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**SUSTAINABLE, ORGANIC<sup>1</sup> SCHOOL MEALS IN ITALY**

by

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**Abstract**

Since 1986 and thanks to the support of the entire chain of stakeholders (organic farmers, parents, teachers, practitioners, nutritionists, catering companies and municipalities) and to the application of specific public procurement policies, the number of organic school canteens has constantly increased in Italy. At present, 793 organic school canteens deliver around 1 million partly or entirely organic meals each day, representing about 50 per cent of the total school<sup>3</sup> meals delivered in the country. As a consequence of this, local public administrations have become the major buyer of organic products in Italy, contributing significantly to the development of the sector.

The introduction of organic food in school canteens is a complex process, with economic and organizational implications. It requires a serious commitment on the part of national and local authorities with regard both to the related legislative and more broadly legal questions, and to the management of the service itself. The service, partly under direct local authority supervision, and partly put out to tender, requires trained personnel at the operational level, and supervisors with specialist expertise and training to oversee the whole catering system. The establishment of clear guidelines, the introduction of appropriate legislation, financing and the allocation of resources, and the development of organizational capacity are therefore all key elements necessary to the successful introduction of organic school meals.

The Italian experience has shown that the introduction of organic food in schools meals generates a wide range of benefits for the community. It promotes a sustainable food system in the countryside, supporting local economies and rural development, and at the same time it promotes healthy eating habits, thereby contributing to good health, it also sustains a traditional food culture and increases consumer awareness of environmental issues.

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<sup>1</sup> According to FAO/WHO Codex Alimentarius Commission guidelines (1999) "Organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system." For the International Federation of Organic Agriculture Movements (IFOAM), "organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved".

<sup>2</sup> All authors are from the Italian Association of Organic Agriculture (AIAB).

<sup>3</sup> It includes nurseries (age 0-3), kindergarten (age 3-6), primary schools (age 6-11) and partially junior high schools (age 11-14).

## **Reasons for introducing organic food in school canteens**

The major reason for the success of the introduction of organic food in school canteens in Italy was the general awareness of the benefits of organic agriculture for the environment, for human health and for rural development. An awareness resulting, not only from the theoretical and scientific validity of organic agriculture but, above all from the experience that organic farmers have accumulated over the last thirty years in many parts of the world.

With regard to the environment, as a large and growing body of research<sup>4</sup> demonstrates, organic agriculture preserves the structure and fertility of the soil, conserves water, mitigates climate change and enhances biodiversity, both wild biodiversity and agro-biodiversity. Moreover, organic agriculture reduces external inputs by controlling pests and diseases naturally, using both traditional and modern methods and stimulating disease resistance. It preserves rural areas from agricultural contaminants such as the inorganic fertilizers, herbicides and insecticides used in conventional agriculture.

As a result of these practices the quality of organically-grown fruits and vegetables is good. Recent studies<sup>5</sup> have shown that, compared to their conventionally-grown counterparts, organic products are lower in water content and have a higher nutrient density, they are richer in iron, magnesium, vitamin C, and antioxidants, with a better balance of essential amino acids. All these characteristics, together with the absence of pesticide residues, make them healthier than conventional food and thus more suited for children's meals.

## **Law and regulations relating to school meal provision in Italy**

The provision of school meals began in Italy in the post-war period, as a social service and as a response to the nutritional deficiencies of the population in general. In the 1970s the extension of the school day from mornings only to the inclusion of afternoons (*tempo prolungato*) required the extension, on a mass scale, of this provision. The service, however, was often of mediocre quality, with repetitive and badly balanced menus, decisions about which were made at local level.

The improvement began when, in 1987, the National Institute of Nutrition, together with the Ministry of Agriculture and Forestry, set out the first Guidelines for a Healthy Diet. The nutritional model indicated was that of the Mediterranean diet, recognized internationally as one of the most efficacious for the protection of health. Epidemiological studies from the post-war period to today confirm the nutritional values of this diet and its contribution to the maintenance of health. It is balanced, very varied, mostly plant-based, rich in anti-oxidants and low in high-calorie foods and those foods, which favour the development of chronic diseases. Furthermore, the food composition tables and the recommended levels for the intake of nutrients according to age-group and expenditure of energy have proved to be a useful instrument for the compilation of menus in different catering contexts. As regards the use of organic products, however, the determining factor was the approval, in December 1999, of Article 59 of the National Budget for the year 2000. It states: "In order to ensure the promotion of organic agricultural production and quality food products, it is recommended that public institutions operating school and hospital canteens introduce typical and traditional organic products, together with PDO (Protected Designation of

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<sup>4</sup> Research Institute for Organic Agriculture (FiBL), 2006. Environmental impact: comparison of organic and conventional farming systems (literature reviews). FiBL dossier "Quality and Safety of Organic Products".

<sup>5</sup> Research Institute for Organic Agriculture (FiBL), 2006. Putting organic and conventional food to the test (literature reviews). FiBL dossier "Quality and Safety of Organic Products".

Origin) products. The daily provision of food will be undertaken in line with the guidelines and other recommendations of the National Institute of Nutrition”.

Although this budgetary provision constituted a recommendation, not a requirement, to introduce organic produce, it was nonetheless a clear political indication that marked a turning point for many local administrations, encouraging the development of a commitment to transforming school meal programmes.

Another regulation, along similar lines, that was introduced at that time, was the Presidential decree of 7th April 1999, n. 128, concerning the quality of food produced for babies and children. This stated that: "With regard to the composition of all such products, particular attention is required to the freshness, the conservation, and the absence of harmful substances in the ingredients." Article 2, Clause 1 states that these ingredients must not contain residues of any one pesticide above the level of 0,01 mg/kg, neither must they contain genetically modified products".

In conclusion, Italian legislation appears to favour both the Mediterranean diet and the use of organic produce regarding meal provision in public institutions, and at the same time it obliges the distributors of children's food and drink to ensure that the products distributed do not contain chemical residues in line with European legislation for safe upper limits.

At the regional level, the economic backing necessary to the promotion of organic school canteens has been forthcoming in some regions, though the picture is very variable across the country. Whereas by now almost all Regional Administrations have pronounced themselves in favour of improving dietary education, only the Marche, Friuli Venezia Giulia, Basilicata, Tuscany and Lazio actually provide economic incentives for the consumption of organic products. The motivation for these incentives is, however, almost always primarily that of support of the local economy and agriculture, and only secondarily that of the protection of citizens' health.

The regional laws that pioneered the promotion of organic school canteens are those of the Marche in 1997 and of Friuli Venezia Giulia in the year 2000. Law 15/2000 of the Regional Administration of Friuli Venezia Giulia "The norms for the introduction of typical and traditional organic products in school canteens, and for initiatives in the field of dietary education" authorizes the payment of subsidies to local councils, provided that these councils ensure that at least 40% of the products utilized are produced by companies operating within the Region."

The Regional Law 29/2002 of Emilia Romagna "Norms regarding the reorientation of food consumption and nutrition education, and the requalification of collective catering services" does not provide incentives to individual municipalities to carry out school canteens; however, funds have been allocated to the provincial authorities in support of plans for such a reorientation." This law requires that at least 70% of the ingredients used in the meals distributed in school and university canteens, in hospitals, in Retirement Homes, and public health institutions must be organic. The most significant change concerns the meals distributed in nursery, infant, and primary school canteens: the law states that the ingredients of meals in this sector must be exclusively organic farm products.

The Regional Authority of Lazio has recently approved a law introducing a policy of support for short-term supply mechanisms for organic canteens. This law, on "regional intervention for the promotion of markets reserved for the direct sale of goods from agricultural producers" guarantees subsidies to those municipalities who undertake to utilize products from professional agricultural businesses operating within the direct sales markets.

## Developments in organic school catering in Italy

Many local authorities in Italy had already established organic catering services some time before the relevant legislation came into force. The first organic school canteen to be set up was that of Cesena, in the Region of Emilia Romagna, which has been operational since 1986. It was followed by some small municipalities of North Italian regions.

Despite the numerous difficulties encountered by these pioneering municipalities, the results of these experiences were on the whole very positive. It was these experiences which, though numerically limited, provided the stimulus for the proposed law on organic canteens, its subsequent approval, and the extension of its jurisdiction throughout Italy.

From the first survey conducted in 1996, when 24,000 organic meals a day were being served, primarily in nurseries and primary schools, organic catering has grown exponentially to the point where there are now around 1 million meals served each day (table 1).

**Table 1: Organic school canteens and organic daily schools meals in Italy, 1996–2006**

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008*
School canteens (n)	69	97	103	110	199	342	522	561	608	647	658	683	791
Meals (nx 000)	24	33	141	146	267	443	654	785	806	839	896	924	983

Source: Bio Bank

\* provisional data

The models of organic canteens in operation vary from region to region, and also within the regions themselves. Some schools offer a totally organic menu, others only offer particular products. Others again offer an organic menu once a week, or for one week in a month.

The management of the canteens is also diversified. According to a *Biobank* survey, a majority of municipalities (67%) put the contract out to tender to catering firms, while others (18%) take direct responsibility for the running of the canteens. About 9% have adopted a system of management which is partly public and partly private.

### Some examples of organic school canteens

#### *Cesena Municipality*

Cesena, a town of about 100,000 inhabitants in a rural area of fruit and vegetable production, can claim pioneer status among organic school canteen programmes with the experiment begun there in 1986. The project was a first line of response to the high levels of cholesterol in local children that were revealed by a pediatric epidemiological study. However, it also served the purpose of developing the organic agricultural sector that was at that time taking root in this richly productive rural area.

The *Pappamondo* Project of the Cesena Town Council was established jointly by the Education Department of the Town Council in collaboration with the Maternal and Child Service of the local USL (Health Department), and was aided and subsidised by the Emilia Romagna Regional Authority. Attention was focused not only on *what* the children eat but also on *how* they eat.

Resources and energy were therefore employed to create a serene and stimulating link between the meal itself and the environment in which it is consumed.

The project demonstrated the feasibility and the functionality of a new method of dining at school, capable of guaranteeing a healthy diet that is both nutritious and appetizing, and at the same time involving families, school operators, technicians and administrators in a stimulating formative experience. Clearly, the project also favoured the expansion of the market in organic produce.

### *Rome Municipality*

The Rome school canteens merit separate consideration both on grounds of the efficiency of the service model in operation, which has already gained recognition as one of the best examples of administrative practice in Europe, and for the economic value that 150,000 organic meals per day represents. The quantity of fair trade and local organic products required by the municipality are sizeable and are having a significant influence on these markets. The quantity of products required by school canteens on a regular basis has had a calming effect on the organic produce market, thus decreasing price fluctuations of fruit and vegetables and contributing to stable market conditions. The environmental impact involved in mass catering has in part been offset by appropriate measures such as short-haul delivery, differential rubbish collection, the substitution of plastic plates and cutlery with glass, ceramics and biodegradable or recyclable materials, and the use of detergents and disinfectants with a low environmental impact, etc.

The service is continually improving. Among new developments there is the revised criterion of 'guaranteed freshness', the proposal of an overall menu of 150 dishes to educate the children to a maximum variety of foods and flavours, and the promotion of local Roman culinary tradition and that of the Region of Lazio. Raw foods are provided before the cooked meal, and fruit is provided at mid-afternoon. The use of fair trade products is mandatory, and the fees paid by the families are not subject to increase.

There are no vending machines with food and beverages. Children are not allowed to bring food into the school, except for the mid-morning snack. The school meal programme provides a comprehensive approach towards establishing lifelong healthy eating habits and contributing to children's health through: 1) the provision of healthy food in school; 2) education about food and nutrition in the classroom, 3) dissemination of information materials and brochures for parents and children and 4) visits to organic farms.

### *Campolongo Maggiore Municipality*

Campolongo Maggiore is a small town of 10,000 inhabitants in the province of Venice. Since 2001 it has supplied schoolchildren with 100% organic ingredients, an increasing percentage of which are of Italian origin. Improvements in the food are accompanied by improvements in the sustainability of the service as a whole, including the introduction of reusable kitchenware, ecological detergents, and the use of tap rather than bottled water for drinking. The 2006 contract tender provided a good opportunity for the reorganization of the whole service, including the transportation and distribution of food, in order to reach the target for the certification of organic meals set by certified organic caterers. The benefits are self-evident: reduced leftovers since the food is more appealing, reduced non-recyclable waste and the increased separation of organic from other types of waste, since the plates are cleared of food before being placed in the dishwasher. Strategies for recycling waste have been studied and implemented. Food cleared from the plates is given to domestic animals; surplus food that can be used within a few hours (fresh sealed bread, fresh fruit, and yogurt) is kept for an

afternoon snack. The rest (unused and sealed) is given back to the caterers. A mid-morning snack, based on fresh bread and fresh fruit, is at present under consideration.

### *Budoia Municipality*

Budoia is a tiny Alpine locality of only 2,200 inhabitants in the Friuli Venezia Giulia Region, noteworthy for its commitment to local development based on environmental sustainability. The local authority, together with AIAB, has set up a participatory system for the running of the school meals programme that involves both local organic farmers and the parents of the children. The parents choose the products and, together with the producers, set out a production plan that will ensure a supply of fresh local products throughout the school year. This provides the farmers with a guaranteed stable outlet for their products, and ensures a continuous supply of fresh and genuine food for the schoolchildren.

The provision of meals for the nursery school and the primary school amounts to 180 per day. In other words, about 22,000 meals are supplied during the school year. The running of the refectory service has been awarded to a local cooperative, thus contributing to the local economy and local employment.

The parents have recently formed a collective-buying group which purchases fruit and vegetables from local producers, as well as extra virgin olive oil, parmesan, pasta, flour and citrus fruits from Italian producers, giving an added stimulus to these sectors of production.

### **Cost considerations**

The cost of organic meals varies from one municipality to another, and in some cases there is variation even in the same municipality as service provision is very different from town to town. In the case of municipalities that contract the whole service to catering companies, the cost of each meal ranges from 3,80 to 5,30 Euro. Costs vary based on the following factors: whether meals are prepared in school kitchens or by a central catering company that supplies the ready cooked meal, the number of organic products included in the meal, and the inclusion of fruit for mid-morning or mid-afternoon break; etc. The municipalities that take direct responsibility for the running of the canteens buy only the organic foods, in which case the cost per meal, for example at Ferrara, is 1,80 Euro only.

The school meal information service of Emilia Romagna Region calculated the extra cost of organic school meals from about 7 – 10 % considering that organic food products cost 25-30% more than conventional foods, and that the cost of food constitutes about 25 – 33% of entire cost per meal.

Families pay only a part of meal cost, between 40% in Rome to 90% in the richer Northern Italian regions. School lunch is provided free of charge to children from low-income families earning less than Euro 5,000 per year. In some municipalities, such as Rome, the cost is reduced for families earning from 5,000 to 13,000 Euro per year. It is important to consider that in Italy receiving a meal at school is considered a child's right and school lunch is part of the educational programme. Most children eat at school each day, but practically all children eat lunch at school at least once or twice a week.

## Conclusions

The success of these organic school meals projects in Italy allows us to draw certain conclusions. In the first place, such projects require appropriate legislation and the drawing up of national guidelines for local authorities that go beyond the simple question of the purchase of organic foods. One aspect that has proved to be important is that of the modification of existing menus in such a way that full consideration be given to seasonal variation and the availability of locally produced organic products. The presence of costly organic products, however, should be limited.

Another important question is that of the modification of the criteria used for the allocation of contracts, with priority focus on the provision of a high quality cost-efficient service. The experience of the Rome Council, which has introduced the criterion of 'freshness', in favour of local production and of limiting 'food miles', is interesting in this respect. Also encouraging is the adoption on the part of the local authorities, as in the case of Campolongo Maggiore, of the objective of improving the sustainability of the whole service, including transport and the sorting and recycling of surplus produce and waste.

The outcome of each project depends on the involvement, through information and formative practices, of all those who have a role in the process. The parents are informed of the proposed dietary changes through bulletins and meetings, and encouraged to make similar changes at home. The teachers deal with the question of organic farming and as part of the dietary education programme. The local authority staff, responsible for quality control and supervision, receives training that will allow them to immediately recognize any flaw in the service offered by the caterers. And the cooks acquire familiarity with a new range of dishes.

Another interesting possibility, that only a few local authorities, such as those of Cesena and Budoia, have taken up is the setting up of a participatory structure in which all the various actors in the field – local authority, caterers, parents, teachers, dieticians, organic farmers - take collective responsibility for evaluating and if necessary modifying the process.

Finally we can say that organic school canteens in Italy through their daily practice and nutrition education programme promote healthy eating habits in the population, in particular in families with children. Each day children tell their parents what they have eaten at school or what they have learned visiting organic farms. This has a big influence on families and contributes to changing their eating habits.

Also, locally procured organic foods, in addition to being environmentally friendly, can be an important tool for sustaining traditional food culture.

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