee paid by the parent is not treated like a product purchase in a shop. Pursuant to Article 106 of the Education Law, parents pay for catering services, and this fee covers only the cost of the products, i.e., the parents, as we say, 'chip in.'

What does this mean in practice?

The establishment (or catering company) owns the meal until it is served to the child. You are responsible for the quality and safety of the food you serve. This perspective is the starting point for developing wise and safe rules.

Legal framework

1. Education Law - Article 106 (3) and (4): the principal, in agreement with the leading authority, shall determine the conditions for the use of meals and the level of charges [1].
2. Food law - Food and Nutrition Safety Act [2] and Regulation (EC) No. 852/2004 [3] - the establishment (canteen, agent, catering company) is an entity operating on the food market and is responsible for food safety until it is served.
3. No prohibition on taking food outside the facility. Polish regulations do not generally prohibit taking meals ,to go' from educational institutions; this is an institutional decision that can be regulated in the canteen rules [4].

Recommendations and practical solutions

The most important tool that gives you control and confidence is the internal canteen regulations. Clear and well-communicated rules are the key to success.

Recommendation 1: Transparent rules for reporting absences and reimbursement of fees

This is the basis that solves most everyday situations. Fair and clear rules build trust.

What to include in the regulations?

- › **Reporting deadline:** a specific time (e.g., by 8:30 a.m. on a given day) by which the parent must report the absence in order to be reimbursed for the meal.
- › **Form of reporting:** simple and accessible reporting channels (e.g., phone call to the canteen manager, dedicated e-mail address, Librus, mobile app).
- › **Method of reimbursement:** decide whether the reimbursement will be made as a write-off against the receivable in the following month

(the most common practice) or in another form.

Benefit: avoiding misunderstandings and ensuring parents do not feel they have been dealt with unjustly. The facility does not incur a loss and the parent only pays for the services actually used.

Recommendation 2: The issue of taking meals home

This is the most sensitive topic. Instead of saying ‘no, because of the sanitary regulations’, consider a safe path. The parent will appreciate the openness and you will protect yourself from liability.

How to organize it?

- › **Education and informed consent:** explaining to parents that the facility can accept and exercise responsibility only for the meal on its premises. Once it has left the canteen, it is the responsibility of the parent to store and transport it safely.
- › **Own hygienic container:** introduce a rule that meals can only be served ‘to go’ to if it can be placed in a clean, sealed container brought by the parent.
- › **Time is of the essence:** giving the meal out immediately after preparation (during lunch hours) to reduce the amount of time over which its quality degrades.
- › **Assumption of responsibility statement:** preparation of a simple form in which the parent acknowledges receipt of the meal and declares that they have been informed of the risks and take full responsibility for its continued quality and safety.

Benefit: gaining an image of a flexible and collaborative organization. At the same time, with the statement, you formally transfer responsibility, protecting yourself and the establishment.

Recommendation 3: Act locally, don’t waste -cooperate with non-profit organizations

What should be done with nutritious meals that have been prepared but not served (e.g., due to the sudden absence of the entire group)? Throwing away such food is a last resort.

How to start?

- › **Making contact:** perhaps there is an NGO, an eatery or a shelter in the area that would be happy to accept donated food.
- › **Signing a contract:** the cooperation can be formalized in a simple contract that sets out the rules, the time and the way in which the meals will be collected. This shows professionalism and gives a sense of security to both parties.

Benefit: You build the image of a socially and environmentally responsible organization. This is a great example and lesson for the children themselves.

Important!

When deciding to donate a meal, it is important to keep in mind the following principles:

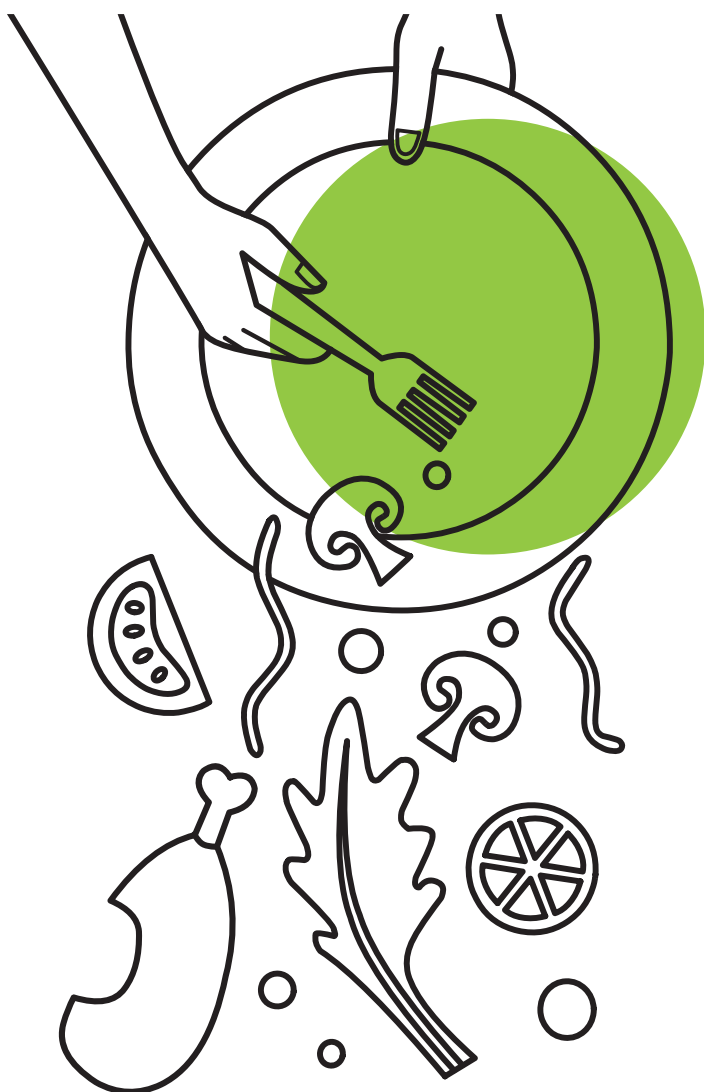
- **Outside:** possible cooperation with NGOs (food banks, foundations), with refrigeration and record-keeping requirements [5].
- **Disposal:** for plate waste and food containing animal components that have not been served within a time frame that ensures safety, category 3 UPPZ [6] applies.

Dialogue, clear rules and cooperation

Managing unused meals does not have to be a minefield. The key is proactive communication with parents and well-constructed canteen regulations that are your ally. By treating parents as partners, educating them and offering safe, thoughtful solutions, you build trust and show that the organization is acting in the best interests of the children, caring not only about what's on the plate, but also about a collaborative atmosphere and mutual respect.

Legal regulations

1. Art. 106 paragraphs 2-4 of the Act of 14 December 2016 - Education Law (Journal of Laws of 2024, item 737).
2. Act of 25 August 2006 on food and nutrition safety (Journal of Laws 2023, item 1448).
3. Regulation (EC) No. 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs (OJ EU L 2004, item 139.1, as amended)
4. Industry studies and positions of mass catering practitioners (2023-2024).
5. The Act of 19 July 2019 on the prevention of food waste (Journal of Laws 2019, item 1680) - although it formally applies to food vendors, it does not prohibit donations from educational establishments.
6. Regulation (EC) No. 1069/2009 and national regulations on animal by-products - catering waste category 3.



CONCLUSIONS

Time for a change. Reducing food waste in the practice of Polish schools and kindergartens

The phenomenon of food waste in educational establishments has in recent years become problematic not just in economic terms and health-wise, but also socially and environmentally. According to the latest data, in Poland we waste around 4.8 million tonnes of food every year [1], a significant proportion of which is wasted in school and kindergarten canteens [1]. Studies show that up to 30-40% of meals prepared in these canteens end up in the waste bin [1]. In comparison, on average, each student in the European Union is responsible for approximately 19.3 kg of wasted food per year [2]. On the scale of a single establishment, this means a loss of several tonnes - or even more - of food per year. For example, a school serving approximately 160 lunches a day wastes approximately 5-6 tons of food per year, while a larger school (900 lunches a day) may waste as much as 45 tonnes per year [1]. Food waste is accompanied by enormous costs - it is estimated that one school's losses amount to hundreds of thousands of zlotys per year [1]. Moreover, in extreme cases, up to half of the prepared meals end up being thrown away [1]. This level of waste means not only wasted food, but also the wasted resources (water, energy, human labour) used to produce it. Every 10 kg of food saved represents a real saving of hundreds of litres of water and a significant reduction in emissions - figuratively speaking, the equivalent of up to 150 short showers. It is time to put a stop to this - further inaction will result in us wasting as much food in a year as could feed an entire city the size of Wrocław [3].

Main causes of food waste in educational establishments

Analyses conducted within research projects (e.g., the international food-CIRCUS project in Wrocław) confirm that the problem is of a systemic nature [4]. The biggest challenge is outdated meal portioning rules that do not take into account children's varied appetites and preferences [4]. There is often a standardized portion size for all students - regardless of age or need - which results in huge amounts of so-called plate waste [4]. Portions unsuited to children's appetites and menus that are unattractive to them are key factors behind wastage, according to experts [4]. Children tend not to eat salads, vegetables and those dishes that do not suit their tastes - especially when the food is served in an unappetizing form. As Małgorzata Iglewska, head chef of one of Wrocław's kindergartens, points out, a simple change in the presentation of food can make a big difference [4]:

,[Children] don't like beetroot salads, but if we cut them into strips or squares, they eat them. (...) We blend a lot of the soups, but we also give the vegetables whole so they know what the soup is made of.'

Lack of menu flexibility and informative chaos also add to the scale of waste. Rigidly fixed menus do not always suit children's tastes, and canteens often do not have up-to-date knowledge of what and how pupils like to eat. What is more, the lack of information about student absences results in excess meals being prepared - kitchens cook 'extras' [5]. Better communication and a system of early notification of absence may be the solution here. An example from Munich shows that even a simple tool can reduce overproduction: there, parents are asked to enter the days on which their child will be absent a week in advance, allowing the catering company to reduce the number of portions and avoid excess leftovers.

Another important factor is the organization of lunch breaks. In many schools, only 20 minutes are allowed for lunch - far too little for children to eat in peace. As a result, they eat in a hurry or do not finish a significant part of their meals. Research by the Federation of Polish Food Banks shows that the optimal length of a lunch break is about 30 minutes. [1]. With a standard 20-minute break (which is the norm in most schools), pupils 'eat their meals in a hurry, leave leftovers on their plates and skip vegetables and fruits' [1], while extending the break to even 25-30 minutes significantly improves the situation, with children more willing to eat vegetables and actually finish their meals. Unfortunately, in practice, few schools in

Poland have chosen to extend their lunch breaks. According to the Warsaw City Hall, only 8% of primary schools in the capital give pupils more than 25 minutes for lunch, and only 4% more than 30 minutes [5].

Furthermore, canteen conditions are often less than ideal. Noise, cramped conditions, long queues and insufficient seating can effectively discourage children from eating. If a pupil has to queue for 10 minutes and then rush to eat their lunch amid loud chatter, it is no wonder that some of the food will be left untouched. This problem was raised, among others, by the well-known chef Grzegorz Łapanowski, who called for simple changes [6]:

„It is possible to change the face of Polish canteens so that lunch is not accompanied by haste and stress. Simple ways include organizing an appropriate, aesthetic dining space, providing a tureen with soup for self-service, [or] several separate lunch breaks for different age groups.”



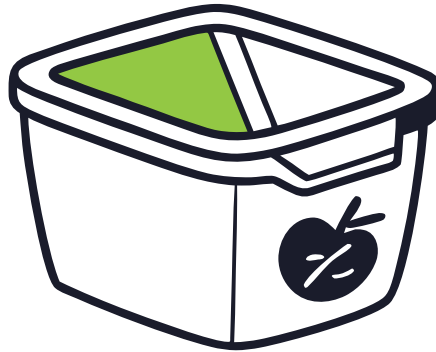
Good practices and effective solutions (4×P strategy)

Despite the barriers mentioned, many Polish facilities are already showing that change is possible and at little cost. It is worth drawing on these good practices and proven models. The Ministry of Agriculture and Rural Development is running a nationwide educational campaign 'Don't waste food - it's bad for the planet!' [7], promoting a simple model of behaviour referred to as the 4×P principle [8]: **Plan - Store - Process - Share**.



Plan

Reducing waste starts at the meal planning and shopping stages. When planning the menu, it is worth taking into account the real needs and preferences of students, as well as expected attendance (e.g., fewer children during exams or school trips). This ensures that the kitchen prepares exactly as many portions as needed, without overproduction. Electronic systems for ordering meals or reporting absences may prove to be the most effective tool here - they adjust the number of meals cooked to actual demand. Equally important is creating the menu together with students through anonymous surveys, tasting new dishes, and establishing a 'School Menu Council'. When children have a say in the menu, acceptance of the dishes served grows. The third element is flexible portioning. In practice, this means the ability to choose the portion size (e.g., 'small' or 'large' dinner portion) and the introduction of self-serve side dishes. A 'buffet' of vegetables or salads gives children a sense of control; they can help themselves to as much salad as they want, which significantly reduces the amount of unwanted toppings they throw away. The example of Primary School No. 34 in Rybnik shows how effective this solution is: the introduction of a salad buffet has almost completely eliminated the waste of salads [6].



Store and process

The next steps are to properly manage the food that is left or has not made it to the plates. Proper storage of products (according to the FIFO principle - first in, first out - and with control of expiry dates) prevents stock spoilage [8]. Facilities should also ensure proper refrigeration and airtight containers are simple ways to minimize losses. Once there are surpluses or leftovers, instead of throwing them away, they can be creatively transformed into new dishes [8]. Of course, everything must be done in compliance with safety standards (HACCP), but the kitchen can successfully practice zero waste [8]. Staff education is an important element here - it would be useful to regularly train canteen managers and cooks in ideas for using leftovers and preparing healthy, attractive dishes that meet children's dietary requirements.



Share

The final pillar of the 4×P strategy is to build a circular economy, i.e., making sure that surplus food is consumed and not thrown away. This is where eateries and cooperation with charitable organizations come to the rescue. Eateries are nothing more than community fridges where anyone can leave excess food or treat themselves to what others have left behind. The Chief Inspectorate of Environmental Protection emphasizes that ‘eateries are not only a way to prevent waste generation, but also an education for all of us’ [9]. By seeing the idea of sharing food in practice, children learn respect for food and pro-social attitudes. Schools can play an active role here - for example, by organizing collections of surplus food from canteens and donating it to a local food sharing initiative or food bank, or even by setting up a school community fridge in cooperation with the local community (e.g., neighbourhood council, local non-governmental organizations).

The implementation of the 4×P principles in the canteen, supported by the idea of a dining hall, has a synergistic effect. Organizational (better planning, portioning), educational (teaching children and staff new habits) and social (sharing with those in need) actions reinforce each other, leading to a real reduction in food waste. Importantly, it is already working - these are not theoretical considerations, but practices implemented in many places in Poland. As part of the ‘School Does Not Waste’

programme in Warsaw, for example, compulsory reporting of absences was introduced and lunch breaks were extended to 30 minutes, which significantly reduced the amount of food waste [5]. In Rybnik, thanks to participation in the Silesian Innovation Space project, two pilot schools managed to reduce waste from 30% to 10% by improving the aesthetics of meals, introducing more plant-based options and the aforementioned salad mini-buffet [6]. Students at the catering technical school in Rybnik have even become involved in cooking meals from surplus food collected from local shops - the prepared dishes go to the eatery and the 'Share Table' initiative, supporting those in need [6]. These examples show that with a little innovation and collaboration, waste can be significantly reduced [6].

A systemic approach - from education to the city

In order to combat food waste in educational institutions, action is needed at several levels: operational (schools and kindergartens), local (local authorities) and systemic (state policy). At the educational establishment level, it is crucial to implement the practices described above: flexible portions and menus that are attractive to children, engaging pupils, extending lunch breaks and improving canteen conditions. It is important that school management and canteen managers are not afraid to deviate from the usual patterns. Educational legislation, for example, allows the convenient length of lunch breaks to be set in the school regulations - it is worth taking advantage of this. City documents also give the green light to innovation. As part of its food policy, the City of Wrocław has issued official recommendations for canteens (e.g., 'Wrocław does not waste') encouraging the reduction of food waste [3].

At local government level, it is worth providing schools with support and tools. Digital absence reporting or electronic meal ordering systems could be funded or co-financed by municipalities. It's an investment that will quickly pay off in the form of less waste disposal and cheaper food (since less food is wasted). Local authorities can also organize training for canteen staff in modern dietetics and child-friendly kitchen. Finally, it is worth considering financing the infrastructure: the purchase of bain-marie containers, salad counters, vacuum containers or even trays and containers for sorting leftovers.

Systemic and legislative solutions are also needed. The applicable standards for mass catering (Regulation of the Minister of Health of 26 July 2016) set minimum requirements for the nutritional value of meals in schools, but do not regulate portion sizes or menu flexibility [10]. It would be useful if the regulations could be updated to give school kitchens more freedom to adjust portions as needed (without fear of ‘not meeting the weight’), while also requiring monitoring of food waste. It is also worth promoting and rewarding (e.g., with certificates, additional points when evaluating the work of educational establishments) initiatives at central level to reduce food waste. This approach is in line with Poland’s international commitments, such as the UN Sustainable Development Goals (SDG 12.3 aims to halve food waste by 2030).

Leaders of change - the example of Wrocław

Of particular note here is the role of cities, which are increasingly adopting urban food strategies. Wrocław is one of the national leaders in a systemic approach to the problem. In 2022, Wrocław joined the signatories of the Milan Pact - an international agreement between cities for sustainable food policy [3]. The signing of the Pact was preceded and supported by concrete actions: Wrocław did not enter it with ‘empty hands’, but with considerable achievements, including educational projects against food waste (social fridges, ‘Wrocław does not waste’ campaign) [4]. As part of the international foodCIRCUS project, the city measured food waste in six kindergartens and schools and is implementing micro-good practices to reduce waste, as well as educational programmes promoting conscious food management [4]. Moreover, Wrocław is investing in technological innovation, piloting the conversion of food waste from canteens into biogas at the city’s wastewater treatment plant, making the fight against waste part of the city’s wider climate strategy. Such a comprehensive approach has made Wrocław an inspiration for other local authorities in Poland and around the world. As Anna Scavuzzo, Vice Mayor of Milan, stated: *‘I hope that your city will become an inspiration for other centres in the region’*[3].

Conclusions and appeal for the future

Both the research data and the examples described demonstrate unequivocally:

reducing food waste in educational establishments is possible and, moreover, necessary [1, 4]. Schools and kindergartens can become places of real change if only we equip them with the right tools and support. At stake is not only economic efficiency (saving money), but also educating future generations to respect food and care for the planet [9]. Every lunch not thrown away today is not only a few zlotys in the school budget, but also a lesson to the children that food has value - socially, environmentally, and morally.

For this change to happen, cooperation between many stakeholders is needed. Principals and teachers must give the green light to new canteen arrangements. Kitchen staff - open to change and further training. Parents - get involved by reporting absences, talking to children about food and supporting school initiatives (e.g., through parent councils). Local governments - provide funding and logistics (e.g., meal ordering apps, educational programmes, environmental competitions for schools). Finally, government institutions - to continue campaigns such as 'Don't waste food' and create regulations to facilitate good practice.

There are increasing indications that we are on the threshold of systemic change. Public awareness of the problem is growing. Poles are increasingly recognizing that everyday activities (such as a meal in the school canteen) have an impact on the environment and the household budget. Good models spread, schools learn from each other, cities exchange experiences at conferences and networks. International and national commitments give direction - we should at least halve waste by 2030. All of these elements make change seem not only necessary, but entirely feasible.

All that's left to do is act here and now. Each of us, in our role (principal, teacher, parent, official or student), can contribute to solving this problem. We can already see that it works - where salad bars or longer breaks have been introduced, there is less food in the trash. Where children learn about food sharing, they develop sensitivity and responsibility for others. Let's not waste this opportunity. It is time to make changes on a larger scale, for the sake of our children and in the name of respecting the planet's resources. Every meal saved makes a difference. It is time to say 'enough' to food waste in educational institutions - future generations will thank us for it.

References

1. The report 'Don't Waste Food 2023' by the Federation of Polish Food Banks (FPBŻ).
2. Sustainable Public Meal/FoodPrint (SEI Tallinn) - data on food waste in schools (EU).
3. Wroclaw.co.uk - Wrocław among 225 Milan Pact cities (01.07.2022).
4. Wroclaw.pl - FoodCIRCUS project - Wrocław schools and kindergartens against food waste (13.03.2025).
5. <https://um.warszawa.pl/waw/wiemcojem/-/szkola-nie-marnuje> - 'School does not waste' - ways to respect food in Warsaw schools and kindergartens.
6. Local Government Portal - A school in Rybnik has stopped wasting food - an article about the salad buffet at SP No. 34.
7. Gov.pl (MRiRW) - 'Don't waste food - it's bad for the planet!' campaign (2022).
8. Gov.pl (MRiRW) - The 4Ps principles - in other words, respect food.
9. Gov.pl (GIOŚ) - Food sharing as a way to reduce food waste (5 August 2022).
10. Journal of Laws 2016, item 1154 - Regulation of the Minister of Health of 26 July 2016 on groups of foodstuffs intended for sale to children and young people in educational establishments and the requirements to be met by foodstuffs used in the mass catering of children and young people in these establishments.
11. Edutorial.pl - A 30-minute lunch break in schools? It is possible! (21.10.2016).
- 12 Eko.um.warszawa.pl - Ways to respect food in Warsaw schools and kindergartens (the 'School does not waste' programme).
13. T. Szuba, J. den Boer Dr-Ing. Report on the analysis of food respect in ZSP21 in Wrocław, Wrocław 2022.



WASTE TREATMENT

The operation of a kindergarten or school canteen generates various types of food waste, which - due to the way it is produced and the health risks involved - is subject to different rules of conduct. It is crucial to distinguish between two main categories:

Plate waste (so-called consumer waste, category 3) - these are meal leftovers that have come into contact with the consumer (child, student, employee). Due to the potential microbiological risk, they are subject to compulsory disposal by a certified company. Their re-use in any form is prohibited.

Clean waste (surplus) - surplus food that has not reached the consumer, has not left the kitchen or serving line and has been prepared and stored in accordance with food hygiene rules (HACCP). Such products, which remain fully fit for consumption, can be handed over for re-consumption, e.g. to the community fridge or to the facility's staff, in accordance with the procedure and regulations.

It should be emphasised that **not all food waste has to be disposed of** - this obligation only applies to waste that poses a sanitary risk (e.g. plate waste). Proper waste separation reduces disposal costs and supports the idea of not wasting food.

In mass catering, **the use of colloidal grinders or other devices to distribute food waste into the sewage system is strictly prohibited** as this does not comply with current legislation, places a burden on the water and sewage

infrastructure and constitutes a sanitary hazard.

The differentiation and proper handling of food waste is a legal obligation, part of the food safety system and a manifestation of the organisation's social responsibility.

Procedure for handling food waste in the kindergarten/school canteen

Purpose of the procedure

Ensure that food waste generated in the canteen is handled correctly in accordance with the law, in particular distinguishing between:

- › plate waste (category 3 - to be disposed of by a certified company),
- › surplus production (clean, fit for consumption).

Scope of the procedure

The procedure applies to all kitchen staff and support staff who come into contact with food waste.

Legal basis

- › Regulation (EC) No. 1069/2009 - on health rules concerning animal by-products (category 3).
- › Act on Waste (Journal of Laws 2013, item 21, as amended).
- › Sanitary and veterinary inspection guidelines.
- › Local regulations on food donation (e.g. community fridges, facility regulations).

I. PLATE WASTE - CATEGORY 3

Definition:

Food residues from the plates of children, students and staff that came into contact with the consumer.

Principles of proceeding:

1. Collection:

- › Plate waste is collected only in specially marked containers with a lid, described as “Cat. 3 waste - plate”.
- › Containers must be leak-proof, easy to clean and regularly disinfected.

2. Storage:

- › Containers shall be stored in a cool place (preferably in a separate waste storage area), away from production premises.

3. Pick-up:

- › The waste is collected by an external company authorised to transport and dispose of cat. 3 waste (contract, waste transfer notes).
- › Collection schedule to be agreed with the company - no less than once a week or more often if required.

4. Documentation:

- › Records of waste quantities and collection records are kept.

II. SURPLUS PRODUCTION (CLEAN WASTE)

Definition:

Unserved leftovers of prepared meals that:

- › have not left the kitchen/delivery lines,
- › were stored according to HACCP principles,
- › are not contaminated and have a preserved quality and shelf life.

Two possible transfer paths:

A. Transfer to community fridge:

1. Conditions:

- › Food must be packaged tightly (e.g. in disposable containers).
- › Labelled with date of preparation, name of dish, allergen composition.

2. Issue:

- › The person in charge (e.g. the chef) issues food to the social fridge point based on the rules of cooperation.
- › Documentation: log of portions dispensed (date, number, type).

3. Transport:

- › Carried out by an authorised person (employee/volunteer).

B. Issue to children / parents / staff of the establishment (internal action):

1. Conditions:

- › Applies only to microbiologically safe, unserved, clean meals.

2. Limitations:

- › Food may not be resold.
- › Issued only after kitchen working hours, for personal use.

Common precautions:

- › Prohibition on mixing plate waste with clean surplus.
- › Obligation to maintain hygiene and cold supply chains.
- › Adequate training of kitchen staff (when hired + a minimum of 1 per year).

FOODSHARING IN AN EDUCATIONAL ESTABLISHMENT

This document is a practical guide to implementing a procedure for donating surplus food to a community fridge in an educational establishment - in a form that is safe, legal and immediately applicable.

Internal procedure - step by step

1. Team meeting: principal, canteen manager, chef, possibly a representative of the governing body. Joint discussion of the purpose of implementation.
2. Consultation with PSSE and the governing body: obtaining a written opinion or approval from the local sanitary and epidemiological station.
3. Development of documentation: fridge regulations, handover register draft, food packaging and labelling instructions.
4. Staff training: packaging, labelling, keeping a handover register.
5. Pilot: test the procedure for 1-2 weeks, evaluate and make adjustments.
6. Official implementation: by management order, with the appointment of a fridge administrator and document storage area.

The fridge administrator ensures that it is clean every day and that the products inside are of high quality, so that everyone can use it safely.

Information for the community

- › Place the terms and conditions and contact details for the administrator next to the community fridge.
- › Prepare a notice to parents and carers explaining the idea of surplus donation and safety rules.
- › Give the community the opportunity to raise concerns or irregularities.

Social fridge regulations

§ 1 Purpose of the action

The social fridge serves to reduce food waste. It can be used by anyone wishing to do so.

§ 2 What can be left

- Surplus from the facility: ready-made meals, bread, fruit, packaged products, clearly labelled homemade products (ingredients, date of preparation).
- Products purchased from the factory (with an expiry date).
- Safe, unexpired food stored at +2 to +4 °C.

§ 3. What not to leave

- Raw meat, fish, eggs, unpasteurised milk, confectionery with cream, out-of-date products, unsealed packaging, energy drinks and other drinks not recommended for children (that can affect their health and development), foods that require freezing or storage above +4 °C.

Before eating, we encourage you to check the freshness of the product - this is an extra step that everyone can take to ensure that the food is in perfect condition. Adherence to the following rules minimises the risks and ensures the full safety of the food being donated. This allows us to share surpluses with high quality and hygiene standards.

§ 5 Hygiene rules

Every user is obliged to keep the area clean and not to leave any waste outside the fridge. Products must be appropriately packaged and labelled.

§ 6 Final provisions

Comments and questions should be addressed to the fridge administrator
.....[*contact/email*].

The Regulations shall apply from [*date*].

Why is it worth implementing these solutions?

- › We reduce waste by up to several tens of kilos per day.
- › We strengthen the positive image of the educational institution in the community.
- › We teach children responsibility and empathy.
- › We contribute to the zero waste movement in Wrocław

Appendices and models

1. Label design:

Product name: [*e.g. tomato soup*]

Preparation date: *DD.MM.YYYY*

Composition: [...]

Allergens: [...]

Best before: *DD.MM.YYYY*

Store in a refrigerator at +2 do +4°C

Prepared in: [*name of establishment*]

2. . Draft transfer register:

DATE	TIME	PRODUCT NAME	QUANTITY	TEMP. [°C]	SUBMITTER	NOTES

3. Checklist for daily fridge check:

- [] Checking expiry dates of products
- [] Removal of expired or unlabelled products
- [] Checking fridge temperature
- [] Checking for cleanliness and tidiness

Examples that inspire

This guide demonstrates that implementing food sharing in educational institutions is feasible, safe, and inspiring, based on proven examples from Polish schools.

1. Primary School No. 321 in Warsaw

April 2022. Primary School No. 321 in Warsaw installed a community fridge to mark World Earth Day. The campaign was initiated by teachers and the school community, and surplus food from both home and the school canteen can go into the fridge. The project has been positively received by parents and the initiative is enjoying support from the local media. This example shows that implementing food sharing at school is possible and complies with safety regulations - provided that it is well prepared and the community fridge is monitored on an ongoing basis.

2. School and Kindergarten Complex no. 4 in Kraków

In Kraków, at School and Kindergarten Complex No. 4, an in-house eatery has been implemented according to foodsharing standards. After consulting with the sanitary and epidemiological station and analysing the risks, the management of the facility introduced a procedure for transferring and recording surpluses. Working with parents and local organisations, the facility has created a safe and functional food exchange area. The whole process was carried out in accordance with HACCP principles.

3. The nationwide initiatives „Jadłodzielnia” and Foodsharing Poland

There are dozens of foodsharing outlets across Poland, including community fridges run by NGOs and local partnerships. Food exchange points open to all are being set up at schools, community centres or welfare centres. The regulations make it clear what can be left and what is prohibited. A network of such outlets operates, among others, in Warsaw, Kraków, Toruń, Bydgoszcz and Wrocław.

Polish Zero Waste Association:

„Any person can use the community fridge - all you have to do is follow the health and safety rules. This solution builds local solidarity and reduces large-scale waste.” [<https://zero-waste.pl/>]

These examples show that the key to success is to combine simple procedures with community involvement. Establishments that have decided to take this step have not only gained a tool to reduce food waste, but also a space to educate children and build local solidarity.

Warsaw Primary School No. 321 has demonstrated that a school community refrigerator can become an everyday feature of school life, while Kraków School and Kindergarten Complex No. 4 has shown that good cooperation with the sanitary authorities and parents gives all parties a sense of security. The nationwide network of eateries, on the other hand, shows that this is a movement with huge potential, bringing together schools, NGOs and residents in zero waste activities.

How can this be applied to your own institution?

1. Get inspired - choose the model that best fits your community.
2. Consult the plan with the local health authority and the governing body.
3. Appoint a fridge administrator and plan a schedule of activities.
4. Communicate the idea - engage the facility's wards, students, parents and local partners.
5. Take care of quality and hygiene - daily care of the fridge builds confidence.

SURVEY

SURVEY FOR PARENTS - CHILDREN'S FOOD PREFERENCES

Survey for parents - Children's food preferences

Child's name (optional):

1. Does your child have a favourite food or product? If yes, which ones?
(Please list 2-3 favourite foods/products)

.....

2. Are there foods or products that your child does not like or does not eat?
(Please list)

.....

3. What fruit and vegetables is your child most likely to eat?
(Please list)

.....

4. Does your child prefer traditional dishes or is he/she keen to try new
flavours?

- ☐ Definitely traditional
- ☐ Rather traditional, but sometimes tries new things
- ☐ Enjoys exploring new flavours

5. How does the child react to mixed dishes?

(e.g. soups, stews)?

- ☐ Eats willingly
- ☐ Eats reluctantly
- ☐ Strongly dislikes
- ☐ It depends on the dish

6. What drinks does your child choose most often?

- ☐ Water
- ☐ Tea
- ☐ Compote
- ☐ Juice
- ☐ Milk
- ☐ Other:

7. Are there any products that should not be given to your child for health reasons?

- ☐ No
- ☐ Yes, which ones?

8. Do you have suggestions for nutrition in our facility?

(e.g. menu ideas, meal organisation, comments about portions):

.....

Teacher survey - Food preferences and food waste in kindergarten (open questions)

1. What form of meal serving

(e.g. cream soup, clear soup, vegetables in chunks, salads, sandwiches, dishes with sauce, ‘dry’ dishes, etc.) is most preferred by children in your group?

.....

2. What forms of meals (or meal components) do the children in your group most often reject or eat with reluctance?

(Please list)

.....

3. Which specific dishes from the current kindergarten menu do the children eat most often?

(Please name the dishes)

.....

4. Which dishes are least likely to be eaten by children?

(Please name the dishes)

.....

5. Are there dishes or products from the menu that, according to your observation, regularly remain on plates and most often end up in the waste?

(Please list specific dishes or products)

.....

6. Are there foods that you think should be eliminated from the menu because most children do not accept them and they are often thrown away?

.....

7. Do you notice that the way the food is served, the children are encouraged to try it or the children’s participation in the choice of food influences their willingness to eat? Describe your observations.

.....

8. What ideas or suggestions do you have that could help to better tailor menus to children’s tastes and reduce food waste?

.....

Questionnaire for children - My favourite meals at school

Grade:

1. Do you eat your lunches in the school canteen?

- ☐ Yes
- ☐ No

Favourite dishes

2. Which dishes served in the canteen do you like best?

(You can name more than one dish)

- ☐ Soups (what kind?):
- ☐ Meat dishes (what kind?):
- ☐ Vegetable dishes (what kind?):
- ☐ Fish (in what form? e.g. cutlet, breaded, steamed, other?):
.....
- ☐ Salads (what kind?):
- ☐ Vegetables (what kind?):
- ☐ Fruit (what kind?):
- ☐ Groats (what kind?):
- ☐ Other (which?):

Disliked dishes

3. What foods do you dislike or usually leave on your plate?

(You can name more than one dish)

- ☐ Soups (what kind?):
- ☐ Meat dishes (what kind?):
- ☐ Vegetable dishes (what kind?):
- ☐ Fish (what kind?):
- ☐ Salads (what kind?):
- ☐ Vegetables (what kind?):
- ☐ Fruit (what kind?):
- ☐ Groats (what kind?):
- ☐ Other (which?):

Meal forms

4. What form of meal do you like best?

(You can tick more than one dish)

- ☐ Soups with chunks of vegetables
- ☐ Creamed soups:
- ☐ Pasta dishes:
- ☐ Dishes with rice:
- ☐ “Dry” second course (e.g. meat, potatoes, vegetables separately):
.....
- ☐ Dish “with sauce”:
- ☐ Salads:
- ☐ Fruit or vegetables, fresh:
- ☐ Fruit in desserts:
- ☐ Cocktails / Smoothies:
- ☐ Other:

New dishes

5. Do you enjoy trying new foods?

- ☐ Always
- ☐ Sometimes
- ☐ Rather not
- ☐ Never

Your suggestions

6. What dishes would you like to see more often in the canteen?

.....

7. Do you have any comments about the meals at our school?

.....

