

# Sustainable School Fruit Scheme

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## 1. Introduction

A diet high in fruit and vegetables (f&v) contributes greatly to the preservation of health (Lock et al., 2005). Current advice is to consume five portions of fruit and vegetables daily (WHO, 2003). For children and adolescents, a recommendation for age-adequate food intake quantities was issued by Forschungsinstitut für Kinderernährung Dortmund (Alexy et al., 2008). Less than 20 % of the Austrian children consume the recommended quantity of f&v (Elmadfa, 2012). Food preferences and eating habits are originally formed in the families and later by peer groups in the school. Hence schools appear to be an ideal place to improve diet and tackle obesity in children. Therefore, in 2009 the EU has initiated the European school fruit scheme, which aims at offering school pupils f&v on a regular basis and thus help establish health-conducive eating habits in the long term (Rat der Europäischen Union, 2009). But what factors make school f&v interventions effective? The objectives of the present study were to analyse whether a „sustainable school fruit scheme“ (SSFS) leads to a higher f&v consumption in pupils (6–10 years old) and also to ensure a high collaboration of teachers and school administrations. The SSFS is our extension of the school fruit scheme defined by the EU which also emphasises quality and origin of the f&v with a strong preference for ecological and locally grown produce.

## 2. Material and methods

Within the pilot scheme „Wiener Jause“, twelve public primary schools in the 20th district of Vienna took part in the SSFS. The study was carried out from autumn 2010 to June 2013.

### 2.1. Logistics

We organised a free serving of f&v for all 3.500 pupils (6-10 years old) of the twelve schools twice a week. F&v were delivered by a local eco-farmer directly to the classroom, where the fruits were collectively washed, prepared and eaten by the pupils together with their teachers.

### 2.2. Participation of school staff

To gain a high degree of acceptance among the school administration and teachers, we encouraged the headmasters and representatives of the teaching staff of all schools to take part in regular project meetings, to conceive and synchronise organisational and pedagogical activities. These meetings were also used to reflect on the efficacy of the implementation of the SSFS.

### 2.3. Pedagogical support

During the project phase, every week we prepared a different topic concerning ecological, local and fairly traded fruits or vegetables, which was presented by the teachers in the form of short lectures. Additionally the pupils had the opportunity to visit the eco-farm of their supplier, in order to gain a better appreciation of where their fruits come from.

### 2.4. Evaluation strategy

In order to evaluate the change in f&v consumption of the pupils, 4 classes that were selected at random from the participating project schools, and 4 comparable control classes that had not taken part in the SSFS were monitored during the whole project duration (Swazina et al., 2012). F&v intake was quantified by means of observation and written questionnaires. For process evaluation, focus groups with headmasters and teachers were set up and conducted.

### 3. Results and discussion

The SSFS was shown effective at increasing both: the intake of f&v among pupils and the degree of acceptance for the programme by teachers and school administrators (Swazina et al., 2012).

#### 3.1. F&v intake (quantitative results)

F&v intake of the pupils<sup>1</sup> rose from 17 % during the baseline observation to remarkable 65 % during the second observation.

#### 3.2. Focus groups (qualitative results)

By participating in the school fruit programme, additional organisational cost for the schools is incurred. The feasibility of the programme from the point of view of the teachers and headmasters was the subject of various focus groups. Teachers and headmasters noted that the pupils are quite enthusiastic about the f&v. According to the teachers, the following aspects of the SSFS are particularly worthwhile: the pupils come to know the diversity of fruits and vegetables and their place in the seasonal cycle, learn to appreciate different qualities, build-up know-how concerning the preparation of f&v, and also learn the basics of hygiene. Also, washing, cutting and preparing the f&v is seen as beneficial for honing their fine motor skills. Last but not least, the collective preparation and consumption is seen to have a positive effect on the social cohesion of the class.

#### 3.3. SSFS continuation

All participating schools have decided to continue the SSFS after the end of the pilot project, despite the fact that parents now have to cover 50 % of the f&v cost.

### 4. Conclusion

Children eat too little fruits and vegetables. A main cause seems to be the lack of availability. This paper discussed the effect of our so called „sustainable school fruit scheme“ on fruit consumption in public primary schools and the relevance of a tight, time-efficient organisation in order to gain (and keep) the support of the teachers and thus make the programme a long-term success. Results show that if f&v are delivered only twice a week to the classes, the consumption of f&v rises significantly. Of particular importance is a participative approach when implementing the SSFS, to ensure the good-will of all stake-holders and guarantee a smooth day-to-day operation. We believe, that SSFS can also have the added benefit of reducing health and social inequalities.

### 5. Acknowledgement

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<sup>1</sup> Intake is here defined as the percentage of pupils, who were observed to eat fruit or vegetable at least once during the school day.

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